

INDEPENDENT ENVIRONMENTAL AUDIT

FINAL REPORT



Proponent:	Sydney Metro
Project:	City & South West, Chatswood to Sydenham
Scope:	Heritage and Archaeological Management
Works / Process:	Central Station Main Works
Auditee:	Laing O'Rourke

Audit Organisation: QEM Consulting Pty Ltd
Auditor: Julie Dickson
Registration: Exemplar Global EMS Auditor Accreditation no. 13573
Audit References: QEM 1803-A15
SM18.19-080-CSW-CSMW-IEA
Audit date: 26 March 2019
Report date: 6 May 2019

EXECUTIVE SUMMARY

An Independent Environment Audit was conducted of the Central Station Main Works to assess compliance with relevant Planning & Assessment Approvals. The audit was conducted at the Laing O'Rourke Central Station project office on 26 March 2019, and included a site visit, interviews and sampling of formal project records maintained by the principal construction contractor Laing O'Rourke Australia (LORA).

The overall awareness of Heritage issues of persons working on the project was considered to be appropriate for the significance of the heritage landscape. Various methods for communication and awareness were noted, including "what not to do" through presentation of Sydney Light Rail incident footage involving discovery of human bones and the subsequent negative media coverage. The appropriate presence of Archaeologists on site during monitoring, testing and salvage operations, and the provision of guidance and supervision by Built Heritage consultants, supported by structural engineers during demolition, deconstruction and salvage work provided evidence that heritage and archaeological monitoring processes are in place.

Evidence was sighted to indicate that demolition, deconstruction and salvage has been undertaken in a structured manner with heritage items tracked, recorded in the Salvage Register and delivered to an approved off-site location with the process overseen by OCP. It was confirmed that archival recording required for additional impacts as a result of detailed design requirements and recording of views and vistas following initial recording by Sydney Metro had been undertaken by OCP.

The project was assessed as having high potential for significant archaeological finds, and as such, resources have been allocated to ensure appropriate levels of oversight. The processes, activities, monitoring and tools implemented by the construction contractor, LORA, and the resources deployed to manage them provided evidence of appropriate methodologies to manage an ever-changing work environment. As a result of archaeological investigations, the location of a turntable has been identified and is likely to be of state significance. In addition, to avoid unnecessary impacts the turntable, changes have been made to the stormwater relocation route.

It was noted that an internal non-conformance report was raised in April 2019 regarding an event on 12 Feb 2019 in which piling commenced prior to test excavations and clearance being undertaken, contrary to the requirements of the Sydney Metro Box Archaeological Method Statement (AMS). Resolution and determination of appropriate corrective actions were still under consideration by LORA and review by Sydney Metro at the time of issue of this report.

At the time of the audit, one clearance by the Excavation Director to confirm completion of archaeological testing and salvage had been completed.

A geomorphologist was engaged to provide advice on the soil types and natural soil profiles that may have the potential to contain Aboriginal archaeology. Evidence was provided to verify that Registered Aboriginal Parties (RAPs) have been notified of suspected finds and were involved in the archaeological process to identify items of Aboriginal heritage significance.

The potential for encountering human remains was considered high, and as expected, the implementation of the Exhumation Management Plan has been triggered. Whilst complex issues were encountered, evidence was provided of appropriate notification, reporting management and implementation of the Plan.

In summary, one Observation and Improvement Opportunity was identified. The key issues and outcomes of the audit are discussed below and are summarised in the table in Section 2.1 and detailed in Section 2.3 of this report.

Report Author (& Auditor):

J Dickson

Julie Dickson

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1 AUDIT DETAILS

1.1 Purpose

The purpose of this Independent Environmental Audit was to assess Principal Contractor Laing O'Rourke compliance with the relevant Planning and Assessment Approvals City and Southwest (C&SW) and Central Station Main Works (CSMW) focusing on Built Heritage and Archaeological Management.

1.2 Context

Planning Approvals issued by the Department of Planning & Environment require Sydney Metro (formerly Transport for NSW) to develop an Environmental Audit Program for independent annual environmental auditing against the terms the City & Southwest (C&SW) Critical State Significant Infrastructure (CSSI) Project Approvals.

QEM Consulting Pty Ltd have been engaged by Sydney Metro Delivery Office (SMDO) Safety, Sustainability & Environment (SSE) to deliver a program of Independent Environmental Audits. As required by C&SW Planning Approval CSSI 15_7400 (A39) and the associated Environmental Audit Program, an Independent Environmental Audit was undertaken to assess compliance with Planning Approvals requirements on the Central Station Main Works project.

The Central Station Main Works (CSMW) comprises Metro Station Works, Central Station Works, Central Walk Works, Ancillary Works and Power Supply Works.

The Metro Station Works includes the installation of new platforms and construction of a station box with an island platform beneath Central Station's existing heavy-rail platforms 12, 13, 14 and 15. The Central Station Works (CSW) include a new North-South Concourse, a new East Concourse and adjustments to the Grand Concourse, Intercity Concourse, Olympic Tunnel, North Concourse and northern entrance. The Central Walk Works includes provision of other infrastructure to provide improved connectivity and other enhancements throughout Central Station including a new Eastern Entrance and a new East Concourse.

The Central Station Main Works are located within the Central Station State Heritage Registered Curtilage that contains state significant built heritage and archaeology in an area with significant built heritage and archaeological potential.

From a built heritage perspective, significant elements of Central Railway Station such as platforms, canopies and structures in the Sydney Yard will be impacted, and a range of significant items and elements require protection and management. From an archaeological perspective, the high potential for the existence of human remains, crypts, coffin furniture and remains of walls and other structures and Aboriginal artefacts has been realised.

For these reasons, a detailed review of heritage management on the CSMW project was considered a high priority for conducting an independent environmental audit.

1.3 Audit Objectives, Criteria & Scope

The Audit Objective was to assess Planning Approval compliance for the Central Station Main Works contract focusing on heritage management.

Audit criteria included implementation of the Construction Heritage Management Plan, Archaeological Methods Statements, SWTC B06 Sections 3.15 and 10.2c plus:

- CSSI 15_7400 Conditions E10, E13 (d, f & g), E15, E16 h, E17, E18, E19, E21, E23, E24; E25, E26; E27; and
- Revised Environmental Mitigation Measures NAH1, NAH2, NAH3, NAH4, NAH9, NAH11, NAH13, NAH18. AH1, AH3

The scope of the audit was on Construction Heritage Management Plan implementation including archaeological & exhumation management, reporting and related records; built heritage management; and project compliance with approvals, clearances, salvage and storage requirements.

1.4 Audit Process and Methodology

The audit comprised an off-site desktop review, a Principal Contractor audit, a site inspection and a post audit assessment of documentation and records. The audit process including scoping and planning was undertaken in accordance with the principals of AS / NZS / ISO 19011:2018 – Guidelines for Auditing Management Systems.

Further details on Auditor credentials, independence and disclaimer can be found in Appendix 2 to this report.

1.5 Auditees and Participation

Refer to full Audit Attendance list in Appendix 3.

1.6 Audit Definitions & Abbreviations

The following abbreviations and definitions apply throughout this report:

Item	Explanation
AARD	<i>Archaeological Assessment and Research Design</i>
AMS	<i>Archaeological Method Statement</i>
CAS	<i>Conservation Actions Schedule</i>
CEMP	<i>Construction Environmental Management Plan</i>
CHAR	<i>Cultural Heritage Assessment Report</i>
C&SW	<i>City & Southwest</i>
CHMP	<i>Construction Heritage Management Plan</i>
CSMW	<i>Central Station Main Works</i>
CSSI	<i>Critical State Significant Infrastructure</i>
DPE	<i>Department of Planning & Environment</i>
EPA	<i>Environment Protection Authority</i>
ERM	<i>Environmental Resources Management Aust Pty Ltd</i>
EPL	<i>Environmental Protection Licence</i>
ER	<i>Environmental Representative</i>
HIA	<i>Heritage Impact Assessment</i>
HIP	<i>Heritage Interpretation Plan</i>
HIS	<i>Heritage Interpretation Strategy</i>
LORA	<i>Laing O'Rourke Australia Construction Pty Ltd</i>
MCoA	<i>Minister's Conditions of Approval</i>
OEH	<i>Office of Environment and Heritage</i>
PAD	<i>Potential Archaeological Deposit</i>
RAPs	<i>Registered Aboriginal Parties</i>
REMM	<i>Revised Environmental Management Measure</i>
SM	<i>Sydney Metro</i>
SMDO	<i>Sydney Metro Delivery Office</i>
Non-compliant	<i>Refer Section 2.1 overleaf</i>
Observation	
Improvement Opportunity	
Compliant	
Notable Practice	

2 AUDIT FINDINGS

2.1 Audit Summary

This table provides a summary of compliance against audit criteria and area of focus, indicating the number of actions required:

Focus Area	Key Criteria	STATUS			
		Compliant			Non-Compliant
		NP	IO	OBS	NC
Awareness, induction	CHMP, E19				
Site management (Inspection)	E10, CHMP 7,				
Consultation, communication with Heritage consultants and RAPs	NAH18, CHMP6-1, AH1				
Built environment including protection, monitoring, archival recording, salvage, recycling fabric,	E13,E15, E16(h), E21 NAH1, NAH4, NAH11, CHMP, SWTC B06		IO		
Non-Aboriginal and Aboriginal archaeology including monitoring, clearance, catalogue, storage	E17, E18, E19, E23, E24, E25, E21, NAH2, NAH9, AH3, CHMP, AMS			OBS	
Exhumation Plan implementation including notifications, clearance	E26, E27, AMS				
Compliance tracking including Design	E10, E100, NAH13, CHMP, CEMF				

* Note: Compliance limited to demonstrated evidence referenced in Appendix 1 and/or Audit Checklist working notes

Audit Findings are classified as follows:

Status	Explanation
Notable Practice (NP)	Outstanding positive observation about a system, process or practice, for recognition and/or sharing purposes.
Improvement Opportunity (IO)	A suggestion or opportunity to implement a good or better practice to improve efficiency, further reduce exposure to risk or improve information management. When specifically stated as a Recommendation, this requires a formal response as to a considered action, alternative action or management decision in the negative.
Observation (OBS)	Documented requirement and/or implementation issue which may not strictly affect required performance or compliance outcomes. Also termed a non-conformance (as opposed to non-compliance) in the industry, observations could be an early indication of potential non-compliance and/or an adverse performance outcome.
Non-compliant (NC)	The intent of one or more specific requirements of a condition or obligation have not been met, based on insufficient objective evidence to demonstrate required outcomes or deliverables being achieved and/or complied with.

Note: The status of 'Compliant' is determined where sufficient verifiable evidence demonstrates that intent, specific requirements or elements of a condition / obligation have been met within the scope of the Independent Audit. Consequently, there may be no resulting actions, otherwise actions commensurate with the Improvement or Observation status above will be required.

2.2 Detailed Findings and Agreed Action Plan

Ref	Audit Finding	Status	Priority	Agreed Action Plan
1.	<p>Archaeological clearances by the Excavation Director defined in Archaeological Method Statements required by Planning Approval MCoA E17 were somewhat informal and did not always prevent construction commencement prior to completion of archaeology. This was evidenced by:</p> <ul style="list-style-type: none"> Piling south of the Devonshire St Tunnel had commenced on 12th February 2019 prior to the Station Box AMS test excavations being undertaken or clearance sought from the Excavation Director. LORA indicated that no material harm to heritage fabric or values had occurred, however a resulting Sydney Metro Non-Conformance Report was progressing but had not been satisfactorily resolved and completed. Since construction commencement in 2018, only one archaeological "clearance" appeared available in the form of a last page note to the "Inspection of Northern Section, Station Box" memo concluding "no further archaeological monitoring was required in this area". <p>Recommendation: <i>Given the significance of known archaeology and complexity of the site and construction staging, the current informal archaeological clearance process appears inadequate to ensure similar non-conformances do not occur. It is therefore recommended that a formal clearance certificate process be implemented, including definitive information on areas cleared and mitigation requirements if required.</i></p>	OBS	High	<p>Agreed Actions:</p> <ol style="list-style-type: none"> Address the comments raised by Sydney Metro in the Stakeholder Comments Register, and agree appropriate corrective actions with Sydney Metro. Develop a formal clearance certificate process and documentation in consultation with Artefact <p>Due Date: 31 May 2019</p> <p>Responsible Person: Environmental Manager</p> <ol style="list-style-type: none"> Implement the formal clearance certificate process on all remaining areas requiring archaeological clearance at Central Station. <p>Due Date: June 2019 (From next clearance onwards - to be reviewed at follow-up audit - date TBD)</p> <p>Responsible Person: Environmental Manager</p>

Ref	Audit Finding	Status	Priority	Agreed Action Plan
2.	<p>There does not appear to be a formal process in place for the closure or sign-off of the Witness Points detailed in the OCP Construction Actions Schedule D (Methodology for Demolition and Deconstruction). The witness points related to:</p> <ul style="list-style-type: none"> – confirmation of qualifications of specialist construction personnel; – approval of methods of demolition and protection of existing fabric, and; – retention of timber trusses intact. <p><i>Whilst evidence was sighted to indicate that ongoing processes of reviewing and revising methods were demonstrated through meetings, inspections and correspondence, there was no evidence of a formal process to verify closure of the witness point.</i></p> <p><i>Also, whilst qualifications of specialist construction personnel were not available, evidence of close consultation with the Heritage Architects was demonstrated.</i></p>	IO	Low	<p>Proposed Action</p> <p>A form will be developed and implemented for use in formally closing witness points in subsequent CASs to demonstrate compliance. It is expected that a CAS will be prepared for the northern concourse works (CAS E) developed by the end of June 28th</p> <p>The Construction Actions Schedule D Methodology for Demolition and Deconstruction Platforms 12 to 15 has already been completed, and this new process would not be backdated to these works.</p> <p>Responsible Person: Environmental Manager</p> <p>Due Date: 28 June 2019</p>

2.3 Assessment details

The following section of this report provides an overview of areas of focus assessed including documentation, plans, records, and systems outlined in the Audit Plan and associated Audit Checklist

2.3.1 Site Inspection details/outcomes

A site inspection was conducted of all active areas of the site including within the Central Station built environment, areas due for demolition and modification, excavation and archaeological dig sites, and spoil sieving operations. Interviews were held during the site inspection with the Archaeological supervisor who was overseeing the monitoring operations, and items recovered from the day's sieving operations were sighted. No issues requiring corrective actions were identified during the site inspection.

	
<p>Vibration monitoring equipment set-up to monitor for potential impacts on building</p>	<p>Bounce Hostel – due to be demolished to make way for the construction of Eastern Entrance</p>
	
<p>Archaeologist overseeing monitoring duties on full-time basis during construction</p>	<p>Archaeologist undertaking sieving operations to identify artefacts. Spoil pile on geofabric to be sieved – segregated from general spoil.</p>

2.3.2 Awareness, consultation, communication, Management of Consultants

The overall awareness of Heritage issues of persons working on the project was considered to be appropriate for the significance of the heritage landscape. Various methods for communication and awareness were noted including permanent on-site presence of Archaeologists during digging operations; supervision of works involving built heritage fabric by Heritage consultants; toolbox talks; team meeting; posters; induction material and briefing workshop. Messages of “what not to do” were reinforced through presentation of footage of the Sydney Light Rail incident involving discovery of human bones and the subsequent negative media coverage.

Due to the high significance of known non-Aboriginal heritage and potential for Aboriginal heritage item finds, LORA have engaged the Archaeologists to be on site during monitoring, testing and salvage operations except in areas deemed low risk / unexpected finds / cleared areas under the direction of the Excavation Director (Artefact). For built heritage, communications between the Heritage consultants, the deconstruction and demolition contractors and the Principal contractors was also considered appropriate.

2.3.3 Heritage Management – Built Heritage

Demolition and deconstruction works have been carried out under the guidance of, and in consultation with the Heritage Consultant OCP, supported by structural engineers from the demolition contractors, NASS. Conservation Action Schedules (CASs) relating to Bounce Hostel salvage, Temporary Protection Plan, Action Plan for War Memorial Boards and Demolition and Deconstruction have been broadly prepared to: ensure retention, preservation and conservation of elements not approved for impacts; items to be salvaged are identified; provide methodologies for the removal and storage of fabric to be salvaged for future interpretive, maintenance or repair purposes and prevent irreversible damage to adjacent fabric.

Evidence was sighted to indicate that demolition, deconstruction and salvage has been undertaken in a structured manner with heritage items tracked, recorded in the Salvage Register, delivered to an approved off-site location with the process overseen by OCP.

Archival recording was previously undertaken by Sydney Metro, and it was confirmed that remaining archival recording required for additional impacts as a result of detailed design requirements and recording of views and vistas has been undertaken by heritage consultants, OCP. At the time of the audit, decisions regarding the final use of salvaged fabric had yet to be determined. The Heritage Interpretation Plan (HIP) was under development at the time of the audit.

2.3.4 Non-Aboriginal Archaeology

The potential for archaeological finds was known early in the planning stages of the CSMW project, and as such, appropriate resources have been allocated to ensure appropriate levels of oversight. The Excavation Director was present during the audit, and provided evidence of proactive involvement of the Artefact team in determining and managing the extensive archaeological requirements arising on the project. The processes, activities, monitoring and tools implemented by the construction contractors, LORA, and the resources deployed

to manage them provided evidence of appropriate and adaptive methodologies to manage an ever-changing work environment.

Archaeological Method Statements (AMS) have been prepared and provide detailed archaeological management guidance. The Station Box and Sydney Yards AMS identified specific potential finds, including an 1855 turntable and carriage shop, and a second station turntable and locomotive shop. It was expected that the significance would not reach State level significance as the potential remains were not expected to be intact, however, test trenching exposed intact and extensive remains of the turntable and Locomotive workshop. These are considered to be of likely State significance and were fully documented prior to re-covering them.

As the result of archaeological testing, changes have been made to the design of the stormwater drainage and feeder route to reduce the risk of impacts to archaeological remains. Works in the vicinity of the engine erecting shop, and south of the Devonshire Street tunnel have been revised/delayed due to discovery of a possible gas works tank which requires management of contamination.

At the time of the audit, one clearance by the Excavation Director to confirm completion of archaeological management activities had been completed, concluding that no further archaeological monitoring was required in the northern section of the station box.

It was noted that an internal non-conformance report was raised in April 2019 regarding an event on 12 Feb 2019 in which piling commenced prior to test excavations being undertaken, and no clearance had been sought from the Excavation Director contrary to the requirements of the Sydney Metro Box AMS. Resolution and determination of appropriate corrective actions were still under consideration by LORA and review by Sydney Metro at the time of issue of this report. A finding has been raised in relation to the effectiveness of the clearance process and responding to the issues raised in the internal non-conformance.

2.3.5 Aboriginal Archaeology

Aboriginal artefacts, have been identified found during archaeological investigations. A geomorphologist was engaged to provide advice on the soil types and natural soil profiles that may have the potential to contain Aboriginal archaeology. Aboriginal artefacts discovered have been temporarily stored at the LORA site offices in secure storage and taken back to Artefact offices for analysis.

Evidence was provided to verify that Registered Aboriginal Parties (RAPs) have been notified of any suspected finds and have been involved in the archaeological process to identify items of Aboriginal heritage significance.

2.3.6 Implementation of Exhumation Management Plan

The potential for encountering fragmented human remains was considered medium to high, and the discovery of vaults/crypts and human remains triggered the cessation of work and invoked the implementation of the Exhumation Management Plan. Evidence was sighted that work was ceased when human remains were found, reports and notifications to authorities were undertaken, release of remains were authorised by the Coroner's office, and works only recommenced in the areas concerned based on archaeological advice. At the time of the audit, it was stated that a preliminary report on the vault discovery will be

prepared by Artefact. Sydney Metro advised that the preliminary reports will be issued to NSW Heritage Council in accordance with s146 of the Heritage Act.

The initial implementation of the Exhumation Management Plan found that the reporting processes to authorities such as Police and the Coroner's Office by the Environmental Representative, were inefficient and as such, processes have been modified to manage this more effectively with the input of the Excavation Director and Sydney Metro Environmental Managers . At the time of the audit, the Exhumation Management Plan was under review by Sydney Metro, in consultation with NSW Health, OEH and the Coroner's Office. The Excavation Director is continuing to manage the notification processes in conjunction with LORA.

2.3.7 Compliance tracking

No non-compliances regarding heritage management have been recorded on the latest Compliance Tracking spreadsheet or on the CSMW project to date.

3 Appendix 1: Audit documentation

The following indicates key systems, documents, reports, information and records that were reviewed, accessed or sighted during the audit process:

Documentation	Information / Records
1. Project documentation – Management Plans (general) Procedures	
Central Station Main Works Construction Heritage Management Plan Rev 0.7 dated 26 July 2018	
Sydney Metro Unexpected Heritage Finds Procedure Ver 1.4 dated 22 Mar 2018	
2. Site controls, mitigation, review of practices, awareness, training, communications, resources	
	Central Station Project Induction Presentation – includes slides on Heritage and Archaeological finds and Heritage Stop Work Protocol
	Central Walk – Delivery meeting minutes 21/01/19 – Heritage items included
	Script of Heritage Toolbox (by Artefact) for subcontractors NASS, Straight Up, Central Plumbing and Pure Contracting (signed)
	Excavation Permit – Plunge columns 15/01/2019
	Excavation Permit – Archaeological crypt burial 16/01/2019
	Site Diary Entries (LOR electronic) – commentary and photos on archaeological activities (3/1/19; 9/1/19, 21/1/19, 20/3/19
	Laing O'Rourke Stakeholder and Community Liaison Protocol (Central Station Main Works (CSM) Project specific)
	Message from the Project Director – Reminder on implementation of the Stakeholder and Community Liaison Protocol
	Email from Artefact 28 Mar 2019– example of weekly forecast of personnel rostered on for Archaeological works,
	Email – LOR – request to populate Archaeologist resourcing requirements – 22 Oct 2018
	Artefact Roster WE 32 (6 Feb 19) for archaeologists to be on site.
	Safe Work Method Statement – Construction of ULX and CSR 27/10/18 – Includes unexpected heritage finds requirements (stop work)
	20190403 CSM Environmental Meeting Minutes Draft

Documentation	Information / Records
	20190320 CSM Environmental Meeting Minutes Draft
	20190220 CSM Environmental Meeting Minutes Draft
	20190206 CSM Environmental Meeting Minutes Draft
3. Heritage Management – Built environment	
	Conservation Actions Schedule (CAS) A: Identification of Elements for Salvage - Former MGM Building (Bounce Hostel), 20-28 Chalmers Street, Surry Hills (OCP Architects). Issue C – For Construction dated 14/01/2019
	Conservation Actions Schedule C – Temporary protection of retained elements (OCP Architects). Revision A dated 24 Oct 2018 – For information
	Conservation Actions Schedule D – Methodology for Demolition and Deconstruction Rev B – dated 14 Nov 2018
	Central Station Main Works Archival Photographic Report October 2018 Rev A (Draft). Also proof sheets of photos for various elements and locations.
	Sydney Metro – Central Station Main Works - Heritage Salvage Register – updated 26 Feb 2019
	Heritage Asset Tracking sheets H8, H9, and H10 (5/11/18 - cleaners Amenities Building)
	CSM Demolition Methodology Briefing Workshop – Enabling Works – PowerPoint - Salvage and Demolition
	Central Station Main Works Project Construction Method Statement for Enabling Works Demolition – 12/09/2019 (Laing O'Rouke)
	Canopy Removal Methodology Rev 5 extract from Enabling Works Demolition Methodology (relating to heritage items) by NASS (demolition contractor) dated 19/10/2018
	Site Meeting Minutes (LOR and OCP) – review of Northern Concourse Enabling Works dated 1 Mar 2019 – OCP recommendations on various heritage issues
	Meeting Minutes – (OCP/LOR/NASS) Review of Salvage items 23/10/2019 – discussion on methodology for canopy salvage procedure by NASS for OCP review.
	Key Heritage item removal – Carpet runner cleaning machine removal methodology Rev 2. Heritage Mirror removal methodology;
	Meeting Minutes – Non-Indigenous Heritage Interpretation 30/10/2018 – reviewing of status of heritage interpretation (OCP and LOR)
	Minutes of site inspection – Review of Salvage items – Platform 12/13 Canopy 26/11/2018

Documentation	Information / Records
4. Heritage Management Interface with design	
	CSMW Enabling Works Package A – Heritage Impact Review 13/07/2018 (LORA, OCP, SM and Sydney train attendees)
	Meeting minutes and agenda – 29/01/2019 – Norther Concourse Coordination Woods Bagot / John McAslan + Partners. Design development sections.
	Heritage Working Group meeting minutes #38 4 Feb 2019 – Design component included, LOR Design Manager attended
	Meeting minutes PCG 2 April 2019 – Woods Bagot / John McAslan with LOR representatives – Design – high level heritage issues discussed
5. Heritage Management – non-Aboriginal Archaeology	
Sydney Metro: Central Station Main Works – Station Box and Sydney Yards Archaeological Method Statement (Artefact) Rev 4 dated 16 Aug 2018	Various memos from Artefact between Nov 2018 and March 2018 relating to discovery of non-Aboriginal archaeological finds and human remains, and includes background and management requirements to ensure compliance with planning conditions and Archaeological Method Statements.
	Artefact Memo – Archaeological monitoring summary report for early works– 20 Sept 2018
	Artefact Memo – Inspection of the Northern Section Station Box 1/3/2019 – clearance (no further archaeological monitoring required)
	Artefact Memo – Archaeological Management for Stormwater Drainage Redesign, CSMW 6 Feb 2019
	Artefact-LOR - Archaeological Progress Meeting Minutes 15 Mar 2019
	Email “CSMW Archaeological management” – 18 March 2019 – Summary of meeting 15/03/19 by Artefact Heritage Consultant communicated to key project personnel
	Various emails between Artefact and geomorphologist in relation to identifying the undisturbed geological and archaeological sterile substrate (dated between 12 Dec 18 to 20 Mar 2019)
	Email from Artefact Excavation Director (ED) 15 Feb 2019 – recent discovery reaching threshold for State significance
	Extract from Context Register (Aug – Sept 2018)
	Context sheets examples – Archaeological Salvage Excavation – Track 10
	Monitoring recording form example 31/01/19
	Trench recording form examples – 8/09/2018
	Non-Conformance Report NCR 006 recorded on Environmental Incident and Non-compliance report form with date 27/03/2019 recorded as date of incident (no date of report completion)

Documentation	Information / Records
	Non-Conformance Report NCR 006 V2 with date 12/02/2019 recorded as date of incident. (no date of report completion)
	20190416 CSMW NCR 006 – Sydney Metro C&SW Stakeholder Comment Tracker – comments on NCR content and proposed corrective actions
	Email – Sydney Metro 16/04/2019 SMCSW1CSM - CSM - Environmental Document submissions for review – attached comments on NCR requesting re-submit of NCR 006 to address comments.
Heritage Management – Aboriginal Archaeology	
Central Station Main Works- Station Box Aboriginal Archaeological Method Statement (Artefact) Rev 4 dated 18 Sept 2018	Email 21 Dec 2018 from Artefact on Aboriginal artefacts identified. Note by ED that this information was provided to the Registered Aboriginal Parties (RAP)
	Daily Attendance Register – CSM Salvage Area 2 (North) Jan 2019 – indicating involvement of RAPs in the archaeological salvage works
6. Heritage Management – Human Remains, Exhumation	
Exhumation Management Plan (Sydney Metro SM-ES-PW-315/1.0) Ver 2.0 dated June 2018	Emails and notes between Artefact and Forensic archaeologist regarding bones found and request for testing, including for research questions.
	Coroners orders for release of human remains –Dec 18 and Jan 19
	Letters– Public Health Unit – exhumation approvals – Dec 18 and Jan 19
7. Compliance tracking, records and information systems	
	Q4 CSM Compliance Tracking Report (CTR Final) 20190227
	City and South West Chatswood to Sydenham Planning Approvals - Compliance Report - 2018 Q4 Central Station Main Works (CSMW) 28/02/19 (Author – Environment Representatives – HBI)

4 Appendix 2: Audit Credentials

Audit process

This Independent Environment Audit comprised an off-site desktop review, an onsite and office audit and a post audit assessment of documentation and records. The audit assignment was undertaken by the identified QEM Consulting Pty Ltd Auditor below, with the second Auditor not directly involved in the audit conducting a peer review of the report prior to finalising.

The audit process including scoping and planning was undertaken in accordance with the principals of AS / NZS / ISO 19011:2018 – Guidelines for Auditing Management Systems.

Auditor information

Audit Organisation:	QEM Consulting Pty Ltd
Auditor & Report Author:	Julie Dickson
Auditor Qualification:	Exemplar Global EMS Auditor Accreditation no. 13573
Affiliations:	EIANZ Certified Environmental Practitioner, Reg. no. 221
Report Reviewer:	Larry Weiss
Auditor Qualification:	Exemplar Global EMS Auditor Accreditation no. 12355
Affiliations:	Member, Engineers Australia 938517

4.1 Auditor certification

The abovementioned Auditor certifies as having personally undertaken this Independent Audit and preparing the contents of this Independent Audit Report; and that the findings of the audit are reported truthfully, accurately and completely; and that he / she has exercised due diligence and professional judgement in conducting the audit. The signed Statement of Interests and Association in our services agreement with Sydney Metro confirm our Auditor's independence and absence of pecuniary interest in the audited project.

4.2 Audit disclaimer

It should be noted that this report is a snapshot in time, based on selected and supplied documentation, as well as observations on the day only, and does not purport to be a definitive confirmation of overall or potential compliance or vice-versa.

5 Appendix 3: Audit Attendance Register

AUDITEE: Laing O'Rourke AUDIT: SM18.19-080 CSMW-IEA SITE: LORA site office – Central Station			26 March 2019	
NAME (print)	POSITION & ORGANIZATION		ENTRY	EXIT
Julie Dickson	Lead Auditor	QEM	JD	JD
Chris McCallum	Environmental Manager	LORA	CMC	CMC
Lucas Dobrolot	Environmental Coordinator	LORA	LD	LD
Lufeng Zhang	Graduate Engineer	LORA	LZ	LZ
James Pearce	Construction Director	LORA	JP	JP
Andrew Hendy	Environmental Manager, C&SW	Sydney Metro	AH	AH
Nicole Waterman	Design Manager	LORA		
Alberto Paludetto	Environmental Representative	HBI	AP	AP
Sandra Wallace	Aboriginal Archaeology	Artefact	SW	
Iain Stuart	Primary Excavation Director	Artefact	IS	
Jayden van Beek	Archaeologist	Artefact	JVB	
Otto Cserhalmi	Heritage Specialist - Director	OCP	OC	
Bianca Hollo	Heritage specialist	OCP	BH	

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