

Stacy Warren
Director Infrastructure Management
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

7 November 2018
Ref: 170108-ER-DPE-TSE-Oct 18

Dear Stacy

RE: Sydney Metro City & South West Chatswood to Sydenham CSSI 15_7400 – ER Monthly Report for October 2018 – TSE Contract and Martin Place USP

Healthy Buildings International (HBI) submits this report to the Secretary in accordance with:

- Condition A24 (I) of the Sydney Metro City & South West Chatswood to Sydenham CSSI 15_7400 Approval (9 January 2017) and associated modifications (MOD1_Victoria Cross and Artarmon (18 October 2017), MOD2_Central Walk (21 December 2017), MOD4_Sydenham Station and Metro Facility South (13 December 2017), and MOD 3_ Martin Place Metro Station (22 March 2018) ; and
- As required by the subsequent appointment as the approved Environmental Representative (17 February 2017);

The attached summary details the key activities undertaken by Environmental Representatives for Sydney Metro – City and South West Chatswood to Sydenham during the month of **October 2018**.

Yours sincerely



Michael Woolley
Environmental Representative

Cc: Sydney Metro: Fil Cerone, Matt Marrinan, Ben Armstrong, Stuart Hodgson, Adam Koutsamanis, Pam Tummers, Margarita Ognjanovic, Rob Muir (JHCPBG), Jason Ambler (LL)
DPE: Swati Sharma, Rob Sherry, Kate Moore
CC IEA: Larry Weiss, Julie Dickson



Summary of Contract Packages	Environmental Representative/s
Demolition and Tunnel and Station Excavation (TSE)	Michael Woolley
Martin Place Unsolicited Proposal (USP) Macquarie Bank/Lendlease	Michael Woolley/Jo Robertson
Alternate	Jo Robertson / Annabelle Reyes

Key Construction Activities	
Demolition and TSE	<p>Works conducted in September 2018 at the following sites are summarised below:</p> <p>Chatswood Dive Site:</p> <ul style="list-style-type: none"> ○ Chatswood dive site <ul style="list-style-type: none"> ▪ Building of the tunnel dive, with activities including excavating and removing material from site, concreting and installing rock anchors. ▪ Installation of the spoil acoustic shed, spoil conveyor towers, hoarding, grout plant, cooling towers and other tunnel support infrastructure. ○ Nelson Street and Orchard Road <ul style="list-style-type: none"> ▪ Relocation of the underground power, water and telecommunication services rail corridor. ○ Rail corridor between Brand Street and Mowbray Road (western side) <ul style="list-style-type: none"> ▪ Removal of the top soil, mulched trees and other materials in the area including some materials containing asbestos. ▪ Installation of the drainage and building a construction access road between Brand and Drake Streets involving installing pipes, delivering and spreading material and compacting the material with vibratory rollers. <p>Artarmon Substation:</p> <ul style="list-style-type: none"> ▪ Site establishment <p>Crows Nest Station:</p> <ul style="list-style-type: none"> ○ Within and around the site <ul style="list-style-type: none"> ▪ Excavation of the station area. ▪ Installation of the ground anchors. ▪ Spraying of the concrete on the walls of the station area. ▪ Installation of acoustic covers at the southern end of the site. <p>Victoria Cross Station:</p> <ul style="list-style-type: none"> ○ Victoria Cross South site <ul style="list-style-type: none"> ▪ Excavation of the station cavern and pedestrian and service access tunnels. ▪ Construction of the truck decline ramp within site. ▪ Completion of the installation of stormwater diversion on Miller Street. ▪ Reinstating of the footpaths and pavements around the site along Miller and Berry Streets. ▪ Other activities including excavation using road headers and hammers, removing material from site via Denison Street, installing and stressing (tightening) rock anchors and spraying concrete on exposed walls. ○ Victoria Cross North site <ul style="list-style-type: none"> ▪ Installation of the acoustic shed ceiling, roof, side panels and flashings. ▪ Commissioning of the gantry crane and water treatment plant. ▪ Installation of the electricity and other services to the site. ▪ Construction of footings for the spoil bin (the storage area for excavated material within the acoustic shed).



- Pouring of the concrete floor slabs within the shed.
- Construction of part of the driveway on McLaren Street.
- Undertaking of one trial blast in the station access shaft.

Blues Point Temporary Retrieval Site:

- Temporary retrieval site
 - Heritage investigations.
 - Site access, asphaltting and paving work.
 - Installation of the permanent hoarding around the site.
 - Construction of a piling pad in preparation for piling work.
 - Installation of a temporary kiosk substation within the site.
- **Henry Lawson Avenue**
 - Relocation of the underground utilities within the footpath and road.
 - Removal of the pedestrian island to allow for utility relocations.
- **Blues Point Road**
 - Construction of a concrete driveway access at the end of Blues Point Road.
 - Relocation of the underground utilities within the footpath and road.
 - Removal of the traffic island to allow for site access.

Barangaroo Station and Millers Point:

- Temporary access shaft inside the acoustic shed – Hickson Road
 - Using the gantry crane to load excavated material into storage containers and/or haulage trucks.
 - Removal of the excavated material from the access shaft to the site foreshore area.
 - Deliveries of concrete, machinery and equipment
- Crossover cavern under Hickson and Dalgety roads (24/7 work)
 - Excavation of the temporary passage from the access shaft to crossover cavern.
 - Roadheader excavation.
 - Support rock bolting and concreting activities.
- Hickson Road (between Dalgety Road bridge and High Steps)
 - Excavation of the new Barangaroo Station.
 - Piling, jet grouting and rock grouting.
 - Ongoing management of the boat relic found near the old wharf.
- Nawi Cove and Barangaroo foreshore
 - Testing of the water and slurry separation plants.
 - Completion of the spoil shed and tunnel boring machine support plant site.

Martin Place Station:

- Bligh Street site
 - Delivery and removal of equipment, machinery and materials from site.
 - Removal of the excavated material from within the acoustic shed.
- Martin Place South site
 - Structural demolition of 39 Martin Place (work hours extended to 6pm on Saturdays).
 - Removal of demolition wastes.
 - Delivery of the equipment and materials to and from site.
 - Using the tower crane to lift large equipment to and from the roof.
 - Demolition of shops in the underground walkway and installing concrete piles.
 - Hoarding changes and underground and surface pedestrian diversions.
 - Removal of concrete slab and installation of a pedestrian walkway.

**Pitt Street Station:**

- Pitt Street North
 - Excavation of the underground pedestrian connections using excavators and a roadheader, drilling and rock-bolting, shotcreting excavated walls (24-hour).
 - Rock hammering of underground (standard construction hours only).
 - Delivery of concrete (24-hour).
 - Moving of excavated material to the surface and temporarily storing it inside the acoustic shed holding area (24-hour).
 - Loading and taking excavated material from site in single body trucks (24-hour).
- Pitt Street South
 - Removal of paint and hazmat materials.
 - Structural demolition.
 - Loading and taking of demolished materials from site in single body trucks.

Waterloo Station:

- Waterloo Station site
 - Raglan Street site driveway, involving excavation and concrete work.
 - Reinstallation of higher hoarding on the capping beam along a section of Cope and Raglan streets.
 - Installation of ground anchors, through the concrete piles, which will extend beyond the site boundary beneath Wellington, Cope and Raglan streets and Botany Road.
 - Continuing the station box excavation, including rock hammering activities, and ground support concrete and anchoring work.
- Cope, Cooper, Raglan, Wellington streets
 - Drilling for the installation of monitoring devices that will collect information from tunnelling and excavation work.

Marrickville dive site:

- Within the Marrickville dive site
 - 24-hour tunnelling activities.
 - Delivery of materials on oversized vehicles and removing excavated material from site.
 - Assembly and commissioning of tunnel boring machines within the dive site area.
 - Constructing and commissioning site structures including spoil shed and conveyor structure installation.
 - Continuing construction activities including creating site entrances, earthworks, shotcreting and rock/ground anchoring work to support the ground during excavation.
 - Operating the gantry crane and mobile cranes along the dive structure.
 - Demolishing existing Murray Street buildings, involving installing scaffolding and security fence.
 - 24-hour deliveries of material and precast segments, including operation of the precast facility within the acoustic shed and operation of external cranes.
 - Edinburgh Road, Railway Parade, Marrickville including intersection upgrade works and construction of median kerbing and upgrading the road surface.
- Marrickville precast facility
 - Removal of existing concrete and asphalt slabs involving hammering.
 - Producing concrete segments within the acoustic shed and storage yard crane operation.
 - Continuing construction of the precast facility and support infrastructure.
 - 24-hour deliveries of material and precast segments.



ER Inspections	
Demolition and TSE	<p>Weekly inspections continued of the sites under the management of the TSE contractor. A DPE Compliance Officer attended the Inspections on 9 October and 30 October 2018. Sites inspected in October 2018 comprised:</p> <ul style="list-style-type: none">▪ Victoria Cross South – 09/10/2018, 23/10/2018▪ Victoria Cross North – 09/10/2018, 23/10/2018▪ Chatswood – 09/10/2018, 23/10/2018▪ Blues Point – 09/10/2018▪ Martin Place – 09/10/2018▪ Bligh Street – 09/10/2018▪ Crows Nest – 09/10/2018▪ Artarmon – 09/10/2018▪ White Bay – 09/10/2018▪ Barangaroo – 16/10/2018, 30/10/2018▪ Pitt Street North – 16/10/2018, 30/10/2018▪ Pitt Street South – 30/10/2018▪ Waterloo – 16/10/2018, 30/10/2018▪ Marrickville – 16/10/2018, 30/10/2018▪ Clyde – 23/10/2018 <p>ER Inspection reports have been prepared and issued to Sydney Metro and the TSE Contractor. Actions identified during the inspections comprised:</p> <ul style="list-style-type: none">▪ Inspection on 09/10/2018<ul style="list-style-type: none">○ Crows Nest – chemical storage○ Victoria Cross North – erosion and sedimentation controls▪ Inspection on 16/10/2018<ul style="list-style-type: none">○ Marrickville – erosion and sedimentation controls○ Waterloo – dust on the road and chemical storage○ Pitt Street North – dust on the road○ Barangaroo – chemical storage▪ Inspection on 23/10/2018<ul style="list-style-type: none">○ No actions noted during this inspection.▪ Inspection on 30/10/2018<ul style="list-style-type: none">○ Waterloo – dust on the road○ Barangaroo – dust on pedestrian pathway <p>Various notes were made in the inspection reports reflecting commitments made by the TSE Contractors.</p> <p>The ER attended two meetings in regards to the boat relic find at Barangaroo. The first was held on 19 October at Barangaroo and involved discussions with JHCPBG, Sydney Metro, Heritage consultants to JHCPBG and various boat and heritage specialists. The discussions covered various aspects of removal and future management of the boat relic; as well as the development of the Relic Management Plan as required under Condition E20.</p> <p>The second meeting was held on 26 October at the offices of OEH and provided OEH with an update of findings from recent investigations and the proposed approach for removal of the boat relic. The Relic Management Plan as required of Condition E20 was further discussed. A revised Draft Relic Management Plan was subsequently prepared and issued to OEH on 6 November 2018. The ER was copied into this correspondence.</p>



Endorsed Document/s	
Sydney Metro	<p>The following documents were reviewed and endorsed by the ER with the assistance of Alternate ERs (not just specific to TSE related works):</p> <ul style="list-style-type: none"> ▪ MWA 20181005 Axicom Monopole Removal - Minor Works Application ER endorsed ▪ OOHW Marrickville East New Tower installation ▪ OOHW Marrickville - Tower Removal ▪ OOHW Investigation Works OOHW-043 for Marrickville Slit Trenches ▪ CTR Sydney Metro Retained Obligations CTR Q1 and Q2 2018 (draft)
TSE	<p>The following TSE documents were reviewed, comments provided to the TSE Contractor and Sydney Metro where relevant, and endorsed by the ER with the assistance of alternate ERs:</p> <ul style="list-style-type: none"> ▪ Community Communications Strategy (CCS) <ul style="list-style-type: none"> ○ CCS Revision 4 dated 24 July 2018 ▪ Out of hours works (OOHW) approvals <ul style="list-style-type: none"> ○ OOHW Permit - Pitt St (I&M Works), Rev2 ○ Hoarding Installation MPS ▪ Site Establishment Plan <ul style="list-style-type: none"> ○ Crows Nest (Rev 4) ○ Blues Point Shaft and Precinct Utilities Investigation ○ Clyde Barging facility ○ Marrickville Tunnelling SEP ○ White Bay SEP ○ SEP for Blasting at VCN ▪ Construction Traffic Management Plans (CTMP) <ul style="list-style-type: none"> ○ CTMP Vic Cross South Operations Rev D ○ CTMP Pitt Street North Site Operations Rev D ○ CTMP Bligh Street Operations Rev G ○ CTMP Closure of Nelson Street ○ CTMP Barangaroo Stage 4 Rev F ○ CTMP VC South Rev E ▪ CNVIS <ul style="list-style-type: none"> ○ Tunnelling CNVIS ○ VC CNVIS Rev 7for 24-7 haulage ○ CNVIS Barangaroo Rev 10 - loader operations ○ Waterloo CNVIS Rev 8 – surface miner ○ Chatswood Extended work hours ▪ Other <ul style="list-style-type: none"> ○ Tree Report Rev 03
USP- Martin Place	<p>The following documents were reviewed and endorsed:</p> <ul style="list-style-type: none"> ▪ Sydney Metro Martin Place CCS 9-19 Elizabeth Street Demolition Rev 8 (review) ▪ Sydney Metro Martin Place CCS 9-19 Elizabeth Street Demolition Rev 9 endorsed ▪ Martin Place - Demolition CEMP (Rev 4) endorsed ▪ Martin Place - Demolition CEMP Rev 5 ▪ Construction Heritage Management Plan (CHMP) Rev A 290818 ▪ Construction Heritage Management Plan (CHMP) Rev B 261018 ▪ Martin Place Metro CSSI, Construction Noise and Vibration Impact Statement for Demolition of 9-19 Elizabeth Street, 22 October 2018, Lendlease Group (TK422-F04 (r7) 9-19 Elizabeth Street Demolition CNVIS), Acoustic Advisor (AA) Endorsement (of the above document) dated 31 October 2018 ▪ Martin Place USP (Unsolicited Proposal) Construction Noise and Vibration Management Plan - Sydney Metro City & Southwest (Document TK422-F03 Martin Place), Revision 6 dated 25 September 2017; and Acoustic Advisor (AA) Endorsement (of the above



	<p>document) dated 19 October 2018</p> <ul style="list-style-type: none"> ▪ Construction Traffic Management Plan, Sydney Metro Martin Place Demolition Works Stage, 9-19 Elizabeth Street, Sydney (Rev 1, dated 10 October 2018, Ref: 18228_r02v01_181010 CTMP (Demolition) ▪ MWA LL MPISD PCMWA1 Early Works Rev 1 ▪ MWA LL MPISD PCMWA1 Early Works_rev 2 endorsed ▪ OOHW USP Martin Place OOHW- Early Works Rev 1 ▪ OOHW Martin Place OOHW- Early works Rev 2 endorsed
Clyde Barging Facility	Nil

Complaints / Incidents / Non-compliance	
TSE and demolition	<p>It is understood that Sydney Metro has been providing summaries of complaints to DPE daily. Responses to each complaint have been noted in each complaint report, with follow up actions often defined in revised reports.</p> <p>The following incidents were observed by or reported to the TSE ER during the period:</p> <ul style="list-style-type: none"> ▪ On 15 October 2018, JHCPBG provided an Environment Event report for Out of Hours Works at Crows Nest. The report stated: On Thursday 27 September 2018, out of hours works were being undertaken for line marking associated with the Hume Street reopening requirements. These works were assessed under a JHCPBG Out of Hours Permit to be within background noise plus 5 dB(A). During the above works, a community complaint was received, and a review of work activities was undertaken by JHCPBG on Friday 28 September 2018 to close out the complaint. This review identified a potential breach of respite periods stated under condition L4.14 of EPL 20971. The event report provided detailed findings and additional actions to address the findings. ▪ On Saturday 27 October, a trial blast (Site Law Assessment) was undertaken at the Victoria Cross North shaft excavation, as per section 4.5 of the Blast Management Strategy. The purpose of the Site Law Assessment (SLA) was to understand the vibration transmission characteristics of the ground to be blasted involved firing a number of small explosive charges and monitoring the resultant vibration levels at key monitoring locations around the site. JHCPBG noted that some of the recorded vibration levels were higher than expected, in particular at the Stables at 243 Miller Street. Whilst the purpose of the assessment is to understand the vibration characteristics, as the administrative modification was not in place under Planning Approval Condition E54, the elevated vibration levels recorded at 243 Miller Street were reported by JHCPBG to constitute a non-compliance with Condition E54 due to the heritage nature of the building (at the time the vibration limit was 7.5mm/s). It is noted that the project approval modification was issued 2 November 2018, which effectively allowed for an increase in the vibration limit at this point (in accordance with the Blast Management Strategy) and reduced the potential for recurrence of this non-compliance.



Sydney Metro	<p>There were complaints received in relation to works undertaken directly by Sydney Metro. There were no incidents related to Sydney Metro conducted works as defined by the project approval definition for incidents reported to DPE under condition A41.</p> <p>The following two non compliances were recorded.</p> <p>A8 – A non compliance was recorded for not seeking approval from the Secretary for an updated Early Works Community Communication Strategy. The updated CCS had been modified to reflect minor project works updates.</p> <p>A40 – The Independent Environmental Auditor conducted an audit on the Metron Stage 1 design. The Metron Stage 1 Design Audit report was not submitted within the required 6 week period following the audit.</p>
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Audits	
TSE	<ul style="list-style-type: none"> • TSE Noise and Vibration Audit
Demolition	Nil
Sydney Metro	Nil

Looking Forward	
Demolition and TSE	<p>Core Focus Areas for the month of November 2018 are:</p> <ul style="list-style-type: none"> ➤ Assessment of compliance with Condition E20 - specifically the Relic Management Plan developed for the boat find at Barangaroo. ➤ Ongoing management of the church at Waterloo. ➤ Early works and site establishment at Blues Point. ➤ Noise and vibration management on all sites. ➤ Traffic management across all sites due to spoil hauling.
Martin Place USP	<p>Core Focus Areas for the month of November 2018 are:</p> <ul style="list-style-type: none"> ➤ Ongoing development and DPE approval of the required management plans. ➤ Commencement of strip out activities as pre construction activities.