

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

7 May 2018
Ref: 170108-ER-DPE-TSE-Apr 18

Dear Stacy

RE: Sydney Metro City & South West Chatswood to Sydenham CSSI 15_7400 – ER Monthly Report for April 2018 – TSE Contract

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 **April 2018**.

Yours sincerely



Michael Woolley
Environmental Representative

Cc: Sydney Metro: Fil Cerone, Matt Marrinan, Ben Armstrong, Stuart Hodgson, Nicole Williams, Adam Koutsamanis, Suzanne Saunders, Rob Muir (JHCPBG)
DPE: Swati Sharma, Rob Sherry, Elizabeth Williamson



Summary of Contract Packages	Environmental Representative/s
Demolition and Tunnel and Station Excavation (TSE)	Michael Woolley
Alternate	Jo Robertson / Annabelle Reyes

Key Construction Activities	
Demolition and TSE	<p>Works conducted in April 2018 at the following sites are summarised below:</p> <p>Chatswood Dive Site and Artarmon Substation:</p> <ul style="list-style-type: none"> ➤ Chatswood dive site <ul style="list-style-type: none"> ○ Installation of concrete piles and building of the capping beam around the dive area to support the ground during excavation. ○ Removal of excavated material that cannot be reused on-site ○ Installation of rock anchors using grout (cement and water) ○ Installation of water treatment plant involving concreting and setting-up silos and water tanks ○ Removal of existing concrete and asphalt slabs with a jackhammer ○ Construction of driveways, internal roads and foundations for acoustic sheds and other tunnel infrastructure including spreading and compacting road base material and pouring concrete ○ Removal and disposing of contaminated materials ○ Installation of hoarding and banners around the site boundary ○ Removal and mulching of trees ○ Installation of stormwater drainage and various utility services to support site operations ➤ Nelson Street <ul style="list-style-type: none"> ○ Relocation and commissioning of the underground utilities and temporarily reinstating the works areas ➤ Rail corridor <ul style="list-style-type: none"> ○ Survey, utility and geotechnical investigations between Brand Street and Albert Avenue ○ Installation of survey monitoring points ➤ Out-of-hours works <ul style="list-style-type: none"> ○ Chatswood dive site <ul style="list-style-type: none"> ▪ Delivery and unloading of oversized plant and equipment ▪ Accessing the site intermittently to load and unload materials <p>Crows Nest Station:</p> <ul style="list-style-type: none"> ➤ Within and around the site <ul style="list-style-type: none"> ○ Completion of installation of a water treatment plant at 14 Clarke Street ○ Continuing piling, including trimming piles using concrete saws and hammers ○ Continuing construction of the concrete capping beam ○ Upgrading driveways and constructing new site driveways ○ Installing line markings to indicate changes to road alignments ○ Commencing excavation of the station box including high impact (hammering) works ○ Moving the pedestrian detour further south of Hume Street across the work site ○ Continuing construction of the bridging structure across Hume Street ○ Completing installation and commissioning of services around the site including installation of a second sub-station at 14 Clarke Street



	<ul style="list-style-type: none">○ Installing survey and monitoring equipment around the site➤ Out-of-hours works:<ul style="list-style-type: none">○ Around and within the site<ul style="list-style-type: none">▪ Installing survey/monitoring equipment▪ Delivering plant/ equipment○ Hume Street at Clarke Lane (north side)<ul style="list-style-type: none">▪ Ausgrid works to locate and remove cabling▪ Optus works to remove cable on Hume Street○ Hume Street at the Pacific Highway<ul style="list-style-type: none">▪ Piling across Hume Street○ Oxley Street east and west of the Pacific Highway<ul style="list-style-type: none">▪ Installing conduits for traffic signalling▪ Altering traffic signals, line markings and adjusting pram ramps○ Hume Street bridging structure<ul style="list-style-type: none">▪ Installing piles along the sides of the bridging structure <p>Victoria Cross Station:</p> <ul style="list-style-type: none">➤ Victoria Cross South site<ul style="list-style-type: none">○ Continuing to relocate sections of hoarding and installing art work on hoardings○ Continuing to install retention (anchors) to prepare the site for tunnel excavation○ Continuing construction of a piling pad○ Installation of piles around the site perimeter near the Berry Street driveway○ Continuing to break-up remaining areas of slab and ground to prepare for installation of the acoustic shed and station excavation○ Commencing concrete works to build footings for the acoustic shed○ Commencing construction of a wall around the site and a concrete capping beam○ Removal of any hazardous materials from the site○ Commencing excavation of a stormwater pit on Miller Street near the current site entry for a stormwater diversion○ Excavation on site for the stormwater diversion adjacent the MLC building○ Commencing works to install a high voltage kiosk near 187 Miller Street○ Commencing installation of the acoustic shed○ Installation of survey and monitoring equipment➤ Victoria Cross North site<ul style="list-style-type: none">○ Continuing earthworks and piling for retaining walls○ Continuing construction of piling pads including use of a vibratory roller to compact fill○ Removal of hazardous materials from the site○ Completion of installation of fencing, hoarding and gates around the site perimeter○ Relocation of sewer within the site○ Continuing demolition of the existing concrete driveway and commencing construction of a new driveway○ Commencing excavation of the haulage road and spoil area on the eastern side of the site○ Installation of a high voltage kiosk on the Miller Street side of the site○ Installation of survey and monitoring equipment <p>➤ Out-of-hours works</p>
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	<ul style="list-style-type: none">○ Around the sites<ul style="list-style-type: none">▪ Mobilisation and the delivery/removal of oversized equipment and materials▪ Installation of traffic signage○ Victoria Cross South site<ul style="list-style-type: none">▪ Removal and relocation fencing and hoarding▪ Installation of stormwater drainage pit and relocating stormwater pipes (near the site entry on Miller Street)▪ Piling works near the Berry Street site entrance○ Victoria Cross North site<ul style="list-style-type: none">▪ Construction of new site entrance▪ Relocation of a sewer within the site▪ Installation of the high voltage kiosk near Miller Street <p>Blues Point temporary retrieval site:</p> <ul style="list-style-type: none">➤ Geotechnical and utility investigations – Henry Lawson Reserve <p>Barangaroo Station:</p> <ul style="list-style-type: none">➤ Hickson Road (between Dalgety Road and Windmill Street overpasses)<ul style="list-style-type: none">○ Continuing site establishment work on the eastern side of Hickson Road, including temporary traffic changes➤ Hickson Road (between Munn Street overpass and High Steps)<ul style="list-style-type: none">○ Relocation of utilities within the road and footpath○ Installation of a new sewer line on the eastern side of Hickson Road○ Installation of a new electrical substation for tunnelling machines○ Earthworks and piling for a temporary bridge (at street level), on the eastern side of Hickson Road➤ Nawi Cove foreshore and lawn area<ul style="list-style-type: none">○ Installation of hoarding and temporary fencing○ Delivery of materials and equipment, including out-of-hour deliveries for oversized machines○ Earthworks, excavation and concreting activities, including building temporary hardstand areas○ Construction of water treatment plant➤ Out-of-hours works<ul style="list-style-type: none">○ Hickson Road (between Towns Place and Dalgety Road bridge)<ul style="list-style-type: none">▪ Minor traffic changes on Hickson Road involving relocating concrete barriers, removing and painting road line markings▪ Installation of an acoustic shed involving steel work, cladding and wall installation using large cranes and elevated work platforms▪ Installation of a large gantry crane▪ Deliveries of heavy machineries, shed, materials and equipment○ Hickson Road (between Dalgety Road bridge and High Steps)<ul style="list-style-type: none">▪ Relocation of water, electrical and communications utilities involving trenching and rock hammering of pavement▪ Deliveries of plant and equipment○ Corner of Sussex and Erskine Streets<ul style="list-style-type: none">▪ Relocating underground electrical utilities <p>Martin Place Station:</p> <ul style="list-style-type: none">➤ Bligh Street site<ul style="list-style-type: none">○ Delivery of equipment, tunnelling machinery and materials to site○ Removal of excavated materials from the site○ Pre-tunnelling excavation works to the decline ramp
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	<ul style="list-style-type: none">○ Delivery of site amenities and steel○ Installation of site amenity containers○ Installation and removal of hoardings○ Relocation of utilities and installing a substation○ Crane lifts○ Ongoing construction of the acoustic shed➤ Martin Place North site<ul style="list-style-type: none">○ Installation and removal of scaffolding and hoarding○ Ongoing structural demolition works and removing materials from site➤ Martin Place South site<ul style="list-style-type: none">○ Installation of scaffolding and hoarding to prepare 39 Martin Place for Demolition○ Reconfiguration of pedestrian access near the worksite in Martin Place and the underground shopping circle○ Removal of hazardous materials○ Delivery of equipment and materials to and from site○ Removal of non-structural walls○ Establishing a tower crane including concreting and anchoring○ Crane Lifts○ Decommissioning of substation➤ Hunter, Castlereagh, Elizabeth, Bligh and O’Connell Streets and Martin Place<ul style="list-style-type: none">○ Relocating utilities➤ Out-of-hours works<ul style="list-style-type: none">○ Hunter, Castlereagh and Elizabeth streets<ul style="list-style-type: none">▪ Installation of hoarding▪ Ausgrid pit inspections, utilities○ Castlereagh, Elizabeth, Bligh and O’Connell Streets<ul style="list-style-type: none">▪ Delivery of oversized equipment and crane mobilisation▪ Installation of site amenities <p>Pitt Street Station:</p> <ul style="list-style-type: none">➤ Pitt Street North site<ul style="list-style-type: none">○ Site establishment works for the excavation phase○ Installation of concrete piles and capping beams around the site to support the ground during excavation. Each pile is between seven and 15 metres deep○ Heritage investigations○ Installation of rain screens and minor works on walls of adjoining buildings○ Installation of substation kiosk and upgrading services on the corner of Pitt Street and Park Street➤ Pitt Street South site<ul style="list-style-type: none">○ Site establishment for demolition○ Installation of scaffolding and safety structures○ Removal of hazardous materials, stripping out buildings and removing waste○ Commencement of structural demolition➤ Out-of-hours works<ul style="list-style-type: none">○ Pitt Street North<ul style="list-style-type: none">▪ Modification and relocating existing electrical services in Castlereagh Street▪ Installation of graphics on hoardings▪ Utilities relocation and connections▪ Delivery of oversized plant, materials and equipment○ Pitt Street South<ul style="list-style-type: none">▪ Constructing hoardings▪ Constructing driveways▪ Delivering plant and equipment
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	<p>Waterloo Station:</p> <ul style="list-style-type: none">➤ Waterloo Station site<ul style="list-style-type: none">○ Construction of piling platforms, driveways, internal roads and the foundations for various site facilities involving removing unsuitable material, delivering fill material to site and spreading and compacting the material using vibratory rollers○ Installation of concrete piles and building the capping beam around the station box to support the ground during excavation. Piling involves drilling holes using an auger, installing steel reinforcement and pouring concrete into each hole. Once the concrete piles are set, the top of each of the piles will be cut back using jackhammers and then the capping beam will be installed across the top to link them together○ Modifying the hoarding around the site boundary and completing heritage investigations○ Delivering and unloading plant, equipment and materials using large vehicles via the site access on Botany Road➤ Botany Road, Raglan and Wellington Streets<ul style="list-style-type: none">○ Realigning of the underground services to construct new site access areas○ Construction of site access and driveway layback areas➤ George, Wellington, Raglan and Cope Streets and Botany Road<ul style="list-style-type: none">○ Drilling into the footpath to install a monitoring device to collect information from tunnelling and excavation works.○ Utility investigation works to identify underground services➤ Out-of-hours works<ul style="list-style-type: none">○ Botany Road<ul style="list-style-type: none">▪ Delivery and unloading of oversized plant and equipment via the site access on Botany Road▪ Relocation of the bus stop near the Waterloo Congregational Church about 10 metres towards Wellington Street to provide a greater distance between the bus stop and new driveway▪ Removal, trimming and mulching trees using chainsaw, a stump grinder and mulcher near bus stop <p>Marrickville dive site:</p> <ul style="list-style-type: none">➤ Marrickville dive site and precast facility<ul style="list-style-type: none">○ Construction of piling rig pads involving the removal of unsuitable material, delivery of fill material to site, spreading and compaction of the material○ Installation of concrete piles and building the capping beam around the dive area to support the ground during excavation.○ Excavation of the dive area involving earthworks, concreting and anchoring works○ Building of the internal roads involving saw cutting, concrete breaking, spreading and compacting material and concreting works○ Concrete works to establish tunnelling infrastructure including a shed and conveyor footings○ Ongoing installation of site hoarding and artwork○ Temporary storm water diversion works○ Sewer installation works within reserve adjacent to site boundary (near Shirlow Street and Saywell Street junction).○ Delivery and unloading of plant, equipment and materials○ Ongoing construction and commissioning of the precast facility and support
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	<p>infrastructure</p> <ul style="list-style-type: none"> ➤ Lord Street, Newtown (between John Street and King Street) <ul style="list-style-type: none"> ○ Installation of survey markers and in ground devices along the tunnel alignment as part of a comprehensive monitoring program to allow the surveyors to detect even the smallest changes in ground conditions. ➤ Out-of-hours works <ul style="list-style-type: none"> ○ May Street, St Peters, Bedwin Street/ Edgeware Road/Edinburgh Road intersection, King Street/Princes Highway intersection <ul style="list-style-type: none"> ▪ Identification of underground utilities and installation of a new high voltage power cable involving saw cutting, excavating and backfilling trenches, installing conduits and cables, and temporarily reinstating works areas ▪ Installation of temporary traffic and pedestrian management, and establishing work areas
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ER Inspections	
Demolition and TSE	<p>Weekly inspections continued under the management of the TSE contractor for the demolition sites. Sites inspected in April 2018 comprised:</p> <ul style="list-style-type: none"> ➤ Victoria Cross South – 10/04/2018, 24/04/2018 ➤ Victoria Cross North – 10/04/2018, 24/04/2018 ➤ Chatswood – 10/4/2018, 24/04/2018 ➤ Martin Place – 10/04/2018, 24/04/2018 ➤ Barangaroo – 3/04/2018, 17/04/2018 ➤ Pitt Street – 3/04/2018, 17/04/2018 ➤ Crows Nest – 10/04/2018, 24/04/2018 ➤ Waterloo – 3/04/2018, 17/04/2018 ➤ Marrickville – 03/04/2018, 17/04/2018 ➤ Bligh St – 10/04/2018, 24/04/2018 <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 3/04/2018 <ul style="list-style-type: none"> ○ Marrickville <ul style="list-style-type: none"> ▪ Chemical storage ▪ Erosion and sediment controls ○ Barangaroo <ul style="list-style-type: none"> ▪ Erosion and sediment controls ➤ Inspection on 10/04/2018 <ul style="list-style-type: none"> ○ Chatswood <ul style="list-style-type: none"> ▪ Chemical storage ○ Crows Nest <ul style="list-style-type: none"> ▪ Dirt on footpath ▪ Reinstatement of disturb area (electrical works at Clarke Street) ➤ Inspection on 17/04/2018 <ul style="list-style-type: none"> ○ Marrickville <ul style="list-style-type: none"> ▪ Erosion and sediment control ○ Pitt Street <ul style="list-style-type: none"> ▪ Chemical storage



	<ul style="list-style-type: none"> ○ Barangaroo <ul style="list-style-type: none"> ▪ Chemical storage ▪ Erosion and sedimentation control ➤ Inspection on 24/04/2018 <ul style="list-style-type: none"> ○ Chatswood <ul style="list-style-type: none"> ▪ Erosion and sediment controls ▪ Vibration monitoring ▪ Dilapidation reports ○ Crows Nest <ul style="list-style-type: none"> ▪ Erosion and sediment controls ▪ Scheduling of piling works – noise impact ○ Victoria Cross North <ul style="list-style-type: none"> ▪ Vibration monitoring and Noise controls ○ Victoria South <ul style="list-style-type: none"> ▪ Erosion and sediment controls ▪ Chemical storage ▪ Noise monitoring ○ Bligh Street <ul style="list-style-type: none"> ▪ Vibration monitoring <p>Various notes were made in the reports reflecting commitments made by the TSE Contractors.</p>
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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"> ○ TfNSW Unexpected Finds Procedure v1.4 ○ CSW Chatswood to Sydenham Staging Report V4.1 ○ Community Communications Strategy for Early Works Revision 4.0 ○ Tree Impact Assessment Report Rev Y update for Central and NCW
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"> ➤ Construction Traffic Management Plans <ul style="list-style-type: none"> ○ CTMP Victoria Cross South ○ CTMP VC South Miller Street Stormwater works ➤ CNVIS <ul style="list-style-type: none"> ○ Martin Place Operations (Excavation) CNVIS (endorsed for Bligh Street works only) ○ Marrickville Operations (Excavation of Dive) ➤ Out of hours works (OOHW) approvals <ul style="list-style-type: none"> ○ Waterloo ASP 01 WA 005 ➤ Site Establishment Plan <ul style="list-style-type: none"> ○ SEP Waterloo Rev 01 ○ Marrickville SEP Revision 1 ○ Bligh Street ➤ Others <ul style="list-style-type: none"> ○ Sustainability Management Plan (Rev2) including Carbon & Energy and Materials. ○ Review and endorse Waste and Recycling MP Rev 16, noting that when the plan is only updated with additional spoil sites as required of the EPL, the updated versions of the report do not require ER Endorsement for each occasion.
Demolition	<ul style="list-style-type: none"> ➤ Out of hours work approvals: <ul style="list-style-type: none"> ○ OOHW App Delta Novated ASP utilities works at Waterloo



Non-compliance/ Incidents / Complaints	
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>Macquarie Bank identified on Saturday 7 April that their own vibration monitor in 9-19 Elizabeth Street (adjacent the Martin Place North site) had recorded vibration levels over 30mm/s. It is understood that the source of the noise was from excavators fitted with rock hammers working on an area adjacent to the Macquarie Bank building on a Saturday so as to reduce impacts to workers by avoiding works in this area during the week. JHCPBG reported that they are currently investigating and will provide a response in relation to this event.</p> <p>There was one incident report issued by the TSE contractor for the month involving water discharge at the Pitt St North site on 6 April 2018. The ER was advised soon after the incident occurring and was provided the EPA Incident Report (dated 11 April 2018). The Incident report indicated that during discharge of treated and tested water from a storage/treatment tank on site, potentially turbid water entered the gutter on Castlereagh Street. The volume of water was estimated at 270 litres. The report described immediate actions undertaken to address the issue once identified. JHCPBG reported that the EPA responded to JHCPBG via email on 27/4/18 to advise that given the negligible impact on the environment no further action is to be taken with regard to the incident. It is considered the event represents a potential non compliance with the Soil and Groundwater Management Plan.</p> <p>Other incidents that occurred during the month included a small fuel spill at the Crows Nest site on 11 April 2018 and concrete from piling operations affecting the Sydney Water sewer at Pitt Street on 12 April 2018 (no environmental impact reported).</p> <p>It is noted that on 17 April 2018 the project received a complaint from DPE Compliance regarding sediment tracking onto Castlereagh Street. It is understood this complaint was closed out with DPE and the area was inspected during ER Inspections later in the month, finding actions had been undertaken to prevent recurrence and no tracking was observed at this time.</p> <p>As required of Condition E45, JHCPBG notified the ER of Emergency Works required out of hours on 26 and 30 April at Waterloo due to a concrete pump pipe becoming blocked. A report was prepared and issued to the EPA as required of the TSE Contractors EPL, and was copied to the ER, dated 27 April 2018. A second report for works on 30 April was provided in early May 2018.</p>
Sydney Metro	<p>There were no complaints received in relation to works undertaken directly by Sydney Metro.</p> <p>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>

Audits	
TSE	<p>The ER attended Internal Audits run by the TSE Contractor for:</p> <ul style="list-style-type: none"> • TSE Construction Heritage Management Plan
Demolition	Nil
Sydney Metro	Nil



Looking Forward	
Demolition and TSE	<p>Core Focus Areas for the month of May 2018 are:</p> <ul style="list-style-type: none">➤ Historic heritage Investigations at Waterloo, Pitt Street, and Barangaroo.➤ Contaminated soil management at Bligh Street; Marrickville; Waterloo; Crows Nest and Chatswood.➤ Noise and vibration management for works at Barangaroo, Crows Nest, Pitt Street, Martin Place and Victoria Cross TSE and demolition sites, specifically including review of CNVIS's for operations at a number of these sites; and➤ Set up of mitigation controls as part of site establishment across all sites.