



OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

MAYFIELD NO.4 BERTH (DA 293-08-00)

29 SEPTEMBER 2021

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APPENDICES

- Appendix A – Conditions of Consent
- Appendix B – Environment Protection Licence (EPL) 13181
- Appendix C – OEMP Compliance Checklist
- Appendix D – Contaminated Site Management Plan
- Appendix E – Heavy Vehicle Route Plan
- Appendix F – Capping Diagrams

GLOSSARY OF TERMS

List of Abbreviations	
AM	Asset Manager
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CEO	Chief Executive Officer
CIMP	Cap Integrity Management Plan
CSMP	Contaminated Site Management Plan
DA	Development Application
DAWE	Department of Agriculture, Water and the Environment
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EM	Environment Manager
EMP	Environmental Management Plan
EPL	Environment Protection Licence
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EMMO	Executive Manager Marine & Operations
HCCDC	Hunter and Central Coast Development Corporation (formerly HDC)
HDC	Hunter Development Corporation (now HCCDC)
HVAS	High Volume Air Sampler
HVR	Heavy Vehicle Route
LEP	Local Environment Plan
LGA	Local Government Area
MPT	Multi-Purpose Terminal
MTOFSA	<i>Maritime Transport and Offshore Facilities Security Act 2003</i>
NATA	National Association of Testing Authorities
NPC	Newcastle Port Corporation
NSW	New South Wales
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
PANSW	Port Authority NSW
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
PON	Port of Newcastle

List of Abbreviations	
PPE	Personal Protective Equipment
PSOL	Port Safety Operating Licence
RAP	Remediation Action Plan
Ro-Ro	Roll-on Roll-off
SEPP	State Environmental Planning Policy
SSD	State Significant Development
TEU	Twenty foot (container) Equivalent Units
TPA	Tonnes per Annum
TSP	Total Suspended Particulate
VRA	Voluntary Remediation Agreement
VTIC	Vessel Traffic Information Centre
WHS	Work Health and Safety

1. INTRODUCTION

1.1. Scope of the OEMP

The following Operational Environmental Management Plan (OEMP) has been prepared for the operation and maintenance of the Mayfield No.4 Berth and hardstand area, operated by Port of Newcastle (PON).

This OEMP has been prepared in accordance with Condition 4.4 of the Consent Conditions of Development Application (DA) DA-293-08-00 (Appendix A) and subsequent modifications to MOD 9 dated 29 August 2013.

The OEMP has also been prepared in accordance with relevant legislative and policy requirements, and defines the environmental management and maintenance responsibilities and reporting channels for all personnel, including employees and contractors involved in the operation and maintenance of the Mayfield No.4 Berth and hardstand area. All personnel are responsible for ensuring that their activities are conducted in accordance with legislative requirements and the requirements of this OEMP.

This document has been prepared as a dynamic document that will be regularly reviewed and updated as required or as directed by the Director-General.

1.2. Objectives of the OEMP

The objectives of this OEMP are to:

- Ensure that environmental management is undertaken in accordance with relevant legislative and policy requirements;
- Prevent, reduce and effectively manage potential impacts to the environment resulting from operation and maintenance of the Mayfield No.4 Berth and hardstand area; and
- Promote environmental awareness amongst employees and contractors to ensure that operation and maintenance of the Mayfield No.4 Berth and hardstand area is conducted with due diligence to the environment.

The objectives of this OEMP as described in Condition 4.4 are outlined in Table 1. The relevant sections of this OEMP where specific requirements are addressed have also been referenced. In addition, other environmental issues requiring management at the site have also been addressed and included in Section 7.

Table 1: Operational Environmental Plan Requirements

Consent Conditions	Reference in OEMP
Describe the proposed operations	Section 1.3
Identify all the relevant statutory requirements that apply to the operation of the development	Section 3
Set standards and performance measures for each of the relevant environmental issues	Section 2.2 and Section 7
Describe what actions and measures will be implemented to mitigate the potential impacts of the development, and to ensure that the development meets these standards and performance measures	Sections 4 through to 7
Describe what measures and procedures will be implemented to: Register and respond to complaints;	Section 4.5

Consent Conditions	Reference in OEMP
Ensure the operational health and safety of the workers; and Respond to potential emergencies, such as plant failure	Section 10 Section 8
Describe the role, responsibility, authority, and accountability of all the key personnel involved in the operation of the development	Section 2.1
Incorporate the detailed Environmental Monitoring Program (see Condition 8.1). Include the following: - Stormwater Management Plan (Condition 5.30); - Capping Maintenance Plan (Condition 5.20); - Contaminated Site Environmental Management Plan (Condition 4.1); and - Heavy Vehicle Route Plan (Condition 5.46).	Section 4.1 Section 7.2 Section 7.4 Section 0 Section 7.6.1

1.3. Mayfield Site 'Closure Area' – Environmental Responsibilities

The Mayfield No.4 Berth (which incorporates the berth and adjacent hardstand) is located within the Mayfield site Closure Area and constitutes approximately 1% of this area. The berth and hardstand have been fully remediated in compliance with the Voluntary Remediation Agreement (VRA) requirements and is now isolated from the remainder of the site in terms of stormwater and groundwater. In this OEMP, PON describe its environmental management plan to comply with the Environment Protection Licence (EPL) 13181 issued specifically for the operations of Mayfield No.4 Berth and hardstand.

The remainder of the Closure Area (150 ha) has been remediated and is now managed under the Mayfield Concept Approval.

1.4. Mayfield No.4 Berth Description

Mayfield No.4 Berth is a two-hectare multi-product berth and hardstand that was constructed as part of the refurbishment of former BHP Wharf 5 and is located within an area known as the Closure Area in Mayfield, NSW (Figure F1). Mayfield is approximately 7km northwest of the Newcastle CBD.

The site is located in an existing industrial port area and surrounding land use is predominantly comprised of industrial development with the Mayfield East residential area located approximately 1.4km to the southwest across Industrial Drive. The main road access to the site is from Selwyn Street via Industrial Drive and shipping access is via the shipping channel in the South Arm of the Hunter River which the site abuts to the north and east (Figure F1).

The site is accessed by a sealed bitumen internal driveway crossing land that has recently been remediated (approximately 500 metres long) from the eastern end of Selwyn Street Mayfield.

The site overlooks Kooragang Island and other surrounding land uses, which is largely characterised by industrial activities and associated infrastructure such as large storage buildings, railway yards and tracks, coal loading gantry cranes, stockpiles and other items. In this regard, the landscape is predominantly industrial in nature, highly visually modified and intensively disturbed.

1.4.1. MAYFIELD NO.4 BERTH STRUCTURE

The berth is shown in Figure F2 and can be described as consisting of:

- Wharf front constructed with reinforced concrete pile caps, edge beams, diaphragms and a 750mm thick apron slab approximately 266 metres long and 13.65 metres wide. The new wharf is fitted with new fenders, bollards, capstans, kerbs and ladders as wharf furniture. The following new services are provided:
 - Fire hose reels and hydrants;
 - Potable water;
 - Three-phase power;
 - Single-phase power;
 - Wharf flood lighting; and
 - Wharf edge lighting
- A 400mm thick reinforced concrete slab immediately behind the wharf front on ground measuring approximately 262 metres by 23 metres. Along the south edge of the concrete slab runs an old service duct which has been capped with a 750 mm thick reinforced concrete slab. This area is predominately used for the transfer of the potential cargoes.
- An adjacent hardstand area of approximately 9,000 square metres immediately south of the concrete slab which is used for temporary storage.

1.4.2. GENERAL BERTH AND HARDSTAND ARRANGEMENTS

Figure F2 details the Site Layout and provides context for the following section.

The Mayfield No.4 Berth is a secured site and requires security approval or access card prior to gaining access. At any given time activities on the berth and hardstand may include:

- trucks carrying cargo into and out of the site;
- handling of cargo from or into a ship using land or ship-based cranes, or discharging conveying equipment;
- transfer of cargo via forklifts to temporary ground storage;
- assembling cargo for shipment or road transport;
- ship bunkering from road tanker;
- employee vehicles entering or leaving the site; and
- Department of Agriculture, Water and the Environment (DAWE) biosecurity inspections.

As of June 2021 the M4 site is operational and guarded by security up to 72 hours pre-shipping, 24 hours per day during shipping procedures, and up to 72 hours post-shipping. PON staff and contractors are able to access site out of the specified shipping hours upon approval.

Operational buildings on the site are limited facilities for stevedoring operations and include:

- 2 x offices;
- 1 x first aid room; 1 x meal room; and
- 1 x amenities block.

The buildings are located on the eastern end of the hardstand. The employee car parking is located adjacent to the buildings and caters for up to 60 vehicles. There is also a guardhouse building upon arrival at the site entrance.

1.4.3. POTENTIAL CARGO

The following potential cargoes have been identified by PON for Mayfield No. 4 Berth:

- Project cargoes: eg wind turbines, transformers, mining equipment and materials, other heavy plant;
- Break bulk (inert materials only) eg aluminium, steel products;

- General freight in containers;
- Bulk cargoes which are transferred directly from ship to transport and/or loaded to ship with no uncontained ground storage ie sand; and
- Ammonium nitrate in containers/bulker bags.

Of the potential cargoes identified, ammonium nitrate is the only one classified as a Hazardous Material. Transport of ammonium nitrate has been considered as part of the Mayfield Berth Risk Assessment prepared for the Newcastle Port Corporation (NPC) (Lloyd's Register, 2012). Procedures are in place for handling and transport of ammonium nitrate.

The Mayfield No.4 Berth will neither receive nor dispatch as cargo any material classified as a 'Class 7 dangerous good' (radioactive material) in accordance with condition 7.2 of DA 293_08_00.

The Mayfield No.4 Berth will neither receive nor dispatch as cargo any material classified as a 'Class 1 dangerous good' (explosives) unless prior approval of the Director-General is sought in accordance with condition 7.2 of DA 293-08-00.

1.4.4. ESTIMATED CARGO, VOLUMES, SHIPPING, HANDLING AND STORAGE

Table 2 shows estimated cargo volumes, cargo types as per Section 1.4.3, and shipping, handling and storage requirements for M4 for the following three (3) years. Additional cargoes may be handled at M4 dependent on market and PON priority drivers.

Table 2: Estimated cargo volumes, number of ships, and handling and storage requirements

Cargo Type	Units	Year 1 – 2022		Year 2 – 2023		Year 3 – 2024		Ship Type	Handling Requirements	Storage Requirements
		Vol.	Ships	Vol.	Ships	Vol.	Ships			
Breakbulk	t ¹	418,000	16	418,000	16	418,000	16	Up to Panamax	Mobile cranes, ship cranes	Short term open hardstand
Project Cargoes	t	297,000	27	506,000	46	242,000	22	Up to Panamax	Roll on/roll off (Ro-Ro) ramps, mobile cranes, ship cranes	Direct to truck or adjacent storage
Ammonium Nitrate	t	30,240	21	48,960	68	86,400	25	Handymax to Panamax	Mobile cranes, ship cranes	Short term open hardstand
General Freight in Containers	TEU ²	100,000	3	300,000	8	300,000	120	Up to Panamax	Mobile cranes / mobile conveyors	Nil. Direct to truck/ship
Bulk Cargoes	t	418,000	16	418,000	16	418,000	8	Up to Panamax	Mobile cranes / mobile conveyors	Short term open hardstand
Total	-	953,240	92	1,380,960	163	1,154,400	191	-	-	-

1: Revenue tonnes; this is more indicative than tonnes.

2: TEU = twenty foot (container) equivalent units

3: TPA = tonnes per annum

Panamax = Based on the maximum vessel dimensions that would fit through the locks of the Panama Canal. Maximum length 294.1 m, width 32.3 m, draft 12 m.

Handymax = Usually referred to a dry bulk vessel with deadweight of between 35,000 to 58,000 tonnes, usually 150 to 200 m in length, usually have up to 5 cargo holds and up to 4 cranes.

The estimated scenario will result in approximately 1-2 ships per fortnight in the berth in Year 1 through to 3-4 per week in Year 3. PON trade volume reports will be used to confirm tonnages.

Cargo handling on the berth and hardstand between ship and truck, ship and storage or storage and truck may be undertaken using the following equipment (numbers in brackets indicate potential quantities of equipment at peak times):

- mobile cranes (2);
- bulk discharger/loader (1);
- forklifts (6);
- trucks (8); and
- front end loader or bobcats for cleaning the inside the ship (2).

Truck movements into and out of the site will be steady throughout normal business hours at around 5 to 10 truck movements per hour, peaking at up to 15 to 20 truck movements per hour in line with normal traffic peak hours. However, when ships are being unloaded or loaded directly onto road transport their will potentially be up to 35-40 truck movements per hour.

At Year 10, peak vehicle movements on a day when a ship is at the berth, including personnel vehicles, may total 800 vehicle movements per day.

There is no current intention to service this specific berth with rail. However, if this becomes a possibility, it will be the subject of a separate application to the Department of Planning, Industry and Environment (DPIE).

1.4.5. PERSONNEL

The site may operate at up to three shifts per day including up to 30 stevedore employees per shift. At shift changeover there may be 60 stevedoring employees on site.

At any given time the site will also potentially accommodate truck drivers, specialist contractors in maintenance or equipment operation, ship's crew, DAWE biosecurity inspectors and PON employees, which may total an additional 5 to 20 personnel.

1.4.6. KEY ISSUES

The Mayfield No.4 Berth and hardstand area is located adjacent to the south arm of the Hunter River and comprises a concrete slab over the berth area and impervious bitumen over the hardstand area. Lighting poles are located across the site and are of different luminosity levels depending on the area and nominated lighting standards. Drainage of the site has been constructed for appropriate water and stormwater management.

Key potential issues associated with the operation and maintenance of the Mayfield No.4 Berth and hardstand area include:

- Stormwater runoff;
- Noise nuisance to residents, land users and sensitive native fauna;
- Traffic management and loading / unloading operations;
- Waste management;
- Damage to the existing contamination capping layer at the site;
- Security; and
- Air Quality.

2. ENVIRONMENTAL MANAGEMENT RESPONSIBILITIES

Roles and responsibilities for personnel relevant to this OEMP are detailed below.

2.1. Organisational Structure

The organisation of environmental management responsibilities is shown in Figure 3 and is detailed below.

2.1.1. PORT OF NEWCASTLE

PON is the proponent for this part of the development within the Closure Area. PON is a private entity whose primary function is to provide safe, effective and sustainable port operations at Newcastle and to deliver port development that enhances the economic growth of the Hunter Region and NSW. The Chief Executive Officer (CEO) of PON assumes ultimate responsibility for Mayfield No. 4 Berth.

2.1.2. EXECUTIVE MANAGER – MARINE & OPERATIONS

The Executive Manager Marine Operations (EMMO) of PON is responsible for the operation of the Mayfield No. 4 Berth Site. The Executive Manager Projects is responsible for the maintenance of the site. The EMMO and Executive Manager Projects are therefore responsible for the environmental performance of the Mayfield No.4 Berth and hardstand site as well as directing staff and contractors. The approved stevedoring company will assume exclusive control over defined parts of the Mayfield No. 4 Berth in accordance with a Stevedore Licence Deed (see Section 2.1.3), which will transfer responsibility for elements of this OEMP. The transfer of this responsibility will exclude environmental monitoring and reporting.

The EMMO and Executive Manager Projects shall delegate accountability and responsibilities to the Senior Manager Operations, Asset Manager (AM), the Work Health and Safety (WHS) Manager and Environment Manager (EM) for managing PON's activities at Mayfield No.4 Berth. The delegation of accountabilities and responsibilities will be as follows:

- The Senior Manager Operations manages personnel (Wharf Officers) to coordinate the berthing and departure of all vessels, vessel samplings and inspections of Stevedores importing / exporting at the berth;
- The Asset Manager is responsible for maintaining the Mayfield No.4 Berth site. This includes preventative maintenance, any site-specific project works and breakdowns;
- The Environment Manager (EM) is responsible for all environmental matters associated with the Mayfield No.4 Berth and hardstand area. The Environment Manager reports to the appointed Environment Officer under the DA (Condition 9.1 of DA 293-08-00, currently the PON Senior Manager PEP) on the effectiveness of implemented environmental and management controls and any environmental incidents that may have occurred on site. The EM implements and oversees monitoring at the site so that the operations meet the 13181 and OEMP requirements. The Environment Manager is responsible for ensuring environmental documentation is maintained (ie policies, procedures, work instructions, risk assessments) and are current with all PON employees having access to them.
- The WHS Manager is responsible for ensuring WHS documentation is maintained (ie policies and procedures) and are current with all PON employees having access to them. Work instructions and risk assessments are the responsibility of the work owner(s).

2.1.3. STEVEDORE LICENCE DEED

Any Stevedoring company operating on the Mayfield No. 4 Berth site will be required to enter into a Stevedore Licence Deed with PON. The licence will detail environmental accountabilities and responsibilities for the Mayfield No. 4 Berth site. Specifically, Stevedores are responsible and accountable for ensuring that all loading and unloading of cargo activities at the Mayfield No. 4 Berth site complies with relevant legislation, EPL requirements and this OEMP.

2.1.4. PORT USERS

Port Users comprise of any person, contractor or service provider engaged by the Stevedore, a vessel agent and / or PON. Port Users must complete PON's Level 1 Site Access Induction. The induction communicates the safety and environmental requirements for the Mayfield No. 4 Berth site and the inductee's responsibilities. All visitors to the site must be escorted by an inducted person at all times. Inductees are responsible for complying with PON's site safety and environmental requirements.

2.2. Environmental Policy Objectives

Environmental objectives for key environmental management issues associated with the operation of the berth have been derived in accordance with the PON's Safety and Environmental Policies and are also provided for each key issue in Section 7. All personnel, including PON employees, Stevedores and Port Users have a responsibility to ensure that the Mayfield No. 4 Berth and hardstand is operated and maintained in accordance with these objectives shown in Table 3.

Table 3: Environmental Policy Objectives

Management item	Objectives
Soil and Water	- Minimise the impacts of erosion and sediment discharge on the local environment during operation of activities - Minimise surface water runoff and sediment discharge from the site - Ensure that site drainage does not cause an increase in downstream turbidity - Ensure there are no adverse effects on the water quality of the downstream system
Stormwater	- Minimise uncontrolled surface water runoff and discharge from the site - Ensure that site drainage system efficiently manages potential onsite contaminants (such as fuels, wash-off and lubricants) and site drainage is reused where possible - Ensure there are no adverse effects on the water quality of the surrounding and downstream water system
Capping Maintenance	Ensure the integrity of the capping layer is preserved.
Contaminated Site	Ensure the site is managed and monitored in a way that reduces the risk of contamination
Traffic	Minimise impact to residents, landholders and third parties in the vicinity of the development
Noise and Vibration	Minimise the impact and potential nuisance of noise emissions from operation and maintenance activities, machinery and vehicles on the local community
Air Quality	Control sources of dust and other emissions to air that may affect nearby residents and other landholders, pedestrians, vehicular traffic or other sensitive receiving environment

Management item	Objectives
	Minimise incidence of offensive odour, vapours or emissions
Waste	- Ensure responsible disposal of all waste generated on site, and recycle where possible - Minimise environmental impacts related to waste management
Security	- Prevention of vandalism and unlawful access - Prevention of security risks to vessels, adjacent residents and industry/landholders
Landscape and Lighting	- Prevention of lighting impacts on nearby receivers - Prevention of visual disturbance and degradation of amenity.
Biosecurity	Minimise the risk of introducing non-native species

3. STATUTORY REQUIREMENTS

3.1. Legislative and Policy Requirements

Legislation which may apply to the operation and maintenance of Mayfield No. 4 Berth and hardstand is listed in Table 4.

Table 4: Legislation Relevant to the Operation and Maintenance of Mayfield No.4 Berth and Hardstand

Relevant Legislation
<i>Biosecurity Act 2015</i>
<i>Contaminated Land Management Act 1997 (CLM Act)</i>
<i>Environmental Planning and Assessment Act 1979; and the Environmental Planning and Assessment Regulation 2000</i>
<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<i>Heritage Act 1977</i>
<i>Maritime Transport and Offshore Facilities Security Act 2003</i>
<i>Ports and Maritime Administration Act 1995</i>
<i>Protection of the Environment Operations Act 1997 (POEO Act)</i>
<i>Roads Act 1993</i>
<i>Waste Avoidance and Resource Recovery Act 2001</i>
<i>Work Health and Safety Act 2011 (WHS Act) and the Work Health and Safety Regulation 2017 (WHS Regulation)</i>
<i>State Environmental Planning Policy 55 – Remediation of Land (SEPP 55)</i>
<i>State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33)</i>
<i>State Environmental Planning Policy (Three Ports) 2013 (the Ports SEPP)</i>

The site is located within the Newcastle Local Government Area (LGA) and is subject to the provisions of the Ports SEPP. Under the Ports SEPP the site is zoned SPI – Special Activities with the main objectives

of the zone being to maximise the use of waterfront areas to accommodate port facilities, freight and bulk storage premises that benefit from being located close to port facilities, to enable efficient movement and operation of commercial shipping and to provide for the efficient handling and distribution of freight from Port areas.

3.1.1. DEVELOPMENT CONSENT CONDITIONS

The Mayfield No. 4 Berth and hardstand is part of the overarching consent for:

Stage 1, being the remediation of the Closure Area, including the demolition and removal of structures and the development of a Multi-Purpose Terminal comprising a container terminal and a general cargo handling facility and associated road, rail and wharf infrastructure and dredging of the South Arm of the Hunter River.

As part of the development conditions of consent, preparation of an OEMP is also required.

This OEMP has been prepared in accordance with the relevant requirements identified in Condition 4.4 of DA 293-08-00 and subsequent modifications to 29 August 2013.

3.2. Licensing Requirements

Mayfield No. 4 Berth will operate under an EPL for *shipping in bulk* activities issued by NSW Environment Protection Authority (EPA) under section 55 of the POEO Act. The EPL 13181 was transferred to PON on 27 February 2014 (refer to Appendix B).

4. REPORTING AND MONITORING

4.1. Environmental Monitoring Program

Environmental monitoring requirements for the operation of the berth are included in the relevant environmental management plans in Section 7 of this OEMP. The Environment Officer nominated under Condition 9.1 of DA 293-08-00 is responsible for undertaking the monitoring required. If necessary, specialist consultants shall be engaged to assist with the establishment of monitoring systems and to train relevant personnel with sampling protocols, reading of instruments, and analysis and recording of results. Monitoring equipment will be maintained and calibrated according to the manufacturer's specifications.

The environmental monitoring plan presented in this section summarises all the monitoring and reporting commitments associated with the various plans held under this OEMP.

The commitments made in this section should be taken as minimum frequencies as monitoring may need to be more frequent if circumstances dictate. The Property Inspector who undertakes the weekly site inspections completes a site inspection record to prove that the inspection has taken place and to show conformance. Inspections also include a general visual inspection including matter such as sediment build up, litter, traffic conditions, capping exposure, and any retained water on site.

The following plans have primarily been prepared to comply with EPL 13181 in accordance with EPA requirements, which is detailed in Section 7 and attached in Appendix B. Refer to Section 1.3 for an explanation of full monitoring under the Conditions of Consent Clause 8 of DA 293-08-00.

4.1.1. NOISE

OPERATIONAL NOISE MONITORING

Operator attended noise monitoring is conducted on an annual basis.

The following noise limits apply the locations shown in Table 5.

Table 5: Noise Limits for Mayfield No. 4 Berth and Hardstand

Location	Day	Evening	Night
	7:00 am to 6:00 pm Mon to Sat 8:00 am to 6:00 pm Sun and public holidays	6:00 pm to 10:00 pm on any day	10:00 pm to 7:00 am Mon to Sat 10:00 pm to 8:00 am Sun and public holidays
	<u>LAeq (15 minute)</u>	<u>LAeq (15 minute)</u>	<u>LAeq (15 minute)</u>
1. 52 Arthur Street	49	38	38
2. Mayfield East Public School	47	37	37
3. 21 Crebert Street	49	39	39
4. Newcastle TAFE	44	38	38

The noise monitoring is to be conducted at the locations in the day, evening and night periods. Noise measurements are to be conducted as follows:

- Measure ambient noise levels at receivers 1 to 5 over a minimum of 15 minutes using a calibrated integrating sound level meter.
- Noise measurements are to be conducted at each location for a 15 minute period in the day and night periods.

- The $LA_{eq(15 \text{ minute})}$ noise descriptors are to be recorded for each measurement location.
- The noise limits apply during all assessment periods under winds up to 3 metres per second (measured at 10 metres above ground level) and Pasquil stability classes from A to F.
- Where noise measurements do not exceed the noise criteria detailed in Condition 5.11 compliance is demonstrated and the results are to be recorded.
- Where measured ambient noise levels exceed the noise criteria but the noise from the site is judged to be inaudible compliance is deemed to be achieved and the results are to be recorded.
- Where measured ambient noise levels exceed the noise criteria and the exceedance is deemed to be emanating from the subject site the results are to be recorded. This outcome will trigger the need for nearfield noise measurement.

NEARFIELD NOISE MEASUREMENTS

Nearfield noise measurements are to be conducted when:

1. Measured ambient noise levels exceed the nominated noise criteria; and
2. The operator has determined that the exceedance may be as a result of industrial noise from the direction of the subject site.

Nearfield noise measurements are to be conducted during the period of assessment (ie that period of the day when further noise investigations are deemed to be necessary), on the boundary of the subject site to determine the noise emissions from the site. These noise levels will be used to determine the noise contribution at residences and hence compliance with noise criteria. Nearfield measurements will be conducted for 15 minutes at the site boundary. The noise levels will be used to determine the effective site sound power level. The noise contribution at receivers will be calculated at residences to determine compliance with site specific noise criteria. Result of measurements, observations and compliance calculations will be recorded.

REPORTING

A report of ambient noise measurements is to be prepared. The report is to include the following details:

- Date of noise measurements;
- Location of noise measurements;
- Weather conditions;
- Instrumentation and calibration checks; and
- Noise criteria.

EXCEEDANCE RESPONSE AND CONTINGENCY MEASURES

In the event that PON receive an exceedance in its annual noise monitoring, the following actions should be undertaken:

- Notify NSW DPIE and associated agencies of the result and our plan of action within 24 hours;
- Conduct relevant additional noise monitoring to identify the offending noise source;
- Restrict the coincidence of noisy plant working simultaneously; and
- Implement engineered solutions as appropriate.

4.1.2. AIR QUALITY

A PM10 High Volume Air Sampler (HVAS) and Total Suspended Particulate (TSP) sampler are installed as indicated in Figure F2 allowing continuous monitoring throughout the operation of the berth as specified in EPL 13181 in Appendix B. Details for the monitoring are as follows:

- Monitoring methodology and frequency – Monitoring shall be undertaken in accordance with NSW EPA (2007) *Approved Methods for Sampling and Analysis of Air Pollutants in NSW AS 3580.9.3:2015 Total suspended particulate matter (TSP) – High volume sample gravimetric method* and *AS 3580.9.6-1990 Particulate matter – PM10-high volume sampler with size selective inlet* as specified in the EPL. The monitoring shall be on a six-day cycle in accordance with typical NSW EPA requirements.
- Location of monitors – The location of the monitors was assessed and placed to ensure compliance with *AS3580.1.1:2007 Methods for sampling and analysis of ambient air - Part 1.1: Guide to siting air monitoring equipment*
- Maintenance of monitor – The unit will be operated and calibrated in accordance with *AS 3580.9.6-1990 PM10-high volume sampler with size selective inlet* and analysis will be undertaken in accordance with *AS 3580.9.3-2003* by a National Association of Testing Authorities (NATA) accredited laboratory.
- Procedure for recording results – results from the NATA accredited laboratory shall be reported as per approved frequency (Table 6) in a combined report with the sites stormwater monitoring and kept on PON's electronic record system as indicated in Section 9 and annually within the Annual Environmental Management Report (AEMR) supplied to the Director General as per Condition 8.4 of DA 293-08-00, and to the EPA as set out in Section 4.1.4.

Meteorological data is obtained from PON's Mayfield 4 Meteorological station to assist in interpreting air quality results that is sited, operated and maintained in accordance with EPA (2007) *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* and administered by EPA.

4.1.3. STORMWATER

Monitoring of the stormwater onsite will be undertaken in accordance with the EPL and plan [EPA License Area, Mayfield No. 4 within Lot 4 DP.117746](#) indicated in Appendix B. All details for the monitoring are as follows:

- Monitoring methodology and frequency – the sampling procedure will be in accordance with *AS/NZS 5667.1-1998 Water quality – Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling samples* and *AS/NZS 5667.10-1998 Water Quality – Sampling guidance on sampling waste waters*. The monitoring shall be undertaken monthly during a discharge by a grab sample in accordance with the sites EPL requirements as administered by the EPA
- Locations of monitoring – the locations of the stormwater monitoring was assessed by the EPA and PON representatives and will be undertaken in accordance with EPL and Plan [EPA License Area, Mayfield No. 4 within Lot 4 DP.117746](#) as indicated in Appendix B.
- Maintenance of stormwater pits – routine maintenance shall be undertaken by PON's Asset Management section as described in Section 4.2.
- Sampling and analysis methods – sampling will be undertaken by consultants engaged by PON in accordance with *AS/NZS 5667.1-1998* and *AS/NZS 5667.10-1998*. Consultants will use a NATA accredited laboratory to undertake the analysis. Samples will be collected in appropriate containers, transported in eskies and chain of custody documentation shall be maintained.
- Procedure for recording results – results from the NATA accredited laboratory shall be reported monthly in a combined report with the site's air quality monitoring and kept on PON's electronic record system as indicated in Section 9 and the Annual Environmental Management Report (AEMR) supplied to the Director General as per Condition 8.4 of DA 293-08-00, and to the EPA as set out in Section 4.1.4.

In the event PON experience an incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment, a report shall be supplied to DPIE outlining the basic facts. In its stormwater assessment, the following action and contingency measures should be undertaken:

- Notify DPIE and EPA within 24 hours of receiving the laboratory report;
- Conduct an investigation (including additional sampling if required) to identify the offending source; and
- Implement solutions as appropriate.

A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures. The report shall be submitted to the Director-General no later than 14 days after the incident or potential incident.

The stormwater monitoring will include those analytes identified in Table 6 below.

Table 6: Analytes for Stormwater

Pollutant	Unit of Measure	Frequency	Sampling Method
Total Suspended Solids	mg/L	Special frequency I*	Grab Sample
pH	pH units	Special frequency I	Grab Sample
Nitrogen (Total)	µg/L	Special frequency I	Grab Sample
Oil and Grease	mg/L	Special frequency I	Grab Sample
Phosphate	µg/L	Special frequency I	Grab Sample

* *Special Frequency I means the collection of samples during the first discharge event following a loose bulk cargo operation. Only one discharge event is required to be sampled each month.*

Table 7 comments on PON's action or comment in relation to the environmental safeguards noted in Table 10.2 of the original *Environmental Impact Statement* (EIS) (2000) as required under the development consent Condition 5.30.

Table 7: Environmental Safeguards (ex EIS Table 10.2)

Environmental Safeguards	PON Action/Comment
Prepare and implement an Environmental and Monitoring Management Plan which ensures that potential contaminants are appropriately contained and treated.	The current OEMP for the Mayfield No.4 berth and hardstand will ensure that potential contaminants are appropriately contained and treated.
Install detention/sediment control ponds in the Eastern and Western drains. The ponds would treat water to the appropriate EPA requirement and would be designed to meet minimum recognised standards for wet weather containment based on the document Australian Rainfall and Runoff. The ponds would be cleaned of silt as required to ensure their capacity is not reduced by more than 10% of volume.	Originally Regional Land Management Corporation (RLMC), now Hunter and Central Coast Development Corporation (HCCDC), under the consent conditions have installed detention/sediment control ponds in the Eastern and Western drains in accordance with the document Australian Rainfall and Runoff. PON are responsible for the maintenance and upkeep of the drains.
Inform relevant personnel of appropriate contingency measures for spill containment, clean up and disposal procedures in the event that there are leaks of oil or grease from equipment or spills of waste materials.	PON currently requires all employees, Stevedores and Port users accessing the Mayfield No.4 Berth and hardstand area to undertake appropriate inductions for activities in site. PON's Level 1 induction program provides general environmental awareness and ensures

Environmental Safeguards	PON Action/Comment
Store waste materials in dedicated receptacles which should be emptied on a regular basis. Maintain vehicles and equipment to minimise oil and fluid drips.	that all inductees understand their obligation and legislative requirement to exercise due diligence for environmental matters.
Provide a concrete bund around the fuel depot to contain any potential spillage while vehicles are refuelling. Spilled fuel and oil would be directed to a waste collection tank.	There is no refuelling tank on site. Refuelling of vehicles is not encouraged on site. Where there is a need a temporary bund must be provided.
Store fumigation chemicals for the Bulk Handling Terminal in a hazardous materials storehouse	Fumigation chemicals will not be stored on the Mayfield No.4 berth and hardstand site. If fumigation is necessary, a DAVE-accredited service provider will be engaged to ensure that all fumigation is conducted in accordance with approved guidelines.

Table 8 identifies how the provisions of City of Newcastle *Technical Manual – stormwater and Water Efficiency for Development* (formally *Development DCP No.50 – Stormwater Management for Development Sites*) have been addressed, as required under development consent condition 5.30.

Table 8: Stormwater Design Criteria

Design Criteria (from Newcastle City Council Technical Manual)	PON Comment
Interim controls for residential estate developments	This section is not relevant to this development.
Erosion and sediment control strategy	Erosion and Sediment Control Plans and Soil along with Water Management Plans were part of the approved construction environmental management plan (CEMP) for the project and audits were carried out during construction to ensure that the requirements of these plans were addressed.
Stormwater collection	I. All surface levels have been designed and constructed to be free draining; II. Drainage pits have been installed so that nuisance water does not collect at low points; and III. Pits are connected to the stormwater management system for the site being a baffled system with a series of filters.
Flooding and runoff regimes	All runoff from low intensity common rainfall is captured and directed to the stormwater management system. There is no scour or natural creek systems affected by this rainfall.
Pollutants	All water from this site is treated in the stormwater management system constructed within the wharf prior to being discharged into the harbour. Water monitoring points have been provided (including in EPL) to check that any pollutants in the discharge to the harbour are below the allowable concentrations.

Design Criteria (from Newcastle City Council Technical Manual)	PON Comment
Overflow disposal	There are no neighbouring properties that are affected by overflows.
Existing drainage systems	There are no existing drainage systems on site affected by the development.
Efficient use of mains water	Mains water is efficiently used on site.
Comprehensive water cycle management plans	There is no water cycle management plan for the development as there is no landscaping or other facilities present that recycled water can be used in an efficient manner.
Installation and maintenance requirements	As noted previously the sediment and erosion controls were audited during construction to ensure that they were being maintained. The stormwater management system is routinely maintained as described in Section 4.2 .

4.1.4. REPORTING

PON will provide the detailed results from the Environmental Monitoring Program in an Annual Environmental Management Report (AEMR) to the Secretary General in accordance with Section 8.4 of the consent conditions.

The report will:

- Identify all the standards, performance measures and statutory requirements with which the development is required to comply;
- Review the environmental performance of the development to determine whether it is complying with these standards, performance measures and statutory requirements;
- Identify all the occasions during the previous year where these standards, performance measures and statutory requirements have not been in compliance;
- Include a summary of any complaints made about the development and indicate what actions were taken (or are being taken) to address these complaints;
- Include the detailed reporting from the Environmental Monitoring Program (As per Consent Condition 8.1), and identify any trends in the monitoring over the life of the project; and
- Where non-compliance is occurring, describe what actions will be taken to ensure compliance, who will be responsible for carrying out these actions and when these actions will be implemented.

After reviewing the Annual Environmental Management Report, the Secretary General may require the Applicant to address certain matters identified in the report.

PON will also complete and supply to the EPA an Annual Return in the approved form in accordance with section 6 of EPL 13181 that will comprise:

- a statement of Compliance; and
- a Monitoring and Complaints Summary

The Annual return for the reporting period will be supplied to the EPA by through the approved e-Connect system by the due date of no later than 60 days after the end of each reporting period.

4.1.5. OTHER REPORTING

At five-yearly intervals PON will provide a report to the Secretary General outlining the need for the Mayfield No.4 berth to remain operational in accordance with Condition 1.1B of DA 293-08-00.

4.2. Maintenance

The following maintenance activities, in relation to environmental matters, will be undertaken by contractors at the site:

- Routine inspection and cleaning of stormwater management system;
- Checking and maintaining the integrity of fencing;
- Inspecting lighting and adjusting as necessary;
- Immediate cleaning of any spills or materials; and
- Clearing of rubbish and waste during loading and unloading activities.

4.3. Incident Management

An incident/ accident is an unplanned or uncontrolled sequence of events resulting in injury, illness, property damage, environmental impact or has the potential to do so. All accidents/ incidents should be reported immediately to the Port Authority NSW (PANSW) Vessel Traffic Information Centre (VTIC) on (02) 4929 3890 as soon as practicable and an incident form completed and forwarded to the relevant PON representative. All incidents are to be recorded in the PON incident management system database.

Incident reporting requirements are communicated to all PON employees, Stevedores and Port Users through PON's Level 1 Induction.

Consistent with Condition 7.10 of DA 293-08-00, within 24 hours of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment, a report will be supplied to the Department outlining the basic facts. A further detailed report will be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures. The report will be submitted to the Secretary-General no later than 14 days after the incident or potential incident. PON maintains an events and incidents management system database. Events relating to Mayfield 4 berth shall be made available, at any time, for inspection by the Secretary-General. PON will comply with any reasonable requirement of the Secretary-General in response to a registered event.

4.4. Non-Conformance and Corrective Actions

As soon as it is recognised that any required environmental control is not in place, environmental management practices are not being adhered to, or environmental impacts exceed nominated criteria, the Environmental Officer will inspect the Mayfield site and / or activities to review the extent of the possible non-conformance. Activities in the affected area will cease or be modified until the non-conformance has been corrected. The EMMO is responsible for ensuring appropriate rectification measures, including work procedures, have been effectively implemented. Approval from the EMMO is required before work can re-commence.

Non-conformances reported are to be recorded in the incident management database and will include details of the non-conformance, any immediate actions undertaken and the corrective actions implemented to prevent a recurrence.

The incident report would be reviewed by the relevant division manager. A register of non-conformances must be maintained for all active and resolved non-conformances.

4.5. COMPLAINTS HANDLING

PON maintain a public website with access to information on how to lodge a complaint:

<https://www.portofnewcastle.com.au/contact-us/>

Any complaints received will be entered into the incident management database with relevant division managers being notified.

The following detail should be included in the event report:

- Date, time and nature of the complaint or inquiry;
- Type of communication (telephone, letter, meeting etc);
- Name, address, contact number;
- Nature of complaint; and
- Response details.

5. AUDITING AND REVIEW

5.1. Environmental

Condition 9.4 of DA 293-08-00 requires that:

Within 12 months of commissioning the Multi-Purpose Terminal and every three years thereafter, unless the Director-General directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit.

A suitably qualified environmental specialist shall conduct an audit of the Conditions of Consent and associated OEMP initially following twelve months of its implementation, followed by regular audits every three (3) years thereafter. Audits shall involve a review of all environmental documents, records, and reports to ensure compliance with the requirements of the Conditions of Consent and OEMP. If any deficiency is detected appropriate corrective actions will be initiated by PON.

The OEMP was reviewed after the first twelve months of the site operation to ensure that it adequately addresses the identified issues and the activities being undertaken during the operation of the upgrade. Follow up reviews can also take place following each audit or changes in site operation

Key environmental and procedural issues to be covered by the audit shall include, but may not be limited to those requirements in Condition 9.4 as well as:

- Environmental management measures (Section 7);
- Adherence to reporting procedures (Section 4.1.4 and Section 4.1.5);
- Incidents and non-conformances (Section 4.3, Section 4.4 and Section 8);
- Complaint management (Section 4.5);
- Licences and legislative requirements (Section 3);
- Environmental education and training (Section 6);
- Environmental monitoring outcomes (Section 4); and
- Changes in organisational structure and responsibilities (Section 2).

The audits and reviews will be documented and provided to the Secretary-General of DPIE within two months of commissioning the audit (or as otherwise agreed with DPIE).

5.2. Hazards

Condition 7.11 of the development consent requires that:

Twelve months after the receipt of the first dangerous goods cargo... the applicant shall carry out a comprehensive Hazard Audit of the development and submit a report to the Director General.

PON conducted the Hazard Audit at twelve months after the receipt of the first dangerous goods cargo by a duly qualified independent auditor approved in advance by the Secretary General. The completed audit was submitted to the Secretary General within one month of its completion. Audits are conducted at 3yearly intervals or as determined by the Secretary General. Audits will be in accordance with the NSW Department of Planning (2011) *Hazardous Industry Planning Advisory Paper No 5 – Hazard Audit Guidelines*.

6. ENVIRONMENTAL TRAINING

All PON employees, Stevedores and Port Users shall be informed of their responsibilities under the OEMP.

PON currently requires all employees, Stevedores and Port Users accessing the Mayfield No. 4 Berth and hardstand area to undertake appropriate inductions for activities on site. PON's Level 1 induction program provides general environmental awareness and ensures that all inductees understand their obligation and legislative requirement to exercise due diligence for environmental matters.

PON is committed to providing appropriate training to all PON employees to enable them to perform their tasks without risks to health, safety and the environment. All operating and maintenance personnel are required to be suitably qualified, trained and experienced to accepted industry competency levels.

Records of all induction and training details and attendees are maintained within the PON induction system.

7. OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN

The following sections set out the environmental management activities and management measures, which shall be undertaken or complied with during operation and maintenance of the Mayfield No. 4 Berth and hardstand. PON shall ensure that the personnel responsible for implementing the OEMP, such as the nominated EO and nominated Stevedores are aware of their roles and responsibilities.

Environmental management issues have been presented separately, with each aspect addressed in respect of environmental objectives, key environmental issues, and environmental management measures to achieve the objectives. An activity-specific OEMP compliance checklist is provided in Appendix C, which may be completed during operation and maintenance activities to document compliance with environmental management measures detailed in the following sections.

7.1. Soil and Water

Management of soil and water along Mayfield No. 4 Berth and hardstand is necessary to protect the berth's operation activities as well as the integrity of the South Arm of the Hunter River, and to minimise erosion which may destabilise site activities. Environmental management measures (Table 9) would comply with industry best practice.

Table 9: Soil and Water Management Measures

Key Environmental Performance Objectives
- Minimise the impacts of erosion and sediment discharge on the local environment during operation of activities - Minimise surface water runoff and sediment discharge from the site - Ensure that site drainage does not cause an increase in downstream turbidity - Ensure there are no adverse effects on the water quality of the downstream system
Key Environmental Issues
- Sedimentation as a result of cargo movements and heavy vehicles - Pollution and hydrocarbon contamination of the Hunter River
Environmental Action and Management Measures
- Use of sediment control structures such as a series of solid pollution filters and baffles within the stormwater management system. - Installation of emergency shut off valves at the three outlets on the wharf to prevent any spills from entering the Hunter River. - Any fuels, chemicals and liquids to be stored within the hardstand area will be appropriately bunded to prevent spills or contaminants entering the stormwater system. All fuels, chemicals and liquids to be securely stored at the site - Fuels and chemicals to be stored in bunded areas designed to contain 120% of volume stored - Containers to be stored on hardstand area to ensure potential contamination and soils are managed within the stormwater drainage and treatment system (as described in Section 7.2) - Records of inspections and maintenance on stormwater management systems to be kept and provided at any time upon request - Compliance with relevant EPA requirements with respect to stormwater discharges

7.1.1. WATER SUPPLY

All water supplied to the berth is sourced from Hunter Water mains via a private line from Selwyn Street.

Potable water is supplied to the amenities block located at the southern end of the site.

The fire water ring main is located beneath the berth. The main delivers water to the fire hydrants. Five dual outlet fire hydrants including pits are located across the site and run parallel to the potable water main (**Figure F4**).

Ships potable water is supplied via a standpipe with water being drawn from the ring main located under the berth.

7.2. Stormwater

The stormwater drainage system used for the site is shown in Figure F5. The power drain manages the wharf area drainage system located between the wharf front and cement apron, and running along the length of the berth.

The power drain which receives water runoff and potential contaminant water from the berth area as the area slopes towards the power drain as shown on Figure F5. Within this drainage system there are three treatment chambers incorporating the stormwater management filter systems which remove hydrocarbons and suspended solids from stormwater, preventing spills and minimising non-point source pollution entering downstream waterways. When there is sufficient water within this system, the stormwater is discharged into the river.

Each of the three treatment chambers has been fitted with an emergency shut off valve. In the event that there is a spill of material on the wharf the valves can be closed and all material can be contained within the power drain

The hardstand area at the rear of the berth drains into a stormwater swale outside the boundaries of the berth area. The swale has been designed to remove contaminants and other pollution that may be contained in the runoff. The swale connects to a stormwater culvert for discharge to the Hunter River. Stormwater management measures are presented in Table 10.

Table 10: Stormwater Management Measures

Key Environmental Performance Objectives
- Minimise uncontrolled surface water runoff and discharge from the site - Ensure that site drainage system efficiently manages potential onsite contaminants (such as fuels, wash-off and lubricants) and site drainage is reused where possible - Ensure there are no adverse effects on the water quality of the surrounding and downstream water system
Key Environmental Issues
- Further contamination of stormwater with fuels, lubricants, wash-off from cargoes, other liquids and herbicides/pesticides as well as accidental spillages - The potential of uncontrolled runoff to increase pollution and turbidity and overall water quality of the Hunter River
Environmental Action and Management Measures
In addition to general measures listed in Section 7.1, specific control measures to stormwater include the following: - Direction of all stormwater to constructed stormwater drains/swales; - Stormwater Culvert system (as outlined in Section 7.2) with biofiltration swale used in stormwater diversion from hardstand area to outlet drains; - Re-use of stormwater onsite (where possible); and - Regular monitoring as specified in Section 4.1.3

7.3. Groundwater

The Mayfield No.4 Berth and hardstand has been remediated in accordance with the voluntary remediation agreement (VRA). There is no longer a requirement to monitor groundwater for the Mayfield No. 4 Berth and hardstand area.

7.4. Capping Maintenance

As part of the remediation activities undertaken onsite, a final capping layer has been applied in order to contain contaminants in the subsoils. As part of the Contaminated Site Management Plan (CSMP) for previous Stage 1 works (Appendix D), specific control measures have been outlined for the maintenance of the integrity of the capping layer. These control measures are adopted for the Mayfield No. 4 Berth and are outlined in Table 11.

Table 11: Capping Maintenance Management Measures

Key Environmental Performance Objectives
Ensure the integrity of the capping layer is preserved
Key Environmental Issues
A breach in the capping layer as a result of poor site management resulting in the exposure of potential contamination risk
Environmental Action and Management Measures
- Specific inductions on cap preservation where required eg any excavation; - No excavation work will be allowed on site without an excavation permit and/ or excavation notification form being completed. The excavation permitting process will prompt PON to consider whether cap integrity could be compromised by the proposed work. Works should be planned to minimise excavation needs near or through the cap; - Any excavation permit will reference the three diagrams attached in Appendix F, which identify the nature and thickness of the capping layer, the location of Level 2 materials (refer to CSMP for definition) and the location of Steelstone Mix 3 (a recycled mix containing manganese) - Where there is the potential for a breach of cap integrity, procedures identified in the CSMP must be adhered to (Appendix D); - Where actual breach of cap integrity occurs, the event will be logged on the Incident Register and formal notification procedures implemented under this OEMP (refer Sections 4.3 and 4.4) and rectification measures undertaken as specified in the CSMP; and - General visual monitoring would be conducted as specified in Section 4.1 of this OEMP.

7.5. Contaminated Site Management

The objectives of contaminated site management include ensuring the efficacy of remediation works across the site is maintained over time.

Specific control measures for contaminated site management are found in the CSMP for the whole Mayfield remediated area, including Mayfield No. 4 Berth and hardstand. The CSMP shall be referred to for all contaminated site monitoring and management (Appendix D), with management measures summarised in Table 12.

Table 12: Contaminated Site Management Measures

Key Environmental Performance Objectives
Ensure the site is managed and monitored in a way that reduces the risk of contamination
Key Environmental Issues
Contamination of runoff or sediment resulting in downstream impacts in the surrounding land uses and Hunter River
Environmental Action and Management Measures
All remediation works and structures must be maintained in a proper and efficient condition and manner so that they continue to properly perform those functions for which they were delivered or installed, including compliance with: - Maintenance protocols included in the relevant approved Remediation Action Plan (RAP) for the Mayfield site and which outlines design requirements in respect of remediation works; - Any Site Auditor requirements; - All applicable legal requirements; and - All onsite workers are inducted and trained appropriately as discussed in Section 6 of this OEMP.

7.6. Traffic

7.6.1. HEAVY VEHICLE ROUTES

The Heavy Vehicle Route (HVR) is outlined in the *Heavy Vehicle Route Plan for Mayfield No. 4 Berth* (HVR Plan) attached in Appendix E. All heavy vehicles will access the site via the following route:

- 1 Pacific Highway
- 2 Industrial Drive
- 3 Selwyn Street
- 4 Internal Lead-in road

All drivers of heavy vehicles will be inducted into the overall OEMP and the HVR Plan and be made familiar with the approved heavy vehicle route.

Industrial Drive provides regional road linkages to the west via the New England Highway, to the north via the Pacific Highway and south via the F3 Freeway. The majority of cargo transport to the port is via these regional road linkages.

Due to the uncertainty with the cargo sources and delivery location precise heavy vehicle routes are not able to be determined. However general principles including prohibiting heavy vehicles going to and from the port from using local residential streets have been included in the HVR Plan. Approved B-double routes in the locality are shown in this Plan.

7.6.2. STEVEDORES

All Stevedores operating from PON owned wharves are required to enter into licence agreements with PON. The licence covers the use of the wharf and the conditions under which the wharf can be operated.

As part of the conditions of the stevedoring licence to use the wharf PON will impose a condition specifying that all truck drivers engaged and/ or arranged by the stevedoring company are to be notified

that all heavy vehicles accessing the site are prohibited from using the residential streets of Mayfield and Mayfield East and are to follow the routes identified in the HVR Plan and outlined above in **Section 7.6.1**.

Management measures for the air quality of Mayfield Berth No. 4 are outlined in Table 13.

Table 13: Stevedore Environmental Management Measures

Key Environmental Performance Objectives
Minimise impact to residents, landholders and third parties in the vicinity of the development
Key Environmental Issues
Temporary disruptions to residents, landholders and other third parties
Environmental Action and Management Measures
- Implementation of the Heavy Vehicle Route Plan for Mayfield No. 4 Berth - Access would be via Selwyn Street only and controlled via the gate located at the Mayfield No. 4 Berth and hardstand - Public access to the site shall not be permitted - Roads and parking areas will be regularly maintained - A restricted speed limit will apply to the site - Appropriate signage will be implemented around the site and along the access route - Where local deliveries of cargo are required the heavy vehicles will be confined to the major roads - All heavy vehicles are prohibited from passing through residential areas and in particular, no travel is allowed through Mayfield or Mayfield East - General monitoring would be conducted as specified in Section 4.1. - Operation of the Complaint Register.

7.7. Noise

Noise impacts associated with the operation and maintenance are likely to be similar to the existing industrial environment. The operation may have the potential to impact on the amenity of residents and landowners in surrounding areas. Activities that may result in localised impacts to the amenity of the surrounding area should be assessed on a site-specific basis, and management measures implemented in accordance with this OEMP.

Management measures for noise at Mayfield Berth No. 4 are outlined in Table 14.

Table 14: Noise Environmental Management Measures

Key Environmental Performance Objectives
Minimise the impact and potential nuisance of noise emissions from operation and maintenance activities, machinery and vehicles on the local community
Key Environmental Issues
Disturbance to amenity of residents and other land users in the vicinity
Environmental Action and Management Measures
- Limiting daytime and night-time noise to development consent criteria through regular monitoring - Ensure regular maintenance of machinery and vehicles - Ensure machinery and vehicles are fitted with high efficiency mufflers (if required)

- Avoid the coincidence of simultaneous workings of high noise level machinery/operations near sensitive receivers where possible
- Loading and unloading operations to be conducted away from noise sensitive receivers where possible
- Use of noise mitigation technologies and techniques where necessary (eg silencers, noise barriers or other noise treatment of high noise generating equipment)
- Minimise the operation of site machinery and vehicles during the night period where practicable and feasible
- Noise Compliance Monitoring to be conducted as described in Section 4.1.1.
- Noise complaints shall be considered incidents and shall be managed in accordance with the non-conformance and corrective action procedures detailed in Section 4.4.

7.8. Vibration

Due to the considerable distance between the key components of the operational activities and the surrounding residents, vibration is not expected to be a significant environmental issue. As such there are no vibration management measures or monitoring proposed for the Mayfield No. 4 Berth and hardstand.

7.9. Air Quality

PON maintain both an air quality monitoring station to measure PM10 and TSP for accurately monitoring the operational aspects of the site where the level of particulate matter being sampled is representative of emissions from the premises taking into account prevailing wind direction and the location of residential properties or other sensitive receivers.

Air emissions from the operation and maintenance of the site are expected to be manageable. Emissions that may have an adverse impact on surrounding air quality include vehicle and machinery exhaust. Given that the site is completely sealed, no air quality issues are anticipated for the site.

Management measures for the air quality of Mayfield Berth No. 4 are outlined in Table 15.

Table 15: Air Quality Environmental Management Measures

Key Environmental Performance Objectives
• Control sources of dust and other emissions to air that may affect nearby residents and other landholders, pedestrians, vehicular traffic or other sensitive receiving environment • Minimise incidence of offensive odour, vapours or emissions
Key Environmental Issues
• Disturbance to amenity of residents and other land users in the vicinity as a result of pollution and dust generation from heavy vehicles and cargo movements
Environmental Action and Management Measures
• All loading/unloading and vehicle movements to take place on fully sealed surfaces • Vehicles to comply with Australian design standards and regularly serviced to minimise exhaust emissions • Immediate clean-up of any spills • Adjusted work practices (as required) based on wind conditions and dust monitoring results – see Section 7.11 for meteorological monitoring requirements • Operation of complaints register • Monitoring measures to be conducted as described in Section 4.1.2.

7.10. Waste

All wastes generated during operation and maintenance of the site shall be dealt with in an environmentally sensitive manner and in accordance with the POEO Act and the *Waste Avoidance and Resource Recovery Act 2001*. Waste management should consider the reduction, reuse and recycling of wastes prior to disposal. Where activities are likely to generate waste, appropriate procedures shall be implemented to ensure responsible disposal of waste is undertaken or, where possible, appropriate recycling of waste. Likely and expected waste streams for the site include putrescible and non-putrescible general solid waste.

There is also a possibility that some vessels berthing at Mayfield No. 4 Berth and hardstand may require garbage (including general waste) to be collected. In these instances the vessel will contact the vessel agent who will arrange for a DAVE licensed waste contractor to collect the garbage to ensure disposal is conducted in accordance with DAVE requirements.

Vessels are required to submit a Quarantine Pre-Arrival Report for Vessels (*Pratique*) no more than 96 hours and no less than 12 hours prior to arrival (ie before dropping anchor) at the Port of Newcastle. This form is submitted to DAVE through the vessel agent. DAVE conduct risk assessments on the completed forms and issue an approval form with clear instructions regarding quarantine matters including management of vessel waste during the time at berth to the vessel via the vessel agent. DAVE risk assess every vessel where the Port of Newcastle is the first port of call and in line with the risk assessment conduct a *Pratique* inspection covering waste and ballast water management. Random inspections are conducted by the DAVE on all other vessels. The inspection includes checking if the vessels waste is secured in animal- and leak-proof containers or within a sealed room, and also the garbage record books.

Waste management measures for Mayfield Berth No. 4 are outlined in Table 16.

Table 16: Waste Management Measures

Key Environmental Performance Objectives
- Ensure responsible disposal of all waste generated on site, and recycle where possible - Minimise environmental impacts related to waste management
Key Environmental Issues
Handling and transportation of waste
Environmental Action and Management Measures
- All skips and containers would be labelled with their content, would be well maintained to ensure they do not leak and would be emptied on a regular basis to ensure they do not overflow - All domestic and industrial waste to be disposed of into proper industrial bins for collection and disposal at a licensed offsite facility - No open or ground rubbish is permitted - Appropriate receptacles will be provided for the depositing of litter and other waste materials and their contents will be sent for reuse, recycling or disposal on a regular basis. - A 3 metre skip bin has been provided for general waste, paper and cardboard – the bin is located adjacent to the Stevedore amenities and are emptied fortnightly. - Waste should be classified according to EPA's <i>Waste Classification Guidelines</i> and sorted into waste streams where possible - All waste contractors and receiving waste facilities shall be appropriately licensed (and/or DAVE approved) - Appropriate signage, awareness and encouragement of staff and contractors to minimise waste generation and promote use of recycling practices - Routine visual inspections (refer to Section 4.1)

7.11. Meteorological Monitoring

In accordance with the requirements of EPL 13181 PON maintain an automated weather station onsite. Meteorological conditions are to be monitored during loose bulk cargo operations.

L5.1 Loose bulk cargo operations must cease for a period of at least 15 minutes:

- (a) if the average wind speed exceeds 7 metres per second for a 5 minute period, or*
- (b) if a wind gust exceeds 12 metres per second*

After loose bulk cargo operations have ceased, they must not recommence until the above wind speed limits are not exceeded in the preceding 15-minute time period.

L5.2 The wind speed and direction limits specified in Condition L5.1 do not apply when the following loose cargoes are loaded or unloaded from the premises:

- (a) Cottonseed pellets;*
- (b) Ferro-alloys;*
- (c) Magnetite;*
- (d) Mineral sands;*
- (e) Nut coal;*
- (f) Urea granules;*
- (g) Wet silica sands; and*
- (h) Whole soya beans*

7.12. Security

In response to the risk of terrorism, the Federal Government introduced the *Maritime Transport and Offshore Facilities Security Act 2003 (MTOFSA) and Regulations* to safeguard against unlawful interference with maritime transport including ports, port facilities, ships and offshore vessels. The Port of Newcastle is a security regulated Port. The Mayfield No.4 Berth and hardstand area is located within the Security Regulated Port Boundary.

The Mayfield No. 4 Berth and hardstand is a secure site, fenced at the perimeter with locked entry/ exit gates. When there are no vessels berthed at Mayfield No. 4 Berth and hardstand, the site will be patrolled by PON Wharf Officers. When a vessel is berthed, a security guard will be posted at the entry / exit gate to manage site access in accordance with PON's Level 1 Access Induction.

The MTOFSA places responsibilities on every person within the Port to report any security incidents including suspicious activities. Suspicious activities or occurrences could include:

- holes in fences;
- unauthorised people or vehicles;
- unknown objects;
- theft or break-ins; and
- people taking photographs or notes.

All suspicious activities regardless of the severity **MUST** be reported to the Police and then PANSW's VTIC advised on phone number 02 4929 3890 of the action taken.

All inductees are advised of their obligations under MTOFSA as part of PON Level 1 induction.

Management measures for the security of Mayfield No. 4 Berth are addressed in Table 17.

Table 17: Security Management Measures

Key Environmental Performance Objectives
- Prevention of vandalism and unlawful access - Prevention of security risks to vessels, adjacent residents and industry/ landholders
Key Environmental Issues
Crime and other security risks
Environmental Action and Management Measures
- Perimeter fencing to be maintained - All areas are security controlled to prevent unlawful access - Security systems and patrols are in place to guard against unauthorised entry - No staff shall be housed on site - Visitors to be accompanied by an inducted person at all times - Site inductions to be undertaken by all PON employees, Stevedores and Port Users

7.13. Landscaping and Lighting

No landscaping is planned for Mayfield No. 4 Berth. The area is covered entirely by hardstand and wharf area that provides no opportunity for landscaping.

The final landform is in accordance with the Contaminated Site Management Plan considerations. The Contaminated Site Management Plan recognises that the wharf is covered by existing structures and sealed pavements which provide a low level of permeability.

The permeability of the final landform has been assessed and approved by the Site Auditor.

Landscaping will be considered as part of the future developments of the remaining Closure Area.

Lighting is required for 24/7 operation, as well as for safety and security reasons. Lighting provided on site includes wharf flood lighting, exterior lighting, bulkhead lighting, fender lighting and edge lighting. Lighting would be adjusted to suit operational uses including use of lighting during cargo loading activities, the limiting of flood lighting (where appropriate), and reducing light intensity when no ships are docked. Impacts from lighting would be similar to the existing surrounding environment which is industrial and largely used for port related activities.

The maximum height of lighting will be 30 m and lighting spill will be limited to the edge of the wharf and hardstand area to minimise disturbances to other river users.

Management measures for landscaping and lighting of Mayfield Berth No. 4 are outlined in Table 18.

Table 18: Landscape and Lighting Management Measures

Key Environmental Performance Objectives
- Prevention of lighting impacts on nearby receivers - Prevention of visual disturbance and degradation of amenity
Key Environmental Issues
- Lighting impacts on nearby receivers - Safety and security internal to the site

Environmental Action and Management Measures

- Large floodlights would not be used other than for emergency lighting
- Lighting will utilise the minimum level of illumination necessary for safety and security
- Security lighting would be mounted, screened and directed (where possible) to ensure lighting would not spill onto existing residences

7.14. Heritage

The operation of the Mayfield No. 4 Berth would not impact on heritage items due to the following:

- No listed items of heritage significance are located on the Mayfield No. 4 Berth site;
- The site is a hardstand area;
- The site has been previously capped isolating the subsurface material; and
- No excavation will be allowed on site without an excavation permit and / or excavation notification form being completed.

The Mayfield No. 4 Berth and hardstand will comply with heritage requirements.

7.15. Dangerous Goods

In accordance with conditions 7.1, 7.2, 7.3 and 7.4 of DA 290-00-08:

The Container Terminal and General Cargo Handling Facility shall neither receive as cargo nor dispatch as cargo any material classified as a "Class 7 dangerous good" (radioactive material) under the Australian Dangerous Goods Code.

Usage, storage, temporarily or otherwise, of any dangerous good of Class 1 (explosives) on the site is not permitted without the prior written approval of the Secretary-General.

All dangerous goods received as cargo at either the Container Terminal or the General Cargo Handling Facility shall be dispatched from the site within 72 hours of receiving those goods.

Stevedores handling dangerous goods shall maintain documentation that includes the following information in relation to dangerous goods:

- *the date and time of arrival of all dangerous goods to the site;*
- *the exact location of all quantities of dangerous goods on the site;*
- *details of all dangerous goods classes on the site, packaging specifications and UN number; and*
- *the date and time of dispatch of all dangerous goods from the site*

A Dangerous Goods Register has been implemented in the PON EMS in cooperation of several areas of the business, including WHS, Property, Planning, and Marine & Operations.

8. EMERGENCY RESPONSE AND CONTACT DETAILS

8.1. Communication

PON has prepared and submitted an Emergency Plan for the Mayfield No.4 Berth and hardstand operations to DPIE (WHS 3003 Mayfield Site Precinct Emergency Plan). All PON operations and maintenance employees are trained and competent to carry out their responsibilities under the Emergency Plan. Upon receipt of emergency advice, the applicable person based at the Mayfield No. 4 Berth and hardstand would initiate the Emergency Plan.

8.2. Emergency Procedures

Each emergency shall be actioned as deemed required (depending upon magnitude and situation) and handled in accordance with the procedures detailed in the Mayfield No. 4 Berth Emergency Plan.

In the event of an emergency, the following procedure shall apply:

1. **PHONE 000 (TRIPLE ZERO) AND DESCRIBE THE EMERGENCY AND LOCATION**
2. **PHONE THE PANSW VESSEL TRAFFIC INFORMATION CENTRE (VTIC) on (02) 4929 3890 and DESCRIBE THE EMERGENCY AND LOCATION.**

Upon identifying any emergency, it is essential the personnel are aware of their immediate actions. This is essential so the appropriate personnel / emergency services are notified and to confirm what immediate actions need to be put in place.

After contacting the emergency services, personnel working within the area need to be notified about the immediate danger. Depending upon the situation, this will usually be completed by sounding the emergency siren trying to notify individuals. All personnel shall then evacuate to the designated Emergency Evacuation Assembly Point.

The Emergency Evacuation Assembly Point is posted on notice boards and can generally be identified by a green and white sign. Personnel are to remain there until a company representative and / or emergency services give the "all clear" and direct personnel to return to the site.

Hazard and safety studies for the operation of the site have previously been undertaken for the Mayfield No.4 Berth and hardstand area. As per Condition 7.9 of the Conditions of Consent (**Appendix A**), Pre-operation Hazard studies have been prepared and were approved by the Department of Planning on 23 October 2009.

8.3. Notification of Significant Environmental Events to Authorities

The PON Duty Manager will task designated persons to **immediately** follow the protocol below as per the Protection of the Environment Operations Act 2011 Amendment.

The agencies must be contacted in the following order:

As per Section 8.2 in the case of an **emergency, fire and rescue (000)** should be contacted in the first instance, otherwise:

Table 19: Environmental Event Contacts

Contact	Phone Number
EPA Environment Line	131 555
The Ministry of Health via the Newcastle Public Health Unit	Ph: 02 4924 6477 Select Option 3 – General Enquiries (after 5pm calls divert to John Hunter Hospital - ask for the Public Health Officer on call) 1300 066 055 will also connect to the local Public Health Unit
SafeWork NSW	13 10 50
Newcastle City Council	Water pollution incident reporting: 02 4974 2525 (during business hours) After hours phone the call centre: 4974 2000 (ask for the Compliance Duty Officer)
Fire and Rescue NSW	000

Section 150 of the POEO Act requires that the following information will need to be provided:

- time, date, location and likely duration of incident;
- location of place where pollution is occurring or likely to occur;
- type of incident (eg chemical spill, water pollution etc.);
- extent of incident (eg magnitude of spill, area covered etc.); and
- action taken or proposed to be taken to deal with the incident and any resulting pollution or threatened pollution.

8.3.1. FOLLOW UP ACTIONS

Debrief and Resumption of Normal Operation

All incidents and emergency response actions are reviewed, and appropriate debriefs performed, to ensure all staff are adequately informed. Resumption of normal operations is approved by the EMMO or delegated person as specified by the EMMO. The information will be relayed to staff via staff meetings and incorporated into toolbox talks (where applicable).

Review and Improvement of the Emergency Procedure

PANSW and PON conduct regular emergency response exercises as part of the incident control plan and Pollution Incident Response Management Plan (PIRMP under EPL 13181). A report detailing the findings from the exercise is prepared and maintained by both parties. Results from exercises are used to improve and update PANSW and PON's incident control mechanisms and / or emergency plans where required.

8.4. Emergency Contacts

Emergency response and other contacts for the berth are listed in Table 20.

Table 20: Emergency Response Contacts

Contacts 24 hr Contact Numbers Port Authority NSW (PANSW) – (02) 4985 8301 OR (FREECALL – 1 800 048 205) Port of Newcastle (PON) 02 4908 8281		
Emergency Contacts		
Service	Address	Contact Details
Fire		000
Ambulance		
Police		
Hospital	John Hunter Hospital Lookout Road, NEW LAMBTON NSW 2305	(02) 4921 3000
Workcover		13 10 50
Australian Maritime Safety Authority - Newcastle Office	8 Cowper Street, CARRINGTON NSW 2294	(02) 4961 3277 1800 627 484
Utilities and Government Contacts		
Utility/Agency		Contact Details
Ausgrid Emergency Service		131 388
Jemena Gas Faults and Emergency		131 909
Hunter Water		1300 657 000
Telstra		132 203
City of Newcastle		(02) 4974 1399
EPA - Report Pollution Incident (24hrs) - Newcastle Office		131 555 (02) 4908 6800

9. RECORDS MANAGEMENT

All PON records are maintained in accordance with a Records Management Program which incorporates a Records Management Policy, Records Management System, associated guidelines and conventions. All records, regardless of format or origin, are maintained in the PON Records Management System. PON uses Box for the management of all hard copy and electronic records.

All records are sentenced (classified) in accordance with the NSW State Records General Retention and Disposal Authorities and are retained for the appropriate minimum retention period. It is of note that general records pertaining to project management of construction works will be retained in a format which can be reproduced for a minimum of 7 years after completion of construction. Any records related to the identification and remediation of hazardous materials identified during construction will be retained for a minimum period of 75 years.

Individuals involved with the environmental management of the site are responsible and trained to ensure all electronic and hard copy correspondence is scanned (where necessary) and filed in the correct folder.

10. WORK HEALTH AND SAFETY

10.1. General

The PON Safety Policy commits PON to providing a safe and healthy workplace for all employees and contractors. The site shall be operated and maintained in a manner that will not adversely affect the health and safety of employees, Stevedores, contractors, Port Users, visitors or the environment. PON is committed to ensuring that relevant legislation in relation to health and safety is complied with, and that all employees, Stevedores, Port Users and contractors are trained in understanding their environmental, health and safety roles and responsibilities.

10.2. Personal Protective Equipment

All personnel accessing the site shall as a minimum be required to wear at all times the following personal protective equipment (PPE):

- Appropriate safety footwear;
- High visibility clothing;
- Long sleeve shirt and long pants;
- Eye protection;
- Hearing protection (if in the vicinity of power tools, equipment & machinery or any area indicated by signs);
- Hard hat; and
- Life jacket must be worn when within 2 metres of the water's edge.

As discussed in Section 6, all operating and maintenance personnel are required to be suitably qualified, trained and experienced to accepted industry competency levels. PON personnel shall be trained in the requirements and use of PPE to an appropriate level according to responsibilities.

While on site inductees must have access to their own approved First Aid kits. First Aid Kits must be in accordance with those prescribed in the Work Health and Safety Regulation 2017. If first aid is administered the VTIC must be notified on (02) 4929 3890. All accidents / incidents must be reported.

10.3. Hazard and Risk

PANSW maintain the role as the regulator of dangerous goods in the Port of Newcastle, as previously conferred by the *NSW Dangerous Goods (General) Regulation 1999, Part 11 – Special requirements relating to ports*.

A revised Final Hazard Analysis (FHA), commissioned by then-NPC in March 2014, details hazard identification, risk analysis and mitigation management. The revised 2014 FHA was approved by then-Department of Planning and Environment in June 2014.

The Mayfield No. 4 Berth and hardstand will be used for the handling of goods passing through the Port of Newcastle. PON will implement a process to ensure all storage and transfer systems at the site will be designed so that hazardous materials remain within the containment systems. Any dangerous goods handled at Mayfield 4 Berth will be handled in accordance with the revised Final Hazard Analysis, PANSW dangerous good regulations and AS3846-2005: *The handling and transport of dangerous cargoes in port areas*.

Transport of ammonium nitrate has been considered as part of the Mayfield Berth Risk Assessment prepared for NPC (2012) as the dangerous goods regulator for port areas. The assessment concluded that the individual risk levels outside the berth boundary are low given the low frequency and risk of ammonium nitrate explosion. Onsite precautions are outlined in the assessment and include ensuring that

the required safety equipment and management systems are in place before the berth is used for shipments of ammonium nitrate.

Additional information has been provided to Port Lessor in January 2021 following an incident at the Port of Beirut regarding ammonium nitrate. In brief, Ammonium Nitrate AN (DG Class 5.1) and explosives (DG Class 1) are only onsite at M4 for the time required to transfer the DG from a truck to the ship, or from the ship to a truck. Ammonium nitrate is provided in Bulkabags and is therefore not considered loose bulk cargo at M4. Other DGs (Other than DG Class 7) may be stored at Mayfield No. 4 Berth for up to 3 days (72 hours). A DG register is implemented at PON as part of the EMS.

PON is also required to perform a Hazard Audit every 3 years as a requirement of the M4 planning approval, *Consolidated Instrument of Approval for Development Application No. 293-08-00*. The audit involves assessment of hazard risk management compliance procedures essentially applied by PON across the Port.

The NSW Work Health and Safety Regulation 2017, Chapter 9 Major Hazard Facilities, Division 1 530 2(a) states that port operational areas under the control of a port authority are not considered major hazard facilities.

II. REFERENCES

Advitech 2014, Final Hazard Analysis Report, Mayfield No. 4 Berth Rev v05 - prepared for Newcastle Port Corporation

HDC, 2016. *Contaminated Site Management Plan, Port Lands, Former BHP Steelworks Mayfield, Newcastle*

Lloyd's Register, 2012. *Mayfield Berth Risk Assessment* prepared for Orica Australia and Newcastle Port Corporation

Sinclair Knight Merz (SKM), 2009. *Mayfield Wharf Refurbishment and Hardstand Construction, Construction Environmental Management Plan*

FIGURES

Figure F1: Site Location



**MAYFIELD
PRECINCT**

This aerial map shows an industrial waterfront area. The Mayfield Precinct is on the left, the Walsh Point Precinct is on the right, and the Carrington Precinct is at the bottom. The Mayfield Site is a specific area within the Mayfield Precinct. The map includes a river or harbor with several ships, and various industrial buildings and infrastructure. The boundaries of the precincts and the site are marked with colored lines: blue dashed for precincts, yellow solid for the outer boundary, and black solid for the Mayfield Site.

**WALSH POINT
PRECINCT**

**MAYFIELD
SITE**

**CARRINGTON
PRECINCT**

Figure F2: Site Layout

Date:

1/08/2013

Sheet:

1 of 1

Plan By:

RC

Project Manager:

TC

Office:

Hunter

Plan Purpose:

Lease

Version:

D (16/06/2014)

Client:

Port of Newcastle

Survey:

12D\238927(1)

AutoCAD:

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Our Ref:

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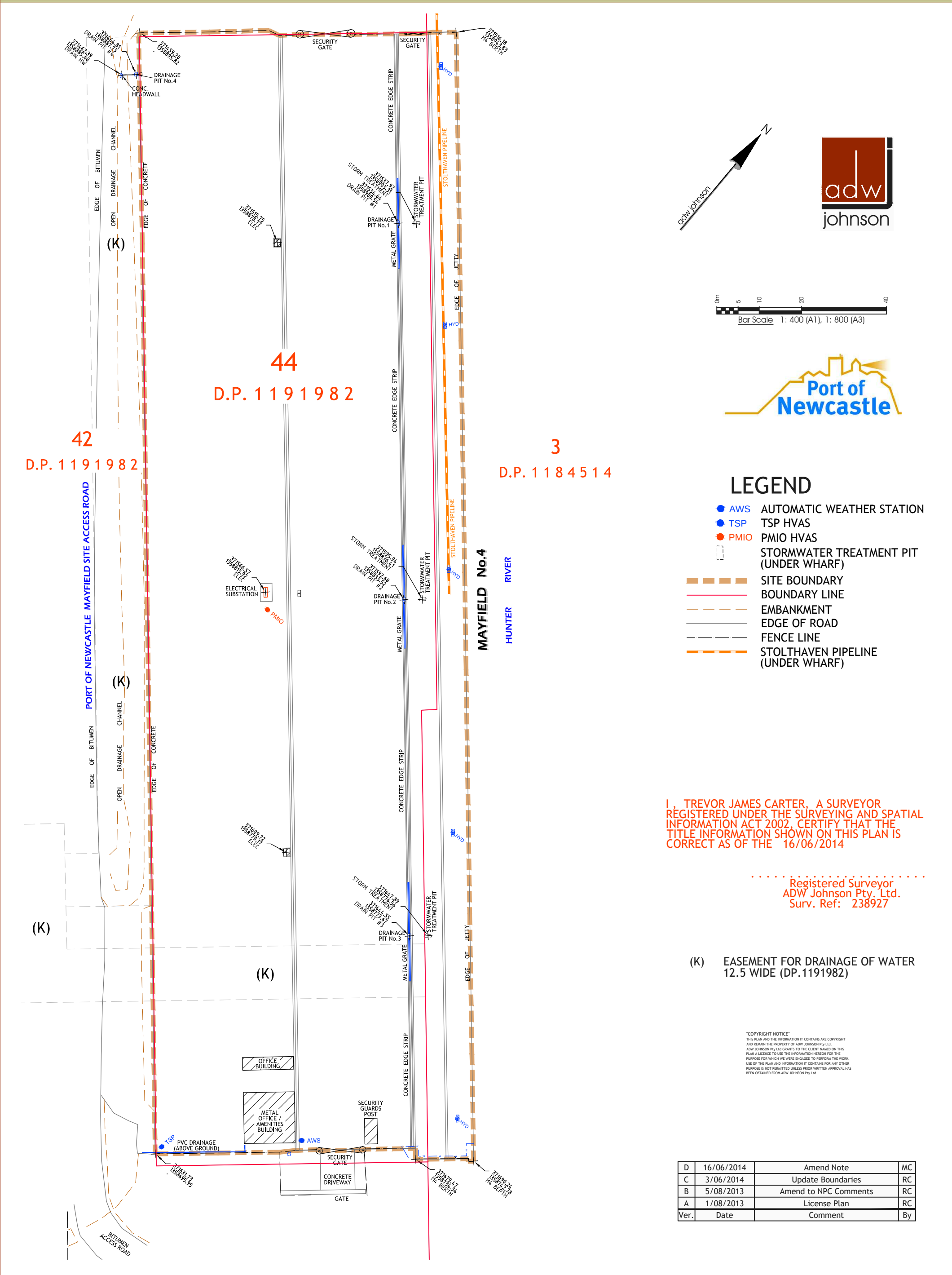


Figure F3: Mayfield No. 4 Berth Responsibility and Organisation Structure

Figure 3: Organisational Structure

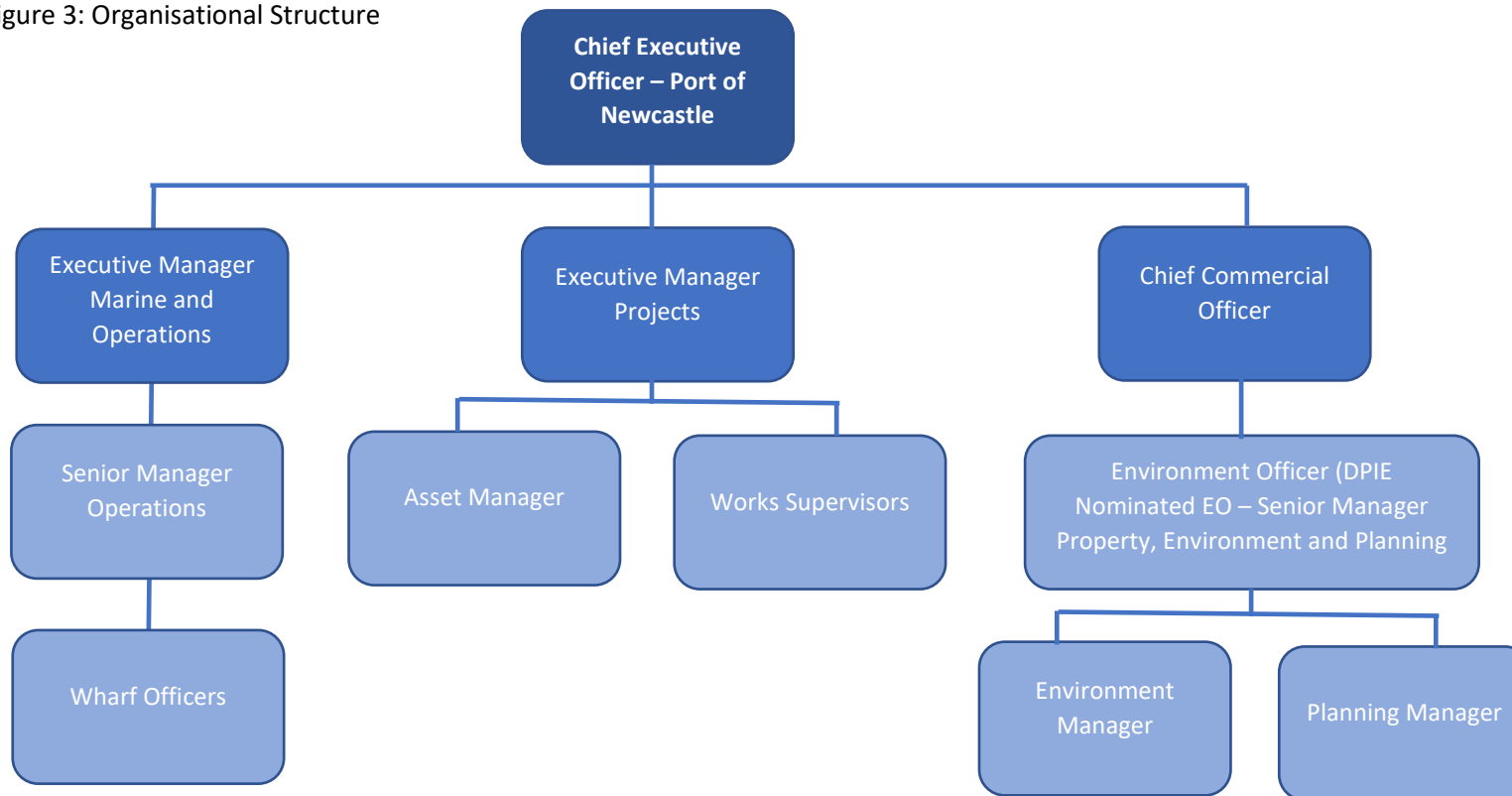
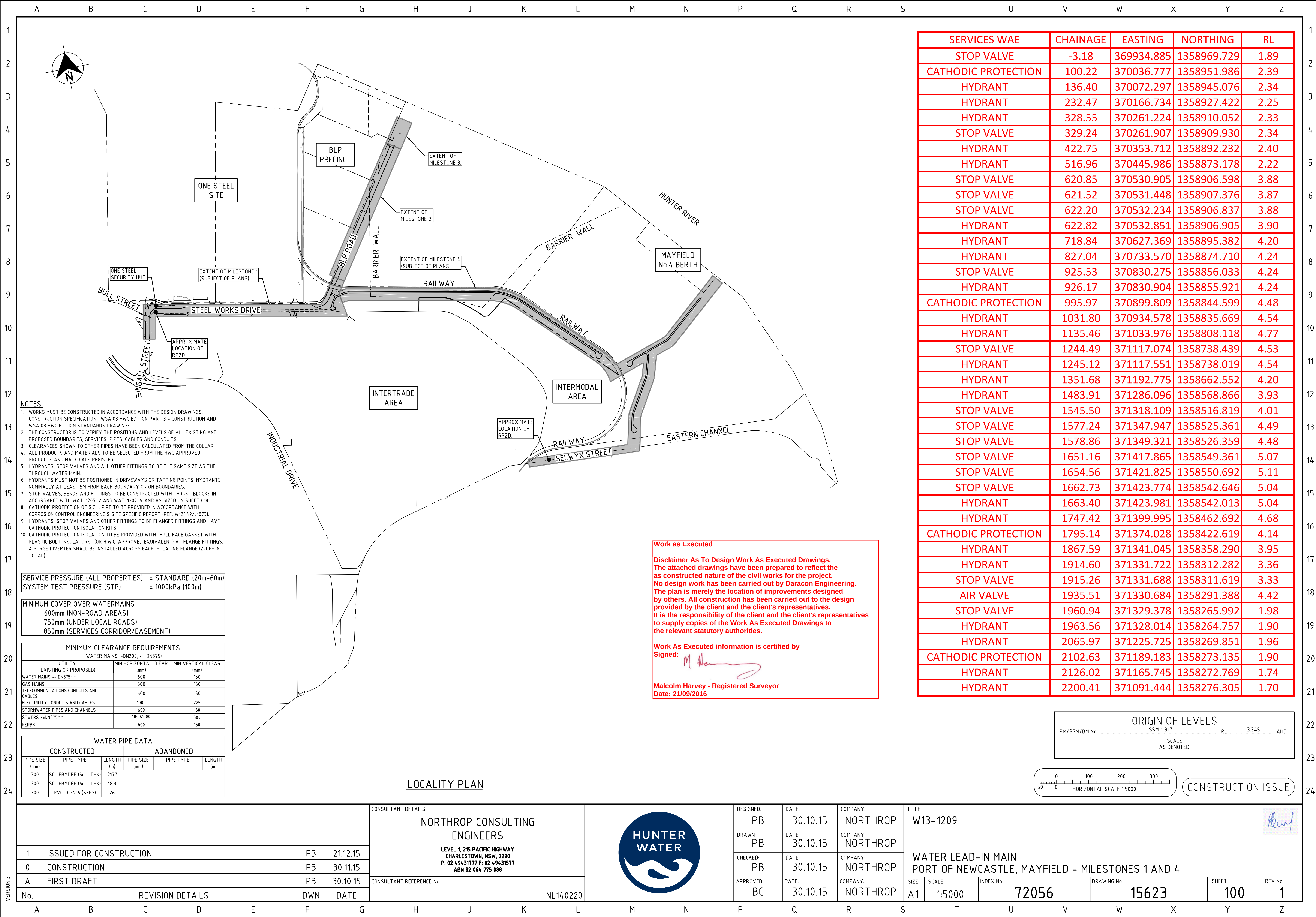
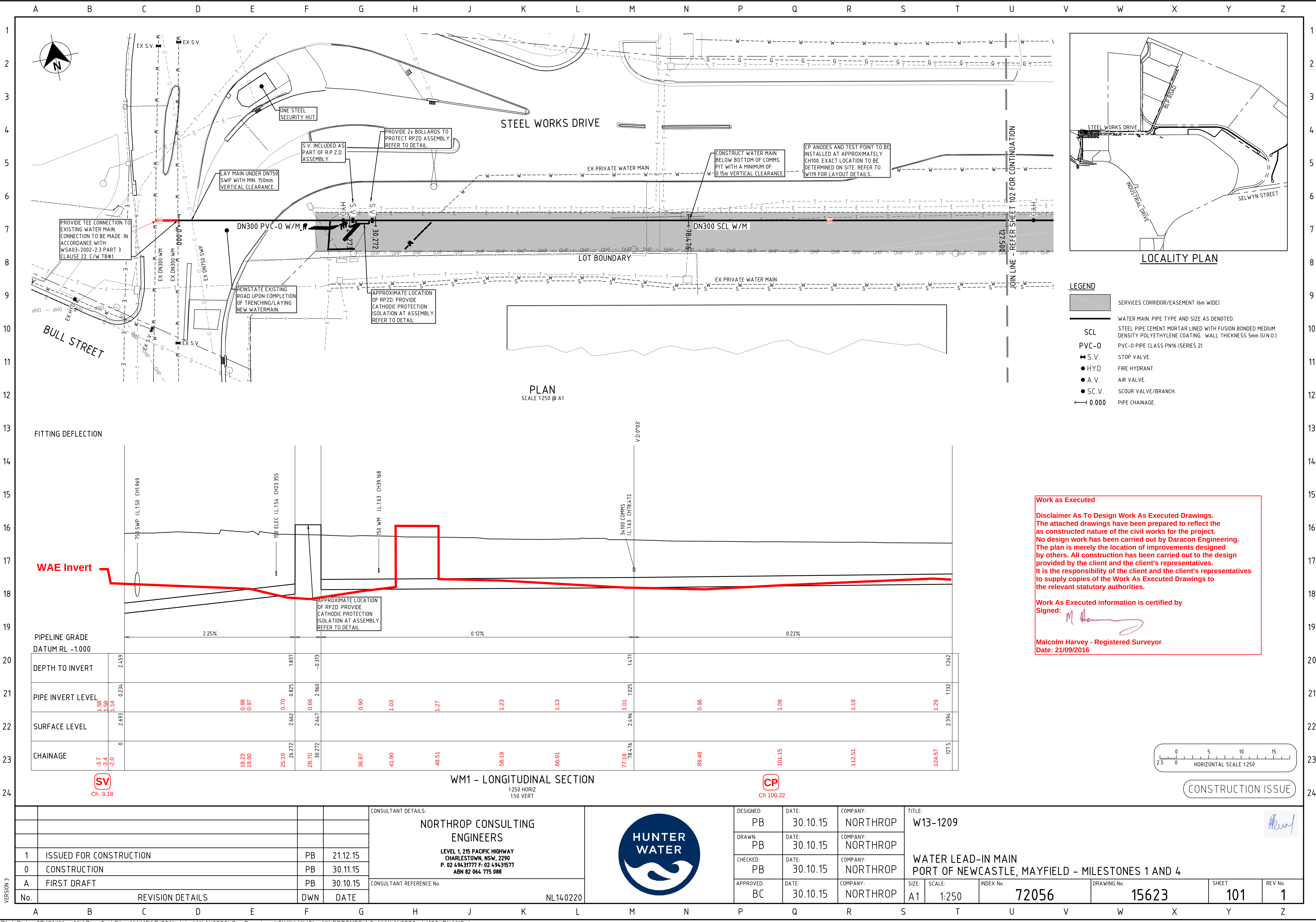
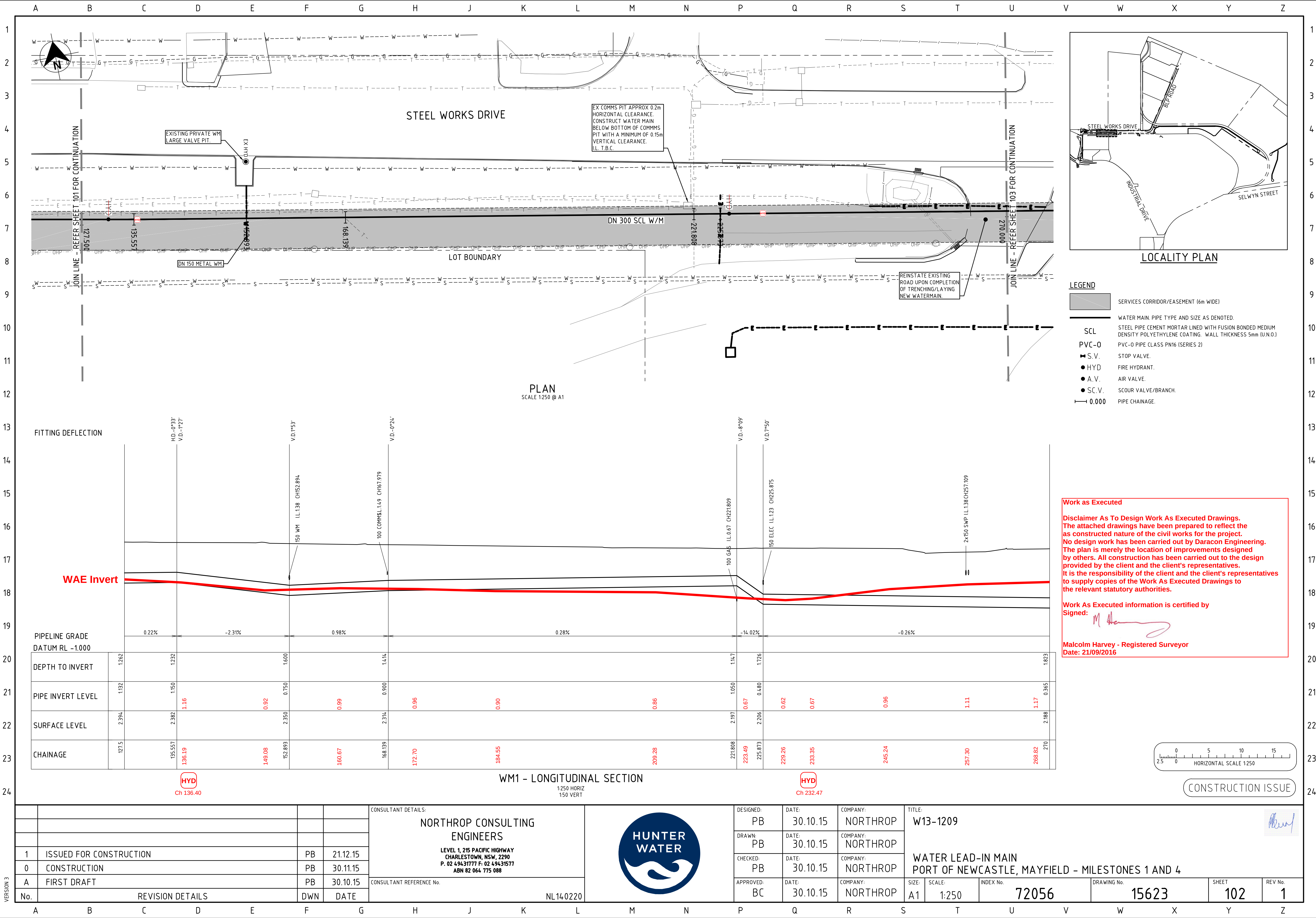


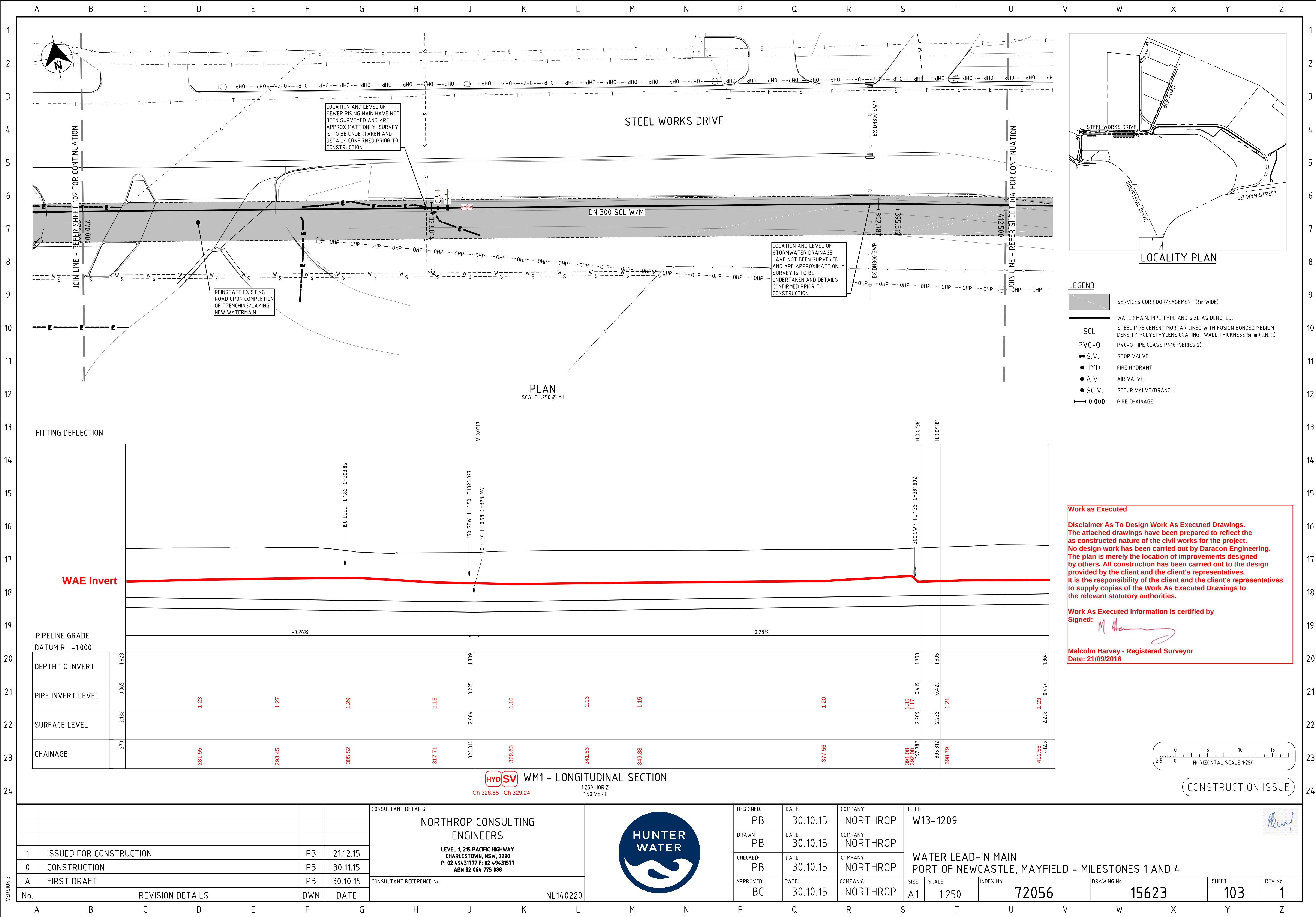
Figure F4: Water Supply System Arrangement (Plan View)

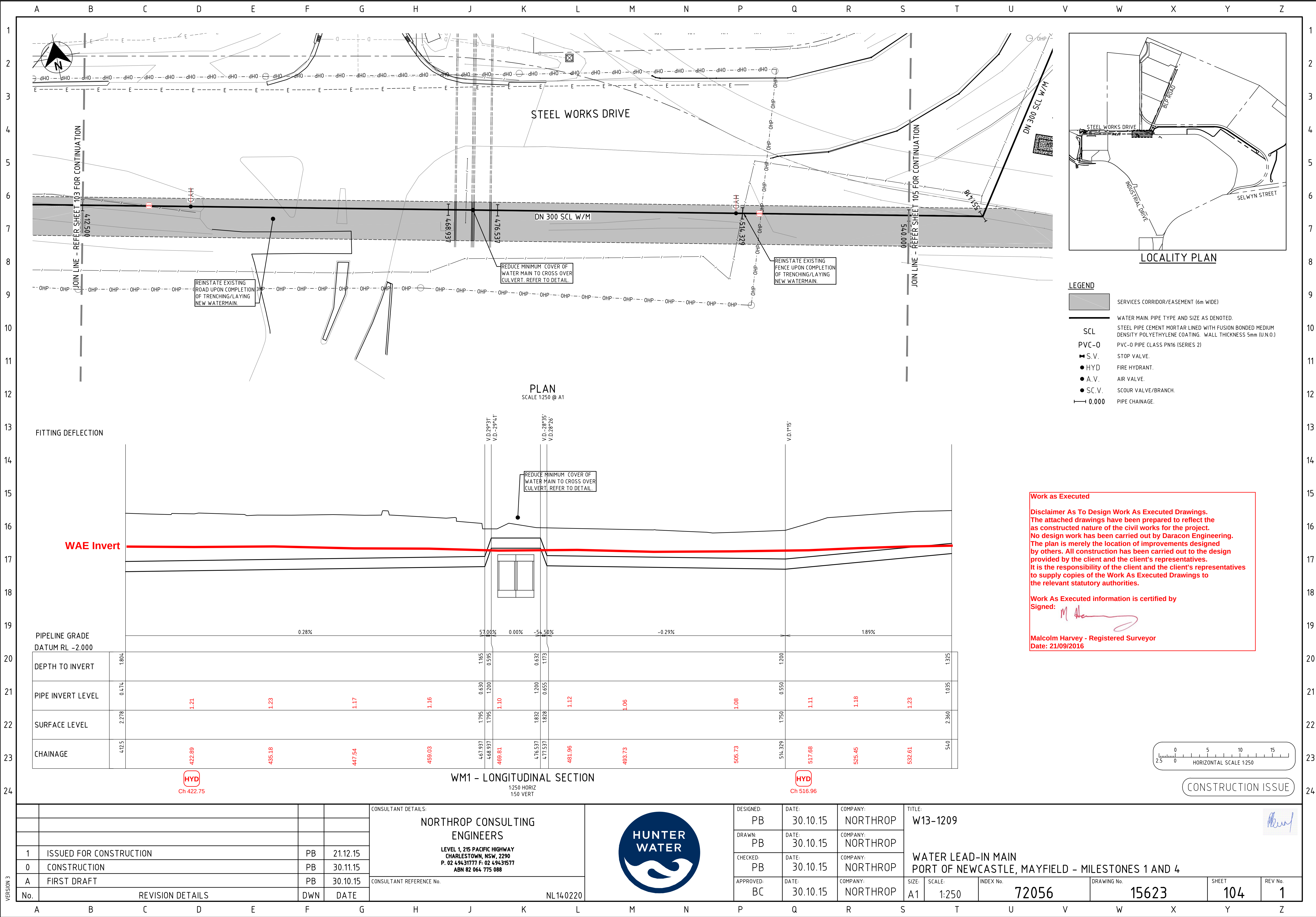


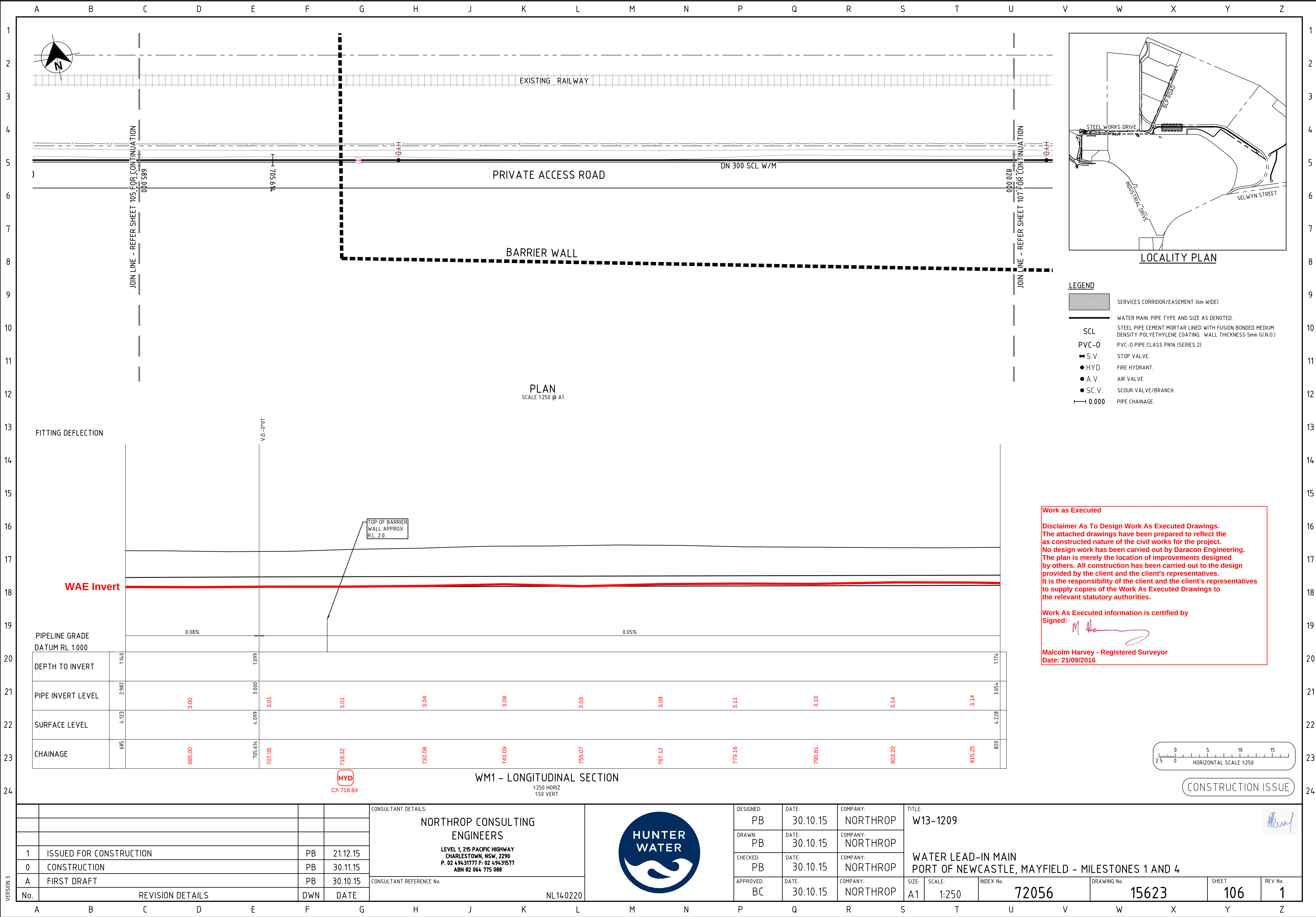
SERVICES WAE	CHAINAGE	EASTING	NORTHING	RL
STOP VALVE	-3.18	369934.885	1358969.729	1.89
CATHODIC PROTECTION	100.22	370036.777	1358951.986	2.39
HYDRANT	136.40	370072.297	1358945.076	2.34
HYDRANT	232.47	370166.734	1358927.422	2.25
HYDRANT	328.55	370261.224	1358910.052	2.33
STOP VALVE	329.24	370261.907	1358909.930	2.34
HYDRANT	422.75	370353.712	1358892.232	2.40
HYDRANT	516.96	370445.986	1358873.178	2.22
STOP VALVE	620.85	370530.905	1358906.598	3.88
STOP VALVE	621.52	370531.448	1358907.376	3.87
STOP VALVE	622.20	370532.234	1358906.837	3.88
HYDRANT	622.82	370532.851	1358906.905	3.90
HYDRANT	718.84	370627.369	1358895.382	4.20
HYDRANT	827.04	370733.570	1358874.710	4.24
STOP VALVE	925.53	370830.275	1358856.033	4.24
HYDRANT	926.17	370830.904	1358855.921	4.24
CATHODIC PROTECTION	995.97	370899.809	1358844.599	4.48
HYDRANT	1031.80	370934.578	1358835.669	4.54
HYDRANT	1135.46	371033.976	1358808.118	4.77
STOP VALVE	1244.49	371117.074	1358738.439	4.53
HYDRANT	1245.12	371117.551	1358738.019	4.54
HYDRANT	1351.68	371192.775	1358662.552	4.20
HYDRANT	1483.91	371286.096	1358568.866	3.93
STOP VALVE	1545.50	371318.109	1358516.819	4.01
STOP VALVE	1577.24	371347.947	1358525.361	4.49
STOP VALVE	1578.86	371349.321	1358526.359	4.48
STOP VALVE	1651.16	371417.865	1358549.361	5.07
STOP VALVE	1654.56	371421.825	1358550.692	5.11
STOP VALVE	1662.73	371423.774	1358542.646	5.04
HYDRANT	1663.40	371423.981	1358542.013	5.04
HYDRANT	1747.42	371399.995	1358462.692	4.68
CATHODIC PROTECTION	1795.14	371374.028	1358422.619	4.14
HYDRANT	1867.59	371341.045	1358358.290	3.95
HYDRANT	1914.60	371331.722	1358312.282	3.36
STOP VALVE	1915.26	371331.688	1358311.619	3.33
AIR VALVE	1935.51	371330.684	1358291.388	4.42
STOP VALVE	1960.94	371329.378	1358265.992	1.98
HYDRANT	1963.56	371328.014	1358264.757	1.90
HYDRANT	2065.97	371225.725	1358269.851	1.96
CATHODIC PROTECTION	2102.63	371189.183	1358273.135	1.90
HYDRANT	2126.02	371165.745	1358272.769	1.74
HYDRANT	2200.41	371091.444	1358276.305	1.70

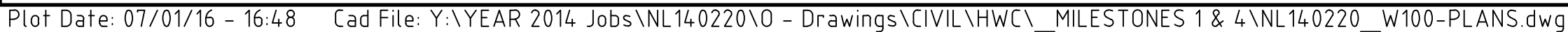


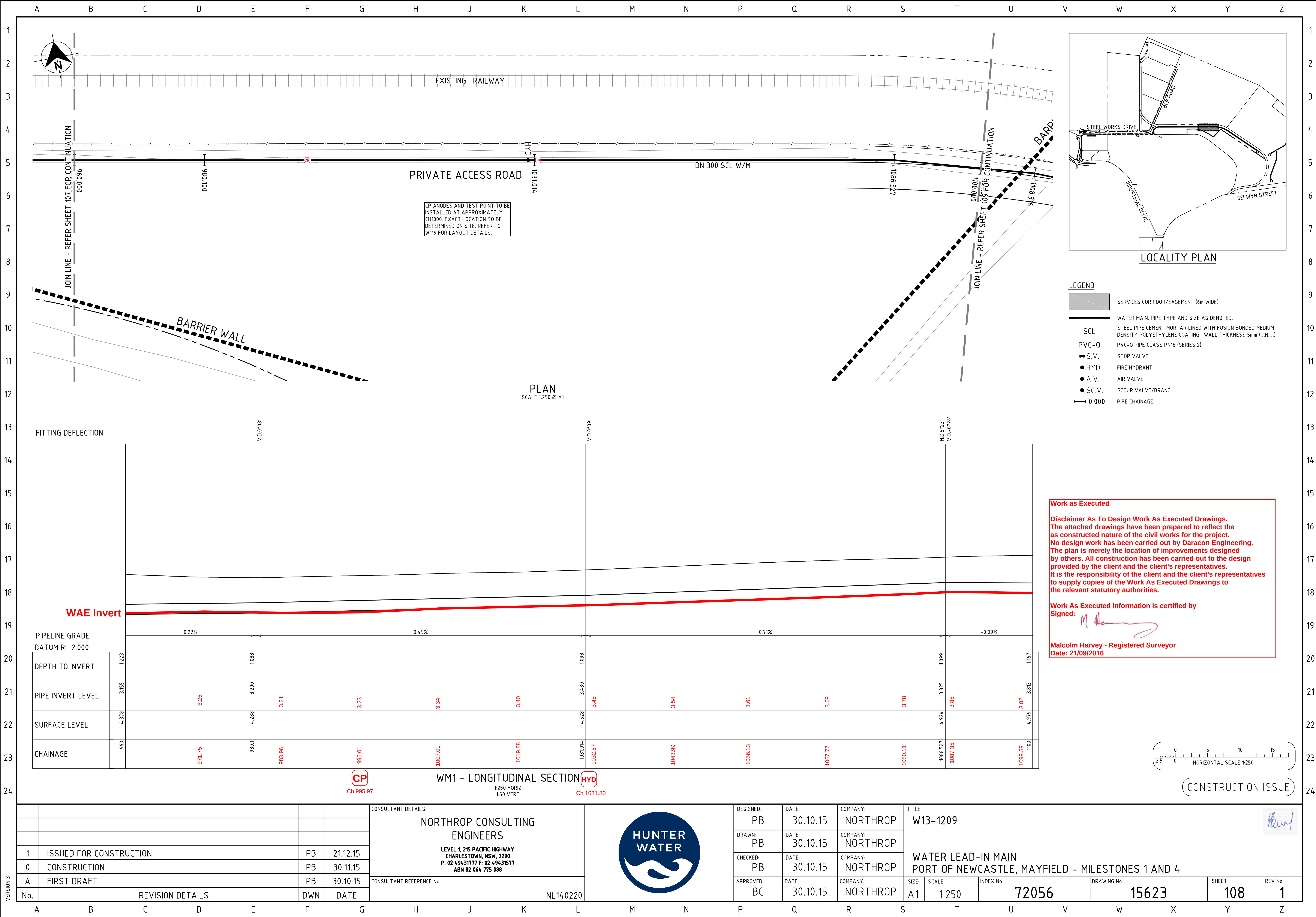


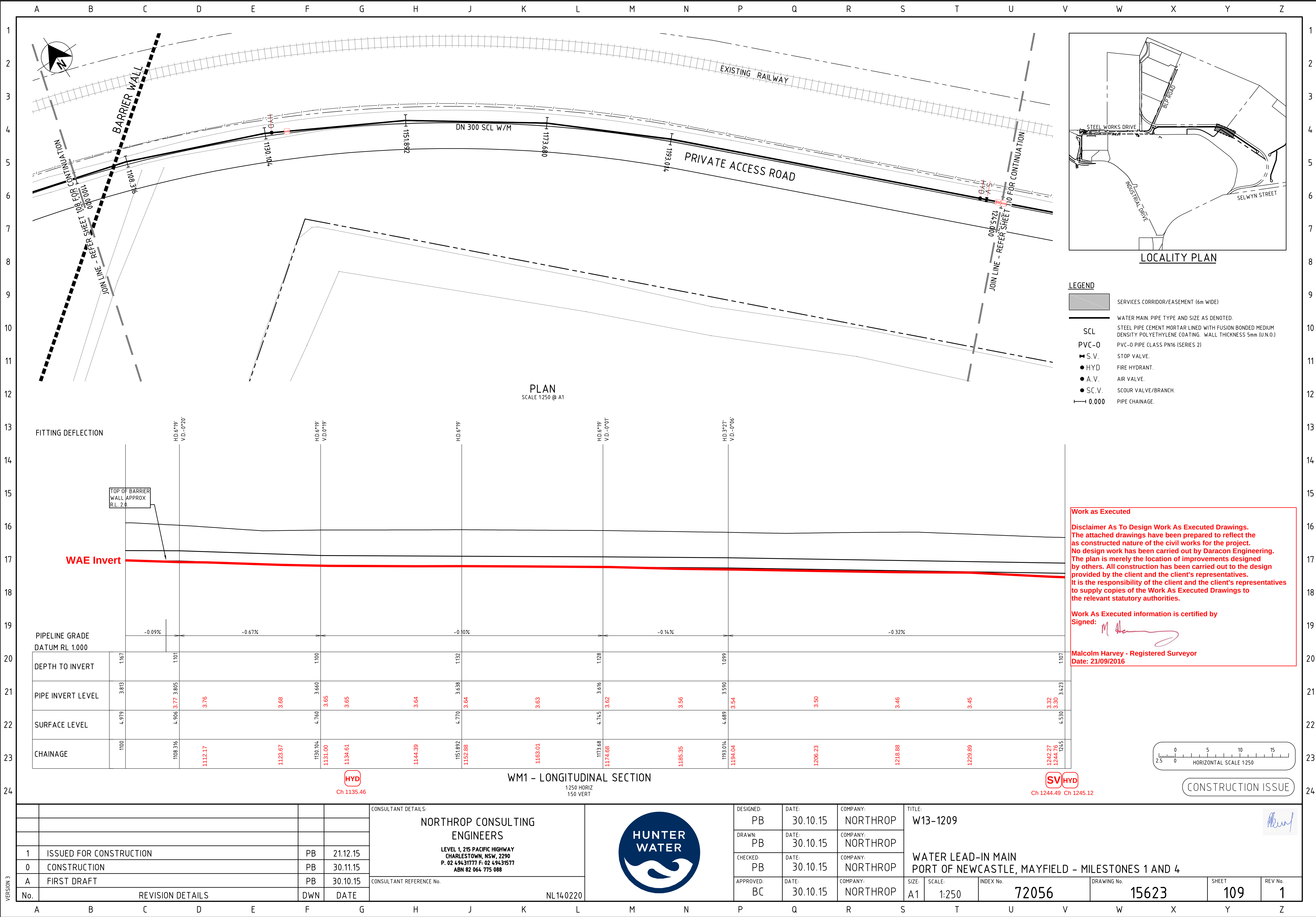


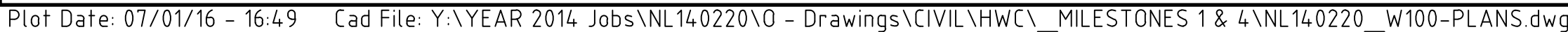


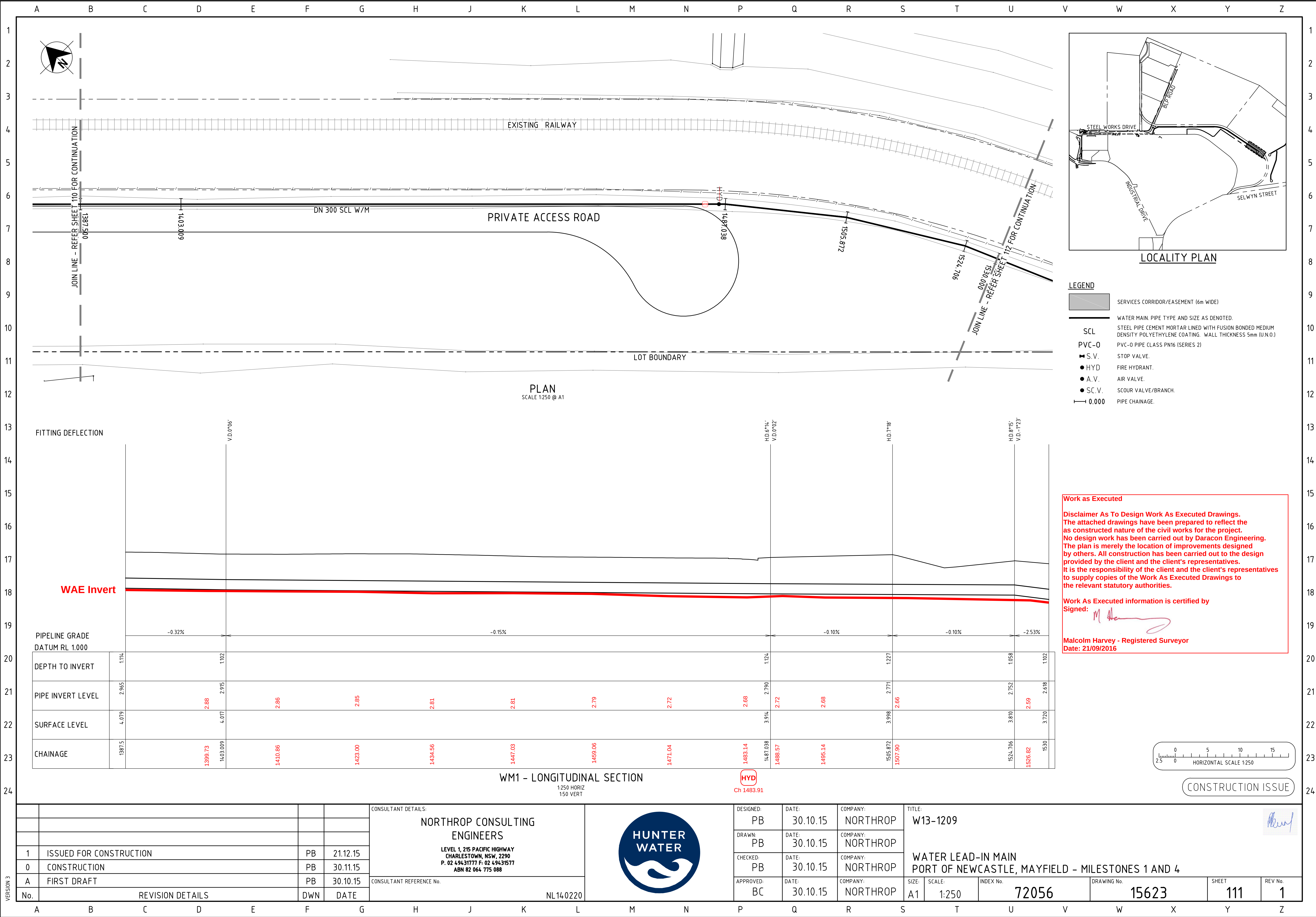


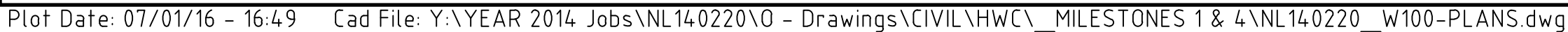


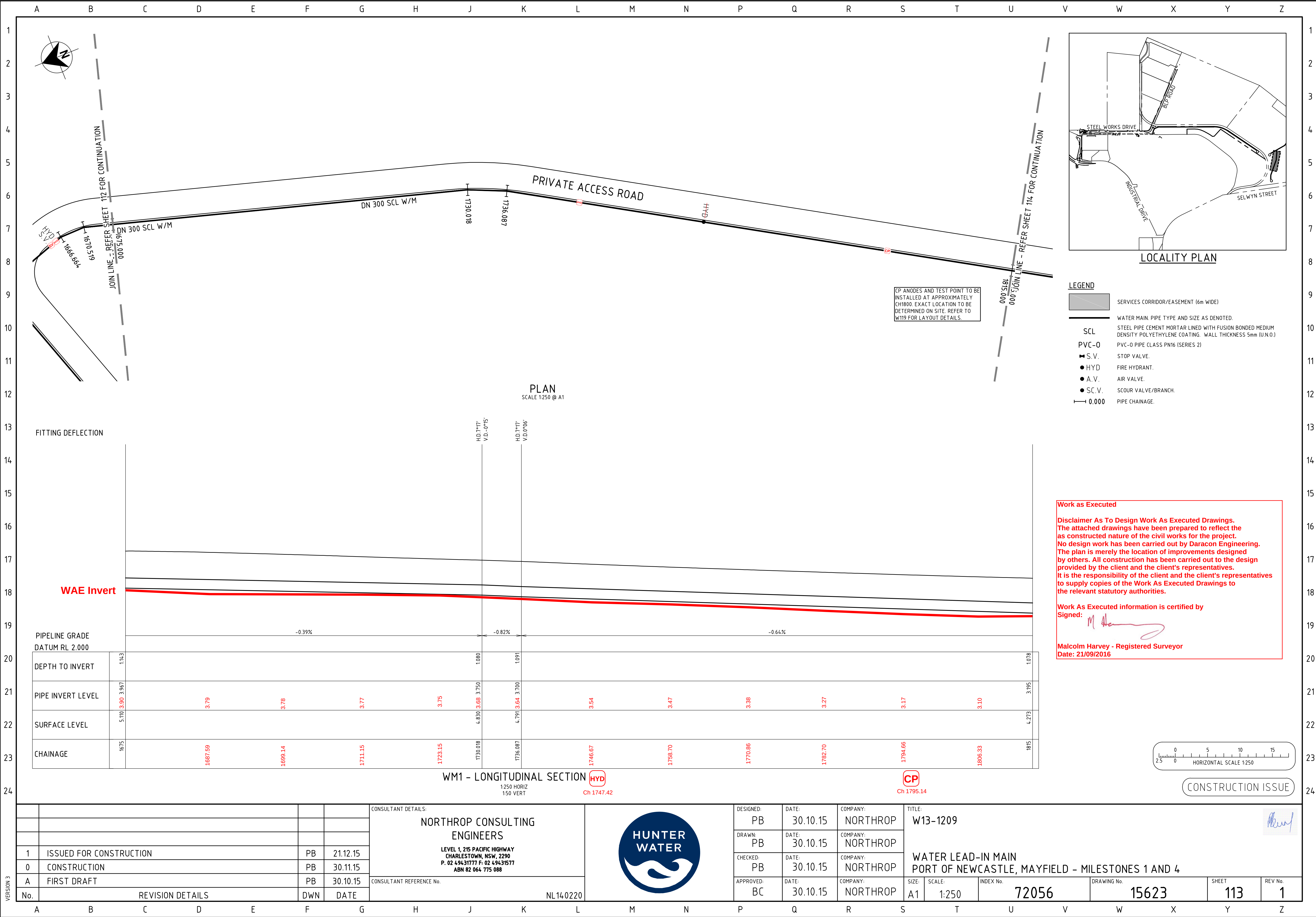


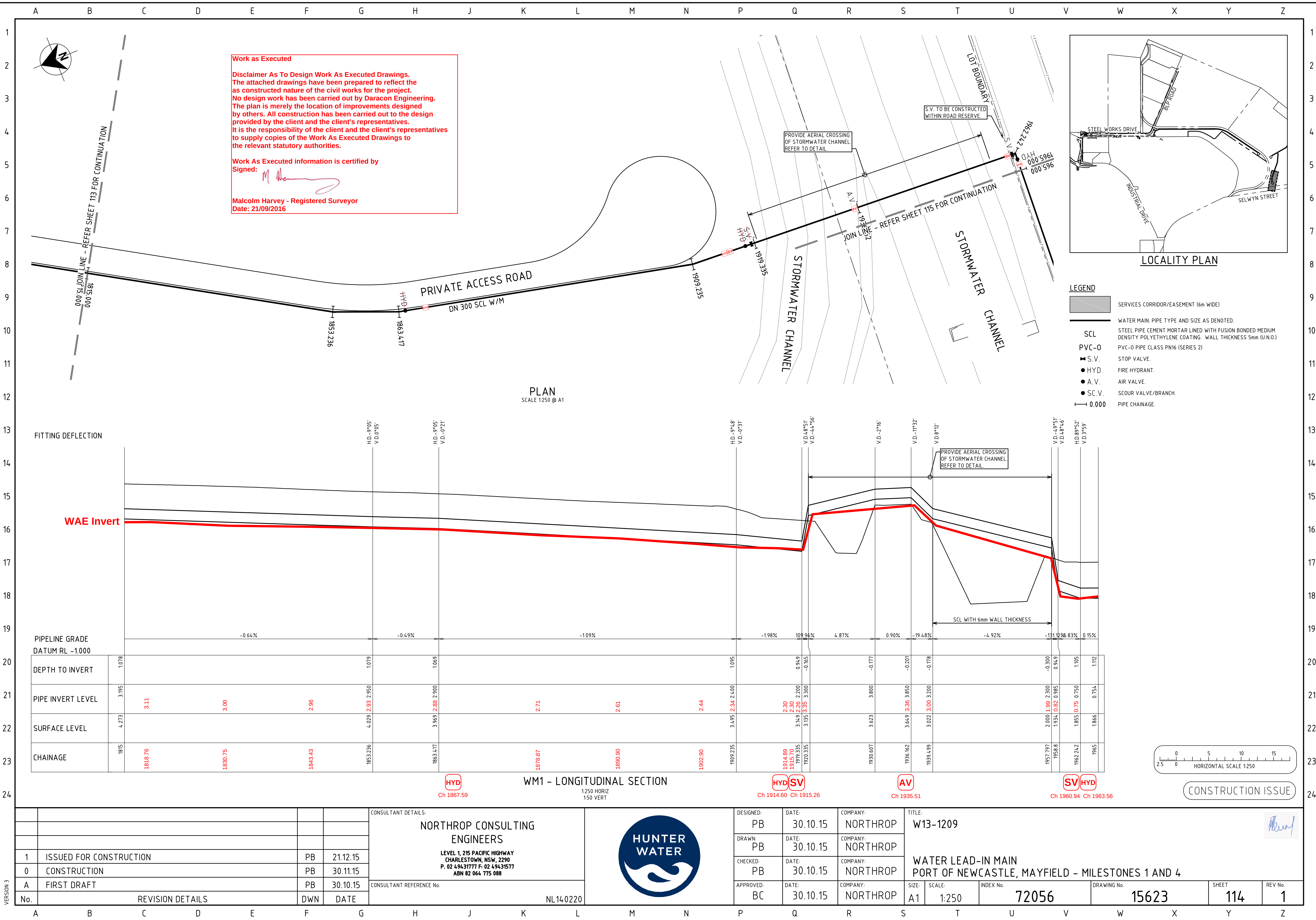


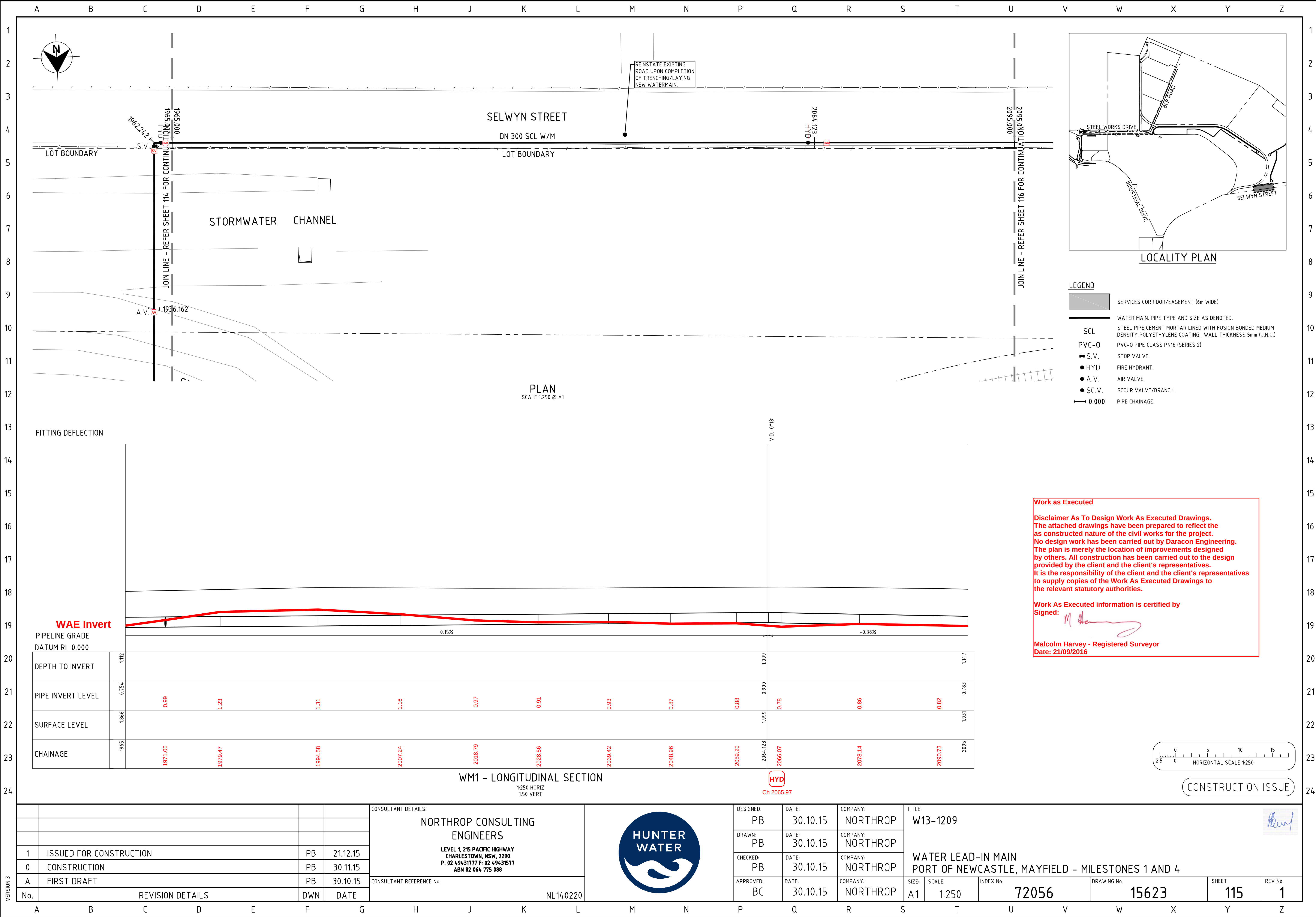


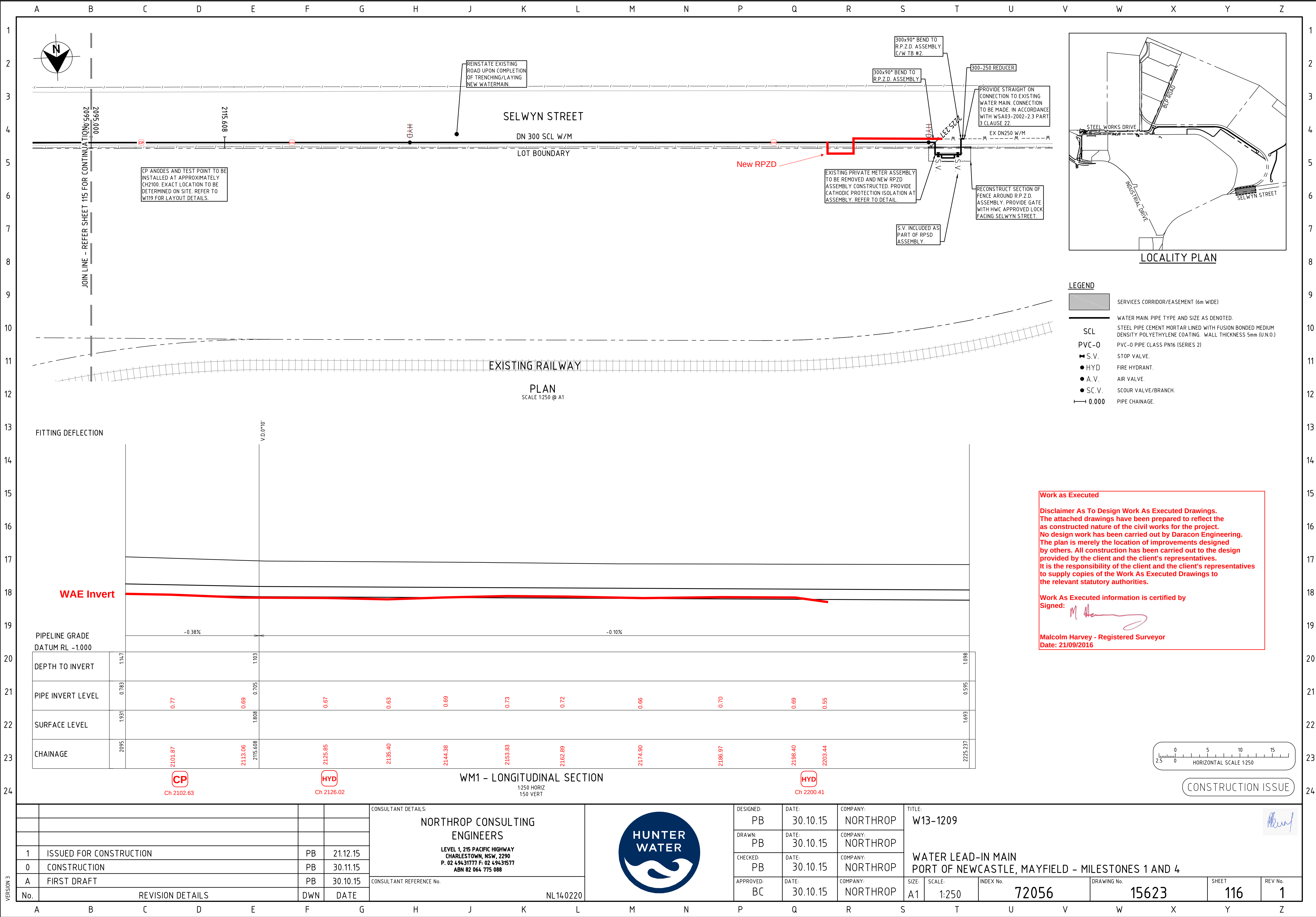














- SADDLE/ANCHOR BLOCK NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTES OTHERWISE.
 2. BASE AREA ASSUMES A MINIMUM SOIL BEARING PRESSURE OF 100mPa.
 3. FOUNDATION MATERIAL IS TO BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER TO CONFIRM ASSUMED SOIL BEARING PRESSURE AND STABILITY.



Work as Executed

Disclaimer As To Design Work As Executed Drawings.
The attached drawings have been prepared to reflect the as constructed nature of the civil works for the project. No design work has been carried out by Daracon Engineering. The plan is merely the location of improvements designed by others. All construction has been carried out to the design provided by the client and the client's representatives. It is the responsibility of the client and the client's representatives to supply copies of the Work As Executed Drawings to the relevant statutory authorities.

Work As Executed information is certified by
Signed: _____

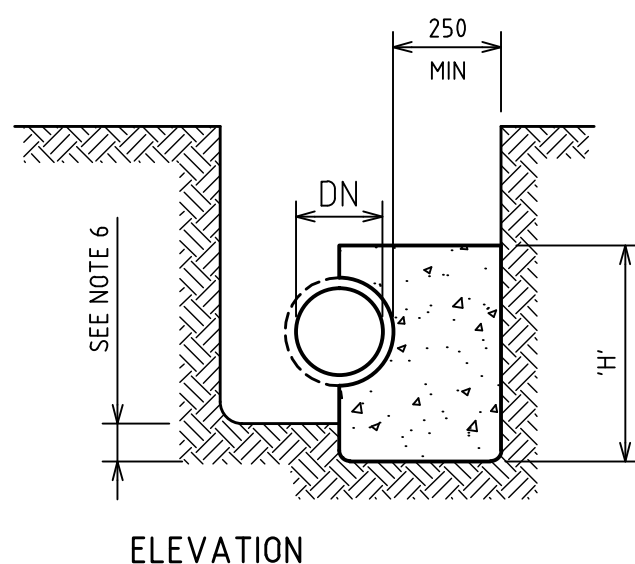
Malcolm Harvey - Registered Surveyor
Date: 21/09/2016

				CONSULTANT DETAILS: NORTHROP CONSULTING ENGINEERS LEVEL 1, 215 PACIFIC HIGHWAY CHARLESTOWN, NSW, 2290 P. 02 49431777 F: 02 49431577 ABN 82 064 775 088	HUNTER WATER	DESIGNED:	DATE:	COMPANY:	TITLE: W13-1209							
						PB	30.10.15	NORTHROP								
						DRAWN:	DATE:	COMPANY:								
1	ISSUED FOR CONSTRUCTION	PB	21.12.15			CHECKED:	DATE:	COMPANY:	WATER LEAD-IN MAIN PORT OF NEWCASTLE, MAYFIELD - MILESTONES 1 AND 4							
0	CONSTRUCTION	PB	30.11.15			PB	30.10.15	NORTHROP	APPROVED:	DATE:	COMPANY:	SIZE:	SCALE:	INDEX No.	DRAWING No.	
A	FIRST DRAFT	PB	30.10.15	CONSULTANT REFERENCE No.			BC	30.10.15	NORTHROP	A1		72056	15623	117	1	
No.	REVISION DETAILS	DWN	DATE			NL140220										

1. CONCRETE THRUST BLOCKS ARE TO BE PROVIDED FOR ALL FITTINGS IN ACCORDANCE WITH THE TABLE BELOW.
2. THRUST BLOCK DIMENSIONS ARE BASED ON THE MINIMUM ALLOWABLE HORIZONTAL BEARING PRESSURES OF THE SOIL AS SHOWN. IF GROUND CONDITIONS ENCOUNTERED INDICATE THAT THESE BEARING PRESSURES MAY NOT BE ACHIEVED THRUST BLOCK DESIGN TO BE REVISED.
3. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
4. CAST THE THRUST AREA OF ALL THRUST BLOCKS AGAINST A CLEAN FACE OF UNDISTURBED NATURAL SOIL. THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES.
5. THE NOMINAL THRUST AREA 'N' TO BE ACHIEVED BY POURING CONCRETE THE FULL LENGTH OF THE FITTING AND EXTENDING FROM THE FLOOR OF THE TRENCH TO ABOVE THE FITTING (SEE ALSO NOTE 6).
6. FINISH THRUST BLOCKS APPROXIMATELY 100 ABOVE THE TOP OF THE FITTING OR BEARING PAD AND EXTEND TO THE FLOOR OF THE TRENCH OR DEEPER IF NECESSARY TO ACHIEVE THE REQUIRED THRUST AREA. MAXIMUM ENCASEMENT TO BE 180°.
7. WHEN POURING CONCRETE AGAINST FITTINGS PLACE A MEMBRANE OF POLYETHYLENE, PVC OR FELT BETWEEN THE FITTING AND CONCRETE TO PREVENT DAMAGE TO THE FITTING. JOINTS TO BE CLEAR OF CONCRETE.
8. CONCRETE THRUST BLOCKS TO BE GRADE S25 USING CEMENT TYPE "SR" TO A53972. CONCRETE TO BE WEATHERED.
9. CONCRETE THRUST BLOCKS ARE TO BE CURED FOR A MINIMUM OF 7 DAYS BEFORE BEING SUBJECTED TO ANY THRUST LOAD.
10. REFER TO WAT-1205-V FOR GENERAL FITTING THRUST BLOCK ARRANGEMENTS
11. REFER TO WAT-1207-V FOR GENERAL VALVE THRUST BLOCK ARRANGEMENTS.

DESIGN AHBP - 50 mPa
DESIGN STP - 1000 KPa

xN - DENOTES NOMINAL THRUST AREA, REFER NOTES 5 AND 6.
xW - DENOTES NOMINAL TRENCH WIDTH.
xSV - THRUST AREA TO BE ACHIEVED IN ACCORDANCE WITH STOP VALVE THRUST BLOCK DETAILS.



CORROSION PROTECTION AS REQUIRED

250 MIN

DN

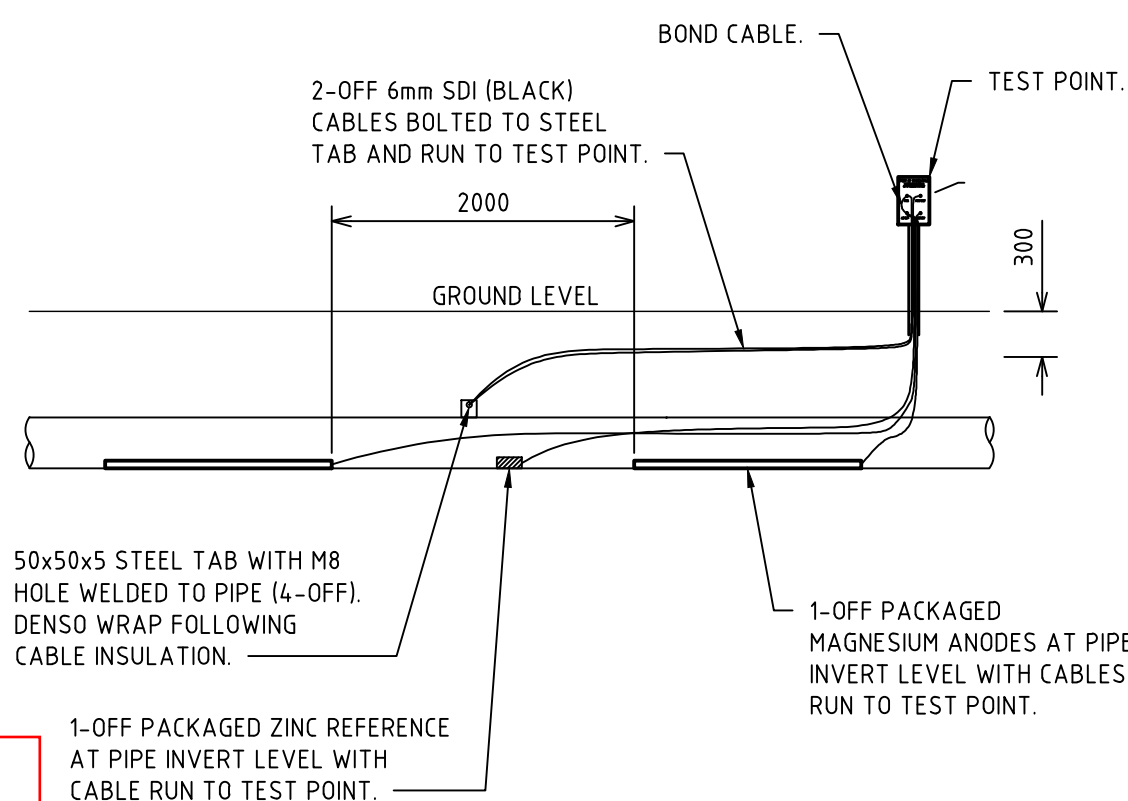
1.1m

SEE NOTE 6

ELEVATION

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Malcolm Harvey - Registered Surveyor
Date: 21/09/2016



REFER TO CORROSION CONTROL ENGINEERING'S PORT OF
NEWCASTLE, MAYFIELD - WATER LEAD-IN MAIN: CATHODIC
PROTECTION SYSTEM DESIGN REPORT FOR ADDITIONAL
MATERIAL AND CONSTRUCTION SPECIFICATIONS.

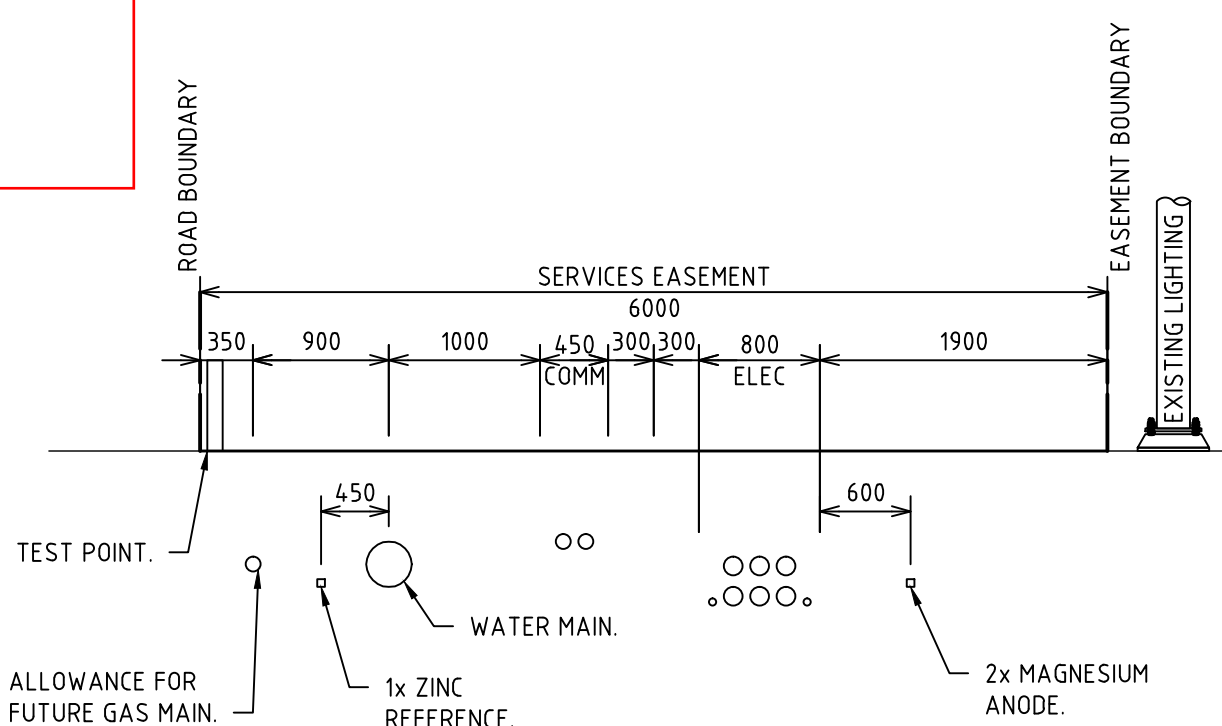
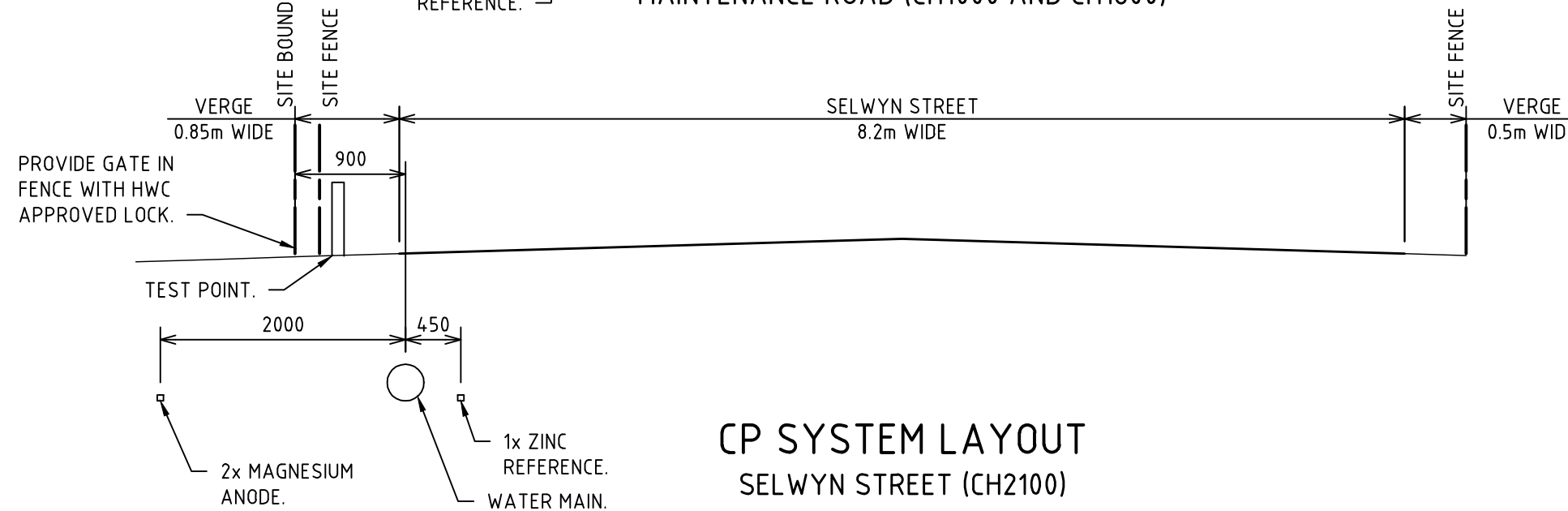


Diagram illustrating the CP SYSTEM LAYOUT for a 4m wide MAINTENANCE ROAD (CH1000 AND CH1800).

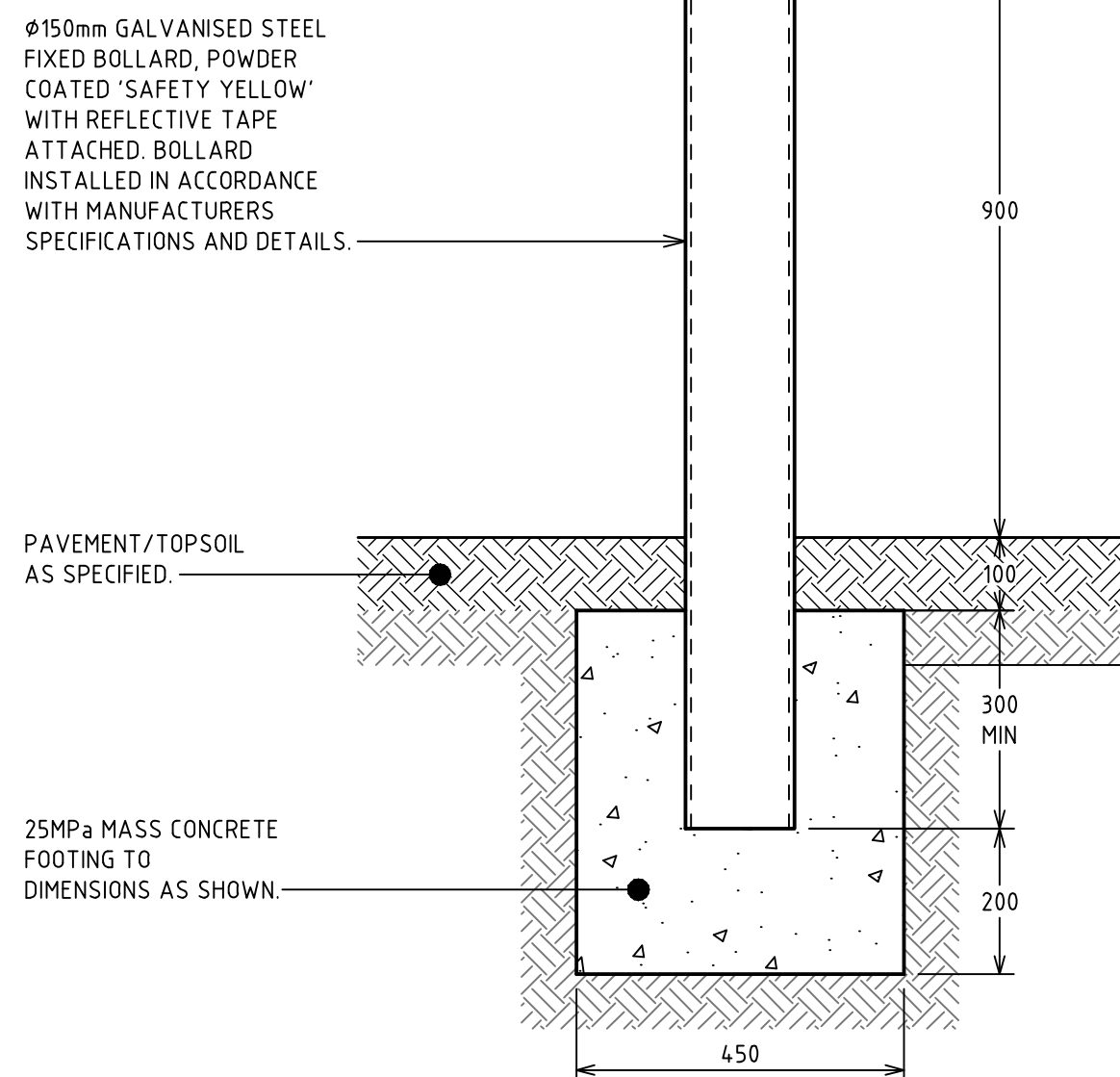
The layout shows the following dimensions and components:

- SERVICE EASEMENT:** 2500mm total width, divided into 750mm ELEC (Electrical) and 450mm COMM (Communication) zones.
- MAINTENANCE ROAD:** 4m wide.
- TEST POINT:** Located 450mm from the start of the road.
- 1x ZINC REFERENCE:** Located near the test point.
- WATER MAIN:** Indicated by a circle symbol.
- 2x MAGNESIUM ANODE:** Located at the end of the road.

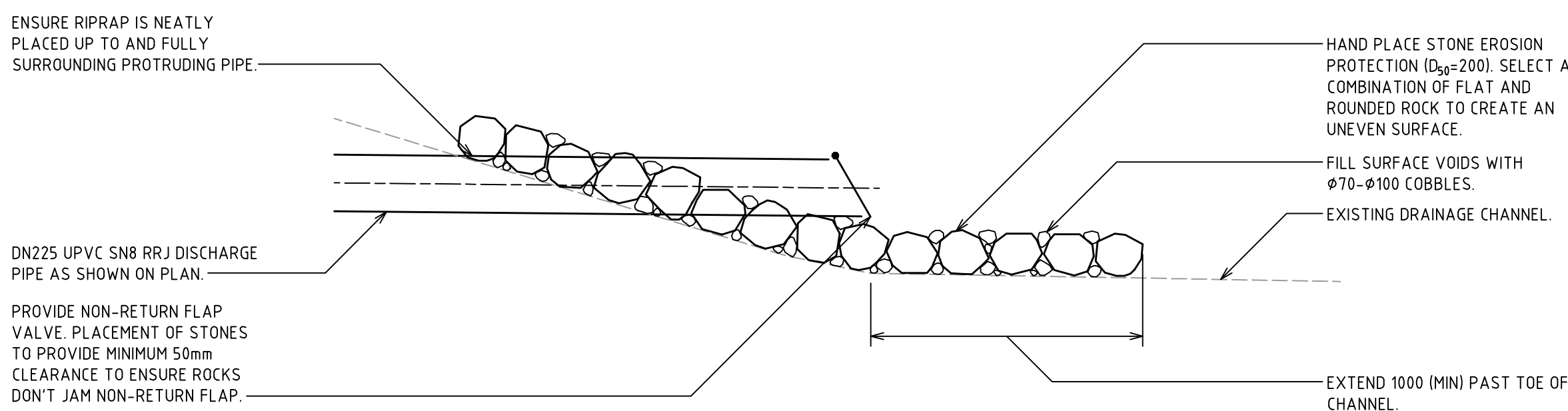
CP SYSTEM LAYOUT



CP SYSTEM LAYOUT
SELWYN STREET (CH2100)



BOLLARD DETAIL



SECTION
DISCHARGE PIPE ENERGY DISSIPATION DETAIL

Plot Date: 07/01/16 - 16:50 Cad File: Y:\YEAR 2014 Jobs\NL140220\0 - Drawings\CIVIL\HWC\ MILESTONES 1 & 4\NL140220 W200-DETAILS.dwg

MAYFIELD SITE INFRASTRUCTURE

PORT OF NEWCASTLE

HYDRAULIC SERVICES



Work as Executed

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Work As Executed information is certified by Signed: 

Malcolm Harvey - Registered Surveyor
Date: 21/09/2016

NOTE: THE ENTIRE PLUMBING INSTALLATION IS TO COMPLY WITH THE FULL REQUIREMENTS OF THE LOCAL REGULATORY AUTHORITY, A.S.3500, THE NEW SOUTH WALES CODE OF PRACTICE FOR PLUMBING AND DRAINAGE AND THE BUILDING CODE OF AUSTRALIA.

NOTE: THE PLUMBING CONTRACTOR MUST VISIT THE SITE DURING THE TENDERING PERIOD IN ORDER TO FAMILIARISE THEMSELVES WITH EXISTING SITE CONDITIONS AND MAKE THE NECESSARY ALLOWANCE FOR SUCH IN THE TENDER.

NOTE: THE TENDERER MUST READ THIS DRAWING IN CONJUNCTION WITH THE PROJECT DRAWINGS FROM THE ARCHITECT.

NOTE: THE NOMINAL SIZES OF PIPELINES NOTED ON THE DRAWING ARE BASED ON STANDARD COPPER PIPELINE INTERNAL BORES. IN THE EVENT OF AN ALTERNATIVE PIPELINE MATERIAL BEING ACCEPTED BY THE SUPERINTENDENT, IT IS THE PLUMBING CONTRACTORS RESPONSIBILITY TO ENSURE THAT AN EQUIVALENT INTERNAL PIPELINE BORE IS INSTALLED IN ACCORDANCE WITH TABLE 1.1 OF AS 3500.1.

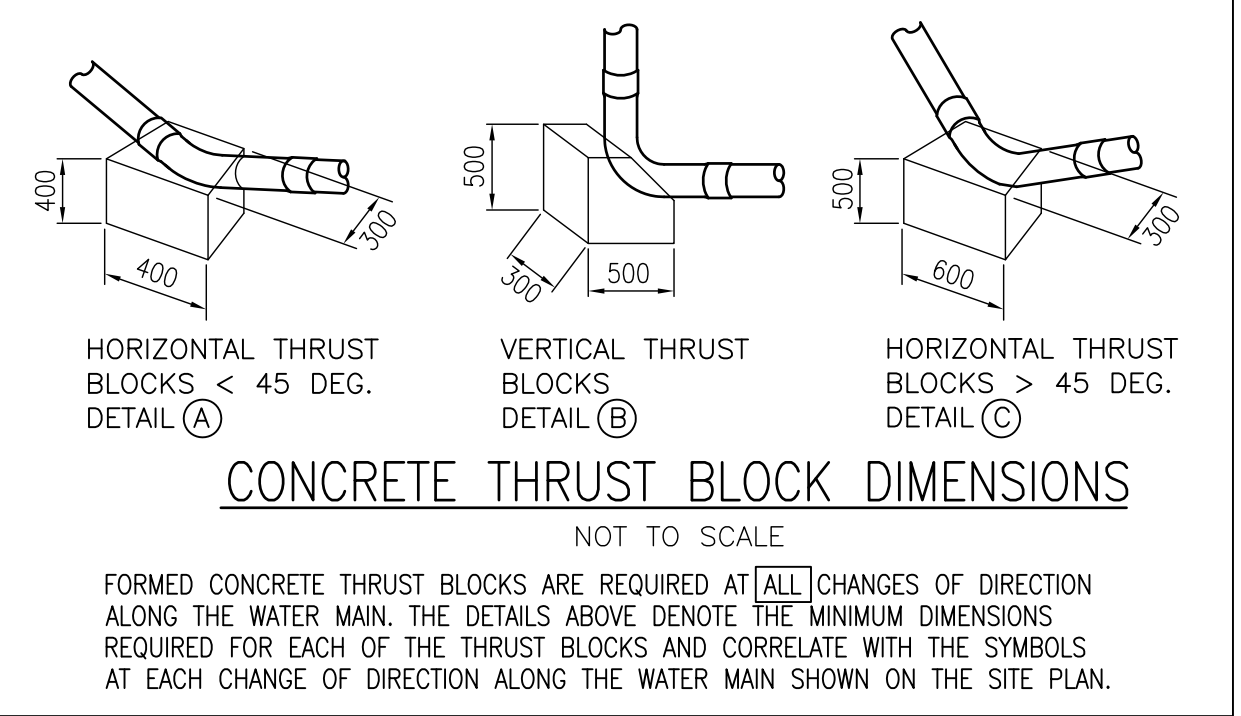
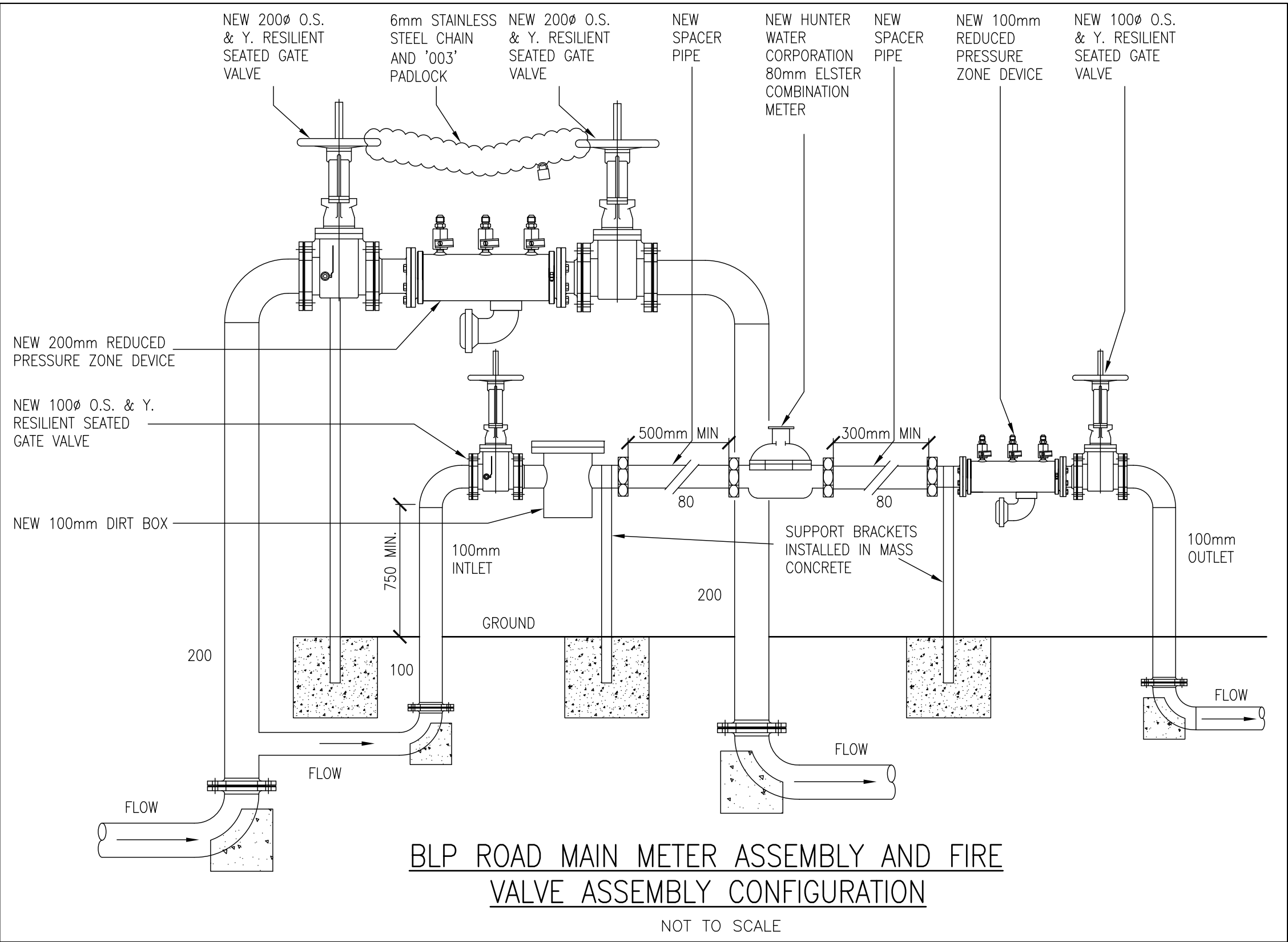
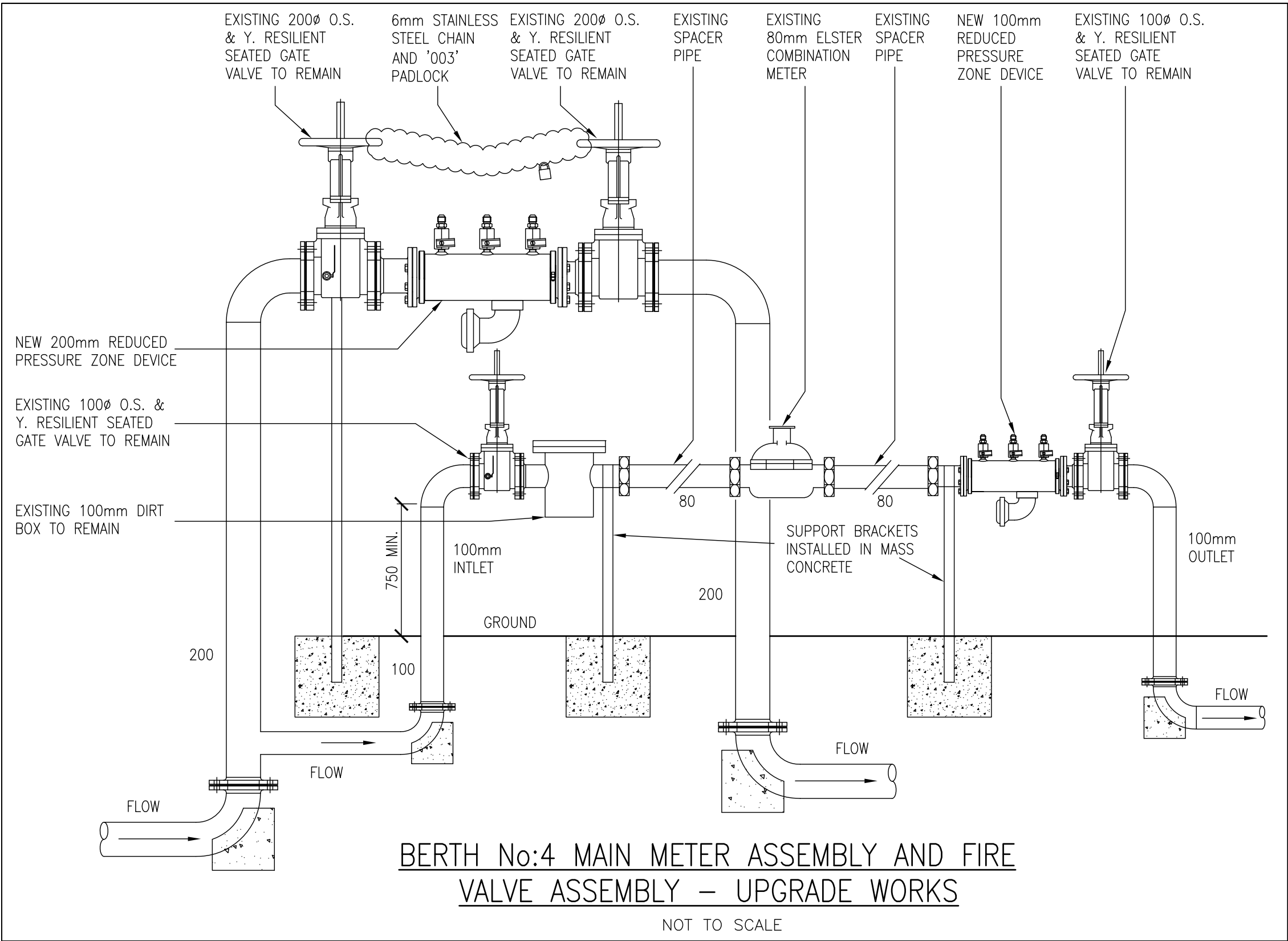
NOTES: COLD WATER

- 1) COORDINATE THE INSTALLATION OF COLD WATER SUPPLY WITH OTHER SERVICES
- 2) PIPEWORK PASSING THROUGH CONCRETE SLABS OR PATHS SHALL BE INSTALLED WITH AN ANNULAR SPACE OF 6mm FOR THE FULL DEPTH OF SLAB PENETRATION.
- 3) INGROUND PIPEWORK IS TO BE ENCASED IN CLEAN FILL SAND WITH DETECTABLE MARKER TAPE LAID OVER.
- 4) CONTRACTORS ARE TO ALLOW FOR ALL BENDS, OFFSETS, RISERS AND DROPPERS TO ALL OF THE PIPEWORK NECESSARY TO ACHIEVE A FULLY FUNCTIONING, COORDINATED COMPLIANT INSTALLATION.
- 5) ALL PIPELINES TO BE TESTED TO AS 3500 REQUIREMENTS.

NOTES: FIRE SERVICES

- 1) USE 45° BENDS IN LIEU OF 90° BENDS IN MAIN PIPELINES.
- 2) THRUST BLOCKS ARE TO BE INSTALLED BEHIND ALL BENDS AND TEES.
- 3) PIPEWORK INSTALLED INGROUND IS TO BE ENCASED IN CLEAN FILL SAND. LAY DETECTABLE MARKER TAPE OVER.
- 4) ALL FLANGES NUTS AND BOLTS INSTALLED INGROUND ARE TO BE WRAPPED WITH DENSOTAPE, PLASTIC WRAPPING AND SEALED WATERTIGHT.
- 5) CONTRACTORS ARE TO ALLOW FOR ALL BENDS, OFFSETS, RISERS AND DROPPERS TO ALL OF THE PIPEWORK NECESSARY TO ACHIEVE A FULLY FUNCTIONING, COORDINATED COMPLIANT INSTALLATION.
- 6) COORDINATE THE INSTALLATION OF FIRE HYDRANT SERVICE WITH OTHER SERVICES.
- 7) INCLUDE ALL PIPING, FITTINGS, VALVES, CONTROL EQUIPMENT AND OTHER ANCILLARY ITEMS OF EQUIPMENT NECESSARY FOR A FULLY FUNCTIONING, COORDINATED COMPLIANT INSTALLATION.
- 8) WHERE LOCATED IN AN ABOVE GROUND SITUATION, THE SERVICE SHALL BE CONSTRUCTED OF GALVANISED MILD STEEL PIPING. TYPE B COPPER OR BLUE BRUTE PN20 TO AS1432 SHALL BE USED INGROUND OR AS SPECIFIED.
- 9) PIPEWORK PASSING THROUGH CONCRETE SLABS OR PATHS SHALL BE INSTALLED WITH AN ANNULAR SPACE OF 6mm FOR THE FULL DEPTH OF SLAB PENETRATION.
- 10) PIPEWORK PASSING THROUGH FIRE RATED WALLS, FLOORS, CEILING VOIDS AND WHERE REQUIRED IS TO BE FIRE RATED TO AS4072 OR AS SPECIFIED
- 11) ALL PIPELINES TO BE TESTED TO AUSTRALIAN STANDARDS REQUIREMENTS.

LEGEND	
PIPELINES	SYMBOLS
— EC — EC — EC — COLD WATER — EXISTING	— PIPEWORK DROPPER
— C — C — C — COLD WATER — NEW	— LINE CAP
— EF — EF — EF — FIRE HYDRANT SUPPLY — EXISTING	— ISOLATION VALVE
— F — F — F — FIRE HYDRANT SUPPLY — NEW	— MAIN METER ASSEMBLY
— X — X — X — REDUNDANT PIPELINE	— SLUICE VALVE
	— THRUST BLOCK



GENERAL NOTES:

1. THE DRAWING ISSUED IS DIAGRAMMATIC. DO NOT SCALE. USE FIGURED DIMENSIONS ONLY. REFER TO ARCHITECTURAL DRAWINGS WHERE APPROPRIATE FOR EXACT LOCATION OF FIXTURES, DUCTS AND THE LIKE. THE DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DOCUMENTS FORMING THE PROJECT DOCUMENTATION PACKAGE.
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REV	DATE	AMENDMENT
3	18/12/15	FOR APPROVAL
2	14/12/15	FOR FINAL REVIEW
1	15/05/15	FOR APPROVAL



BASE PLAN: NORTHROP CONSULTING ENGINEERS

CLIENT: PORT OF NEWCASTLE

PROJECT: MAYFIELD SITE INFRASTRUCTURE
PORT OF NEWCASTLE
TITLE, LEGEND, NOTES AND DETAIL SHEET

Drawn
L.NOLAN

Design
B.REYNOLDS

Approved
R.McCALLUM

FOR APPROVAL

Scale
N.T.S.

Job No.
1666-311B

DRG. No.
H-01

Size
A1

No. in Set
3

Revision
3

APPROXIMATE LOCATION OF EXISTING DOMESTIC WATER METER AND FIRE HYDRANT BOOSTER ASSEMBLY SERVICING THE 'STOLTHAVEN' SITE. SERVICES TO REMAIN IN THE CURRENT 'COMMUNITY TITLE' CONFIGURATION. (NO NEW WORKS)

NOTE: THE ENTIRE PLUMBING INSTALLATION IS TO COMPLY WITH THE FULL REQUIREMENTS OF THE LOCAL REGULATORY AUTHORITY, A.S.3500, THE NEW SOUTH WALES CODE OF PRACTICE FOR PLUMBING AND DRAINAGE AND THE BUILDING CODE OF AUSTRALIA.

MILESTONE 3: REFER TO INSET 4 ON H-03 FOR FURTHER DETAILS.

EXISTING DN250 FIRE MAIN AND DN125 COLD WATER SERVICE TO REMAIN IN THE 'COMMUNITY TITLE' CONFIGURATION.

MILESTONE 2: CONNECTION TO HUNTER WATER CORPORATION 300mm WATER MAIN. REFER TO INSET 2 ON H-03 FOR FURTHER DETAILS.

EXISTING ABOVE GROUND FIRE AND COLD WATER SERVICES ARE TO BECOME REDUNDANT. THE PIPELINES AND BRACKETING SYSTEM ARE TO BE REMOVED FROM SITE ENTIRELY. CAP PIPELINES AT THE SOURCE PERMANENTLY AS INDICATED.

MILESTONE 4: REFER TO INSET 3 FOR FURTHER DETAILS ON H-03.

Work as Executed

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Malcolm Harvey

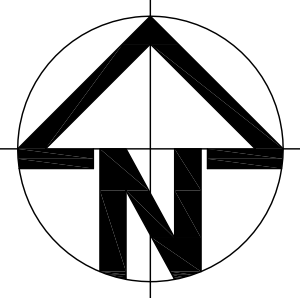
Malcolm Harvey - Registered Surveyor
Date: 21/09/2016

MILESTONE 4: REFER TO INSET 1 ON H-03 FOR FURTHER DETAILS.

1:2500 @A1 0M 125M 250M 375M

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2	14/12/15	FOR FINAL REVIEW
1	15/05/15	FOR APPROVAL
REV	DATE	AMENDMENT



**McCALLUM PFC**
PLUMBING & FIRE CONSULTANTS AUSTRALIA



P.O. Box 96 Charlestown NSW 2290
Email: mccallum@hunterlink.net.au
5/35 Smith Street Charlestown
ACN 098 124 620 ABN 58 098 124 620

BASE PLAN: NORTHROP CONSULTING ENGINEERS

CLIENT: PORT OF NEWCASTLE

PROJECT: MAYFIELD SITE INFRASTRUCTURE
PORT OF NEWCASTLE
SITE PLAN – FIRE AND COLD WATER SERVICE

Drawn

L.NOLAN

Design

B.REYNOLDS

Approved

R.McCALLUM

FOR APPROVAL

Scale

1:2000

Job No.

1666–311B

DRG. No.

H-02

Size

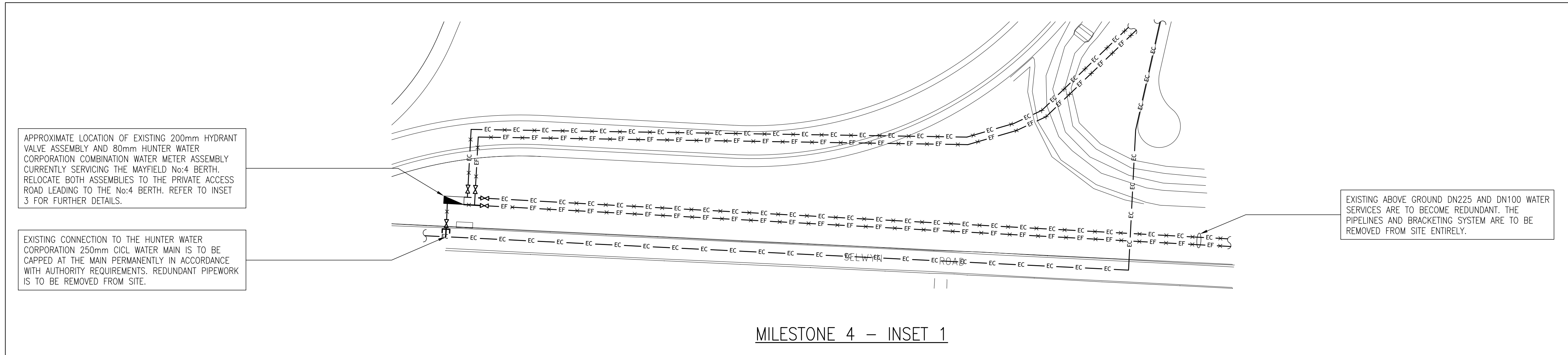
A1

No. in Set

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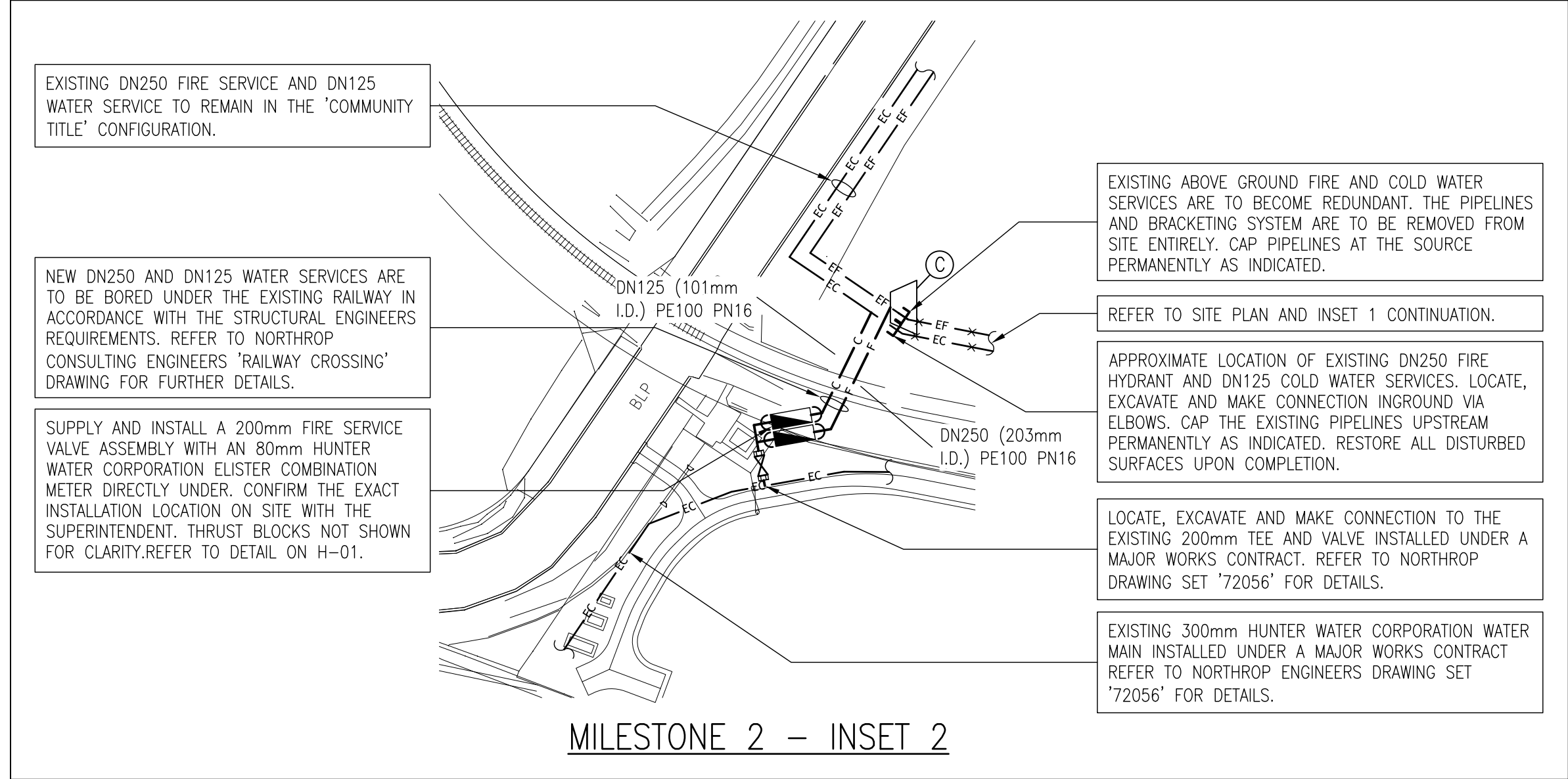
Revision

3



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NOTE: THE PLUMBING CONTRACTOR IS TO MAKE ALLOWANCE IN THE TENDER AMOUNT TO LOCATE ALL EXISTING SERVICES IN THE AREA OF THE PROPOSED WORKS PRIOR TO CARRYING OUT ANY INGROUND WORKS ON THE SITE. THE LOCATION OF SERVICES ARE TO BE LOCATED BY A SUITABLY QUALIFIED CONTRACTOR BY MEANS OF THE USE OF ELECTRONIC DETECTION EQUIPMENT SUITABLE FOR THE TASK. ALL CARE MUST BE TAKEN BY THE PLUMBING CONTRACTOR TO ENSURE THAT EXISTING SERVICES ARE LOCATED AND ADEQUATELY PROTECTED DURING CONSTRUCTION. IF AN EXISTING SERVICE IS DAMAGED AND THE DAMAGE IS A RESULT OF THE PLUMBING CONTRACTORS OWN ACTIONS, THE PLUMBING CONTRACTOR IS TO REPAIR OR ARRANGE TO REPAIR THE SERVICE AND PAY ALL ASSOCIATED COSTS FOR THE REPAIR.

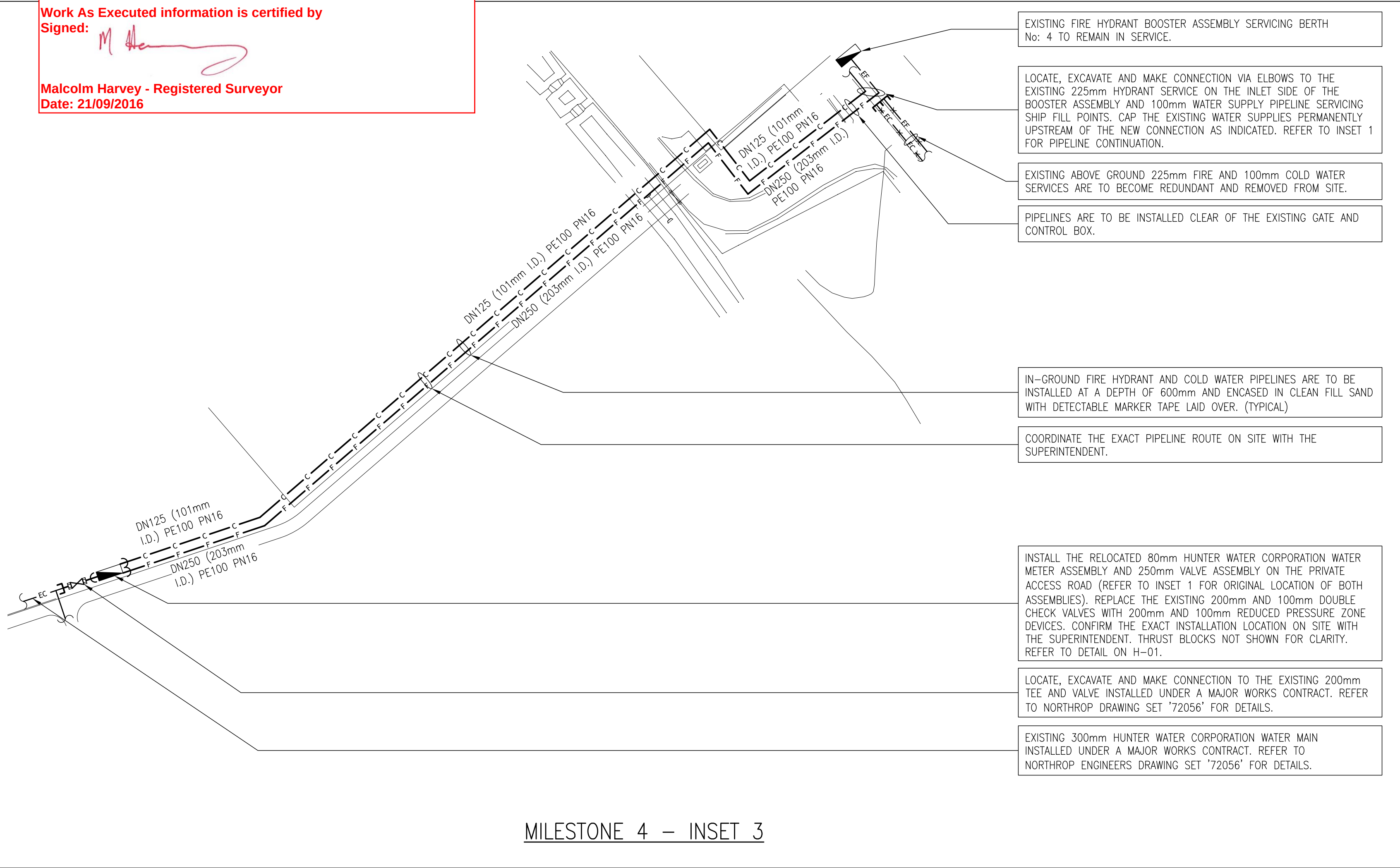
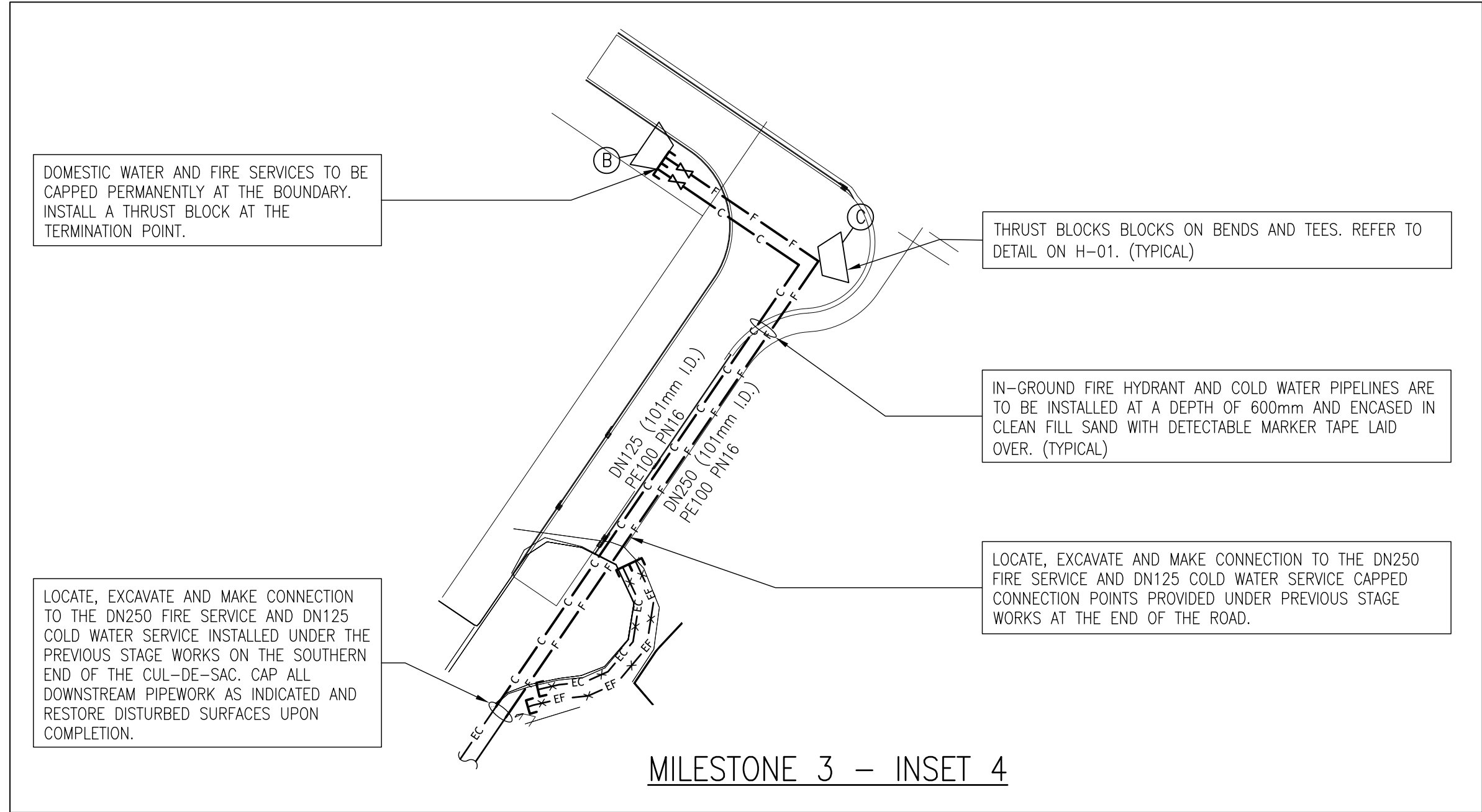


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Work As Executed information is certified by
Signed:

Malcolm Harvey - Registered Surveyor
Date: 21/09/2016

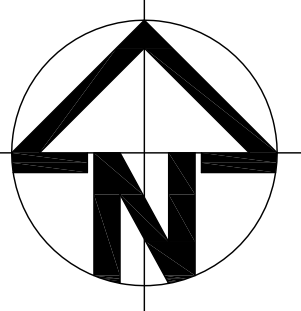


1:1000 @A1

0M 50M 100M 150M

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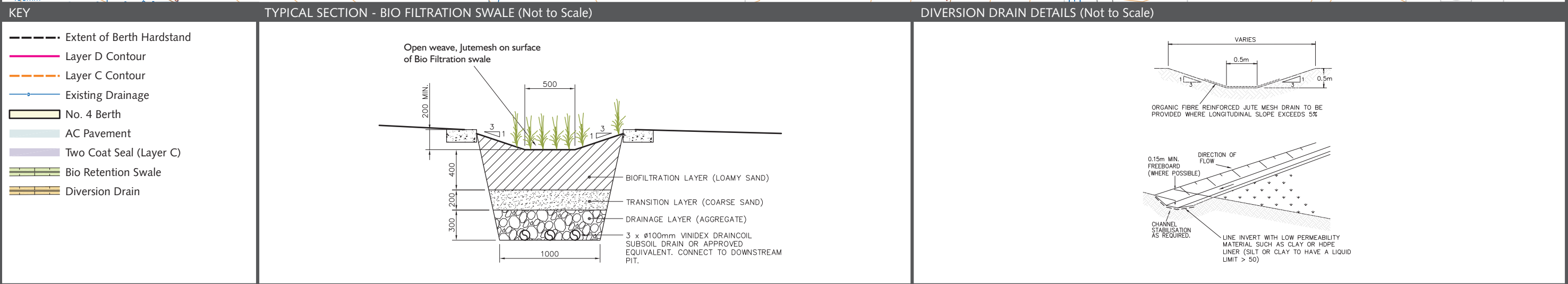
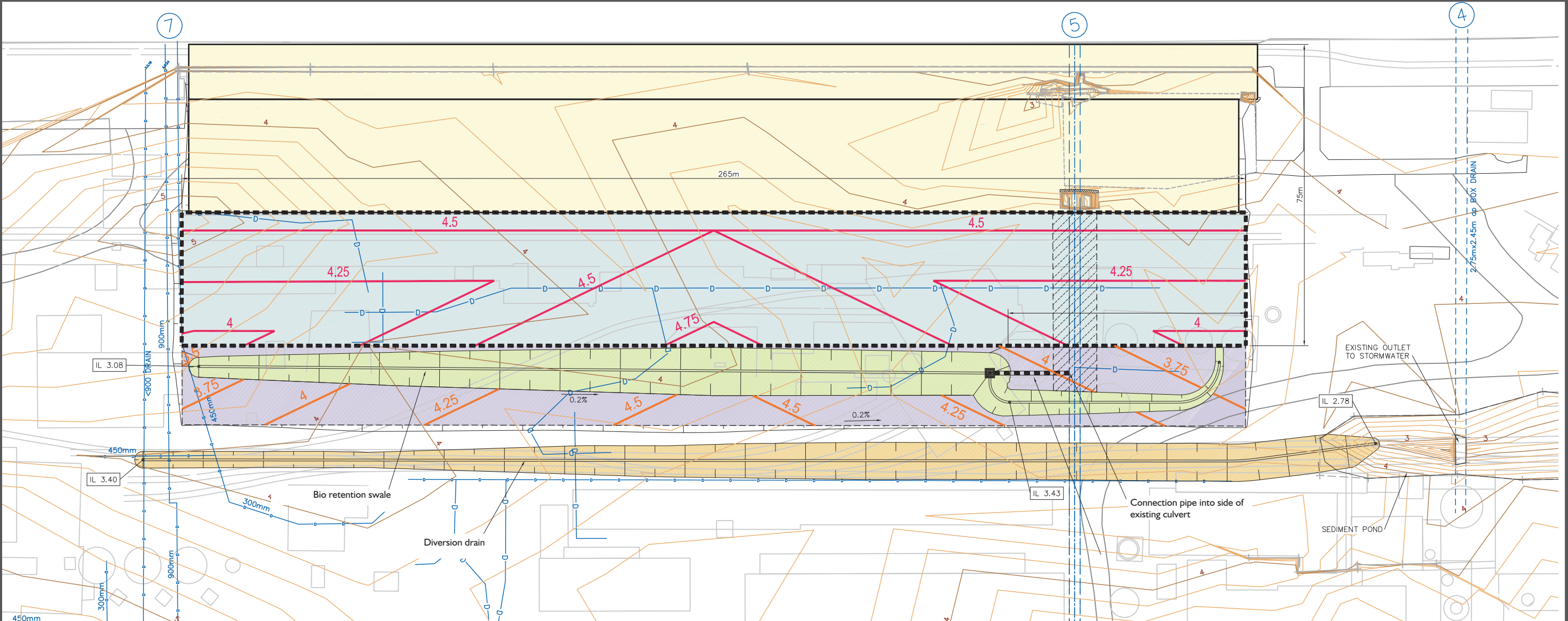
3	18/12/15	FOR APPROVAL
2	14/12/15	FOR FINAL REVIEW
1	15/05/15	FOR APPROVAL
REV	DATE	AMENDMENT



BASE PLAN:	NORTHROP CONSULTING ENGINEERS
CLIENT:	PORT OF NEWCASTLE
PROJECT:	MAYFIELD SITE INFRASTRUCTURE PORT OF NEWCASTLE INSET – FIRE AND COLD WATER SERVICES

Drawn L.NOLAN	FOR APPROVAL		Size A1
Design B.REYNOLDS	Scale 1:1000	Job No. 1666-311B	No. in Set 3
Approved R.McCALLUM	DRG. No. H-03	Revision 3	

Figure F5: Stormwater Management System



ENVIRONMENT

PROJECT ID S7010201
CREATED BY TO
LAST MODIFIED TO 20 10 2009
www.aecom.com



Drawing Source:
Worley Parsons (DWG 7400-09 Issue D, (06/08/08) and
Worley Parsons (DWG 7400-15 Issue D, (06/08/08)

Mayfield Berth No. 4 Stormwater Management System

Newcastle Port Corporation
Operational Environmental Management Plan
Mayfield

Figure
F5

AECOM does not warrant the accuracy or completeness of information displayed in this map and any person using it does so at their own risk. AECOM shall bear no responsibility or liability for any errors, faults, defects, or omissions in the information.

APPENDIX A – CONDITIONS OF CONSENT

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979

INTEGRATED STATE SIGNIFICANT DEVELOPMENT DETERMINATION OF DEVELOPMENT APPLICATION PURSUANT TO SECTIONS 76A(9) & 80(4)

I, the Minister for Urban Affairs and Planning, pursuant to Sections 76A(9) & 80(4) of the Environmental Planning and Assessment Act, 1979 ("the Act") and Clause 8 of State Environmental Planning Policy No.34 – Major Employment Generating Industrial Development determine the development application ("the application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are to:

- (i) minimise the adverse impact the development may cause through impacts on water quality, air quality, noise and visual disturbance, heritage conservation and soil and groundwater contamination; and,
- (ii) provide for environmental monitoring and reporting of the future performance of the development.

This consolidated instrument includes modifications approved:

1. under section 96(1) on 29 June 2001 – DA 293-08-00-M1;
2. under section 96(1) on 13 August 2001 – DA 293-08-00-M2;
3. under section 96(1A) on 15 February 2002 – DA 293-08-00-M3;
4. under section 96(1A) on 16 September 2003 – MOD-77-7-2003-i;
5. under section 96(1A) on 15 September 2005 – MOD-60-4-2005-i;
6. under section 96(1A) on 21 August 2007 – MOD-64-7-2007-i;
7. under section 96(2) on 21 November 2008 – MOD-56-7-2008;
8. under section 96(1A) on 30 March 2009 – MOD-06-02-2009 (amendments in red type); and
9. under section 75W on 29 August 2013 – DA 293-08-00 MOD 9 (amendments in blue type).

Andrew Refshauge MP
Minister for Urban Affairs and Planning,

Sydney, 6 April 2001

File No. S99/00601

Schedule 1

Application made by: Broken Hill Proprietary Company Limited
Selwyn Street, Mayfield NSW 2034

To: The Minister for Urban Affairs and Planning
(DA 293-08-00)

In respect of: Land described as the "Closure Area" being Lot 221 DP 1013964, Industrial Drive, Mayfield.

Note: the "Closure Area" is now known as Lot 33 DP1116571. Part of this area (Direct Port Industry Precinct) is owned by the Newcastle Port Corporation and the remainder, by the Hunter Development Corporation.

For the following:	Stage 1, being the remediation of the Closure Area, including the demolition and removal of structures and the development of a Multi-Purpose Terminal comprising a container terminal and a general cargo handling facility and associated road, rail and wharf infrastructure and dredging of the South Arm of the Hunter River.
Development Application:	Development Application (DA) No. 293-08-00, lodged with the Department of Urban Affairs and Planning on 5 September 2000, accompanied by the Environmental Impact Statement prepared by URS Corporation, dated August 2000.
State Significant Development	In accordance with section 76A(7)(b)(iii) of the EP&A Act , by notice in the Gazette, the Minister for Urban Affairs and Planning has declared the proposal to be State Significant Development.
Integrated Development:	The proposed development requires separate approvals from the Environment Protection Authority under the <i>Protection of the Environment Operations Act 1997</i> , The NSW Waterways Authority under the <i>River and Foreshores Improvement Act 1948</i> and the Roads and Traffic Authority under the <i>Roads Act 1993</i> . It is therefore classified as Integrated Development Under Section 91 of the EP&A Act.
BCA Classification:	Class 5 – administration building, quarantine/customs building Class 8 - workshop Class 10(b) – wharf structures, pavements, truck/trailer marshalling area, car parking areas, access roads, fences, rail infrastructure, fuel depot,
NOTE:	1) To ascertain the date upon which the consent becomes effective, refer to section 83 of the Act. 2) To ascertain the date upon which the consent is liable to lapse, refer to section 95 of the Act. 3) Section 97 of the Act confers on Proponents who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of notice.

SCHEDULE 2

CONDITIONS OF DEVELOPMENT CONSENT

DEFINITIONS

ANZECC	Australian and New Zealand Environment Conservation Council
Council	Newcastle City Council
DA	Development Application
DLWC	The Department of Land and Water Conservation
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environment Protection Authority
GTA	General Terms of Approval
L _{AEQ15min}	Average noise level, when measured over a 15 minute period.
MPT	Multi-Purpose Terminal
M	Metres
The Act	Environmental Planning and Assessment Act 1979
The Applicant	BHP Limited
The Department	The Department of Urban Affairs and Planning
The Director-General	The Director-General of the Department of Urban Affairs and Planning, or her delegate
The Regulation	Environmental Planning and Assessment Regulation 1994

1. STAGED DEVELOPMENT

- 1.1 Under Section 80(4) of the Act, this consent applies to Stage 1 of the development, as described in Schedule 1, only.
- 1.1A The approval for the General Cargo Handling Facility granted under **MOD-56-7-2008** shall operate for a maximum period of ten years from the date of this modification, or as otherwise agreed to by the Director-General.
- 1.1B At five yearly intervals following commencement of operation of the General Cargo Handling Facility, the applicant shall submit a report to the Director-General on the need or otherwise for the General Cargo Handling Facility to be retained on site and to remain operational. The report must include supporting justification.
- 1.2 Under Section 80(5) of the Act, the Applicant will require a further consent from the Minister for Stage 2 of the development.

Note: A consent granted in accordance with Condition 1.2 does not require a further development application under section 78A of the Act. However the Applicant shall submit further detailed information, as required by the Director-General and the Integrated Approval Bodies at that time. The Director-General shall consult with any relevant authorities and consider any submissions before Stage 2 of the development is determined.

2. GENERAL

Obligation to Minimise Harm to the Environment

- 2.1 ¹The Applicant must implement all practicable measures to prevent or minimise any harm to the environment that may result from the construction, operation, and where relevant, the decommissioning of the development.

Terms of Approval

- 2.2 The Applicant shall carry out the development generally in accordance with the:
- (a) **Development application DA-293-08-00** submitted to the Department of Urban Affairs and Planning, accompanied and amended by:
 - (i) the letter from the Applicant to the Director-General, dated 28 September 2000, specifically excluding Stage 2 and all works;
 - (ii) Environmental Impact Statement, titled "Development of a Multi-Purpose Terminal and Remediation of the Closure Area, BHP Newcastle Steelworks" dated 11 August 2000, and prepared by URS Corporation Volumes 1 – 3;
 - (iii) Additional information supplied to the Environment Protection Authority by URS Corporation including:
 - Development of a Multi-Purpose Terminal and Remediation of the Closure Area, BHP Newcastle Steelworks Environmental Impact Summary Document;
 - "Response to EPA Request for Additional Information – Air Quality Issues, BHP Newcastle Steelworks Development", prepared for BHP Newcastle, 11 November 2000;
 - "Response to EPA Request for Additional Information – Noise Issues, BHP Newcastle Steelworks Development", prepared for BHP Newcastle, 14 November 2000.
 - (iv) The document titled *Proposed Multi-Purpose Terminal Consequence Analysis for URS*, prepared by Quest Consulting Engineers Pty Ltd and dated February 2001;
 - (b) **Modification application DA-293-08-00-M1**, approved on 29 June 2001, in relation to the timing of establishment of a Community Consultative Committee;
 - (c) **Modification application DA-293-08-00-M2**, approved on 13 August 2001, in relation to excision of heritage areas from the development area;
 - (d) **Modification application DA-293-08-00-M3**, approved on 15 February 2002, in relation to protection of fig trees and noise monitoring requirements;
 - (e) **Modification application MOD-77-7-2003-i**, approved on 16 September 2003, in relation to the burial of Blast Furnace No.1 slag stump, accompanied and amended by:
 - (i) the letter, titled *BHP Newcastle Development of a Multi-Purpose Terminal and Closure Area Remediation – Development Application DA 293-08-00. Your File S99/00601 – Condition 6.1 – Item 1, Remnants of No.1 Blast Furnace*, prepared by BHP Billiton and dated 23 April 2003, relating to the modifications to the consent;
 - (ii) the letter, titled *BHP Steelworks Newcastle, Burial of Heritage Structure (No. 1 Blast Furnace Stump) – Development Consent Condition 6.1 DA 293-08-00. Your Ref S99/00601*, prepared by BHP Billiton Ltd and dated 8 June 2003, relating to the modifications to the consent;

¹ EPA GTA No.1.2

- (iii) the report, titled *BHP Steelworks Newcastle, Burial of Heritage Structure (No. 1 Blast Furnace Stump) – Development Consent Condition 6.1 DA 293-08-00. Your Ref S99/00601*, prepared by BHP Billiton Ltd and dated 2 July 2003, relating to the modifications to the consent;
- (f) **Modification application MOD-60-4-2005-i**, approved on 15 September 2005, in relation to land description, soil capping, hours of operation, groundwater management, stormwater, capping exemptions and transport infrastructure, accompanied by *Application to Vary Development Conditions for the Multi Purpose Terminal and Remediation of the Former BHP Site, Mayfield (2001)*, prepared by URS Australia Pty Ltd and dated 19 April 2005; and
- (g) **Modification application MOD-64-7-2007-i**, approved on 21 August 2007, in relation to alteration of the alignment of the railway lines and relocation of two major stormwater drainage lines on the site, accompanied and amended by:
 - (i) *Application to Vary Development Conditions for the Multi Purpose Terminal and Remediation of the Former BHP Site, Mayfield (2000)*, prepared by the Regional Land Management Corporation Pty Ltd and dated 10 July 2007;
 - (ii) the letter, titled *Remediation Civil Design Works – Main Works Site – Stormwater Analysis* prepared by Patterson Britton & Partners and dated 12 July 2007, relating to the modification to consent;
 - (iii) the report, titled *Preliminary Design Stormwater Strategy Issue No 2* prepared by Patterson Britton & Partners and dated August 2006, , relating to the modification to consent;
 - (iv) the plans, titled *Selwyn Street Drain (Drawing Nos 6073-500, 501 & 502 Issue 1)* prepared by Patterson Britton & Partners; and
- (h) **Modification application MOD-56-7-2008** in relation to the alterations to, and temporary relocation of, the general cargo handling facility, refurbishment of the existing wharf and a change in site access from Crebert Street to Selwyn Street, accompanied and amended by:
 - (i) Section 96 Modification Application, Multi-purpose Terminal and Remediation of former BHP Site, Mayfield, prepared by Connell Wagner Pty Ltd and dated 15 August 2008;
 - (ii) Plans titled *Mayfield Berth Refurbishment Plans* prepared by Patterson Britton & Partners Pty Ltd dated July 2008;
 - (iii) Plans titled *Selwyn Road Upgrade Plans* prepared by Worley Parsons Pty Ltd and dated August 2008; and
 - (iv) The report titled *Traffic Impact Statement, Proposed Interim Port Side Industrial Development, Selwyn Street, Mayfield, NSW* prepared by Better Transport Futures and dated October 2008; and
- (i) **Modification application MOD-06-02-2009** in relation to a minor change to the rail line layout, accompanied and amended by:
 - (i) Section 96 Modification Application, Multi-purpose Terminal and Remediation of the Closure Area, BHP Newcastle Steelworks, submitted by Hunter Development Corporation and dated 12 February 2009; and
 - (ii) *Application to Vary Development Conditions for the Multi Purpose Terminal and Remediation of the Former BHP Site, Mayfield (2000)*, prepared by Hunter Development Corporation dated January 2009; and
- (j) the conditions of this consent.

If there is any inconsistency between the above, these conditions shall prevail.

Restriction on Operations

- 2.3 The Container Terminal must not handle more than 350, 000 containers per annum.

Note: Any increase above 350,000 containers a year will require further assessment under the Act.

Structural Adequacy

- 2.4 Before any construction work starts, the Applicant must obtain a construction certificate for the proposed development from the Principal Certifying Authority.
- 2.5 Before commissioning the development, the Applicant must obtain an occupation certificate for the development from the Principal Certifying Authority.
- 2.6 The applicant shall engage an EPA Accredited Site Auditor to provide to Director-General and the Department of Environment and Climate Change prior to construction of the hardstand area:
- (a) a statement detailing whether the design of the hardstand area complies with the requirements of the relevant consent conditions; and
 - (b) provide a written confirmation that the hardstand area is suitable for its final intended use.

3. COMPLIANCE AND COMPLIANCE REPORTS

- 3.1 Throughout the life of the development, the Applicant must secure, renew, maintain, and comply with all the relevant statutory approvals applying to the development.
- 3.2 The Applicant must ensure that all contractors and sub-contractors are aware of, and comply with, the conditions of this consent and the approved environmental management plans required under the consent (Conditions 4.1 to 4.4.).
- 3.3 At least two weeks before:
- (a) Site preparation works commence (including demolition and or remediation);
 - (b) construction works commence; and
 - (c) Operations commence,

the Applicant must certify in writing to the Director-General that it has obtained all the necessary statutory approvals for, and complied with all the relevant conditions of this consent and/or any other statutory requirements related to each respective component of the development.

4. ENVIRONMENTAL MANAGEMENT PLANS

Contaminated Site Environmental Management Plan

- 4.1 ²Prior to commencing site remediation works the Applicant must prepare an environmental management plan. The management plan must include, but need not be limited to, providing information for employees, contractors, and subcontractors working on the closure area site remediation, Multi-Purpose Terminal, or any other activities on the site of:
- (a) procedures required to maintain the integrity of the capping system;

² EPA GTA No.6.10

- (b) procedures for ensuring that disturbance of any part of the during construction, or any other activities on the site, is rectified to maintain the integrity of the capping system and meet the requirements of Conditions 5.17 and 5.18 are met; and
- (c) legal responsibilities under the *Protection of the Environment Operations Act 1997*.

Site Preparation Environmental Management Plan

4.2 The Applicant must prepare and implement a Site Preparation Environmental Management Plan addressing all demolition and site remediation activities. The management plan must include, but need not be limited to:

- (a) A description of the proposed site preparation works;
- (b) An outline the proposed site preparation work program;
- (c) Identification of all the relevant statutory requirements and conditions of consent that apply to the site preparation phase of the development including legal responsibilities under the *Protection of the Environment Operations Act 1997*;
- (d) Standards and performance measures for each of the relevant environmental matters associated with the site preparation works;
- (e) A Description of what actions and measures will be implemented to mitigate the potential impacts of the site preparation works, and to ensure that these works will comply with the relevant standards and performance measures;
- (f) A detailed description of what measures and procedures will be implemented to:
 - Manage potential pollutants exposed to air, and surface and groundwater during demolition of structures;
 - Manage traffic;
 - Mitigate potential noise impacts;
 - Mitigate potential dust impacts;
 - Mitigate pollution of surface and groundwater;
 - Register and respond to complaints;
 - Ensure the occupational health and safety of workers;
 - Respond to any emergencies; and
 - Respond to the discovery of any archaeological relics or sites during site works.
- (g) An explanation as to how the environmental performance of the site preparation works will be monitored, and what actions will be taken if any non-compliance is detected;
- (h) A description of the role, responsibility, authority, accountability, and reporting of key personnel involved in the site preparation phase of the development;
- (i) The following plans:
 - Contaminated Site Management Plan (Condition 4.1);
 - Site Preparation and Construction Noise Management Plan (Condition 5.8);
 - Soil and Water Management Plan (Condition 5.27);
 - Heavy Vehicle Route Plan (Condition 5.46)
 - Archaeological Management Plan (Condition 6.3).

The plan must be submitted and approved by the Director-General prior to site preparation works commencing.

Construction Environmental Management Plan

- 4.3 The Applicant must prepare and implement a Construction Management Plan for the Multi-Purpose Terminal development. This plan must:
- (a) Describe the proposed construction works;
 - (b) Outline the proposed construction work program;
 - (c) Identify all the relevant statutory requirements and conditions of consent that apply to the construction phase of the development;
 - (d) Set standards and performance measures for each of the relevant environmental matters associated with the construction work;
 - (e) Describe what actions and measures will be implemented to mitigate the potential impacts of the construction works, and to ensure that these works will comply with the relevant standards and performance measures;
 - (f) Describe in detail what measures and procedures will be implemented to:
 - Manage construction traffic;
 - Mitigate any potential dust impacts;
 - Register and respond to complaints during the construction period;
 - Ensure the occupational health and safety of construction workers;
 - Respond to any emergencies; and
 - Respond to the discovery of any archaeological relics or sites during site works.
 - (g) Explain how the environmental performance of the construction works will be monitored, and what actions will be taken if any non-compliance is detected;
 - (h) Describe the role, responsibility, authority, accountability, and reporting of key personnel involved in the construction of the development;
 - (i) Include the following plans:
 - Soil and Water Management Plan (Condition 5.27)
 - Site Preparation and Construction Noise Management Plan (Condition 5.8);
 - Heavy Vehicle Route Plan (Condition 5.46)
 - Landscape Management Plan (Condition 5.47)
 - Contaminated Site Management Plan (Condition 4.1)
 - Archaeological Management Plan (Condition 6.3)

No construction work on the Multi-Purpose Terminal may occur before this plan has been approved by the Director-General.

Operation Environmental Management Plan

- 4.4 The Applicant must prepare and implement an Operation Environmental Management Plan (OEMP) for all future operations of the Multi-Purpose Terminal. This plan must:
- (a) Describe the proposed operations;
 - (b) Identify all the relevant statutory requirements that apply to the operation of the development;
 - (c) Set standards and performance measures for each of the relevant environmental issues;
 - (d) Describe what actions and measures will be implemented to mitigate the potential impacts of the development, and to ensure that the development meets these standards and performance measures;
 - (e) Describe what measures and procedures will be implemented to:
 - Register and respond to complaints;
 - Ensure the operational health and safety of the workers; and
 - Respond to potential emergencies, such as plant failure;

- (f) Describe the role, responsibility, authority, and accountability of all the key personnel involved in the operation of the development;
 - (g) Incorporate the detailed Environmental Monitoring Program (see Condition 8.1); and
 - (h) Include the following:
 - Stormwater Management Plan (condition 5.30);
 - Capping Maintenance Plan (Condition 5.20);
 - Contaminated Site Environmental Management Plan (Condition 4.1); and,
 - Heavy Vehicle Route Plan (Condition 5.46).
- 4.5 The Applicant must ensure that a copy of the OEMP is publicly available.
- 4.6 The Applicant must review and update the OEMP regularly, or as directed by Director-General.
- 4.7 The OEMP must be approved by the Director-General before operations at the MPT can commence.

5. ENVIRONMENTAL STANDARDS AND CONDITIONS

Hours of Site Preparation and Construction

- 5.1 ³All site preparation and construction activities in relation to the MPT must only be conducted between the hours specified below unless otherwise agreed by the Director-General in consultation with the appropriate regulatory authority:
- (a) Monday to Friday 7am to 6pm;
 - (b) Saturday, 8am to 1pm if audible at residential receivers, otherwise 7am to 1pm; and
 - (c) No construction work to take place on Sundays or Public Holidays.
- 5.1A. Notwithstanding condition 5.1 of this consent, activities associated with remediation of the site may be undertaken at any time, subject to compliance with the noise limits specified under condition 5.7.

Blasting

- 5.2 ⁴The applicant must notify the community with the postcodes 2304 and 2297 by way of a community service announcement in a widely distributed print media and local broadcast media of the proposed date and time of any blasting to be done on the site. The notification must provide a timely warning of the intended blast and provide a contact name and phone number that the public may used to obtain further details of the proposed blast.
- 5.3 ⁵Noise caused by blasting operations must not exceed an over-pressure level of 115dB (linear peak) for more than 5% of the total number of blasts when measured at any noise sensitive locations (such as residential premises, schools or hospitals).

³ EPA GTA No. 5.11

⁴ EPA GTA No. 5.1

⁵ EPA GTA No. 5.2

- 5.4 ⁶Noise caused by blasting operations must not exceed an over-pressure level 120dB (linear peak) at any time when measured at any noise sensitive locations (such as residential premises, schools or hospitals).
- 5.5 ⁷Ground vibration caused by blasting operations must not exceed a peak particle velocity of 5 millimetres for more than 5% of the total number of blasts carried out over any 12 month period, when measured at any point within one metre of any residential boundary or in or on any noise sensitive areas (such as residential premises, schools or hospitals).
- 5.6 ⁸Ground vibration caused by blasting operations on the site must not exceed a peak particle velocity of 10 millimetres per second (peak particle velocity) when measured at any point within one metre of the boundary of any premises not owned or leased by the applicant.

Noise – Site Preparation and Construction Phases

- 5.7 ⁹Noise emissions arising from demolition and site remediation of the closure area and construction of the MPT, and associated activities must not exceed the following noise levels:

Location	Noise Limits (dBA)
1. 52 Arthur Street	55
2. Mayfield East Public School	47
3. 21 Crebert Street	56
4. Newcastle TAFE	49
5. 1 Arthur Street	51

Note: The shaded area represents the applicable criteria to all construction related activity for the closure area.

The Noise limits apply during the day or night-time under winds up to 3 metres per second (measured at 10 metres above ground level) and Pasquill stability class from A to F.

- 5.8 ¹⁰To achieve the levels specified in Condition 5.7, the Applicant must develop and implement an appropriate Site Preparation and Construction Noise Management Plan. The plan must include, but need not be limited to:
- identification of all noise sources;
 - noise mitigation measures both in terms of engineering best practice and operational procedures;
 - proposed times for noise propagating site activities;
 - monitoring methods and programs;
 - contingency measures where monitoring indicates non compliance; and
 - complaints handling procedures.

The plan will form part of the Site Preparation EMP (Condition 4.2) and the Construction EMP (Condition 4.3) and be approved by the Director-General prior to works commencing.

⁶ EPA GTA No. 5.3

⁷ EPA GTA No. 5.4

⁸ EPA GTA No. 5.5

⁹ EPA GTA No. 5.7

¹⁰ EPA GTA No. 5.8

- 5.9 ¹¹In the event that the Applicant is unable to achieve the noise levels specified in Condition 5.7, the Director-General, in consultation with the EPA may agree to a request by the applicant to negotiate noise limits above the limits specified in Condition 5.7, provided the Director-General is satisfied that the applicant has demonstrated that all feasible and reasonable means to mitigate noise impacts have been considered. The application should include but need not be limited to:
- full details of the measures proposed to mitigate noise impacts associated with the construction related activity for the Closure Area, with particular reference to piling operations;
 - a quantitative analysis of the extent to which the mitigation measures will achieve the noise limits specified in Condition 5.7;
 - identify all residential properties and sensitive receivers likely to be affected when all feasible and reasonable on-site mitigation strategies have been taken into account; and
 - details of the outcome of a community consultation process to be implemented by the Applicant to identify alternative on-site or off-site mitigation strategies that may be acceptable to the community.
- 5.10 Piling operations must be conducted using best available technology. The appropriate regulatory authority may require acoustic shrouding of the hammer to limit impact noise if the appropriate regulatory authority receives justifiable complaints.

Noise – Operation Phase

- 5.11 The following noise limits apply to the operation of the Multi-Purpose Terminal at the locations shown are as follows:

Noise Limits dB(A)			
Location	Day	Evening	Night
	7:00 am to 6:00 pm Mondays to Saturdays 8:00 am to 6:00 pm Sundays and public holidays	6:00 pm to 10:00 pm on any day	10:00 pm to 7:00 am Mondays to Saturdays 10:00 pm to 8:00 am Sundays and public holidays
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)
1. 52 Arthur Street	49	38	38
2. Mayfield East Public School	47	37	37
3. 21 Crebert Street	49	39	39
4. Newcastle TAFE	44	38	38
5. 1 Arthur Street	48	33	33

The noise limits apply during all assessment periods under winds up to 3 metres per second (measured at 10 metres above ground level) and Pasquill stability classes from A to F.

- 5.12 In the event that the Applicant is unable to achieve the noise levels specified in Condition 5.11, the Director-General, in consultation with the EPA may agree to a request by the applicant to negotiate noise limits up to 5 dB(A) above the limits specified in Condition 5.11, provided the Director-General is satisfied that the applicant has demonstrated that all feasible and reasonable means to mitigate

¹¹ EPA GTA No. 5.9

noise impacts have been considered. The application should include but need not be limited to:

- (a) full details of the measures proposed to mitigate noise impacts associated with the operation of the container terminal and the rail terminal;
- (b) a quantitative analysis of the extent to which the mitigation measures will achieve the noise limits specified in Condition 5.11;
- (c) identify all residential properties and sensitive receivers likely to be affected when all feasible and reasonable on-site mitigation strategies have been taken into account; and
- (d) details of the outcome of a community consultation process to be implemented by the Applicant to identify alternative on-site or off-site mitigation strategies that may be acceptable to the community.

Vibration

- 5.13 Prior to construction of the railway linking the MPT to the Morandoo sidings inroad, the Applicant shall prepare a vibration assessment report identifying the predicted impacts of rail related vibration as a result of the development. The assessment report shall be prepared in consultation with the Rail Infrastructure Corporation and be submitted for the approval of the Director-General. The Report shall include measurements of predicted vibration associated with the new rail line connecting the MPT and identify mitigation measures to be incorporated into the detailed design of the rail line.

Odour

- 5.14 ¹²No offensive odour, as defined under Section 129 of the *Protection of the Environment Operations Act 1997*, may be emitted from the premises.

Note: The Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant protection licence as a potentially offensive odour and the odour is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

Dust

- 5.15 ¹³Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises
- 5.16 ¹⁴All trafficable areas and vehicle manoeuvring areas in or on the premises must be maintained, at all times, in a condition that will minimise the generation, or emission from the premises, of wind blown or traffic generated dust.

Site Remediation – Site capping

- 5.17 The Closure Area as identified in Figure 1.3 of the EIS: *Layout of the Steelworks Site Showing the Closure Area and MPT*, other than the proposed hard stand paved areas, and pre-construction surfaces must:

¹² EPA GTA No. 2.1

¹³ EPA GTA No. 2.2

¹⁴ EPA GTA No. 2.3

- (a) have a seal bearing layer consisting of a properly designed and engineered layer of material. This layer must consist of a material at least 500mm thick and have a permeability less than $K = 10^{-7} \text{ms}^{-1}$; and
- (b) be constructed and maintained to permit free drainage and to avoid surface water ponding; or
- (c) an alternative seal bearing layer that meets the objectives of (a) and (b) above and demonstrates a high level of engineering reliability may be approved in writing by the EPA.

For the purposes of this condition the following areas are exempted for the requirements above:

- the areas delineated to be landscaped in areas M11 and M23 on Figure 1 'Plan of Closure Area M11 (Heritage Precinct)' dated 8 May 2001, and Figure 2 'Plan of Closure Area M23' dated 8 May 2001, submitted to the Department on 6 August 2001;
- the area marked as 'Fig Tree Preservation Area' in the plan titled 'Newcastle Steelworks Main Site Redevelopment - Figtree Canopy along Industrial Drive - General Arrangement', dated 24 October 2001, and submitted to the Department on 15 October 2001; and
- the western portion of area M17, which is an established landscaped area located behind the fig trees along Industrial Drive between Crebert Street and Selwyn Street. The area extends for approximately 80 metres to the east, to the proposed location of the railway line.

However, should any of the areas listed above be re-developed then this exemption no longer applies.

Note: "hard stand" is for the purpose of this condition, concrete or asphalt.

- 5.18 Unless otherwise approved by the EPA in accordance with condition 5.18A of this consent, the areas listed below and identified in Figure 1.3 of the EIS must be capped with hard stand or incorporate a seal bearing layer consisting of a material at least 500mm thick and have a permeability less than $K = 10^{-9} \text{ms}^{-1}$.

- (a) M18
- (b) M19
- (c) M20
- (d) M25
- (e) M12
- (f) M14
- (g) M15

Note: An alternative seal bearing layer including existing hard stand areas that meets the objectives of the above and demonstrates a high level of engineering reliability may be approved in writing by the EPA.

- 5.18A The Applicant may seek the approval of the EPA to alter the permeability requirements specified under condition 5.18 of this consent, following completion of installation of the barrier wall and associated capping works. In considering any application to vary permeability requirements, the EPA may require the Applicant to provide an independent assessment of whether the barrier wall and associated capping works have achieved the remediation outcomes for the site.

- 5.19 ¹⁵A qualified Geo-technical Engineer must be engaged to provide certification of the permeability of the seal bearing layer as detailed in Conditions 5.17 and 5.18 above. The certification must be retained by the Applicant for a minimum period of 5 years.
- 5.20 ¹⁶A capping maintenance plan must be developed for the closure area as identified by Figure 1.3 titled *Layout of Steelworks Site Showing the Closure Area and MPT* in the EIS. This plan must include, but need not be limited to the following:
- (a) procedures for ensuring the integrity of the cap is maintained during any construction or any other activities on the closure area;
 - (b) procedures for ensuring that disturbance of any part of the cap during construction or any other activities on the site, is rectified to maintain the integrity of the capping system and meet the requirements of Conditions 5.17 and 5.18.
- 5.21 ¹⁷All sub-surface pipes associated with stormwater collection and drainage systems installed on the premises must be flexible jointed pipes designed and installed in accordance with Australian Standard AS/NZS 2566.1:1998.

Remediation of Contamination - Soil

- 5.22 ¹⁸The EPA must be notified, in writing, of any free phase contamination and any other type of contamination not identified in the EIS that is encountered during any activities on the closure area. Notification must be submitted as soon as practicable after the material is identified.
- Note: The EPA may require any free phase contamination or any other type of contamination not identified in the EIS that is encountered during any activities on the closure area to be contained or treated on site or removed off site for disposal or treatment.*
- 5.23 ¹⁹Prior to commencing construction of the Multi-Purpose Terminal or remediation of the closure area as identified in Figure 1.3 of the EIS, any stockpiled soil from the area surrounding the decommissioned Coke Ovens 1, 2, and 3 located adjacent to the western side of Blast Furnace Road must be removed from this location and either:
- (a) Contained in areas proposed to be covered by hard stand pavement: or
 - (b) Managed by an alternative method approved in writing by the EPA.

Remediation of Contamination - Groundwater

- 5.24 ²⁰For the purposes of investigating the options for interception and treatment of contamination migrating in groundwater to the Hunter River, the Applicant must submit a report to the EPA's Regional Manager Hunter.
- 5.25 ²¹The report must include, but need not be limited to, a detailed investigation of funnel and gate technology, or of an alternative technology identified by the Applicant, to intercept and treat groundwater flowing in the direction of the hard

¹⁵ EPA GTA No. 6.3

¹⁶ EPA GTA No. 6.4

¹⁷ EPA GTA No. 6.5

¹⁸ EPA GTA No. 6.6

¹⁹ EPA GTA No. 6.7

²⁰ EPA GTA No. 6.8

²¹ EPA GTA No. 6.9

stand areas of the proposed Multi-Purpose Terminal and area M12 as identified by Figure 1.3 titled *Layout of Steelworks Site Showing the Closure Area and MPT* in the EIS;

The report must include, but need not be limited to:

- (a) design details of the funnel and gate technology;
- (b) options for the reactive media to be placed within the “gates” to treat the contaminants in the groundwater to be consistent with the relevant guidelines specified by the Australian and New Zealand Environment and Conservation Council (ANZECC) in the document titled *Australian Water Quality Guidelines for Fresh and Marine Waters (1992)*;
- (c) if an alternate technology is identified by the Applicant, the design details of the alternate technology and an assessment of the ability of the alternate technology to treat the contaminants in the groundwater to be consistent with the relevant guidelines specified by ANZECC in the document titled *Australian Water Quality Guidelines for Fresh and Marine Waters (1992)*;
- (d) justification for any alternate technology identified by the Applicant;
- (e) details of a monitoring program to evaluate the effectiveness of the funnel and gate system or any alternative technology identified by the Applicant to be consistent with the relevant guidelines specified by the ANZECC in the document titled *Australian Water Quality Guidelines for Fresh and Marine Waters (1992)*;
- (f) an estimate of costs to implement and maintain the funnel and gate system and any alternative technology identified by the Applicant; and
- (g) a timetable and detailed schedule of works to implement the funnel and gate system and any alternative technology identified by the Applicant.

The report must be submitted to the EPA prior to construction of any hard stand areas of the Multi-Purpose Terminal. “hard stand” is, for the purpose of this condition, concrete or asphalt.

Note: The EPA intends to require implementation of a system which the EPA determines as appropriate in order to ensure that the Applicant manages and treats groundwater contamination to be consistent with the relevant guidelines specified by the ANZECC in the document titled Australian Water Quality Guidelines for Fresh and Marine Waters (1992). The preferred system will be implemented either through the conditions of the Environment Protection Licence for the premises or through the provisions of the Contaminated Land Management Act 1997.

- 5.25A The Applicant shall construct groundwater management works, as a component of the site remediation activity, in accordance with EPA approval under the *Contaminated Land Management Act 1997*.

Stormwater and Sediment Control – Site Preparation and Construction Phase

- 5.26 ²²Except as may be expressly provided in a licence issued by the EPA, the Applicant must comply with Section 120 of the *Protection of the Environment Operations Act 1997* prohibiting the pollution of waters.

- 5.27 ²³A Soil and Water Management Plan (SWMP) must be prepared and implemented. The SWMP must describe the measures that will be implemented

²² EPA GTA No. 3.1

²³ EPA GTA No. 3.2, WWA GTA No. 3

to minimise soil erosion and the discharge of sediment and other pollutants to waters during site remediation of the closure area and construction of the MPT. The SWMP should be prepared in accordance with the relevant specifications and standards contained in the document titled *Managing Urban Stormwater: Soils and Construction* (Department of Housing 1998) and any other relevant agency requirements. The SWMP should include, but not necessarily be limited to, those measures outlined in Table 10.2 *Environmental Safeguards* in the EIS.

- 5.28 The proposed system for erosion and sediment control must be installed and stabilised before commencement of site works. This does not include the construction of the appropriate controls.
- 5.29 The stormwater drainage system for the site may only discharge to the Hunter River or the stormwater system via an appropriately engineered stormwater detention basin(s).

Prior to construction, the design capacity of the stormwater detention basin(s) must be approved in writing by the EPA.

- 5.29A The Eastern and Western drains are to be designed to satisfactorily accommodate stormwater runoff from the entire respective contributing catchments. The contributing catchment to the Eastern Drain shall include the catchment that drains to the existing open drain within Selwyn Street, such as to permit possible future upgrading/widening of Selwyn Street.
- 5.29B The Applicant is to fund and construct, in consultation with the Council, stormwater drainage pipe connections from the Eastern Drain to the boundary of Selwyn Street in sufficient number, location and size such to adequately service the existing Selwyn Street drain without the need to undertake construction activity within the constructed drain.
- 5.29C Upon achieving practical completion of all construction and landscaping works associated with the Eastern Drain, an easement to drain water shall be created over the Eastern Drain and associated structures. The terms of such an easement shall be established by the Proponent in consultation with the Council.

Stormwater and Sediment Control – Operation Phase

- 5.30 ²⁴A Stormwater Management Plan must be developed and implemented to mitigate the impacts of stormwater runoff from the site following the completion of the site remediation activities. The plan must identify contaminant likely to be present in stormwater from the closure area as identified in Figure 1.3 of the EIS and the measures proposed to prevent or control their discharge to waters such as the Hunter River. The measures should include, but not necessarily be limited to those outlined in Table 10.2 *Environmental Safeguards* in the EIS. The Plan must address the provisions of Newcastle City Council's *DCP No.50 – Stormwater Management for Development Sites*.

Waste – Closure Area

- 5.31 ²⁵The Applicant must not cause, permit, or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing, or disposal; or any waste generated at the premises to be disposed

²⁴ Incorporates EPA GTA No.3.5

²⁵ EPA GTA No.4.1

at the premises, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*.

This condition only applies to the storage, treatment, processing, reprocessing, or disposal; or any waste generated at the premises if it requires an environment protection licence under the *Protection of the Environment Operations Act 1997*.

- 5.32 Prior to the commencement of operations, the Applicant must demonstrate to the satisfaction of the Australian Quarantine Inspection Service and the Director-General that appropriate arrangements have been put in place for the disposal of quarantine wastes.
- 5.33 ²⁶Prior to any material being stored in the emplacement area as identified in Figure 6.4 titled *Proposed Final Landform and Surface water Drainage* of the EIS, the following must be conducted:
- (a) the Applicant must provide the EPA with details of how the environmental goals will be met through the relevant benchmark techniques specified in the EPA's document titled *Environmental Guidelines: Solid Waste Landfills*; and provide a comprehensive environmental management plan; and,
 - (b) the emplacement area must have a leachate barrier system that meets the requirements of the EPA's document titled *Environmental Guidelines: Solid Waste Landfills*.

Waste - Hazardous and Industrial

- 5.34 ²⁷Hazardous or industrial waste proposed to be removed from the Closure Area must be stored and disposed of in a manner to minimise its impact on the environment including appropriate segregation for storage and separate disposal by a waste transporter licensed by the EPA.

Dredging and Sediment Disposal

- 5.35 Prior to commencement of any dredging work, a Dredging Management Plan shall be prepared in consultation with the Newcastle Port Corporation and once completed provided to the Waterways Authority. The plan shall address, but is not limited to, the following issues:
- (i) installation and effective operation of an appropriately designed silt curtain to control turbidity around the dredge site;
 - (ii) details of the dredging footprint, weekly dredging rate, equipment and pipeline for the transfer of sediment (size and location);
 - (iii) Range of river and weather conditions necessitating the temporary cessation of dredging operations; and
 - (iv) Provide details on contingency plans to deal with potential adverse impacts resulting from dredging operations.
- 5.36 Following the conclusion of Stage 1 dredging works, a hydrographic survey is to be carried out and is to be submitted to the Waterways Authority.
- 5.37 Should the dredging works require the use of explosives in water, then a permit shall be obtained from NSW Fisheries prior to the commencement of dredging operations.

²⁶ EPA GTA No. 4.2

²⁷ EPA GTA No. 4.3

Lighting

- 5.38 The Applicant must ensure that any external lighting associated with the development is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding land uses. The lighting must be the minimum level of illumination necessary.

Traffic

- 5.39 The applicant is to fund and construct the following road works to the satisfaction of the Newcastle City Council and/or Roads and Traffic Authority prior to commencement of operations at the Multi-Purpose Terminal:

- (a) localised widening along Selwyn Street to meet minimum travel lane (Austroads) requirements;
- (b) line marking and signage to control parking along the Selwyn Street approach to the Multi-Purpose Terminal; and
- (c) intersection access from the eastern end of Selwyn Street into the Multi-Purposed Terminal.

Prior to the above road and traffic control works being undertaken, the applicant must obtain the approval of the Newcastle City Council and the concurrence of the Roads and Traffic Authority for these works under the *Roads Act 1993*.

- 5.40 ²⁸The design of all works is to be in accordance with Austroads and RTA Road Design Guide Standards and is subject to RTA review.
- 5.41 The Applicant shall consult with the local community on the proposed roadworks prior their construction.
- 5.42 ²⁹The applicant shall not commence physical work in the State Road reserve until:
- (a) all approvals or acceptances have been given by the RTA,
 - (b) all administration and management fees and the performance bond have been received by the RTA, and
 - (c) the applicant has entered a Deed of Agreement with the RTA.
- 5.43 ³⁰All provision for traffic is to be in accordance with the requirements of the RTA publication "Traffic Control at Work Sites" and Australian Standards AS 1742.3.
- 5.44 ³¹The Applicant is to prepare the following documentation to the satisfaction of the RTA in respect of the proposed road works:
- (a) Full Engineering Plans detailing the scope of the proposed works;
 - (b) Review of Environmental Factors (REF);
 - (c) Geotechnical Investigation Report and Pavement Design;
 - (d) Environmental Management Plan;
 - (e) Occupational Health and Safety Plan;
 - (f) Traffic Control Plan (TCP);
 - (g) Traffic Management Plan (TMP); and,
 - (h) Road Safety Audit.

²⁸ RTA GTA No.1

²⁹ RTA GTA No.2

³⁰ RTA GTA No.3

³¹ RTA GTA No.4

The Applicant shall consult with the RTA regarding the requirements of the above plans.

- 5.45 ³²Works are to be undertaken in accordance with the Roads and Traffic Authority's procedures and the undertaking of privately funded works within a State Road reserve by private developers as outlined in the RTA publication *Private Sector Development Work on the Road Network – Notes for Developers*.
- 5.46 Prior to site remediation works commencing, the Applicant submit to the Director-General for approval, a Heavy Vehicle Route Plan that identifies the shows the proposed routes for heavy vehicle movements to and from the site during all phases of the Stage 1 development. The plan shall be prepared in consultation with the Council and the RTA and demonstrate that proposed routes avoid the use of local streets in the Mayfield and Mayfield East localities. The plan shall also outline what measures will be undertaken to ensure that all drivers of heavy vehicles servicing the site are made aware of the approved routes.

Landscape Management Plan

- 5.47 The Applicant must prepare and implement a Landscape Management Plan for the development, in consultation with Council. This plan must:
- (a) Be consistent with Newcastle City Council DCP No.33 – Landscape Design Principles and Guidelines;
 - (b) Describe in detail the proposed future landform of the site;
 - (c) Describe in detail how the site will be landscaped, including the location and species of all planting; and
 - (d) Explain how this landscaping will be managed and maintained over time.
- 5.48 The Landscape Management Plan must have been approved by the Director-General before construction certificate/s may be issued.
- 5.49 After reviewing the Landscape Management Plan, the Director-General may require the Applicant to address certain matters identified in the plan. The Applicant must comply with any reasonable requirements of the Director-General.

Rail crossing on Selwyn Street

- 5.50 The applicant shall obtain the approval of the Australian Rail Track Corporation (ARTC) prior to the construction of a rail connection at Selwyn Street to the ARTC rail network at the location marked "A1-grade crossing 2 (unchanged) on Figure 2: Proposed Revised Rail Line, of the Section 96(1A) application prepared by Hunter Development Corporation dated January 2009.

6. CULTURAL HERITAGE

- 6.1 Prior to the demolition of any of the items listed in Figure 6.3 of the EIS: *Heritage Structures to be Removed*, and listed in the table below, the Applicant shall submit documentation, to the satisfaction of the Minister, confirming that the proposed Multi-Purpose Terminal is to proceed or that the item to be demolished represents a safety hazard. The required documentation shall be in the form of a copy of a contract(s) or agreement(s) between the Applicant and another party or parties, in respect of the construction and operation of the MPT, or a report from a suitably qualified person(s) on the safety or integrity of the heritage item and demonstrating that the item could not feasibly be repaired or stabilised.

³² RTA GTA No.5

No.	Item
1	Remnant of No.1 Blast Furnace
2	No. 1 Blower House
3	Open Hearth Building
4	No.1 Bloom Mill and Rail Mill
6	Steel Foundry
10	DC Substation
11	Wharves (in part)
14	No.3 Blast Furnace
15	AC Pump House
16	Power House
19	Open Hearth Change House
20	Mould Conditioning Building
21	BOS Plant
23	No.4 Blast Furnace

Notwithstanding the above, structures may be demolished, with the approval of the Minister, where required to enable soil or groundwater remediation to take place in accordance with EPA requirements under an Environment Protection Licence or the *Contaminated Land Management Act 1997*. The Applicant will need to demonstrate, by way of a report, that all feasible alternatives to demolition have been investigated.

- 6.2 The Applicant shall prepare and submit to the Director-General strategy for the interpretation of the industrial heritage of the Closure Area. The strategy must be prepared in consultation with the NSW Heritage Office and Newcastle City Council and approved by the Director-General prior to the demolition of any structures listed in the table in Condition 6.1. The strategy shall examine and put forward proposals for the following:
- The establishment of a heritage precinct on the Western Portion of the Closure area, including:
 - re-use of Delprats Quarters as an Iron and Steel Interpretive Centre;
 - re-use of the ex-Tools Room as a State Industrial Archaeological Repository;
 - conservation of the remnants of the original botanic gardens established.
 - an assessment of industrial artefacts able to be retained and made available for interpretation within the Closure Area, either in situ or, if in situ preservation is not possible, relocated.
 - Funding, ownership and on-going management arrangements.
- 6.3 The Applicant shall prepare and submit an Archaeological Management Plan for the closure area prior to the commencement of site preparation works. The plan shall be prepared in consultation with the NSW Heritage Office and approved by the Director-General.
- 6.4 If, during the site preparation and/or construction phases of the development, an unexpected archaeological relic is uncovered, excavation shall cease and an excavation permit under the *Heritage Act 1977* shall be obtained from the NSW Heritage Office.

Note: a relic is defined under the Heritage Act as any deposit, object or material evidence:

- (a) *which relates to the settlement of the area that comprises NSW, not being Aboriginal settlement, and*
 - (b) *which are more than 50 years old.*
- 6.5 Prior to the commencement of any works associated with the burial of the remnants of the No.1 Blast Furnace, the Applicant shall submit details to the Director-General on the disposal location of excavated soil on-site and the interim management procedures for this material. Activities associated with this item shall not commence until the Director-General has approved these measures.
- 6.6 The final location of the remnants of the No.1 Blast Furnace shall be to the satisfaction of the Regional Land Management Corporation, with respect to the provision of sufficient clearance for future development or services.
- 6.7 Following the completion of works associated with the burial of the remnants of the No.1 Blast Furnace, the Applicant shall provide the Regional Land Management Corporation with detailed plans of the final position of the item, including its dimensions and depth.

7. HAZARDS

Restrictions to Operation

- 7.1 The Container Terminal and General Cargo Handling Facility shall neither receive as cargo nor dispatch as cargo any material classified as a "Class 7 dangerous good" (radioactive material) under the Australian Dangerous Goods Code.
- 7.2 The Applicant shall not use or store, temporarily or otherwise, any dangerous good of Class 1 (explosives) on the site without the prior written approval of the Director-General. In seeking the Director-General's approval, the Applicant shall provide the following information:
 - (a) the name, dangerous goods Class (including subclass), and quantity of the explosive material to be used and/or stored on the site;
 - (b) the purpose for using and/ or storing the explosive material on the site, and the maximum duration of that use and/ or storage;
 - (c) the location of the use and/ or storage of the explosive material on the site, including consideration of the storage requirements of the material in accordance with relevant legislation and Australian Standards;
 - (d) the mode of transport and route for bringing the explosive material to the site, and if relevant, for removing the explosive material from the site;
 - (e) identification and assessment of the hazards associated with the use and/ or storage of the explosive material on the site and the risk impacts of the use and/ or storage on surrounding land uses.
- 7.3 All dangerous goods received as cargo at either the Container Terminal or the General Cargo Handling Facility shall be dispatched from the site within 72 hours of receiving those goods. In the event that the Newcastle Port Corporation, or any relevant body having a statutory role in the control and/ or handling of dangerous goods at the site, requires dangerous goods to be dispatched from the site in less than 72 hours, then the requirement of the Newcastle Port Corporation or relevant body shall prevail over this condition.
- 7.4 The Applicant shall initiate and maintain a Dangerous Goods Register with an aim to ensure that the maximum quantity of dangerous goods on the site, as specified in a Final Hazard Analysis approved by the Director-General, and the

in-transit time-limit for dangerous goods on the site are not exceeded. The Register shall include, but not necessarily be limited to:

- (a) the date and time of arrival of all dangerous goods to the site;
- (b) the exact location of all quantities of dangerous goods on the site;
- (c) details of all dangerous goods classes on the site, packaging specifications and UN number; and
- (d) the date and time of dispatch of all dangerous goods from the site.

The Register shall be made available for inspection by the Director-General at any time.

Demolition

- 7.5 At least one month prior to the commencement of any demolition activity, or within such period otherwise agreed by the Director-General, the Applicant shall prepare and submit for the approval of the Director-General a Demolition Safety Study, prepared in accordance with the relevant sections of the Department's publication *Hazardous Industry Planning Advisory Paper No. 7 - Construction Safety Study Guidelines*.
- 7.6 All demolition works undertaken on the site shall be conducted in strict accordance with the provisions of *AS2601-1991 The Demolition of Structures*, as in force at 1 July 1993.
- 7.7 The Applicant shall meet the requirements of WorkCover NSW with respect to all demolition activities associated with the handling of asbestos or asbestos-containing materials.

Pre-Construction Hazards Studies

- 7.8 At least one month prior to the commencement of construction, or within such period otherwise agreed by the Director-General, the Applicant shall prepare and submit for the approval of the Director-General the studies set out under a) and b) below. Construction shall not commence until approval has been given by the Director-General and, with respect to the Fire Safety Study, approval has also been given by the Commissioner of the NSW Fire Brigades
 - (a) A Fire Safety Study. The Study shall cover all aspects detailed in the Department's *Hazardous Industry Planning Advisory Paper No. 2 - Fire Safety Study Guidelines* and the NSW Government's *Best Practice Guidelines for Contaminated Water Retention and Treatment Systems*. The Study shall also be submitted to the NSW Fire Brigades for approval; and
 - (b) A Final Hazard Analysis. The Analysis shall be prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis*. The Analysis shall include, but not necessarily be limited to:
 - i) maximum and likely average quantities of each class of dangerous good to be located on the site;
 - ii) a demonstration that the maximum quantities of dangerous goods to be located on the site at any time are consistent with the *Proposed Multi Purpose Terminal Consequence Analysis for URS*, prepared by Qest Consulting Engineers Pty Ltd (dated 28 February 2000), accepted Australian and international best practice, and any current guideline published by the Department or other body having a statutory role in the control and/ or handling of dangerous goods; and
 - iii) details of the location of dangerous goods storage on the site with specific reference to location relative to the site boundary, location

relative to other dangerous goods, provision of bunding and fire safety measures.

The Applicant shall not exceed the dangerous goods storage quantities, storage locations, frequency of receipt/ dispatch, or vary the dangerous goods handling procedures specified in any Final Hazard Analysis approved by the Director-General.

Pre-Operation Hazards Studies

- 7.9 No later than two months prior to the commencement of operation, or within such period otherwise agreed by the Director-General, the Applicant shall prepare and submit for the approval of the Director-General the studies set out under a) to c) below. Operation shall not commence until approval has been given by the Director-General.
- (a) A Transport of Hazardous Materials Study detailing arrangements covering the transport of hazardous materials including details of routes to be used for the movement of vehicles carrying hazardous materials to or from the site. The Study shall be carried out in accordance with the Department's draft *Route Selection* guidelines. Suitable routes identified in the Study shall be used except where departures are necessary for local deliveries or emergencies;
 - (b) A comprehensive Emergency Plan and detailed emergency procedures. The Plan shall include detailed procedures for the safety of all people outside the development who may be at risk from the development. The Plan shall be prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 1 Industry Emergency planning Guidelines*; and
 - (c) A comprehensive Safety Management System, covering all operations on-site and associated transport activities involving hazardous materials. The System shall clearly specify all safety-related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to procedures. Records shall be kept on-site and shall be used except where departures are necessary for local deliveries or emergencies.

Incident Reporting

- 7.10 Within 24 hours of any incident or potential incident with actual or potential significant off-site impacts on people or the biophysical environment, a report shall be supplied to the Department outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures. The report shall be submitted to the Director-General no later than 14 days after the incident or potential incident. The Applicant shall maintain a register of accidents, incidents and potential incidents. The register shall be made available, at any time, for inspection by the Director-General. The Applicant shall comply with any reasonable requirement of the Director-General in response to an incident report or register entry.

Hazard Audit

- 7.11 Twelve months after the receipt of the first dangerous goods cargo at either the Container Terminal or the General Cargo Handling Facility, or with such period otherwise agreed by the Director-General, the Applicant shall carry out a comprehensive Hazard Audit of the development, and submit a report to the Director-General on the Audit within one month of completion of the Audit. The Audit shall be carried out at the Applicant's expense by a duly qualified

independent person or team approved by the Director-General prior to the commencement of the Audit. Further Audits shall be carried out every three years, or as determined by the Director-General and a report of each Audit shall be submitted to the Director-General within one month of the Audit. Hazard Audits shall be carried out in accordance with the Department's *Hazardous Industry Planning Advisory paper No. 5 - Hazard Audit Guidelines*.

8. ENVIRONMENTAL MONITORING PROGRAM

- 8.1 The Applicant must prepare and implement a detailed Environmental Monitoring Program for the development in consultation with the EPA, and Newcastle City Council. The program must:
- (a) Identify what environmental issues will be monitored;
 - (b) Set standards and performance measures for these environmental issues;
 - (c) Describe in detail how these issues will be monitored, who will conduct the monitoring, how often the monitoring will be conducted, and how the results of this monitoring will be recorded and reported to the Director-General and other relevant authorities;
 - (d) Include the following:
 - Meteorological monitoring (condition 8.5)
 - Air quality monitoring (conditions 8.6-8.10)
 - Noise and vibration monitoring (Conditions 8.11-8.13);
 - Groundwater monitoring (condition 8.14-8.15); and,
 - Surface water monitoring (Condition 8.16);
- 8.2 The Environmental Monitoring Program must be submitted for the approval of the Director-General as part of the Environmental Management Plans required in Conditions 4.2, 4.3 and 4.4.
- 8.3 After reviewing the Environmental Monitoring Program, the Director-General may require the Applicant to address certain matters identified in the program. The Applicant must comply with any reasonable requirements of the Director-General.
- 8.4 The Applicant must include the detailed results from the Environmental Monitoring Program in the Annual Environmental Management Report to the Director-General.

Meteorological Monitoring

- 8.5 ³³Meteorological monitoring must be conducted for the site. The meteorological Station must be sited, operated and maintained in accordance with *The Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* as follows:

AM-1	Guide for the siting of sampling units;
AM-2	Guide for measurement of horizontal wind for air quality applications; and
AM-4	On-site meteorological monitoring program guidance for regulatory modelling applications.

Air Quality Monitoring – Site Preparation Phase

- 8.6 ³⁴The Applicant must conduct ambient air quality monitoring as follows:

³³ EPA GTA No. 2.7

³⁴ EPA GTA No. 2.4

- (a) Continuous real-time ambient air quality monitoring of TSP and PM₁₀ concentrations at the site boundary;
 - (b) Ambient air quality monitoring for TSP, PM₁₀, heavy metals (Mn, Pb, As and Fe), 16 USEPA priority PAHs, benzo (a) pyrene, benzene, ethyl benzene, toluene, xylene and phenols at points that are representative of the nearest sensitive receptors.
- 8.7 ³⁵Sampling and analysis must be conducted in accordance with *The Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* as follows:
- | | |
|-------|--|
| AM-1 | Guide for the siting of sampling units |
| AM-11 | Lead – particulate collection by high volume sampler |
| AM-15 | Particulate matter – TSP high volume sampler method |
| AM-16 | Particulate matter – PM ₁₀ – high volume sampler with size select inlet |
| AM-21 | Volatile organic compounds; and |
- A method approved in writing by the EPA for 16 USEPA priority PAHs, benzo (a) pyrene, benzene, ethyl benzene, toluene, xylene and phenols and heavy metals (Mn, As and Fe).
- 8.8 ³⁶Prior to any cut and fill operations, commencing on the closure area, as identified in Figure 1.3 titled *Layout of Steelworks Site Showing the Closure Area and MPT* in the Environmental Impact Statement, the Applicant must design an ambient air monitoring sampling network to measure the parameters specified in Condition 8.6. Details of the air monitoring network, and the frequency of ambient air quality monitoring referred to in Condition 8.6, must be submitted to the EPA for approval in writing prior to implementation.

Air Quality Monitoring – Operation

- 8.9 During the operation of the MPT, the Applicant must conduct ambient air quality monitoring for TSP and PM₁₀.
- 8.10 Sampling and analysis must be conducted in accordance with *The Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales* as follows:
- | | |
|-------|---|
| AM-1 | Guide for the siting of sampling units |
| AM-15 | Particulate matter – TSP high volume sampler method |
| AM-18 | Particulate matter – PM ₁₀ – high volume sampler with size select inlet. |

Noise and Vibration Monitoring – Site Preparation and Construction

- 8.11 ³⁷The Applicant must develop a program to effectively monitor noise emissions at the locations identified in Condition 5.7, and to determine compliance with the noise limits specified in those conditions. Details of the noise monitoring program must be submitted to DUAP and the EPA for approval before demolition or site remediation work commences on the site.

³⁵ EPA GTA No. 2.5

³⁶ EPA GTA No. 2.6

³⁷ EPA GTA No. 5.10

- 8.12 ³⁸Monitoring of noise and vibration caused by blasting operations must be conducted in accordance with the ANZECC document titled *Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration*.

Noise Monitoring – MPT Construction and Operation

- 8.13 ³⁹The Applicant must develop a program to effectively monitor noise emissions at the locations identified in Conditions 5.7 and 5.11, and to determine compliance with the noise limits specified in those conditions. Details of the noise monitoring program must be submitted to DUAP and the appropriate regulatory authority for approval before demolition or site remediation work commences on the site.

Groundwater Monitoring

- 8.14 ⁴⁰A number of Groundwater bores from the existing network must be retained and maintained on the site. The Applicant must ensure that the following requirements are met in determining the number and location of bores to be retained:
- (a) groundwater flow paths and changing groundwater gradients can be measured over the life of the project or until such time as agreed with the EPA;
 - (b) groundwater contamination levels across the site can be measured; and
 - (c) the level of contaminants in groundwater migrating off the site can be measured.
- 8.15 ⁴¹The Applicant must submit a list of proposed parameters to monitor groundwater contaminants to the EPA for approval prior to any cut and fill operations commencing on the site.

Note: In order to meet the above requirements the Applicant may need to establish new bores or re-establish existing bores across the site.

Surface Water Monitoring

- 8.16 ⁴²Stormwater from the discharge point of the stormwater detention basin(s) or from stormwater collected in the basin(s) where no discharge is occurring, must be monitored in accordance with the following table unless otherwise directed or approved by the EPA:

Pollutant	Unit of Measure	Frequency	Sampling Method
Total Suspended Solids	mg/L	Monthly	Grab Sample
pH	pH units	Monthly	Grab Sample
Iron	ug/L	Monthly	Grab Sample
Zinc	ug/L	Monthly	Grab Sample
Copper	ug/L	Monthly	Grab Sample
Lead	ug/L	Monthly	Grab Sample

³⁸ EPA GTA No. 5.6

³⁹ EPA GTA No. 5.10

⁴⁰ EPA GTA No. 6.11

⁴¹ EPA GTA No. 6.11

⁴² EPA GTA No.3.4

Manganese	ug/L	Monthly	Grab Sample
Cyanide	ug/L	Monthly	Grab Sample
Mercury	ug/L	Monthly	Grab Sample
Phenols	ug/L	Monthly	Grab Sample
Total PAH	ug/L	Monthly	Grab Sample
Arsenic	ug/L	Monthly	Grab Sample
C6-C36	ug/L	Monthly	Grab Sample
BTEX	ug/L	Monthly	Grab Sample

A note must be recorded in accordance with the above table where:

- (a) a sample is taken from the stormwater in the stormwater detention basin(s) but there is no discharge occurring;
- (b) the stormwater basin(s) are empty of stormwater.

9. ENVIRONMENTAL MANAGEMENT AND REPORTING

Environmental Officer

9.1 The Applicant shall employ a suitably qualified and experienced Environmental Officer(s) throughout the life of the project, whose appointment is acceptable to the Director-General. The Officer(s) will:

- (a) be responsible for the preparation of the environmental management plans (refer Conditions 4.1 – 4.4);
- (b) be responsible for considering and advising on matters specified in the conditions of this consent and advising on compliance with such matters;
- (c) be responsible for receiving and responding to complaints in accordance with Condition 9.9);
- (d) facilitate an induction and training program for all persons involved with site preparation and construction activities; and
- (e) advise the Site Manager to require reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, to stop work immediately if an adverse impact on the environment is likely to occur.

The Applicant shall notify the Director-General of the name and contact details of the Environmental Officer(s) upon appointment and any changes to that appointment.

Annual Environmental Management Report

9.2 Twelve months after commencement of operations at the MPT, and annually thereafter for the duration of the development, the Applicant must submit an Annual Environmental Management Report to the Director-General and EPA. This report must:

- (a) Identify all the standards, performance measures, and statutory requirements the development is required to comply with;
- (b) Review the environmental performance of the development to determine whether it is complying with these standards, performance measures, and statutory requirements.
- (c) Identify all the occasions during the previous year when these standards, performance measures, and statutory requirements have not been complied with;
- (d) Include a summary of any complaints made about the development, and indicate what actions were taken (or are being taken) to address these complaints;

- (e) Include the detailed reporting from the Environmental Monitoring Program (see Condition 8.1), and identify any trends in the monitoring over the life of the project; and
 - (f) Where non-compliance is occurring, describe what actions will be taken to ensure compliance, who will be responsible for carrying out these actions, and when these actions will be implemented.
- 9.3 After reviewing the Annual Environmental Management Report, the Director-General may require the Applicant to address certain matters identified in the report. The Applicant must comply with any reasonable requirements of the Director-General.

Independent Environmental Audit

- 9.4 Within 12 months of commissioning the Multi-Purpose Terminal and every three years thereafter, unless the Director-General directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit. The Independent Environmental Audit must:
- (a) Be conducted by a suitably qualified, experienced, and independent person whose appointment has been endorsed by the Director-General;
 - (b) Be consistent with *ISO 14010 – Guidelines and General Principles for Environmental Auditing*, and *ISO 14011 – Procedures for Environmental Auditing*, or updated versions of these guidelines/manuals;
 - (c) Assess the environmental performance of the development, and its effects on the surrounding environment;
 - (d) Assess whether the development is complying with the relevant standards, performance measures, and statutory requirements;
 - (e) Review the adequacy of the Applicant's Environmental Management Plan, and Environmental Monitoring Program; and, if necessary,
 - (f) Recommend measures or actions to improve the environmental performance of the plant, and/or the environmental management and monitoring systems.
- 9.5 Within 2 months of commissioning the audit, the Applicant must submit a copy of the audit report to the Director-General. After reviewing the report, the Director-General may require the Applicant to address certain matters identified in the report. The Applicant must comply with any reasonable requirements of the Director-General.

Community Consultative Committee

- 9.6 The Applicant shall establish a Community Consultative Committee (CCC) and ensure that the first meeting is held prior to the commencement of any construction work on site, or as otherwise agreed to by the Director-General. The members of the CCC shall include:
- An independent chairperson nominated by the Councils and approved by the Director-General;
 - At least four community representatives residing within two (2) kilometres of the site boundary;
 - Not more than two representatives appointed by the Applicant, one of which must be the Environmental Officer appointed under Condition 9.1; and
 - At least one representative from the Council.
- 9.7 The Applicant shall advertise for expressions of interest for membership with respect to the community representative positions. Advertising shall be in an appropriate local newspaper on at least one occasion. Based on the expressions

of interest received, the Applicant shall nominate appropriate representatives and submit details of the nominated representatives for the approval of the Director-General.

Meetings shall be held at regular intervals from the date of this consent as determined by the chairperson.

Representatives from relevant government agencies or other individuals may be invited to attend meetings as required by the Chairperson. The CCC shall act as the interface between the Applicant and its operation, and the broader community. A charter for the CCC is to be approved by the Director-General in consultation with the Council and shall provide for the provision of information and procedures for bringing to the Applicant's attention, issues associated with the environmental performance of the site remediation, and construction and operation of the MPT, and implementation of conditions of consent.

- 9.8 The Applicant shall, at its own expense:
- nominate two (2) representatives to attend all meetings of the Committee;
 - (a) provide to the Committee regular information on the progress of work and monitoring results;
 - (b) promptly provide to the Committee such other relevant information as the Chair of the Committee may reasonably request concerning the environmental performance of the development;
 - (c) provide access for site inspections by the Committee upon arrangement;
 - (d) provide meeting facilities for the Committee, and take minutes of Committee meetings. These minutes shall be available for public inspection at the Councils within 14 days of the meeting; and
 - (e) meet all reasonable administrative costs associated with operating the CCC up to a value of \$2000 per annum indexed according to the Consumer Price Index (CPI) at the time of payment.

Complaints Procedure

- 9.9. ⁴³Prior to the commencement of site remediation activities the Applicant shall arrange:
- (a) a toll free number for the purpose of receiving any complaints from members of the public in relation to activities conducted at the site, unless otherwise specified in an environment protection licence issued by the EPA; and
 - (b) a postal address where written complaints can be lodged.

The Applicant must notify the public of the telephone number and postal address via an advertisement in the appropriate local newspaper prior to commencement of site preparation works. The telephone number and postal address shall be displayed near the entrance to the site, in a position visible from the nearest public road.

10. DISPUTE RESOLUTION

- 10.1 If the Applicant, Newcastle City Council, and/or any NSW Government agency, other than the Department of Urban Affairs and Planning, cannot agree on any aspect of this consent, other than a General Term of Approval, the matter may be referred by any of these parties to the Director-General or, if necessary, the Minister, whose determination on the dispute shall be binding on all parties.

⁴³ EPA GTA Nos. 7.3 & 7.4

APPENDIX B – ENVIRONMENT PROTECTION LICENCE (EPL)
13181



Environment Protection Licence

Licence - 13181

<u>Licence Details</u>	
Number:	13181
Anniversary Date:	28-January

<u>Licensee</u>
PORT OF NEWCASTLE OPERATIONS PTY LIMITED
PO BOX 790
NEWCASTLE NSW 2300

<u>Premises</u>
MAYFIELD NO. 4 BERTH
OFF SELWYN STREET
MAYFIELD NORTH NSW 2304

<u>Scheduled Activity</u>
Shipping in bulk

<u>Fee Based Activity</u>	<u>Scale</u>
Shipping in bulk	> 100000-500000 T of annual capacity to load and unload

<u>Region</u>
Metropolitan North - Newcastle
Ground Floor, NSW Govt Offices, 117 Bull Street
NEWCASTLE WEST NSW 2302
Phone: (02) 4908 6800
Fax: (02) 4908 6810
PO Box 488G
NEWCASTLE NSW 2300

Environment Protection Licence

Licence - 13181



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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

PORT OF NEWCASTLE OPERATIONS PTY LIMITED
PO BOX 790
NEWCASTLE NSW 2300

subject to the conditions which follow.

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1 Administrative Conditions

A1 What the licence authorises and regulates

- A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Shipping in bulk	Shipping in bulk	> 100000 - 500000 T of annual capacity to load and unload

A2 Premises or plant to which this licence applies

- A2.1 The licence applies to the following premises:

Premises Details
MAYFIELD NO. 4 BERTH
OFF SELWYN STREET
MAYFIELD NORTH
NSW 2304
PREMISES AS MARKED AND SHOWN WITHIN THE ORANGE DASHED LINE IDENTIFIED AS "SITE BOUNDARY" ON THE PLAN TITLED "EPA LICENSE AREA, MAYFIELD NO. 4 WITHIN LOT 44 DP.1191982", PREPARED BY ADW JOHNSON, VERSION F DATED 20/02/2020 (EPA REF. DOC20/137140), HEREAFTER REFERRED TO IN THE LICENCE AS THE 'PREMISES PLAN'. THE PREMISES ALSO INCLUDES THE AREA MARKED AND SHOWN WITHIN THE GREEN LINE ON THE PREMISES PLAN AS "OVER WATER OPERATIONAL AREA" WHENEVER THE SCHEDULED ACTIVITY OF 'SHIPPING IN BULK' IS CARRIED OUT AS AUTHORISED BY THIS LICENCE.

A3 Information supplied to the EPA

- A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

- a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998;
- and

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b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
4	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge from the northern Humeceptor to the Hunter River marked and shown as "Drainage Pit No. 1" on the Premises Plan.
5	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge from the central Humeceptor to the Hunter River marked and shown as "Drainage Pit No. 2" on the Premises Plan.
6	Discharge to waters Discharge quality monitoring	Discharge to waters Discharge quality monitoring	Discharge from the southern Humeceptor to the Hunter River marked and shown as "Drainage Pit No. 3" on the Premises Plan.

P1.2 The following points referred to in the table below are identified in this licence for the purposes of weather and/or noise monitoring and/or setting limits for the emission of noise from the premises.

Noise/Weather

EPA identification no.	Type of monitoring point	Location description
7	Meteorological Station	Automatic weather station marked and shown as "AWS" on the Premises Plan.

P1.3 For the purposes of the above table(s), the 'Premises Plan' is defined in Condition A2.1.

3 Limit Conditions

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L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

L2 Concentration limits

L2.1 The following concentration limit conditions only apply during for the first discharge event following a loose bulk cargo operation. At all other times condition L1.1 applies.

L2.2 For each monitoring/discharge point or utilisation area specified in the table\ below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L2.3 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L2.4 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table\.

L2.5 Water and/or Land Concentration Limits

POINT 4,5,6

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Nitrogen (total)	milligrams per litre				10
Oil and Grease	milligrams per litre				10
pH	pH				6.5-8.5
Total suspended solids	milligrams per litre				50

L3 Waste

L3.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.

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- L3.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.

L4 Potentially offensive odour

- L4.1 No condition of this licence identifies a potentially offensive odour for the purposes of Section 129 of the Protection of the Environment Operations Act 1997.
- L4.2 The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L5 Other limit conditions

Wind speed limits for loose bulk cargo operations

- L5.1 Loose bulk cargo operations must cease for a period of at least 15 minutes:
- a) if the average wind speed exceeds 7 metres per second for a 5 minute period, or
 - b) if a wind gust exceeds 12 metres per second.

After loose bulk cargo operations have ceased, they must not recommence until the above wind speed limits are not exceeded in the preceding 15-minute time period.

- L5.2 The wind speed and direction limits specified in Condition L5.1 do not apply when the following loose cargoes are loaded or unloaded from the premises:
- a) Cottonseed pellets;
 - b) Ferro-alloys;
 - c) Magnetite;
 - d) Mineral sands;
 - e) Nut coal;
 - f) Urea granules;
 - g) Wet silica sands; and
 - h) Whole soya beans.

Metals Concentrates

- L5.3 The licensee must not receive, store, load or unload Copper, Lead, or Zinc concentrates at the premises.

4 Operating Conditions

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O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Dust

O3.1 The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.

O3.2 All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.

O3.3 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.

O4 Emergency response

Note: The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must be developed in accordance with the requirements in Part 5.7A of the Protection of the Environment Operations (POEO) Act 1997 and POEO regulations. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident.

O5 Waste management

O5.1 The licensee must ensure that any liquid and/or non liquid waste generated and/or stored at the premises is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force from time to time.

O5.2 The licensee must ensure that waste identified for recycling is stored separately from other waste.

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O5.3 All wastewater generated from the on-site treatment of sewage must be removed from the premises by a licensed waste transporter and taken to a facility that is able to lawfully receive it and reuse or dispose of it.

O5.4 The licensee must not dispose of sewage at the premises.

O6 Other operating conditions

Wharf deck loading and unloading requirements

O6.1 Loose bulk cargo to be unloaded onto or loaded from the wharf deck must be fully contained to prevent dust emissions and pollution of waters.

O6.2 Loose bulk cargo must not be stockpiled on the wharf deck for a period exceeding 24 hours prior to the commencement of loose bulk cargo loading operations or for a period exceeding 24 hours after the completion of loose bulk cargo unloading operations.

Tracking of materials

O6.3 The licensee must ensure that activities are conducted in an environmentally satisfactory manner. So as to minimise and prevent the pollution of air and water the licensee must:

- a) Ensure that vehicles or containers prior to leaving the premises are clean and sealed in a manner that will not cause materials or wastes used in conducting the activities at the premises to be tracked, thrown from, blown, fall, or cast from any vehicle or container onto a public road.
- b) The licensee must have in place and implement procedures to ensure that vehicles and containers exiting the premises are in a condition to ensure that materials are not tracked, thrown, blown, fall or cast onto a public road.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and

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d) the name of the person who collected the sample.

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Water and/ or Land Monitoring Requirements

POINT 4,5,6

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen (total)	milligrams per litre	Special Frequency 1	Grab sample
Oil and Grease	milligrams per litre	Special Frequency 1	Grab sample
pH	pH	Special Frequency 1	Grab sample
Phosphate	milligrams per litre	Special Frequency 1	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 1	Grab sample

M2.3 For the purpose of the table(s) above, Special Frequency 1 means the collection of samples during the first discharge event following a loose bulk cargo operation. Only one discharge event is required to be sampled each calendar month.

M3 Testing methods - concentration limits

M3.1 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Weather monitoring

M4.1 At the point(s) identified below, the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of the table below, using the corresponding sampling method, units of measure, averaging period and sampling frequency, specified opposite in the Columns 2, 3, 4 and 5 respectively.

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POINT 7

Parameter	Sampling method	Units of measure	Averaging period	Frequency
Wind Speed at 10 metres	AM-2 & AM-4	metres per second	15 minutes	Continuous
Wind Direction at 10 metres	AM-2 & AM-4	Degrees	15 minutes	Continuous

M5 Recording of pollution complaints

- M5.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M5.2 The record must include details of the following:
- the date and time of the complaint;
 - the method by which the complaint was made;
 - any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - the nature of the complaint;
 - the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
 - if no action was taken by the licensee, the reasons why no action was taken.
- M5.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M5.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M6 Telephone complaints line

- M6.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M6.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M6.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

M7 Other monitoring and recording conditions

Requirement to record the transfer of the occupation of the berth

- M7.1 The licensee must record details of when (i.e. time and date) the occupation of berth is transferred to another person. The licensee must record details of the name and telephone contact of the person that

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the berth is transferred to.

Requirement to record shipping and cargo information

M7.2 For the loading and discharge of cargo from ships carried out under the licence, the licensee must record the following information.

- a) The time and date that the ship was berthed.
- b) The name of the ship.
- c) A description of the cargo and tonnage loaded/discharged.
- d) The owner and agent of the cargo.
- e) An assessment of the capacity of the cargo to generate dust during loading/discharge activities.
- f) Dust control measures for the loading/discharge of the cargo.

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is

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given; or

b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

a) the licence holder; or

b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

a) where this licence applies to premises, an event has occurred at the premises; or

b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,

and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

a) the cause, time and duration of the event;

b) the type, volume and concentration of every pollutant discharged as a result of the event;

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- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

G2 Contact number for incidents and responsible employees

G2.1 The licensee must nominate to the EPA a representative of the licensee that is available at all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including their mobile telephone number, must be current at all times. The nomination and contact details must be provided to the EPA at PO Box 488G, Newcastle NSW 2300 or by email to RegOps.MetroRegulation@epa.nsw.gov.au.

G3 Other general conditions

G3.1 Completed Programs

Program	Description	Completed Date
PRP 1 - Stormwater Management Systems Upgrade	The licensee must design , install and commission upgrades to the stormwater management system.	16-December-2011

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PRP 2- Investigation of Copper Sources	The licensee must investigate and identify potential sources of copper, report and develop a copper management strategy	22-February-2013
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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

Environment Protection Licence

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Mitchell Bennett

Environment Protection Authority

(By Delegation)

Date of this edition: 04-November-2009

Environment Protection Licence

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End Notes

- 1 Licence varied by notice 1109287, issued on 01-Dec-2009, which came into effect on 01-Dec-2009.
- 2 Licence varied by notice 1111996, issued on 02-Mar-2010, which came into effect on 02-Mar-2010.
- 3 Licence varied by notice 1128690, issued on 08-Jul-2011, which came into effect on 08-Jul-2011.
- 4 Licence varied by notice 1501029 issued on 04-Nov-2011
- 5 Licence varied by notice 1504050 issued on 19-Mar-2012
- 6 Licence varied by notice 1507488 issued on 04-Mar-2013
- 7 Licence varied by notice 1515235 issued on 12-Jul-2013
- 8 Licence varied by notice 1516638 issued on 04-Sep-2013
- 9 Licence varied by notice 1519040 issued on 20-Dec-2013
- 10 Licence transferred through application 1520262 approved on 27-Feb-2014 , which came into effect on 28-Feb-2014
- 11 Licence varied by notice 1521970 issued on 10-Jun-2014
- 12 Licence varied by notice 1525248 issued on 03-Nov-2014
- 13 Licence varied by notice 1528564 issued on 18-Feb-2015
- 14 Licence fee period changed by notice 1531721 on 04-Nov-2015
- 15 Licence varied by notice 1545383 issued on 03-Nov-2016
- 16 Licence varied by notice 1591493 issued on 04-Aug-2020

APPENDIX C – OEMP COMPLIANCE CHECKLIST

Activity-Specific OEMP Compliance Checklist

Date:	
Location:	
Person Conducting Activity:	

[illegible]

Activity	Compliance with EMP <i>(indicate compliance with x / ✓)</i>								
	General	Soil and Water	Stormwater Management	Capping Management	Traffic and Access	Contamination	Noise	Air Quality	Waste and Materials Management
Dust and Air quality									
Roadway inspection									
Waste Compliance check									
Other (specify details):									
Other (specify details):									
Other (specify details):									
Comments:									
Signature:									
Approved By:									

APPENDIX D – CONTAMINATED SITE MANAGEMENT PLAN

Contaminated Site Management Plan

Closure Area

**Former BHP Steelworks
Mayfield, Newcastle**

Hunter Development Corporation

February 2014



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1. Application of Plan

This Contaminated Site Management Plan (CSMP) applies to the following lands:

1. Lot 1, Lot 2 of DP 1177466
2. Lot 36, 37 and 38 and Part Lot 35 of DP 1191723

A plan showing applicable lands is shown in Figure 1, Site Identification.

This Plan must be complied with at all times by people by or on behalf of whom Works are carried out on the Site, including owners, lessees, licensees and their contractors and subtenants and by occupiers of the Site.

This Plan sets out the minimum required works. Additional works and precautions may be required.

2. Purpose of Plan

2.1 Purpose

The Purpose of this Plan is to provide a common framework to be applied across the whole of the Site for the design, implementation, completion, use and maintenance of Works so that:

(a) In respect of Remediation Works:

- Remediation Works are properly designed and implemented having regard to relevant risks presented by contamination at the Site;
- Remediation Works are consistent with the requirements of the VRA and other legal requirements;
- the efficacy of Remediation Works is maintained over time;
- there are appropriate controls to protect the health and safety of workers implementing Remediation Works;
- there are appropriate controls to protect Remediation Works previously constructed or otherwise implemented by HDC or others [note that not all of the remediation works are going to be completed by HDC]; and
- there are appropriate verification, certification and approval processes.

(b) In respect of Project Works:

- Project Works are properly designed and implemented having regard to relevant risks presented by contamination at the Site;
- Project Works include appropriate delivery methodologies to adequately mitigate the risks presented by contamination at the Site during construction;
- Project Works include appropriate design features to adequately mitigate the risks presented by contamination at the Site during the use of the Project Works; and
- There are appropriate verification certification and approval protocols.

Whilst this Plan draws a distinction between Remediation Works and Project Works this does not mean that such works must be carried out separately. They may be carried out concurrently with Remediation Works being integral to the delivery of a project.

This plan is not intended to provide disclosure of site conditions that may be encountered during Project or Remediation Works. Descriptions of the site and previous works are provided for contextual purposes only.

2.2 Requirements and Implementation

This Plan sets out important requirements in respect of the design, delivery, completion, verification, use and maintenance of Works (including Remediation Works).

The primary method by which this plan will be enforced is as a fundamental consideration to inform decision makers when making decisions about the use of the Site. This is discussed further in part 6. Decisions about Works on the Site must be made consistently with this plan.

The requirements of this Plan will also be given effect as legally binding obligations or as procedural requirements for the development and use of the Site. The methods by which this may occur may vary for each requirement but may include:

- Being imposed as conditions of Planning Approval;
- Being imposed as a condition of another regulatory approval;
- Being imposed as registered covenants under s29 of the CLM Act;
- Being imposed in a Maintenance of Remediation Notice under s28 of the CLM Act
- Being imposed as restrictive or public positive covenants under the Conveyancing Act;
- Being imposed as a requirement of a community title plan;
- Being imposed by contractual arrangements including leases or sale agreements;
- Being communicated to a consent Authority as a relevant matter to be taken into consideration under s79C of the Environmental Planning and Assessment Act 1979;
- Being adopted as policy by relevant public authorities.

3. Interpretation of Plan

3.1 Glossary of Terms

A term or expression used in this plan has the meaning given to it as set out below:

Area 1	The area bounded by the Barrier Wall on three sides and the harbour to the north as shown on Figure 1
Area 2	The whole of the rest of the Site (excluding Area 1) comprising Area 2a NPC Port Lands West, Area 2a NPC Port Lands East, Berth 4, Area 2b NPC Intermodal, Area 2b HDC Intertrade, as shown on Figure 1
Area C	The area of the Site shown as such on Figure 13
Area D	The area of the Site shown as such on Figure 13
Area E	The area of the Site shown as such on Figure 12
Area F	The area of the Site shown as such on Figure 12
Area G	The area of the Site shown as L2 L3 Emplacement Areas as such on Figure 2
Area HA1	The area of the Site shown as such on Figure 9
Area HA2	The area of the Site shown as such on Figure 9
Area HB	The area of the Site shown as such on Figure 9
Area I	The area of the Site shown as "Location of Drainage Easements" on Figure 6
Area J	The area of the Site shown as "Items of Heritage Significance" in yellow, on Figure 7
Area K1	The area of the Site shown as "Location of Drainage Easements" on Figure 6
Area K2	The area of the Site shown in Blue as "Location of Location of HDPE Liners" on Figure 3
Area M	The area of the Site shown as such on Figure 12
Authority	An authority agency, department, corporation or other public authority of the State and includes a Planning Authority and also including any certifying authority or principal certifying authority under Part 4A of the EP&A Act.
Barrier Wall	A subterranean groundwater cut-off wall primarily constructed from a mix of soil and bentonite
Cap	A multi-layered engineered material with specified level of

	permeability, strength and compaction that is placed over an area in order to contain contaminants
CLM Act	Contaminated Land Management Act (1997)
Closure Area	The Site – this was formerly referred to by the Closure Area of the former BHP Steelworks site, being formerly Lot 3 in Deposited Plan 1032755.
CSMP	Contaminated Site Management Plan (<i>THIS DOCUMENT</i>)
Developer	Each person by whom or on whose behalf Works are carried out.
Development Consent	Development consent for Development Application No. DA 293-08-00, (File No. S99/00601) issued by the Minister for Planning on 6th April 2001 as modified by the following modifications: Modification Application DA 293-08-00 – M1, approved on 29th June 2001 Modification Application DA 293-08-00 – M2, approved on 13th August 2001 Modification Application DA 293-08-00 – M3, approved on 29th February 2002 Modification Application MOD-77-7-2003-i approved on 16th September 2003 Modification Application MOD-60-4-2005-i, approved on 15th September 2005 Modification Application MOD-64-7-2007-i, approved on 21st August 2007 Modification Application MOD-56-7-2008-i, approved on 21st August 2008 Modification Application MOD-06-2-2009, approved on 30th March 2009 Future Modifications
DoP	NSW Department of Planning and Infrastructure
EMP	Environmental Management Plan
EP&A Act	The <i>Environmental Planning and Assessment Act</i> 1979.
EP&A Regulation	The <i>Environmental Planning and Assessment Regulation</i> 2000.
Environmental Scientist	A qualified Environmental Scientist appointed to perform the functions of the "Environmental Scientist" under this Plan for a part of the Site with at least [10 years] practical experience.

EPA	Environment Protection Authority of NSW
Final Design	Remediation Works at Mayfield, Stage 1 – Contract No 3081 Detailed Design Documentation, Patterson Britton and Partners, 26 th Feb 06, refer to Appendix C
Geotechnical Engineer	A qualified Geotechnical Engineer appointed to perform the functions of "Geotechnical Engineer" under this Plan for a part of the Site with at least 10 years practical experience.
HDC	Hunter Development Corporation, or its successor organisation
Infrastructure Works	Works to deliver, maintain or augment infrastructure or services on the Site and includes facilitative or preliminary works for such purposes including intrusive works such as excavations, drilling, sampling, earth works, laying or removal of slabs etc.
Key Documents	Each of: • the Material Management Plan; • the Remediation Action Plan • the VRA; • the VOC Report; • the Preliminary Remediation Design; • the Final Design • The SPEMP
Level 1, Level 2, Level 3 materials	Classification of contaminated materials as defined by the Materials Management Plan.
Maintenance or Maintain	Activities, preventative or corrective works required to repair or restore remediation works as a result of any action or event that causes a loss in performance or effectiveness
Materials Management Plan	Guidelines forming part of the VRA documents, for the classification and movement of contaminated materials within the Site, as detailed in <i>Mayfield Site Solid Waste (Soils) Materials Management Plan</i> , Maunsell, June 2005.
EP&A Act or Planning Act	The <i>Environmental Planning and Assessment Act 1979</i> .
PEO Act	The <i>Protection of the Environment Operations Act 1997</i> .
Planning Approval	A Development Consent under part 4 of the EP&A Act or approval of a State significant infrastructure application or staged infrastructure application under part 5.1 of the EP&A Act.

Planning Authority	An Authority that has power to grant a Planning Approval.
Preliminary Design	Remediation Works at Mayfield - Preliminary Design Documentation, Patterson Britton and Partners, August 2006 refer to Appendix K
RAP	The Remediation Action Plan, Former BHP Site Mayfield, September 2004, SKM, commissioned by RLMC refer to Appendix M
Stormwater Strategy	Preliminary Design Stormwater Strategy, Issue No. 2, Patterson Britton and Partners, August 2006 refer to Appendix L
Project Works	Redevelopment Works and Infrastructure Works
Redevelopment Works	Works to develop, redevelop or change the use of the Site or any part of it including the demolition or erection of buildings or other structures and includes facilitative or preliminary works for such purposes including intrusive works such as excavations, drilling, sampling, earth works, laying or removal of slabs etc.
Remediation (or Remediate)	Includes (but is not limited to): • removing, disposing, destroying, reducing, mitigating or containing contamination; • eliminating or reducing any hazard arising from the contamination; and • validating that Remediation Work has been successful.
Remediation FSL	For Area 2 these are the Finished Surface Levels documented in RLMC's Preliminary Design for site remediation. For Area 1 the Remediation FSL's are documented on drawings included in Appendix D.
Remediation Works	Works to Remediate or manage contamination or the risks from it.
Remediation Work Method Statement	A document prepared to illustrate remediation designs work method and demonstrate compliance to the RAP and VRA
Requirement	A requirement specified in the plan as a requirement.
RLMC	Regional Land Management Corporation or its successor organisation. If no successor exists, a relevant State Authority.
Site	Lot 1, Lot 2 of DP 1177466, Lot 36, 37 and 38 and Part Lot 35 of DP 1191723 as shown in Figure 1, Site Identification.
Site Auditor	Mr Graeme Nyland Environ Level 5, 60 Miller St

	North Sydney or any alternative person accredited as a Site Auditor under the CLM Act and appointed to be the Site Auditor for the Site or part of it.
Site Auditor Confirmation	A Site Audit Statement or other written confirmation issued by the Site Auditor.
Site Audit Report	A Site Audit Report issued by the Site Auditor in accordance with the CLM Act.
Site Audit Statement	A Site Audit Statement issued by the Site Auditor in accordance with the CLM Act.
Site Plan	The diagram attached to the CSMP which identifies site areas and locations to which location specific provisions of this CSMP apply. Denoted 'Plan of Proposed Lease Areas & Proposed Easements, Lot 33 DP1116571, Mayfield'
SPEMP	Closure Area Site Preparation Environmental Management Plan, RLMC, October 2006 (Appendix B).
Stage 1 Remediation Works	All works necessary to satisfy the requirements of the VRA including those set out in part 3.2 below as Stage 1 requirements.
Stage 2 Remediation Works	All works necessary to satisfy the requirements of the VRA including those set out in part 3.2 below as stage 2 requirements.
State Remediation Validation and Audit Reports	Documentation generated during and following completion of the State Remediation Works Contracts to demonstrate the remediation is completed in accordance with requirements of the VRA, including Site Auditor Confirmation, Site Audit Statements and Site Audit Reports, as required under the VRA. The validation reports for State Remediation Works Contracts are provided in Appendix Q. Site Audit Reports, Site Audit Statements and related interim advices are provided in Appendix R.
State Remediation Works Contracts	Each of: - the Barrier Wall RLMC Contract - the Stage 1 Civil Works RLMC Contract - the Mayfield Freight Rail Contract - the Stage 2a Early Works Contract - the Stage 2a Main Works Contract - future remediation works in Area 2(b) The works as executed plans of State Remediation Works Contracts are provided in Appendix D. The Specifications of

	State Remediation Works Contracts are provided in Appendix C
State	the State of New South Wales
VENM	Virgin Excavated Natural Material
VOC	Volatile Organic Compound
VOC Report	Volatile Organic Compound Reference Document, Closure Area Site Mayfield, RCA Australia, September 2009
VRA	Voluntary Remediation Agreement (see below)
Voluntary Remediation Agreement or VRA	Voluntary Remediation Agreement under the CLM Act, number 26025, dated 14th September 2005, for Lot 3 DP 1032755 Mayfield, which is attached as Appendix G.
Works	Project Works and Remediation Works

3.2 Stage 1 and Stage 2 Remediation Works

Remediation works are to be implemented in two stages as allowed for in the VRA.

Stage 1 VRA Remediation requirements include:

- an up-gradient subterranean Barrier Wall around three sides of Area 1;
- construction of new major drains;
- re-contouring and filling of Area 1;
- management of excavated material in accordance with the Materials Management Plan developed for the site;
- capping of Area 1 to a permeability of 10^{-9} m/s and minimum thickness of 0.5m;
- temporary works to reduce infiltration across Area 2, including temporary drainage works to alleviate areas of ponding or high infiltration;
- environmental controls including appropriate management of surface waters;
- monitoring of groundwater quality and levels in accordance with EPA agreement prior to commencement of the Remediation Works;
- reassessment of the risk of harm to the environment posed by contaminants in the groundwater following the completion of the Stage 1 construction works and groundwater monitoring undertaken to verify the efficacy of the Stage 1 Remediation Works; and
- prior to the construction of any buildings in Area 1, assessment of the risk of harm to human health posed by the potential ingress of volatile vapours into buildings or confined spaces. An environmental site management or contingency plan will be developed to address any identified risk of harm.

Those Stage 1 works which have been completed by HDC are described in Part 5.3.

Stage 2 VRA Remediation requirements include:

- contouring and Capping of Area 2 (except parts of Area 2 exempted under the conditions of Planning Approval);
- management of excavated material in accordance with the Materials Management Plan developed for the Site;
- reassessment of the risk of harm to the environment posed by contaminants in the groundwater following the completion of the Capping of Area 2 and groundwater monitoring to verify the efficacy of the Stage 1 and 2 Remediation Works; and
- prior to the commencement of construction of any buildings within Area 2 assessment of the risks to human health posed by potential ingress of volatile vapours into buildings and confined spaces. An environmental site management or contingency plan will be developed to address any identified risk of harm.

In 2010, the EPA split the schedule of delivery of Stage 2 into two phases, being Stage 2(a) Port Lands and Stage 2(b) IIP Lands, refer to Appendix G and Figure 1. The schedule of Stage 2(b) was further revised on 20th March 2012 (Appendix G). There may be future revisions of these schedules to allow remediation of Area 2(b) to occur synergistically with development, subject to EPA approval.

3.3 Interpretation

In this CSMP, unless the context requires otherwise, a reference to:

- (a) any legislation or legislative provision includes any amendment or re-enactment of, or legislative provision substituted for, and any sub-ordinate legislation issued under, that legislation or legislative provision;
- (b) any guideline or other document issued under or adopted by any legislation includes such guideline or document as amended from time to time and, where the guideline is substituted or replaced by another document, that other document;
- (c) any agreement includes that agreement as amended from time to time and, where the agreement is substituted or replaced by another document, that other document;
- (d) words such as “includes” or “including” are not words of limitation or exclusivity. They indicate examples and are not exhaustive.

4. Regulation

4.1 Relevant Instruments

The statutory and strategic planning instruments, which guide this plan, include:

- i. Environmental Planning & Assessment (EP&A) Act 1979
- ii. Contaminated Land Management (CLM) Act 1997
- iii. Protection of the Environment Operations Act 1997
- iv. Newcastle Local Environmental Plan 2012 (NLEP)
- v. Newcastle Development Control Plan 2012 (NDCP)
- vi. Hunter Regional Environmental Plan 1989 (Heritage) – made under the EP&A Act
- vii. SEPP No. 55 - Remediation of Land
- viii. Water Act 1912, Water Management Act 2000 and Rivers and Foreshores Improvement act 1948
- ix. Conveyancing Act 1919
- x. Occupational Health and Safety Act 2000

4.2 Environmental Planning and Assessment (EP&A) Act 1979

The Development Consent

Consent for Development Application No DA 293-08-00, (File No. S99/00601) was issued by the Minister for Planning on 6th April 2001, for activities within the Site including a container terminal, demolition and remediation. Remediation activities completed by the State have been carried out under the Development Consent. Further Planning Approvals may be required for Works.

As of 10th November 2013 there have been 8 modifications to the original consent conditions as follows:

- Modification Application DA 293-08-00 – M1, approved on 29th June 2001 in relation to the timing of establishment of a Community Consultative Committee;
- Modification Application DA 293-08-00 – M2, approved on 13th August 2001 in relation to excision of heritage areas from the development area;
- Modification Application DA 293-08-00 – M3, approved on 29th February 2002 in relation to protection of fig trees and noise monitoring requirements;
- Modification Application MOD-77-7-2003-i approved on 16th September 2003 in relation to the burial of Blast Furnace No.1 slag stump;

- Modification Application MOD-60-4-2005-i, approved on 15th September 2005 in relation to land description, soil Capping, hours of operation, groundwater management, stormwater, Capping exemptions and transport infrastructure; and
- Modification Application MOD-64-7-2007-i, approved on 21st August 2007 in relation to alteration of the alignment of the railway lines and relocation of two major stormwater drainage lines on the site.
- Modification Application MOD – 56-7-2008, approved in August 2008 in relation to alteration and temporary relocation of, the general cargo handling facility, refurbishment of the existing wharf and a change in site access from Crebert St to Selwyn St
- Modification Application MOD – 06-02-2009, approved in March 2009 in relation to a minor change in rail alignment

Reference should be made to the current consent conditions which as of 10th November 2013 are included in the Consolidated Instrument (Modification 8) in Appendix A. Note that these may be changed again and enquiries should be made with relevant Authorities and the Site Auditor to identify the current consent conditions.

It should be noted that permeability requirements for the 'M areas' identified in condition 5.18 are no longer relevant to the remediation obligations under the consent and have been superseded by requirements specified in the VRA, confirming permeability of $K < 1E-7 \text{ ms}^{-1}$ for all of Area 2A and Area 2B.

A 'Site Preparation Environmental Management Plan' (SPEMP) in accordance with consent condition 4.2 of the Development Consent has been approved by the Department of Planning. The SPEMP should be supported by a 'Construction Environmental Management Plan' and an 'Operations Environmental Management Plan' to the extent required by the relevant planning consent.

The purpose of this Contaminated Site Management Plan is detailed in Section 2.1. In the context of the development consent, this CSMP is formulated to satisfy consent conditions 4.1 and 5.20 in relation to "cap maintenance" and ongoing integrity of the remediation.

Other Relevant Requirements of the Act

Planning Approval for works can be issued under Part 5.1 or Part 4 of the EP&A Act.

Part 5.1 of the EP&A Act is concerned with State significant infrastructure and Division 4.1 of Part 4 is concerned with State significant development. Pursuant to those provisions of the EP&A Act:

- State significant development is development that is declared to be State significant development by a State environmental planning policy or by the Minister, by order published in the Gazette, following advice from the Planning Assessment Commission about the State or regional planning significance of the development (section 89C); and
- State significant infrastructure is development that is declared to be State significant infrastructure by a State environmental planning policy or by an order of the Minister (published on the NSW legislation website) that amends a State environmental planning policy for that purpose (section 115U).

With relevance to licence and permit requirements discussed below, approved State significant development and approved State significant infrastructure is exempt from any requirement to obtain certain approvals, including a water use approval under section 89, a water management work approval under section 90 or an activity approval (other than an aquifer interference approval) under section 91 of the *Water Management Act 2000*.

Part 4 of the EP&A Act is concerned with the grant of Development Consent (including where, as discussed above, the development consent is in respect of State significant development). Consent authorities can receive and determine development applications to grant Development Consent to permit the carrying out of development. Because Part 4 deals with Development Consents, the Authority granting a Development Consent is referred to as a consent Authority.

For all approvals, under Part 5.1 and Part 4, relating to the Site it is relevant to consider the contamination status of the Site.

Part 7A Liability in respect of contaminated land

Section 145B relevantly provides that a Planning Authority does not incur liability for anything that it does or omits to do in good faith, in duly exercising any planning function to which section 145B applies (which includes the processing and determination of a development application):

...in so far as it relates to contaminated land (including the likelihood of land being contaminated land) or to the nature or extent of contamination on land.

Section 148(3) further provides that a Planning Authority is:

...taken to have acted in good faith if the thing was done or omitted to be done substantially in accordance with the contaminated land planning guidelines in force at the time the thing was done or omitted to be done.

Accordingly, the Planning Authority will consider the contaminated land planning guidelines in determining an application for Planning Approval.

The Department of Planning has prepared Guidelines called "Management Land Contamination - Planning Guidelines SEPP55 – Remediation of Land". These refer to the role of Site Auditors and Site Audit Statements. It is intended that this plan will be utilised by site auditors and referenced in their statements or reports. Accordingly this plan should be a relevant consideration for Planning Authorities when considering the Works on the Site.

Environmental Assessment Requirements

In respect of Works proceeding for assessment under Part 4 of the EP&A Act s79C sets out assessment requirements:

Matters referred to in section 79C(1) include:

- (a) the provisions of:
 - (i) any environmental planning instrument, and
 - (ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority

that the making of the proposed instrument has been deferred indefinitely or has not been approved, and

- (iii) any development control plan, and
- (iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a Developer has offered to enter into under section 93F, and
- (iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and
- (v) any coastal zone management plan (within the meaning of the *Coastal Protection Act 1979*),

that apply to the land to which the development application relates,

- (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,
- (c) the suitability of the site for the development,
- (d) any submissions made in accordance with this Act or the regulations,
- (e) the public interest.

In respect of both State significant infrastructure (pursuant to section 115Y) and State significant development (pursuant to Part 2 of Schedule 2 of the EP&A Regulation) when an application is made, the Director-General will prepare environmental assessment requirements or EARs for the infrastructure or development. The environmental assessment prepared by the proponent will need to comply with these EARs (for State significant infrastructure: Schedule 2, Part 4, clause 13 of the EP&A Act Regulation and for State significant development: Schedule 2, Part 2, clause 3(8) of the EP&A Act Regulation).

Approval Conditions

Approvals under Part 5.1 and Part 4 can be issued subject to conditions that could, relevantly, include requirements relating to site remediation.

In respect of Part 4, section 80(1) (and section 89E(1) for State significant development) provides that a consent Authority may consent to a development application either unconditionally or subject to conditions.

Section 80A(1)(a) and (f) provide that conditions may be imposed if the conditions relate to, or require the carrying out of, works relating to any matter referred to in section 79C(1) that is relevant or applicable to the development that is the subject of the consent. Most relevant provisions in s79C are set out above.

In respect of Part 5.1, Section 115ZB(3) provides that State significant infrastructure may be approved under Part 5.1 "with such modifications of the infrastructure or on such conditions as the Minister may determine."

Accordingly, conditions can be imposed as conditions of Planning Approval under Part 4 and Part 5.1. The conditions might include conditions relating to contamination, for example that there be a Site Audit Statement (see CLM Act below) issued:

- before works commence;
- before a construction certificate is issued; or
- before an occupation certificate is issued.

Part 4A certification – construction and occupation certificates

Section 109C of Part 4A sets out four kinds of certificates that are relevant to development conducted in accordance with Part 5.1 and Part 4 approvals. The certificates include: compliance certificate, construction certificate, occupation certificate and subdivision certificate.

Most relevantly, section 109C provides that:

- a *construction certificate* is a certificate issued prior to work being performed, to the effect that if the work is completed in accordance with specified plans and specifications, then it will comply with the requirements of the regulations; and
- an *occupation certificate* is a certificate issued once work is completed, that authorises the occupation and use or a change in use of a building.

The erection of a building (which includes any structure other than certain temporary structures¹) in accordance with a Development Consent must not be commenced until a construction certificate has been issued for the work by the consent Authority, council or accredited certifier, (section 81A(2)). A similar prohibition applies to commencing subdivision work without a construction certificate, (section 81A(4)).

In relation to an occupation certificate, a person must not commence occupation or use of a new building unless an occupation certificate has been issued, (section 109M).

For Part 5.1 approvals, clause 198(2) of the EP&A Regulation provides that the provisions requiring construction and occupation certificates (sections 81A and 109M) only apply if they would have applied if Part 5.1 did not apply to the infrastructure (that is, the infrastructure would have required Development Consent under Part 4), and only apply to a "critical infrastructure project" if the Minister makes compliance with section 81A or 109M a condition of the Part 5.1 approval (clause 198(3)).

Part 4A certification – enforcing approval conditions

S109F provides that a construction certificate is not to be issued unless the requirements of the regulations referred to in section 81A(5) have been complied with.

In this regard, clause 146 of the EP&A Regulation relevantly provides that a construction certificate must not be issued unless each condition of the Development Consent that must be complied with before a construction certificate may be issued has been complied with.

Similarly, section 109H(2) provides that:

¹ Temporary Structure is defined to mean:

- (a) a booth, tent or other temporary enclosure, whether or not a part of the booth, tent or enclosure is permanent; and
- (b) a mobile structure (not defined).

An occupation certificate must not be issued unless any preconditions to the issue of the certificate that are specified in a development consent or complying development certificate...have been met.

In this way, Planning Approval conditions relating to contamination and remediation can be linked to the Part 4A certification process.

Planning Agreements

Planning Agreements may be entered into by a Planning Authority and people proposing to develop land. A Planning Agreement can, in some circumstances, be registered on the title to land and thereby bind successive owners of land.

Exempt Development

Exempt Development does not require development consent and is not an activity to which Part 5 of the EP&A Act applies. Categories of development may be prescribed as exempt development in an environmental planning instrument.

Generally it will not be appropriate for any development on the Site which involves any of:

- the penetration of the ground;
- earthworks of any sort;
- the use of lands in areas ###;

To be declared to be exempt development.

Complying Development

Development that requires development consent but meets the requirements for complying development can be carried out under a complying development certificate.

Generally it will not be appropriate for any development on the Site which involves any of:

- the penetration of the ground;
- earthworks of any sort;

To be declared to be complying development.

Part 5 Assessment

Some activities may be carried out without the need for development consent but must be assessed under Part 5 of the EP&A Act. In respect of these activities a public authority (called a determining authority) that needs to give its approval to the activity (eg the EPA or a public authority that is a lessor or licensor) must before doing so have regard to the fullest extent possible to the environmental impacts of the activity. The interaction between the contamination and the remediation works on the site and to the proposed activities are matters to which regard should be had by determining authorities. Determining authorities should condition their approvals in a manner consistent with and that requires compliance with this CSMP.

4.3 State Environmental Planning Policy No 55 – Remediation of Land (SEPP 55)

SEPP 55 applies to the Site and requires a consent authority to consider the contamination status of land prior to granting consent for the carrying out of any development. If the land is contaminated, the consent authority must be satisfied that:

- (a) the land is suitable in its contaminated state (or will be suitable subsequent to remediation) for the purpose for which the development is proposed to be carried out; and
- (b) if remediation is required, the land will be remediated before the land is used for that purpose.

SEPP 55 sets out the type of remediation work that is permissible with or without consent and various requirements in respect of each. It also provides that all remediation work must be carried out in accordance with:

- (a) the contaminated land planning guidelines; and
- (b) any guidelines in force under the CLM Act; and
- (c) in the case of remediation work defined as category 1 remediation work under SEPP 55, a plan of remediation approved by the consent authority and prepared in accordance with the contaminated land planning guidelines.

Within 30 days of completion of remediation work, a notice of completion must be given to the relevant local council for the Site and the consent authority (if the consent authority is not the local council).

4.4 Contaminated Land Management (CLM) Act of 1997

The Site is regulated under the CLM Act. The most relevant sections include:

- Section 11 - The site has been declared to be significantly contaminated land;
- Section 17 – there is an approved voluntary management proposal in place for the site: Voluntary Remediation Agreement (VRA No. 26025 dated 14 September 2005) between the NSW EPA and the HDC;
- Section 28 - Maintenance of remediation: order to owner or occupier – The EPA may by order in writing served on a person who is an owner, or occupier, of land require the person to maintain remediation action in relation to the land, commencing within such reasonable time as is specified in the order. In the event that in the site is undeclared, a Section 28 may also be imposed to allow access for the continuance of monitoring (if the land has been the subject of a management order or approved voluntary management proposal); and
- Section 29 - Covenants for maintenance of remediation can be registered on title.

The declaration under Section 11 (formerly Section 21) identifies significant risk of harm issues to both the environment (principally via offsite migration of contaminated groundwater) and site occupants (principally via potential exposure to site soils and volatile gases).

The VRA requires Remediation Works that satisfactorily mitigate the risk of harm associated with:-

- a) off-site migration of contaminated groundwater. These works include low permeability Capping of the site surface in accordance with the conditions of planning consent, and construction of an up-gradient Barrier Wall to Area 1 (completed February 2007); and
- b) human exposure to soils and volatile gases. These works include Capping of the site surface in accordance with the conditions of Planning Approval, and appropriate measures to manage the risk of exposure to volatile gases. The VRA requires a Site Audit Statement that the site is suitable for the intended land-use.

The CLM Act also establishes the NSW Site Auditor Scheme. The requirements of this Plan include requirements for obtaining Site Auditor approval for various plans, proposals and Works.

A site audit has a particular statutory meaning under the CLM Act as follows: (section 4)

site audit means a review:

- (a) that relates to management (whether under this Act or otherwise) of the actual or possible contamination of land, and
- (b) that is conducted for the purpose of determining any one or more of the following matters:
 - (i) the nature and extent of any contamination of the land,
 - (ii) the nature and extent of any management of actual or possible contamination of the land,
 - (iii) whether the land is suitable for any specified use or range of uses,
 - (iv) what management remains necessary before the land is suitable for any specified use or range of uses,
 - (v) the suitability and appropriateness of a plan of remediation, a long-term management plan or voluntary management proposal.

A **statutory site audit** for the purpose of Part 4 of the CLM Act is a reference to a site audit carried out in order to secure compliance with one or more of the following:

- (a) a requirement under this Act,
- (b) an approved voluntary management proposal,
- (c) a requirement imposed by *State Environmental Planning Policy No 55—Remediation of Land* or by any other environmental planning instrument made under the *Environmental Planning and Assessment Act 1979* or by any development consent or approval given under that Act,
- (d) any other requirement imposed by or under an Act,

unless it is carried out only in order to secure compliance with a legal obligation arising from an agreement or arising in such other circumstances as the regulations may prescribe.

Under the statutory definition, the purpose of a site audit is not restricted to determining whether land has been successfully remediated so as to be suitable for specified uses, but may also be for the purpose of determining the suitability and appropriateness of remediation plans and proposals to make the land suitable for specified uses.

Broadly, the certification that alternative forms of a site audit statement can provide include:

- (a) prior to remediation, that a plan or design for remediation is suitable and appropriate; or
- (b) following completion of the remediation, the land is now suitable for a relevant use.

Other provisions relevant to the provision of site audit statements include that:

- a Site Auditor who performs a statutory site audit must be accredited to do so by the EPA; (section 48);
- when carrying out a site audit, the Site Auditor must prepare a written site audit report and provide that report to the person who commissioned the site audit; (section 53B(1));
- the site audit report must critique the information collected in the site audit and justify the findings proposed to be contained in the site audit statement; and (section 53B(2));
- after completing the site audit report, the Site Auditor must make a site audit statement in an EPA approved form, which contains the Site Auditor's findings in relation to the site audit, and provide that report to the person who commissioned the site audit and the EPA and local Authority (if a statutory site audit), (section 53B(3) and (4)).

Where a Site Auditor is commissioned to carry out a "Statutory Site Audit" by any person other than the EPA, they must notify the EPA within 7 days of being commissioned (section 53C).

4.5 Conveyancing Act 1919

The Conveyancing Act 1919 regulates the ability to register restrictive covenants, public positive covenants, easements and other interests on title of land. Relevantly:

- a public positive covenant may be registered in specified circumstances. This includes covenants that impose obligations requiring the carrying out of development, the provision of services, the maintenance, repair or insurance of any structure or work;
- restrictive covenants may be registered that prevent or limit the use of land;
- section 88A enables the creation of easements benefiting certain public authorities and corporations;
- section 88BA enables the registration of covenants to maintain and repair land that is the site of or burdened by an easement;
- section 88B enables easements, restrictive covenants and other interests to be created by registration of plans;
- section 88D enables land held by certain authorities to be burdened by restrictive covenants and public positive covenants;
- section 88E enables certain public authorities to burden land not held by those with restrictive covenants and public positive covenants; and
- section 88F sets out certain powers in respect of the enforcement of public positive covenants.

Maintenance of remediation covenant – CLM Act

Under the CLM Act, where land has been the subject of:

- a management order under section 14 of the CLM Act; or

- an approved voluntary management proposal under section 17 of the CLM Act,

the EPA is permitted to impose positive covenants or restrictions on land requiring the owner to do one or more of the following in relation to that land (section 29):

- (a) to carry out any ongoing management of the land that is specified,
- (b) to provide reports to the EPA or any other specified person at specified periods or on the occurrence of any specified event,
- (c) to inform the EPA of any change in the ownership or occupancy of the land, to the extent that the person is aware of the change,
- (d) to not carry out specified activities on the land and to not permit other persons to carry out any such activities on the land,
- (e) to not use the land for specified purposes and to not permit other persons to use the land for those purposes,
- (f) to carry out any other requirement in relation to the ongoing monitoring and maintenance of the land that is prescribed by the regulations.

Section 29 operates by allowing the EPA to impose the positive covenant or restriction pursuant to section 88E of the *Conveyancing Act 1919* (NSW).

Section 88E of the Conveyancing Act allows a prescribed Authority to impose restrictions on the use of or impose public positive covenants on land so as to be enforceable by the prescribed Authority (in this case the EPA). However, whereas section 88E requires the deed or memorandum by which the covenant is imposed to be executed by agreement, section 29 allows the EPA to impose the section 88E covenants unilaterally.

Where land is actually held by a "prescribed authority" within the meaning of section 88E of the Conveyancing Act, the prescribed authority would not need to rely upon section 29 or section 88E but could impose a public positive covenant requiring the maintenance of Remediation Work.

Other powers from public positive covenant – Conveyancing Act

Section 88F of the Conveyancing Act provides that a prescribed authority having the benefit of a public positive covenant will have the following powers:

- to ensure covenant observance the Authority may enter and inspect the land twice in every year.
- where a covenant requires a person to insure any structure or carry out development of any nature and that person fails to perform their obligation, the prescribed Authority may step in and perform the obligation on the person's behalf.
- where the prescribed Authority steps in and performs an obligation that was required of another person, the Authority may recover its expenses in a court.

Further powers attach to a positive covenant as follows:

- where a person has engaged or is planning to engage in conduct that would contravene a covenant, section 88H allows a Court to, on application by the prescribed Authority, injunct the person from doing so; and
- where a person has contravened a public positive covenant imposed under section 88E, the prescribed Authority may apply to the Court under section 88I for an order that the land be conveyed or transferred to the Authority.

4.6 Protection of the Environment Operations Act 1997

The PEO Act contains a large number of offences including offences relating to land pollution, air pollution, waste disposal and leaks and spills.

Most relevantly, the PEO Act provides that it is an offence to cause or permit the pollution of any waters without an environmental protection licence, (section 120 and 122). For the purpose of this offence, the pollution of waters includes the pollution of groundwater, as water is defined to include any "underground or artesian water", (Dictionary to PEO Act).

In permitting environmental protection licences as a defence to water pollution, the PEO Act has empowered the EPA to regulate activities that may potentially pollute waters through the imposition of conditions within environmental protection licenses, (section 63).

The PEO Act also requires that environment protection licences be obtained for certain "scheduled activities".

4.7 Work Health and Safety Act 2011

One of the main objects of the *Work Health and Safety Act 2011* (NSW) (**WHS Act**) is to secure the health and safety of workers and workplaces by protecting workers and other persons against harm to their health, safety and welfare through the elimination or minimisation of risks arising from work or from specified types of substances or plant. In furthering that object: "regard must be had to the principle that workers and other persons should be given the highest level of protection against harm to their health, safety and welfare from hazards and risks arising from work or from specified types of substances or plant as is reasonably practicable. (section 3)

Under the WHS Act, the primary duty of care for any person conducting a business or undertaking is set out at section 19 as follows:

8 Primary duty of care

- (1) A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of:
 - (a) workers engaged, or caused to be engaged by the person, and
 - (b) workers whose activities in carrying out work are influenced or directed by the person,while the workers are at work in the business or undertaking.
- (2) A person conducting a business or undertaking must ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking.
- (3) Without limiting subsections (1) and (2), a person conducting a business or undertaking must ensure, so far as is reasonably practicable:
 - (a) the provision and maintenance of a work environment without risks to health and safety, and
 - (b) the provision and maintenance of safe plant and structures, and
 - (c) the provision and maintenance of safe systems of work, and

- (d) the safe use, handling, and storage of plant, structures and substances, and
 - (e) the provision of adequate facilities for the welfare at work of workers in carrying out work for the business or undertaking, including ensuring access to those facilities, and
 - (f) the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking, and
 - (g) that the health of workers and the conditions at the workplace are monitored for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking.
- (4) If:
- (a) a worker occupies accommodation that is owned by or under the management or control of the person conducting the business or undertaking, and
 - (b) the occupancy is necessary for the purposes of the worker's engagement because other accommodation is not reasonably available,
- the person conducting the business or undertaking must, so far as is reasonably practicable, maintain the premises so that the worker occupying the premises is not exposed to risks to health and safety.
- (5) A self-employed person must ensure, so far as is reasonably practicable, his or her own health and safety while at work.

Separate obligations for persons who have a degree of management or control over a workplace are set out at section 20 as follows:

20 Duty of persons conducting businesses or undertakings involving management or control of workplaces

- (1) In this section, person with management or control of a workplace means a person conducting a business or undertaking to the extent that the business or undertaking involves the management or control, in whole or in part, of the workplace but does not include:
- (a) the occupier of a residence, unless the residence is occupied for the purposes of, or as part of, the conduct of a business or undertaking, or
 - (b) a prescribed person.
- (2) The person with management or control of a workplace must ensure, so far as is reasonably practicable, that the workplace, the means of entering and exiting the workplace and anything arising from the workplace are without risks to the health and safety of any person.

There are numerous other specific requirements for the protection of health and safety in the workplace.

4.8 Water Act 1912 and Water Management Act 2001

Certain authorisations discussed in this section, and the offences that arise from acting without those authorisations, will not apply to parts of the project that have been approved under Part 5.1 or under Division 4.1 of Part 4. (sections 115ZG and 89J of the EP&A Act).

Water Act 1912 (NSW) (Water Act)

Part 5 of the Water Act contains offences where the sinking or altering of a bore is not performed in accordance with a licence under that part, (sections 112 and 117I)

"Bore" is defined to relevantly include "...any excavation or other work connected or proposed to be connected with sources of sub-surface water and...capable of being used to obtain supplies of such water..." (section 105)

The Water Administration Ministerial Corporation is able to regulate works connected with a bore as the conditions subject to which a Part 5 licence is issued, may include conditions relating to the protection of the environment, (section 116AA).

Water Management Act 2000 (WM Act)

The WM Act makes it an offence to carry out a "controlled activity" in, on or under "waterfront land" other than in accordance with a controlled activity approval (section 91E), or carry out an "aquifer interference activity" other than in accordance with an aquifer interference approval (section 91F).

As an example, the note to section 91 states that an aquifer interference approval may be needed to perform "road construction and any other large scale activity that involves excavation."

Definitions in the WM Act dictionary which are relevant to sections 91E and 91F include:

- A **controlled activity** is relevantly defined to include the erection of a building or the carrying out of a work (as defined in the EP&A Act), the removal of material or the deposition of material.
- **Waterfront land** is relevantly defined as the bed of any river, together with any land lying between the bed and a line drawn parallel to, and 40m inland of, the highest bank of the river.
- An **aquifer interference activity** relevantly includes an activity involving the penetration of an aquifer, the interference with water in an aquifer or the obstruction of the flow in an aquifer.

Similarly, the WM Act requires water supply work approvals or drainage work approvals to carry out work such as: conveying water to the point at which it is used in a water pipe or draining water from land through pump, pipe or channel.

In issuing approvals, the Minister must be satisfied that adequate arrangements are in place to prevent the activity causing harm to water. For example, section 97(4) provides:

A controlled activity approval is not to be granted unless the Minister is satisfied that adequate arrangements are in force to ensure that minimal harm will be done to any waterfront land as a consequence of the carrying out of the proposed controlled activity.

The WM Act enables the Minister to impose discretionary conditions on approvals relating to the protection of the environment, (section 100). In this way the Minister is able to regulate the relevant activities for the duration of the approval.

5. Remediation Strategy

5.1 VRA Remediation Strategy

The VRA remediation strategy includes the implementation of Remediation Works in two stages.

Stage 1 includes the following construction works:-

- o Construction of a subterranean Barrier Wall (completed February 2008);
- o Re-contouring and Capping of the majority of Area 1 (completed in June 2008);
- o Major drains – the ‘Eastern Drain’ and ‘Western Drain’; and
- o Interim environmental works to reduce groundwater recharge rates in Area 2 and control sediments in stormwater runoff

Details of the completed Stage 1 Remediation Works are described in Section 5.3 below.

(See further part 3.2 above)

Stage 2 works primarily involve the re-contouring and low permeability Capping of Area 2. These works may be provided synergistically with Project Works, or as separate Remediation Works for undeveloped land.

The timeline for completion of Stage 2 works was revised in 2010, whereby the EPA confirmed a delivery of Stage 2 into two phases, being Stage 2(a) Port Lands (completed by HDC in 2013) and Stage 2(b) IIP Lands; refer to Appendix G and Figure 1. The schedule of Stage 2(b) was further revised on 20th March 2012 (Appendix G). There may be future revisions of these schedules to allow remediation of Area 2(b) to occur synergistically with development, subject to EPA approval.

5.2 Key Documents

The strategy and implementation of Remediation Works on the Closure Area is documented in the following Key Documents:

- The VRA;
- The RAP;
- Materials Management Plan;
- Preliminary Remediation Design;
- The VOC Report;
- The SPEMP;
- The State Remediation Works Contracts
- The State Remediation Validation and Audit Reports

The VRA documents the agreed remedial goals, and the scope and timing of Remediation Works. This may be varied only with the agreement of the EPA. The VRA was modified in

2010 and again in 2012. The VRA and subsequent modifications are provided in Appendix G.

The RAP was formulated to provide a basis for the VRA and is designed to address contamination issues in relation to soil and groundwater. The purpose of this document was to address the declaration of the Closure Area as a remediation site and form the basis of a VRA with EPA and comply with the conditions of consent for the approved remediation works. The RAP is provided in Appendix M.

The Materials Management Plan (MMP) provides guidelines for the classification and fate of contaminated materials encountered during site works. The plan outlines specific controls and procedures regarding the classification, segregation, movement and fate of materials. Requirements for the on-site fate of contaminated materials include restrictions in relation to depth of placement and location. The MMP is provided in Appendix I.

The Preliminary Remediation Design documents proposed earthworks levels and grades across the site, and the pattern of surface drainage. The Preliminary Remediation Design is generally consistent with the site stormwater strategy. During final design of the remainder of the remediation works, the Preliminary Remediation Design details may be revised to incorporate alternative designs for site civil works, provided they are compatible with adjacent site levels, infrastructure proposals, and the intent of the site stormwater strategy. The Preliminary Remediation Design is shown in Appendix J.

The VOC Report documents requirements for Remediation Works and Project Works to manage risks associated with the presence of volatile organic compounds at the Site. The VOC Report along with former monitoring reports and the plan showing the location of existing VOC vents in Area 1 are shown in Appendix H.

The SPEMP sets out plans and procedures to ensure the remediation activities undertaken under Development Application No. DA 293-08-00 is completed in compliance with the development consent. For remediation or project works undertaken under a separate consent, the SPEMP will not necessarily apply.

The State Remediation Works Contracts comprise:

- the Barrier Wall RLMC Contract;
- the Stage 1 Civil Works RLMC Contract;
- the Mayfield Freight Rail HDC Contract;
- the Stage 2a Early Works HDC Contract;
- the Stage 2a Main Works HDC Contract;

Contract documents for remediation works were formulated on the basis of general landform and drainage concepts of the Preliminary Remediation Design (Whole Site), the RAP, the MMP and the VRA. The WAE plans of State Remediation Works Contracts are provided in Appendix D.

The State Remediation Validation and Audit Reports were generated on completion of each State Remediation Works Contract to demonstrate the work is completed in accordance with requirements of the contract documents and the VRA. These reports are provided in Appendix Q. Interim Advices, Site Audit Reports, Site Audit Statements are generated during auditing processes under the CLM Act and are provided in Appendix R.

5.3 Port Lands Remediation by State

5.3.1 Stage 1 Barrier wall

A deep subsurface low permeability Barrier Wall was constructed by RLMC in 2006. It is constructed as part of the Stage 1 Remediation Works, extending from the ground surface to the bottom of the natural sand and alluvial deposits of the Hunter River (30 metres to 49 metres). The Barrier Wall has been constructed using soil-bentonite techniques which use bentonite slurry for trench support, with the Barrier Wall then formed by backfilling the trench with a high slump mixture of soil and bentonite slurry and clay additives.

The wall has a surface completion beam designed for SM1600 traffic loadings. Work-as-executed details on the alignment and elevation of the Barrier Wall and surface completion beam are attached as Appendix D.

Development restrictions apply to works or land-uses in the vicinity of the Barrier Wall. Refer to Part 15 of this Plan.

5.3.2 Contaminated Materials, Earthworks and Capping of Area 1

The re-contouring and Capping of Area 1 was completed by RLMC in 2008, as part of the Stage 1 Remediation Works. During the site earthworks contaminated materials were encountered, and these were excavated, classified and placed on site in accordance with the Materials Management Plan. Level 2 and Level 3 materials were placed within specific placement areas inside Area 1. The materials within the Level 2 and Level 3 placement areas within Area 1 are known to contain asbestos materials. The locations of these placement areas are shown on **Figure 2**.

Contaminated material encountered during the Stage 1 Remediation Works resting below the cut to fill profile has generally been left insitu and recorded in Figure 2. This is not an accurate or exhaustive map of in-situ contamination; other areas of in-situ are likely to exist but their location is unknown.

Levels and grades were designed to be compatible with anticipated land-uses while also meeting remediation objectives. Two types of Cap have been provided:-

- **VENM Cap** – comprising 0.5m of Virgin Excavated Natural Material (VENM) constructed to finished surface levels for remediation; and
- **Paved Cap** – comprising 300mm of granular site material overlain by 100mm of 20mm size crushed concrete, and sealed with a bituminous two coat seal. This has been constructed to a level which is 400mm below the finished surface levels documented on the Preliminary Remediation Design drawings for Area 1. This allows 'air space' for the construction of additional pavement thickness as part of subsequent Project Works, as may be structurally required for heavy duty hardstands, and/or as may be required to meet Site Auditor requirements for the proposed land-use.

A Validation Report was prepared for the Stage 1 Remediation Works by Coffey Environment in June 2008 to verify that contractor requirements for the handling, tracking, and fate of contaminated materials. The validation report is provided in Appendix Q. The validation report identifies that, based on the sampling undertaken the slag materials used for construction of the paved Cap within Area 1 comply with the requirements of the Materials

Management Plan for Level 1 materials. However, the sample test results indicate that some samples from the slag paved Cap exceed National Environmental Protection Measure guidelines for industrial land-use.

Works as Executed Plans showing the extent of regrading and Capping on Area 1 are included in Appendix D. The location of hazardous materials remaining in Situ and those emplaced during remediation works in Area 1 and Area 2(a) Port Lands is shown in Figure 2.

The land owner is to maintain the Cap over Area 1 until such time as the land is leased or sold, at which point the responsibility to maintain the remediation becomes the responsibility of the purchaser or Lessee. The mechanisms by which responsibilities are allocated are discussed in Section 6.3 *Control of Works and Enforcement of Plan*.

5.3.3 Major Drains

The western and eastern trunk stormwater drains have been constructed by RLMC as part of the Stage 1 Remediation Works. The location of these drains is shown in Figure 3 and also detailed in the WAE Plans, Appendix D. RLMC have also constructed interim environmental drainage works in Area 2 to reduce infiltration and provide stormwater detention for sediment removal, to operate in the period prior to development. Future development of the site will require regulatory approval for the design of permanent stormwater quality improvement devices to service the development, including provisions of NCC's DCP 50 for individual lots, grassed swales and sand filters, stormwater detention basins and gross pollutant traps, as outlined in the Stormwater Strategy. Interim environmental drains and detention basins may not be decommissioned until written authority has been obtained from the EPA on the design of permanent water quality improvement facilities.

It is noted that the major drains across the Port Lands have been designed in accordance with standard hydrological design protocols relevant at the time of construction, prior to any State or Local Government requirements that require additional consideration of Climate Change and associated sea level rise. Hence it is a possible that the Site may be affected by planning constraints which must be taken into account during Project Works feasibility, concept and detailed design processes.

The Stormwater Drainage Strategy is provided in Appendix L.

5.3.4 Soil Contamination Hot Spots in Un-remediated Area 2B

During Stage 1, the results of site soil contamination tests available across Area 2 as compiled and reported in Soil and Fill Assessment, Selected Areas of the Closure Site RCA, June 2005 (provided in Appendix T) indicated the potential presence of five known soil contamination hotspots within Area 2A and 2B. HDC's contractor for the Stage 1 Remediation Works have excavated soils at four locations identified as potential contamination hotspots within Area 2 and removed Level 2 and Level 3 soils in accordance with the Materials Management Plan. These contaminated soils were consolidated into the Level 3 Placement Area located beneath the Cap within Area 1.

The fifth Area 2B hotspot labelled as Hotspot 5, which was not addressed during the Stage 1 remediation is located as shown in Figure 4.

Other elevated risk areas and known hotspots in Area 2B have been identified by HDC are also shown in Figure 4. This risk map has been derived from the following sources:

- The Newcastle Steelworks M Area Reports (ref: Appendix T)
- Soil and Groundwater Assessment Reports Woodward Clyde (ref: Appendix T – BHP M Area Reports)
- Buildex IIP Investigation (ref. Appendix T)
- Various RCA Investigations (ref Appendix T)

Attention is also drawn to sealed roads, pavements and the like. It was commonplace for BHP to utilise coal tars from the Coke Ovens (a Level 3 material) as a binder and seal for road pavements, carparks and the like. Some of these impacts are recorded in site investigations to date. In general, all old pavement areas should be treated with caution as they are likely to contain hazardous coal tars.

The Indicative Risk Map Area 2B Figure 4 is not intended to be an accurate or exhaustive and is intended for context only. There may be other hot spots in Area 1 or Area 2 which have not been detected by site investigations or recorded during implementation of State remediation works. Please refer to Section 18 (Information Disclosure) and Section 19 (Recommendations to Future Developers) for information on environmental characterisation of the Site as well as obligations for Developers of Project Works and Remediation Works to minimise risk.

5.3.5 Former Benzol Plant

A BHP site history review prepared in 1993 identified that there had been two major spills in the area of the Benzol plant in Area 1 (in 1985 and 1991). The spill that occurred in 1991 reportedly comprised 112500L of BTX (Benzene, Toluene and Xylene) and was discovered in the vertical tank storage bund area of the Benzol plant. At that time, spill cleanup was attempted by Environmental and Earth Sciences Pty Ltd (EES) who estimated that 93000L had discharged to ground. Some groundwater investigation work was undertaken by EES including partial remediation using a pump and treat system.

Subsequent site monitoring of volatile gases reported in Vapour Assessment Soil Vapour Investigation Area Former BHP Closure Site, Mayfield RCA, December 2005 indicated the presence of volatile hydrocarbons in the vicinity of the former Benzol Plant of the BHP Steelworks. To mitigate the potential build-up or migration of volatile gases under the surface Cap within Area 1, as part of the Stage 1 Remediation Works HDC has installed vents through the low permeability surface Cap within the area of the former Benzol Plant. The locations of these vents are shown in Appendix H.

Following installation of the wells and subsequent monitoring conducted by the RLHC / HDC it has been observed that VOC concentrations in wells have remained relatively consistent. All monitoring recorded to date is provided in Appendix H, along with a Benzene Assessment of this area undertaken by Woodward Clyde for BHP in 2000.

The Site Auditor has provided a letter of opinion that maintaining the VOC vents is an appropriate management of risks associated with volatile gases in this area for the period prior to site development within Area 1. Requirements for ongoing management of risks associated with volatile gases are provided in Part 14 of this Plan.

5.3.6 Demolition of Remnant Structures

Stage 1 and Stage 2A Remediation Works included the demolition of many below ground concrete structures remnant from the former steelworks. Generally, the structures were demolished to levels which are 1.5m below the ultimate Cap level as documented on the design drawings for Area 1 earthworks but in some instances relics remain less than 1.5m below the ultimate Cap levels.

It is also possible that undocumented structures exist within this clear zone, as it is likely that some foundations and structures were not recorded, or the records pre-date BHP mapping. Hence, it should be noted that massive steel and concrete foundations may be found anywhere on site.

Details of demolition levels are shown on Work-as-Executed drawings for the demolition works in Appendix N.

5.3.7 Documentation of Completed Stage 1 and Stage 2A Works

Completed Stage 1 and Stage 2A Remediation Works consist of the following phases:

1. Stage 1 Barrier Wall
2. Stage 1 Civil Works (Capping of Area 1 and construction of Major Drains in Area 2)
3. Stage 2A Mayfield Freight Rail (including integrated remediation)
4. Stage 2A Early Works (Capping of Area 2E and 2D)
5. Stage 2A Main Works (Capping of the remainder of Port Lands)

The details of how these works were undertaken are identified on the documents listed below:-

- | | |
|---|------------|
| • Works Contract Specifications | Appendix C |
| • Works as Executed Plans | Appendix D |
| • Work as Executed - Barrier Wall: | Appendix D |
| • Hazardous Material Emplacement | Figure 2 |
| • Locations of groundwater monitoring wells : | Appendix F |
| • VOC Management Documents | Appendix H |
| • Utilities (disconnections, re-routing) | Appendix N |
| • Remediation and Validation Reports | Appendix Q |
| • Site Auditing | Appendix R |

6. Control of Works and Enforcement of Plan

6.1 Overview

This Plan will be applied to control Works on the site through a number of mechanisms. In summary:

- The Plan documents issues for consideration by the Planning Authority when determining appropriate conditions of Planning Approval. These conditions may impose controls for compliance with requirements under this Plan.
- The Plan sets out matters that must be taken into consideration by the Site Auditor when issuing Site Audit Statements. The issue of those Site Audit Statements is expected to be a pre-condition to obtaining and relying on Planning Approvals and necessary construction and occupation certificates;
- The requirements for specific design elements and controls may be imposed as restrictive covenants, positive covenants or easements registered on title;
- The Plan may be incorporated into contractual arrangements between relevant parties including in lease and licence documents. These arrangements may include specific obligations to carry out (or not carry out) Works or as to the method of carrying out works, the design of works or obtaining Site Audit Statements or other controls.

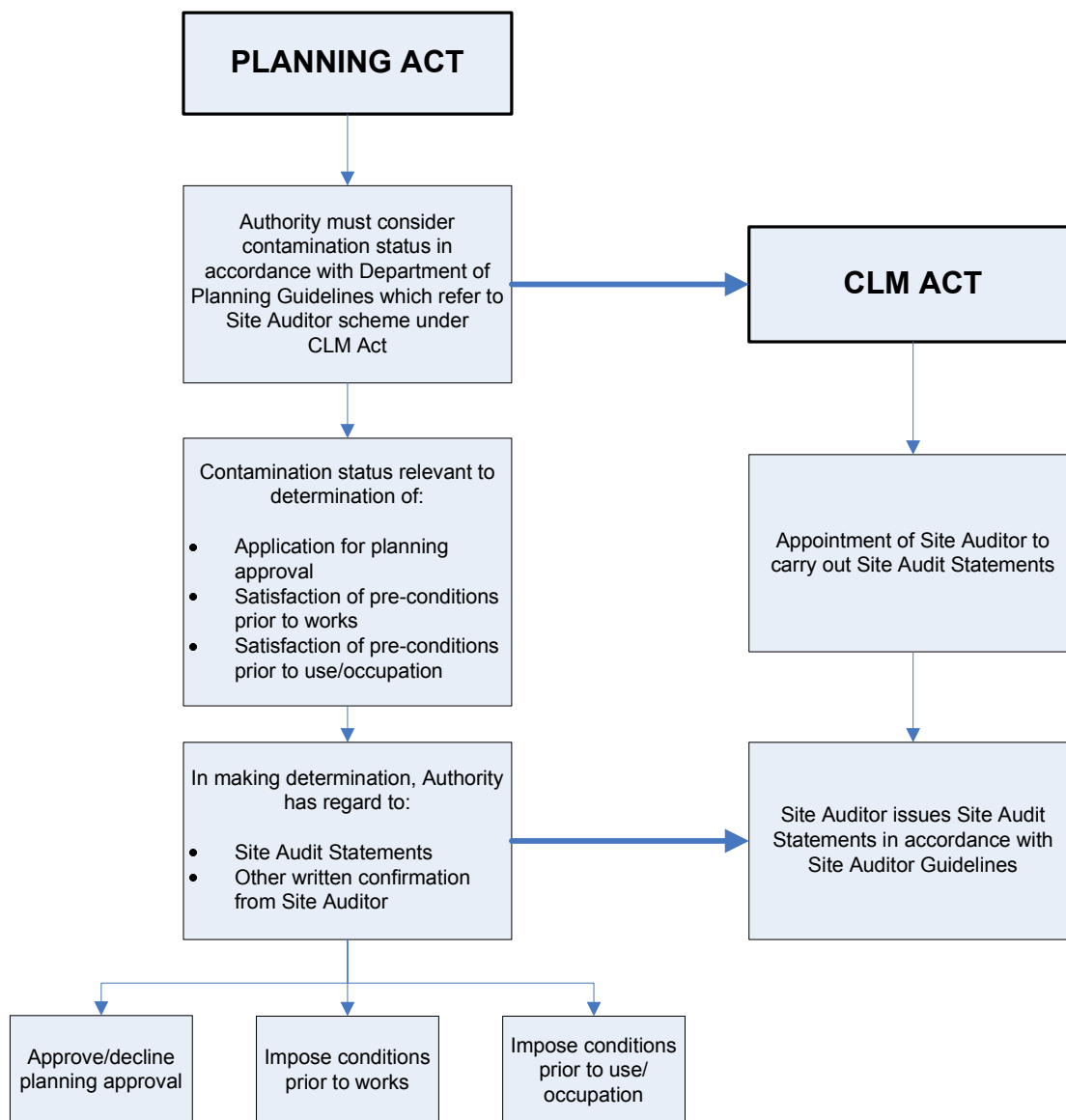
6.2 Site Auditor

The State has appointed the following EPA accredited Site Auditor as the **Site Auditor**.

Mr Graeme Nyland Environ Level 5, 60 Miller St North Sydney
--

The State may appoint a successor to the Site Auditor subject to the CLM Act.

6.3 Overview of Site Audit Process and interaction with planning and approval process



Under the CLM Act a Site Auditor is appointed to carry out site audits. The definition of a site audit under the CLM Act is set out at Section 4.4 of this Plan.

The role of the Site Auditor is not limited to independent review of the effectiveness of remediation but includes review of proposed remediation.

Under the CLM Act the concept of "remediation" includes:

- (a) preparing a long-term management plan (if any) for the land, and
- (b) removing, dispersing, destroying, reducing, mitigating or containing the contamination of the land, and

- (c) eliminating or reducing any hazard arising from the contamination of the land (including by preventing the entry of persons or animals on the land).

Accordingly, the role of the Site Auditor can include review of proposed risk mitigation measures or risk mitigation measures that have been undertaken.

A Site Auditor may issue Site Audit Statements in accordance with the requirements of the Site Auditor Guidelines. The form of Site Audit Statement in those guidelines includes Site Audit Statements of proposed works and Site Audit Statements of remediation actions taken.

Under the EP&A Act (see for example Part 7 of the Act) an Authority granting Planning Approval in respect of the Site must consider the contamination status of the Site in accordance with guidelines issued by the Department of Planning. Those guidelines in turn refer to the Site Auditor scheme under the CLM Act.

Three main and relevant decision points in the Planning Approval process are:

- Determination of an application for Planning Approval;
- The satisfaction of preconditions to the commencement of work; and
- The satisfaction of preconditions to the use or occupation of works.

A Planning Authority may (this is not an exclusive list):

- Decline to grant Planning Approval in the event that it is not satisfied that the Site is or can be made suitable for the proposed development or that the proposed development does not include design and other safeguards for the protection of human health and the environment;
- Impose conditions requiring that no Works proceed unless there is evidence that the Site is or can be made suitable for the proposed development or that the proposed development includes adequate design and other safeguards for the protection of human health and the environment (normally this requirement is tied to the issue of a construction certificate); or
- Impose conditions requiring that prior to the occupation or use of Works there is evidence that the Site is suitable for the proposed development or that the proposed development does include design and other safeguards for the protection of human health and the environment (normally this requirement is tied to the issue of an occupation certificate).

In making each of the determinations listed in the preceding paragraph regard can be had to the issue of a Site Audit Statement or some other written confirmation from the Site Auditor. In particular:

- If a Site Audit Statement has been issued confirming that in the opinion of the Site Auditor the Works as designed are appropriate;
- If at conclusion of Remediation Works a Site Audit Statement has been issued that the Site is in a condition that it suitable for the proposed development.

In issuing Site Audit Statements it is valid for the Site Auditor to have regard to the information that has been presented to the Site Auditor and, in particular, to have regard to whether Works have been carried out in accordance with designs or work plans that have previously been reviewed by the Site Auditor and any conditions imposed by the Site Auditor.

For example, the Site Auditor might decline to issue the final Site Audit Statement until the Site Auditor is satisfied that a Materials Management Plan designed to prevent recontamination of the relevant part of the Site has been complied with. In this scenario it makes sense for the Site Auditor to progressively review designs and work plans before the commencement of works so that problems as to design and work method are flushed out prior to works commencing.

It is intended that this Plan will be made available to Authorities and persons intending to carry out Work on the Site so that they are familiar with its requirements and are aware that the Site Auditor will have regard to it before issuing relevant Site Audit Statements. It is intended that when determining applications for Planning Approvals or certificates under the EP&A Act, Planning Authorities and certifying authorities will have regard to and act consistently with the requirements of the plan and will impose appropriate conditions to require a Site Audit be carried out and Site Audit Statements issued either prior to the grant of Planning Approval or prior to the grant of relevant certificates.

6.4 Summary of Requirements to Obtain Site Auditor Sign Off

The following table summarises the involvement of the Site Auditor relative to the decision points discussed in the previous section. It is not intended to be comprehensive. People by or on whose behalf Works are carried out on the Site must comply with the requirements of law and the relevant Authority guidelines which will require other interactions with and involvement of the Site Auditor.

Stage	Site Auditor involvement	Type of work	Site Auditor involvement includes:
Prior to commencement of Works	Site Auditor when satisfied provides Site Audit Statement or other written confirmation of appropriateness of design, outcomes envisaged and associated management / work plans	Remediation Works	Appropriateness of plan of remediation generally including proposed design, implementation and maintenance. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements .
		Infrastructure Works	Appropriateness of proposed management of risks relating to interaction of the works with contamination and other Remediation Works. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
		Redevelopment Works	Appropriateness of management of risks relating to interaction of the works with contamination (including post-completion risks to users). Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
During the conduct of Works	Reports to be provided to Site Auditor as required by Site	Remediation Works	Validation reports and updates on risks and other relevant information to be provided to Site Auditor. Receives information, access and reports as required by this Plan, existing agreements, approvals,

Stage	Site Auditor involvement	Type of work	Site Auditor involvement includes:
	Auditor or by law		certificates and site audit statements.
		Infrastructure Works	Updates on risks and other relevant information to be provided to Site Auditor. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
		Redevelopment Works	Updates on risks and other relevant information to be provided to Site Auditor. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
Upon completion of works or relevant stages of Works	Site Auditor when satisfied provides Site Audit Statement or other written confirmation that works carried out as required and that site is suitable for specified uses subject to conditions	Remediation Works	Site Audit Statement as to completion of Remediation Works. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
		Infrastructure Works	Site audit statement as to implementation of appropriate risk management works. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
		Redevelopment Works	Site audit statement as to implementation of appropriate risk management works. Receives information, access and reports as required by this Plan, existing agreements, approvals, certificates and site audit statements.
Following completion of Works	Receives reports as required by site audit statements issued	Maintenance of remediation	Receives information, access and reports as required by existing agreements, approvals, certificates and site audit statements and complies with reporting obligations to Authorities.

6.5 Additional Site Auditor Requirements

It is possible that the Site Auditor may have requirements which are additional to or different from those documented in this Plan. This may occur, for example, because of:

- Site conditions which differ from those anticipated from the extant data; or
- Specific circumstances relating to the Works; or
- Changes in law or guidelines relating to exposure of humans to contaminants; or
- Combinations of the above;
- Other matters

Site Audit Statements must be obtained for Works as required by the relevant legislation, the VRA, any approval (including the Development Consent), the requirements of authorities or the requirements of this CSMP.

6.6 Site Auditor Discretions

The Site Auditor's discretions to respond in an appropriate manner are not removed by this Plan.

The Site Auditor is required to form an independent view about the design, delivery and performance of all Remediation Works on the Site, having regard to the CLM Act and all relevant guidelines made or approved under section 105 of the CLM Act. In forming such a view, the Site Auditor may consider that additional requirements to those set out in this Plan are necessary or that it is appropriate in the circumstances to depart from or relax the relevant standard or Requirement.

6.7 Additional controls in the Planning Approval Process

The requirement for Site Auditor sign off is not the only control that may be imposed in the Planning Approval process. For example, a Planning Approval may impose controls on the method of carrying out Works. This could include requirements that works plans be prepared in accordance with the requirements of this Plan or that other, additional plans be prepared. It could also include conditions as to testing, commissioning and proving outcomes prior to commencement and other controls.

It is expected that Planning Authorities will have regard to this plan when determining applications for Planning Approval and will impose appropriate conditions to give effect to it.

Specifically it is expected that Planning Authorities will act consistently with the CSMP. (Note as a legal matter a condition of an approval that is more stringent than a Requirement is consistent with the Requirement because it is possible to comply with the Requirement by complying with the more stringent condition.)

6.8 Other Control Mechanisms

It is expected that there will be other mechanisms controlling the conduct of Works on the Site. These may include:

- Registered instruments
- Agreements
- Other approvals (for example from the EPA)
- The VRA.

These mechanisms may incorporate relevant parts of this Plan and may also include requirements for Site Auditor sign off prior to particular key decisions, Works or processes being made or undertaken.

7. Guide to Requirements

Requirements:

- Part 8 sets out compliance Requirements in respect of environmental management plans applicable to the Site, requires the appointment of a geotechnical expert and environmental scientist to review and certify Works and management and reporting Requirements;
- Part 9 sets out design Requirements in respect of Remediation Works;
- Part 10 sets out Requirements for the delivery of Remediation Works;
- Part 11 sets out maintenance Requirements for Remediation Works;
- Part 12 sets out design Requirements for Project Works;
- Part 13 sets out Requirements for the delivery of Project Works;
- Part 14 sets out vapour management Requirements;
- Part 15 sets out other specific Requirements; and
- Part 16 sets out requirements relating to reporting and the provision of information.
- Part 17 sets out how the Plan is intended to be modified over time
- Part 18 sets out the extent of information that is relevant to contamination
- Part 19 sets out a Requirement and recommended strategies to manage risk

The following table provides a list of requirements for Works under this Plan. This is provided as a guide only and the actual requirements detailed in subsequent sections take precedence.

Requirement	Description
Part 8 - Plans	
8.1	Environmental Management Plans
8.1.1	Comply with SPEMP (if applicable to current development consent)
8.1.2	Comply with CEMP (if applicable to current development consent)
8.1.3	Comply with OEMP (if applicable to current development consent)
8.2	Work Management Plan
8.3	Appoint Geotechnical Expert
8.4	Appoint Environmental Scientist
8.5	Environmental Management and Reporting
Part 9 – Remediation Works Design	

9.1.1	Prepare a Remediation Work Method Statement
9.2.1	Obligation to Cap
9.2.2	Cap performance/design Requirements
9.2.3	Geotechnical Engineer's report
9.2.4	Comply with Preliminary Design and other works
9.2.5	Plan for future management
9.3.1	Vapour Management
9.4.1	Area 1 – comply with Site Auditor requirements for supplementary Capping
9.4.2	Area 1 – protect Barrier Wall
9.5.1	Construction of Emplacement Area
9.5.2	Management of Emplacement Area
9.6	Signage
9.7	Technical/Commercial Area – Relaxation of time for Cap placement
9.8	Exemption of Cap requirement for specific areas
9.9	Site Auditor Confirmation
Part 10 –Remediation Works Delivery	
10.1	Comply with plans, designs etc
10.2.1	Obtain report from Geotechnical Engineer
10.2.2	Obtain report from Environmental Scientist
10.3	Obtain Site Auditor Confirmation
Part 11 –Remediation Works Maintenance	
11.1.1	Ongoing obligation to maintain Cap
11.1.2	Obligation to regularly inspect, monitor and repair Cap.
11.2	Maintenance of other Remediation Works
11.3	Maintenance of VOC vents
Part 12 –Project Works Design	
12.1.1	General design obligation
12.1.2	Other design obligations
12.1.3	Comply with Parts 11, 14 and 15
12.2	Obtain Site Auditor Confirmation

Part 13 – Project Work Delivery	
13.1.1	Comply with designs and plans
13.1.2	Obtain Geotechnical Engineer Certification
13.1.3	Obtain Environmental Scientist Certification
13.2.1	Obtain Site Auditor Certification
Part 14 – Vapour Management	
14.1.1	Assess VOC risks and incorporate into design
14.2.1	Additional Requirements Area HA1
14.3.1	VOC Management in Area 1
14.4.1	VOC Management in Area 2
Part 15 – Other Specific Requirements	
15.1.1	Easement to access and maintain Barrier Wall
15.1.2	Restriction on surface development in vicinity of Barrier Wall
15.1.3	Work to be designed for differential settlement
15.1.4	Control of works affecting Capping beam
15.1.5	Geotechnical Engineer Certification
15.1.6	Control of Piles and Footing
15.2.1	Right of access to Monitoring Wells
15.2.2	Right to expand Monitoring Wells
15.3.1	Control of Work in Level 3 Placement Area
15.3.2	Work Management Plans within areas of known Level 2 and Level 3 Contamination
15.3.3	Work Management Plans within Area 1
15.3.4	Site Auditor Requirements for future landuse
15.4	Control of excavation of Area I
15.5.1	Heritage Protection
15.6.1	Maintenance of Major Drains
15.6.2	Maintenance of HDPE Liners
15.7.2	Right to undertake Remediation Works
15.8.1	Remediation of Koppers LTP Facility
15.9.1	Remediation of OneSteel Carpark

15.10.1	Remediation of Koppers Operational Area
15.11.1	Remediation of Existing Onesteel Rail Line
15.12.1	Right to Access Future Cell 6 and 7
15.13.1	Restriction on Beneficial Use of Groundwater
15.13.2	Management of Risks During Dewatering
15.14.1	Restriction on Taking of Shellfish
Part 16 Reporting and Information Requirements	
16.1.1	Keep records and information
16.1.2	Notify the EPA of material changes
16.1.13	Notify the EPA of any failure to comply with the VRA
19.1	Obligation to manage risk

8. Works Plans and Appointment of Experts

8.1 Environmental Management Plans

The Development Consent requires four levels of environmental management plans for the Site. They are:

- Contaminated Site Management Plan (CSMP, this document); refer to Condition of Consent 4.1;
- Site Preparation Environmental Management Plan (SPEMP); refer to Condition of Consent 4.2;
- Construction Environmental Management Plan(s) (CEMP); refer to Condition of Consent 4.3; and
- Operational Environmental Management Plan(s), (OEMP); refer to Condition of Consent 4.4.

Future Approvals may impose additional or different requirements.

8.1.1 SPEMP

Background

HDC has prepared a SPEMP to provide overarching principals of environmental management for demolition, remediation and site preparation activities for the Site. The SPEMP is included in Appendix B.

Application

The SPEMP has been approved by the DoP as a condition of Planning Approval. The SPEMP remains applicable to site preparation activities to be completed in Stage 2 and also applies to the whole Site unless specifically provided in this plan.

The existing Development Consent and the remediation works that were permitted under it form the foundation upon which future uses of the Site are permitted. The remediation works remain in place and will need to be managed in accordance with this CSMP including the need to comply with the SPEMP for relevant works. Future Planning Approvals should be consistent with this plan and should require compliance with it as one of the documents that governs how to manage and use the Site in light of the remediation works. Future Planning Approvals should not seek to alter or relax this plan unless the site auditor has fully assessed the proposed alteration or relaxation and has certified that the alteration or relaxation is appropriate. At that time this CSMP should be updated to reflect the change and all relevant authorities notified.

Requirement

The SPEMP framework for site preparation activities must be followed at all times for all Works.

8.1.2 CEMP

Background

Environmental controls relevant to the detailed work practices of individual contractors, for site specific remediation, site preparation and subsequent project works must be prepared by those remediation contractor(s) performing the works. CEMP documents are to be presented for DoP approval prior to commencement of construction.

Whilst contractors are required to draw on overarching principals of the SPEMP, they will be required to independently seek DoP approval for CEMP procedures as outlined in Section 4.2.2 of the SPEMP that are specific to their works. Individual contractors will possess CEMP's specific to their projects and activities at the same time adhering to the overarching principals of the SPEMP.

Future Planning Approvals are expected to impose similar requirements.

Application

The requirements of this part apply to the whole Site

The existing Development Consent and the remediation works that were permitted under it form the foundation upon which future uses of the Site are permitted. The remediation works remain in place and will need to be managed in accordance with this CSMP including the requirement for a CEMP. Future Planning Approvals should be consistent with this plan and should require compliance with it as one of the documents that governs how to manage and use the Site in light of the remediation works. Future Planning Approvals should not seek to alter or relax this plan unless the site auditor has fully assessed the proposed alteration or relaxation and has certified that the alteration or relaxation is appropriate. At that time this CSMP should be updated to reflect the change and all relevant authorities notified.

Requirement

No construction work may occur before a contractor's CEMP has been prepared that complies with the requirements of relevant approvals and:

- (a) been approved by the Site Auditor; and
- (b) approved by other Authorities as required by applicable approvals.

A copy of the CEMP must also be provided to the Site Auditor and a written sign-off of the CEMP must be obtained from the Site Auditor prior to commencement of construction.

Note the Development Consent requires that the CEMP must:

- Describe the proposed construction works;
- Outline the proposed construction work program;
- Identify all the relevant statutory requirements and conditions of consent that apply to the construction phase of the development;
- Set standards and performance measures for each of the relevant environmental matters associated with the construction work;
- Describe what actions and measures will be implemented to mitigate the potential impacts of the construction works, and to ensure that these works will comply with the relevant standards and performance measures;

- Describe in detail what measures and procedures will be implemented to:
 - o Manage construction traffic;
 - o Mitigate any potential dust impacts;
 - o Register and respond to complaints during the construction period;
 - o Ensure the occupational health and safety of construction workers;
 - o Respond to any emergencies; and
 - o Respond to the discovery of any archaeological relics or sites during site works.
- Explain how the environmental performance of the construction works will be monitored, and what actions will be taken if any non-compliance is detected;
- Describe the role, responsibility, authority, accountability, and reporting of key personnel involved in the construction of the development; and
- Include the following plans:
 - o Soil and Water Management Plan (Condition 5.27)
 - o Site Preparation and Construction Noise Management Plan (Condition 5.8);
 - o Heavy Vehicle Route Plan (Condition 5.46)
 - o Landscape Management Plan (Condition 5.47)
 - o Contaminated Site Management Plan (Condition 4.1)
 - o Archaeological Management Plan (Condition 6.3).

8.1.3 OEMP

Background

The Development Consent requires preparation and implementation of an OEMP. Future approvals for other development may impose similar conditions.

Application

The requirements of this part apply to the whole Site unless

The existing Development Consent and the remediation works that were permitted under it form the foundation upon which future uses of the Site are permitted. The remediation works remain in place and will need to be managed in accordance with this CSMP including the requirement for an OEMP. Future Planning Approvals should be consistent with this plan and should require compliance with it as one of the documents that governs how to manage and use the Site in light of the remediation works. Future Planning Approvals should not seek to alter or relax this plan unless the site auditor has fully assessed the proposed alteration or relaxation and has certified that the alteration or relaxation is appropriate. At that time this CSMP should be updated to reflect the change and all relevant authorities notified.

Requirement

The Developer must prepare and implement an OEMP for all future operations of the proposed development which has been prepared as required by relevant approvals and:

- (a) approved by the Site Auditor; and
- (b) approved by each other Authority as required by applicable approvals.

Note the Development Consent requires that this plan must:

- Describe the proposed operations;
- Identify all the relevant statutory requirements that apply to the operation of the development;
- Set standards and performance measures for each of the relevant environmental issues;
- Describe what actions and measures will be implemented to mitigate the potential impacts of the development, and to ensure that the development meets these standards and performance measures;
- Describe what measures and procedures will be implemented to:
- Register and respond to complaints;
- Ensure the operational health and safety of the workers;
- Respond to potential emergencies, such as plant failure;
- Describe the role, responsibility, authority, and accountability of all the key personnel involved in the operation of the development;
- Incorporate the detailed Environmental Monitoring Program (Condition 8.1);
- Incorporate a Stormwater Management Plan (Condition 5.30);
- Incorporate a Capping Maintenance Plan (Condition 5.20);
- Incorporate the Contaminated Site Environmental Management Plan (this document, Condition 4.1);
- Heavy Vehicle Route Plan (Condition 5.46);
- Provision of site inductions for new employees or contractors on site; and
- Use of physical markers, marker layer, notices or other suitable precautions to warn of the location of emplacement areas or potentially contaminated materials. The proposed precautions must be consistent with this Plan and the Key Documents and must be included in the information provided to the Site Auditor under Part 16.

The Developer must ensure that a copies of the OEMP are publicly available and review and update the OEMP regularly, or as directed by Director-General. The OEMP must be approved by the Director-General before operations can commence.

A copy of the OEMP must also be provided to the Site Auditor and a written sign-off of the OEMP must be obtained prior to commencement of operations.

8.2 Work Management Plan

Background

Works may encounter contaminated soils, groundwater or gases associated with past land-uses or previously completed remediation works which included on-site placement of contaminated materials in the Level 2 and Level 3 placement areas within Area 1 and Level 2 in Area 2. Measures need to be taken to protect the health and safety of people and to protect the environment. Specific attention should be paid to Works that may penetrate below Caps that have been put in place.

Application

The requirements of this Part 8.2 apply to the whole Site unless specifically identified otherwise for works that penetrate the surface,.

Requirement 8.2.1 – Work Management Plan to be prepared and approved

(a) A Works Management Plan must be prepared for all Works and must be approved by the Site Auditor prior to the commencement of those Works.

(b) The works Management Plan must include:

- (i) assessment of the nature and extent of contamination and the risks from it to the satisfaction of the Site Auditor;
- (ii) a risk assessment carried out in accordance with AS 90001 by an appropriately qualified and experienced expert identifying the potential risks arising in connection with the proposed Works;
- (iii) protocols for the safe conduct of the Works which have been prepared by an appropriately qualified and experienced expert and which specify precautions to be taken to mitigate risks identified in the risk assessment as requiring mitigation;
- (iv) a safe work method for the proposed activities, which includes appropriate contingency plans for the possibility of encountering contaminated materials;
- (v) a procedure to progressively classify and manage soils encountered during excavation in accordance with the Materials Management Plan including assessment by the Environmental Scientist as materials are excavated;
- (vi) where there has been any excavation into or below a Cap – protocols for assessing and confirming that the Cap has been properly reinstated;
- (vii) a validation procedure and quality assurance / quality control procedures to confirm classification of materials excavated and to confirm achievement of relevant standards of remediation; and
- (viii) controls to ensure that no damage is caused to any remediation works and structures on the Site

[Note the requirements specified in Part 9 require design of the Remediation Works to be in accordance with the SPEMP and Parts 10 and 12 require Work to be carried out in accordance with the approved SPEMP and the specifics of the individual contractors CEMP's and other documents]

8.3 Geotechnical Expert

Background

This Plan requires that a Geotechnical Engineer provide certain certifications including in respect of the following:

- o 10.2.1 Cap installation;
- o 11.1.2 Cap inspection;
- o 13.1.2 Cap integrity;
- o 15.1.2 Excess loads;
- o 15.1.5 Surface development; and
- o 15.1.6 Foundations within the exclusion zone.

Application

This requirement applies to the whole Site.

Requirement 8.3.1

A person by whom (or on whose behalf) Work is to be carried out on Site must appoint an expert Geotechnical Engineer to review and provide certification of the Works as required by this Plan.

8.4 Environmental Scientist

Background

This Plan requires that an Environmental Scientist provide certain certifications including in respect of compliance with the Materials Management Plan.

Application

This requirement applies to the whole Site.

Requirement 8.3.1

A person by whom (or on whose behalf) Work is to be carried out on Site must appoint an expert Environmental Scientist to review and provide certification of the Works as required by this Plan.

8.5 Environmental Management and Reporting

Background

Section 9 of the Development Consent outlines environmental management and reporting requirements including:

- (i) Appointment of an Environmental Officer (condition 9.1);
- (ii) Annual Environmental Management Reporting (condition 9.2 and 9.3);
- (iii) Independent Environmental Auditing (condition 9.4 and 9.5);

- (iv) Community Consultative Committee (condition 9.6, 9.7 and 9.8); and
- (v) Complaints Procedure (condition 9.9).

Future approvals may impose similar requirements.

Application

This requirement applies to the whole Site.

Requirement 8.5.1

Comply with the requirements of applicable approvals.

9. Remediation Works Design

9.1 Preparation of Remediation Work Method Statement

Background

Two key documents govern Remediation Works on the Site. They are the RAP and the VRA.

An approved RAP has been prepared for the Site. The RAP:

- illustrates remediation goals and objectives;
- provides an assessment and understanding of the soil and groundwater contamination affecting the Site;
- provides an approved and a remediation strategy for all parts of the Site

The Site is also subject to a VRA, which:

- sets out a performance schedule to complete works considered in the RAP
- establishes a program of works
- establishes monitoring requirements
- specifies requirements for risk assessment and contingency planning
- specifies requirements for site auditing and assessment of efficacy of works

Application

The requirements of this Part 9.1 apply to the whole of the Site

Requirement 9.1.1 Preparation of a Remediation Work Method Statement

For each part of the Site, prior to preparation of remediation detailed design documentation, a Remediation Work Method Statement is to be prepared to the satisfaction of the Site Auditor. The document is to demonstrate an understanding of the RAP and the VRA and outline how the Remediation Works are to comply with the performance schedule of the VRA and be compatible with the intent of the RAP.

The Remediation Works Method Statement is also to provide a schedule of any departures from the objectives and strategy of the RAP and the performance schedule in the VRA. In such case, supporting documentation may be required to demonstrate that any alternative remediation approach is equivalent or better in addressing these requirements or justification for any departures. Supplementary documentation may be requested at the discretion of the Site Auditor, and may include, but not necessarily limited to:

- identification of likely areas affected by Contamination;
- identification and characterisation of likely contaminants;
- sampling and analysis program and methodology;

- sampling and analysis of contaminants;
- assessment of risks;
- demonstration of effectiveness of proposed works (which may include hydraulic, environmental or geotechnical assessments);
- contingency planning;
- QA/QC procedure;
- validation protocols;
- maintenance and inspection protocols including inspection schedule including for any Caps, repair of defects or damage and plan of management for any proposed emplacement areas;
- includes proposed reporting protocols;
- complies with the Key Documents;

And must:

- as a minimum comply with EPA requirements and guidelines;
- comply with the requirements of this Plan, including Parts 9, 10, 11 , 14 and 15;
- be of a scope satisfactory to and carried out to the satisfaction of the Site Auditor and the relevant Authorities; and
- include assessment of VOC risks as noted in Part 14 below

9.2 Design Requirement- Provision of Cap

Background

Various parts of the Site are known to contain materials that may be potentially harmful to humans. There is also a risk that infiltration can cause off-site migration of contaminated groundwater. Therefore, the RAP and VRA requires that a low permeability Cap is to be provided and maintained across the Site to limit as far as practicable infiltration of surface waters and protect future occupants of the Site from being exposed to potentially contaminated soils and groundwater.

Application

This requirement applies to the whole of the Site.

Requirement 9.2.1 – Obligation to Cap

The whole of the Site must be Capped except:

- those parts of the Site that are shown in Figure 13 as being exempt from this Requirement; and
- any part of the Site that the VRA provides does not require Capping.

Capping may be carried out synergistically with redevelopment but each part of the Site to be Capped must be completed on the earlier of:

- the date required by the VRA; or
- prior to the occupation or use of any Redevelopment Works on that part.

Requirement 9.2.2 - Cap Performance/ Design

The Cap must:

- prevent as far as practicable the ingress of water to any part of the Site that may be contaminated and, thereby in turn, prevent as far as practicable, the mobilisation and migration of contaminants in surface water or ground water; and
- be capable of performing without substantial maintenance or repair for at least 25 years under the conditions anticipated at the Site.

In addition, any Cap for any part of the Site must comply with the following:

- (i) Permeability, thickness and materials of the surface Cap are to be provided in accordance with the conditions 5.18 and 5.18A of the Development Consent unless superseded by requirements for same in a latter applicable Planning Approval..
- (ii) Caps constructed from materials including clays and/or coal washery products are to be materials which are non-dispersive, resistant to erosion, low shrink swell potential, and be free of acidic leachates.
- (iii) Areas of higher permeability may be included (such as landscaped zones) subject to analysis to the satisfaction of the Site Auditor that the overall site groundwater recharge rate is equivalent to or less than the VRA required permeability for 10%, 50% and 90% annual probability exceedance rainfalls.
- (iv) All Caps except building slabs should have a minimum slope of 1% and be constructed to be free of surface water ponding.
- (v) Grade the surface and provide a drainage system so that no undrained ponding of surface water occurs.
- (vi) Be constructed of highly stable materials to minimise degradation over time; and
- (vii) Comply with the requirements of this Part 9 and also Parts 14 and 15

Requirement 9.2.3 - Geotechnical Engineer Report

Prior to the commencement of works, a Geotechnical Engineer's report must be provided to the Site Auditor describing the Capping materials, thicknesses and jointing methods and certifying that the design complies with the Cap performance requirements specified in this Part 9 and Parts 14 and 15. The Geotechnical Engineers report is also to prescribe an inspection and maintenance schedule. The people to whom the report is addressed must include the Site Auditor.

Requirement 9.2.4 - Preliminary Design and Compatibility with other Works

The design of Remedial Works must comply with the following:

- (i) the requirements of the VRA and this CSMP and all legal requirements;

- (ii) Planning Approval requirements;
- (iii) levels at the boundary of the proposed development should match those documented on the Preliminary Design for site earthworks or those in the Final Design where applicable;
- (iv) the drainage system is to accommodate the drainage pathways identified in the Preliminary Design or those in the Final Design where applicable, and to provide a similar pattern of drainage, and be compatible with the stormwater strategy for the site, unless otherwise dictated by design flood levels.
- (v) stormwater systems and sewer systems (including subsoil drains, pumping stations, sumps and other infrastructure or equipment) are to be isolated from ingress of groundwater;
- (vi) limiting exposure to site contamination during site regrading earthworks;
- (vii) wharf heights agreed with the Newcastle Port Corporation;
- (viii) railway gradings along the proposed alignment for the relocated Morandoo Sidings to One Steel railway line as documented in the Preliminary Design or subsequent design approved by the Hunter Development Corporation; and
- (ix) levels at the perimeter of proposed works should be compatible with both the Preliminary Remediation Design for earthworks across the whole Closure Area and other Project Works, either proposed or constructed, unless otherwise dictated by design flood levels or instructed by the Hunter Development Corporation.

Requirement 9.2.5 – Plan for Future Management

The design of Remediation Works must include:

- (i) a plan for the future management of the relevant part of the Site to inform people of the presence of the Remediation Works and the potential hazards of works in the area relating to the Remediation Works or contamination;
- (ii) identification of any proposed physical markers, marker layer, notices or other precautions, to warn people if they are about to excavate within an emplacement area onto contaminated materials. The proposed plan and proposed precautions must be consistent with this Plan and the Key Documents and must be included in the information provided to the Site Auditor.

9.3 Design Requirement- Vapour Management

Background

Various parts of the Site are known to contain materials that may give rise to potentially harmful vapours – in particular where enclosed spaces are created. In Part 14 of this Plan there are specific controls relating to vapour mitigation and management which must be incorporated into the design.

Application

This requirement applies to the whole of the Site.

Requirement 9 3.1 – Vapour Management

The design of Remediation Works must be consistent with and give effect to the requirements of Part 14 below in respect of management of vapours.

9.4 Area 1 - Specific Requirements

Background

The HDC has provided a low permeability Cap across Area 1a, as described in Part 5.3.2 of this CSMP. Additional Capping may be required to satisfy Site Auditor requirements for specific Project Works, or to meet engineering requirements for Project Work pavements or hardstands.

In addition, RLMC has installed a Barrier Wall around Area 1 and precautions must be taken to protect the Barrier Wall.

Application

This requirement applies to the **Area '1'**.

Requirement 9.4.1 - comply with Site Auditor requirements for supplementary Capping

Comply with any Site Auditor requirements for supplementary Capping as required for the intended land-use including the Site Auditor's requirements for design approval.

Requirement 9.4.2 – protection of Barrier Wall

All Works must be designed and implemented in accordance with the requirements specified in Parts 14 and 15 below.

9.5 New Emplacement Areas

Background

The Materials Management Plan contains a classification of materials. If Level 3 materials (as defined in the Materials Management Plan) are identified, these materials may be able to be placed into and contained and isolated in emplacement areas within the area of the Works.

Application

This requirement applies to the whole of the Site.

Requirement 9.5.1 – Construction of Emplacement Area

Emplacement areas are to be designed and constructed to fully and safely contain material to be contained in them. The design must be approved by the Site Auditor and all relevant Authorities and must satisfy the requirements of the VRA including to prevent as far as possible further contamination of the Hunter River. The emplacement area must be covered by a distinctive physical marker layer such as a high density poly-ethylene mesh in a distinctive colour. The location of emplacement areas must be shown on a plan prepared by a Registered Surveyor, and provided to the Site Auditor.

Requirement 9.5.2 –Management of Emplacement Area

Prepare a Plan of Management for Emplacement areas in accordance with Site Auditor and EPA requirements.

9.6 Signage

For all parts of the site that are Capped or on which there is an emplacement area, consideration should be given to the placement of signs in prominent, visible and accessible locations notifying of the presence of the Cap or emplacement area and of the information that should be referred to prior to any work in that area. Emplacement areas are shown in Area 1 and Area 2A in Figure 2. The signage should also be provided for future emplacement areas.

9.7 Technical/Commercial Area - Relaxation of Time for Placement of Cap

Background

Part of the site in Area 2 is covered by existing structures and sealed pavements which are recognised to provide a low level of permeability and also provide some existing functional purpose as car parking, roads and buildings.

Application

This provision applies as a relaxation of requirement 9.2.1 for Area C.

Relaxation of Requirement 9.7.1 timing

The Technical / Commercial Precinct is to be provided with a low permeability Cap in accordance with part 9.1 of this plan, only when Redevelopment Works occur within this area. At such time, the area is required to be remediated in accordance with the RAP and VRA.

9.8 Exemption of Cap requirement for specific areas

Background

The Development Consent (as modified) excludes certain site areas from requiring low permeability Capping. These areas are shown on Figure 13 include the landscaped areas adjacent to Industrial Drive.

The relaxation of Capping requirements in these areas was based on heritage and landscape values and assessment of contamination risks. For information in relation to exempt areas may be found in *Application to Vary Development Consent Conditions for the Multi Purpose Terminal and remediation of the Former BHP Site, Mayfield (2001)*, prepared by URS Australia, 19th April 2005 (Appendix O), which was a supporting document for modification application MOD-60-4-205-i.

Any redevelopment of exempted areas would mean that the exemption would no longer apply in the area of redevelopment.

Application

This provision applies to relax the requirement 9.2.1 to that part of Area D adjacent to Industrial Drive.

Any areas within the exempted area in which Redevelopment Works are carried out are to be provided with a Cap in accordance with requirement 9.1.1.

Relaxation of Requirement 9.8.1 - timing

Requirement 9.2.1 does not apply to the part of Area D until this area is subject to Redevelopment Works.

9.9 Site Auditor Confirmation

Background

The Site Auditor has been appointed to carry out site audits in respect of the Site. Developers should make commercial arrangements for provision of services by the Site Auditor.

Application

This requirement applies to the whole of the Site.

Requirement 9.9.1 – Site Auditor Confirmation

For each part of the Site, prior to the commencement of the Remediation Work for that part, Site Auditor Confirmation that the design of the Remediation Works is suitable and appropriate and complies with the Requirements of this Plan must be obtained.

10. Remediation Works - Delivery

10.1 Compliance with Remediation Work Method Statement, Environmental Management Plans and Approved Design

Background

This CSMP imposes obligations to have in place approved Works Management Plans (Requirement 8.2.1), Environmental Management Plans (Requirement 8.1, where applicable), future management of remediated areas (Requirement 9.2.5) and for the design of Remediation Works to be specified in a remediation works method statement and meet certain standards in part 9 and be approved by the Site Auditor. In addition other plans have been prepared. These include the Key Documents and the other documents listed below in Requirement 10.1.1.

Application

This Requirement applies to the whole of the Site.

Requirement 10.1.1 – Comply with plans, designs etc

Remediation Works shall be carried out in accordance with:

- (i) the Remediation Work Method Statement and remediation Design that has been approved by the Site Auditor (under Part 9 above)
- (ii) the Key Documents;
- (iii) the Works Management Plan that has been approved under Requirement 8.2.1;
- (iv) the Geotechnical Engineers report provided under Requirement 9.2.3; and
- (v) the plans prepared for future management under Requirement 9.2.5;

And in accordance with the requirements of the Site Auditor and all applicable laws

10.2 Obtain Geotechnical Engineers Report and Environmental Scientist Report

Background

Where Remediation Works are carried out on the Site it will be necessary to obtain a report from a properly qualified person confirming that they are properly carried out and installed and free of defects.

Application

This Requirement applies to the whole of the Site.

Requirement 10.2.1 – Geotechnical Engineer

At the completion of the Remediation Works certification must be obtained from the Geotechnical Engineer that the installed Cap will satisfy VRA requirements for Cap

permeability for a design life of not less than 25 years, when exposed to the environment and proposed land-use, and maintained in accordance with the Geotechnical Engineer's inspection and maintenance schedule. The people to whom the certificate is addressed and issued must include the Site Auditor and the EPA.

This certification must be provided prior to any occupation or use of Project Works on the relevant part of the Site.

Requirement 10.2.2 – Environmental Scientist

At the completion of Remediation Work a report must be obtained from an Environmental Scientist stating that the materials encountered during excavation have been managed in accordance with the Materials Management Plan, and if replaced on site do not pose an unacceptable exposure risk to human health. The people to whom the report is addressed must include the Site Auditor.

This report must be provided prior to any occupation or use of Project Works on the relevant part of the Site.

10.3 Site Auditor Confirmation

Background

The Site Auditor has been appointed to audit the conduct of Remediation Works in accordance with EPA guidelines and legislation.

Application

This Requirement applies to the whole of the Site.

Requirement 10.3.1 – Site Auditor Confirmation

Following completion of Remediation Work obtain a Site Audit Statement from the Site Auditor confirming that the Remediation Works have been carried out and that the Site is suitable for the proposed use.

This must be provided prior to any occupation or use of Project Works on the relevant part of the Site.

11. Remediation Works – Maintenance

11.1 Cap Integrity over time

Background

Once installed the integrity of Caps must be maintained over time. Work has the potential to impact on Cap integrity. Materials may also break down in time and require future maintenance.

Application

The following Requirements apply to the whole of the Site.

Requirement 11.1.1 – Ongoing Obligation to Maintain Cap

The design parameters set out in Parts 9, 14 and 15 must be complied with on an ongoing basis and any Cap installed on the Site must be maintained in a manner and condition to continue to comply with /achieve those parameters and to comply with all applicable Planning Approvals and conditions of Site Audit Statements unless and until, in respect of any specific part of the Site:

- a) the conditions of a Planning Approval applicable to that part of the Site allow a change in Cap permeability requirements in respect of that part, and;
- b) written concurrence is provided by the Site Auditor and NSW EPA to the same change in Cap permeability requirements in respect of that part.

Requirement 11.1.2 –Regularly Inspect, Monitor and Repair Cap

For every part of the Site on which a Cap has been installed, the following requirements must be satisfied:

- (i) on each Cap Maintenance Inspection Date ensure that a Geotechnical Engineer inspects the whole of the Cap and certifies that the design parameters set out in Part 9 continue to be complied with and provide a copy of that report to the Site Auditor. The people to whom the certificate is addressed must include the Site Auditor;
- (ii) promptly repair any defects in the Cap and carry out any other works necessary to obtain that Geotechnical Engineer's certification; and
- (iii) provide reports of inspection and confirmation that defects have been repaired to the EPA and the Site Auditor.

(Note the Site Auditor or Planning Authority may require production of these reports prior to the issue of later Site Audit Statements or approvals).

11.2 Maintenance of Other Remediation Works

Background

Once installed the integrity of other Remediation Works – in particular any structures - must be maintained over time.

Application

This Requirement applies to the whole of the Site.

Requirement 11.2.1 – Maintenance of Other Remediation Works

All Remediation Works and structures must be maintained in a proper and efficient condition and manner so that they continue to properly perform those functions for which they were delivered or installed, including compliance with:

- (i) the maintenance protocol included in the relevant RWMS approved under Part 9;
- (ii) any Site Auditor requirements;
- (iii) all applicable legal requirements

11.3 Maintenance of VOC Management Works

Background

Measures to protect structures and people from VOCs may be required including as described in Part 14. These may include vents and other works or structures to allow VOCs to dissipate. These vents and other works or structures will need to be maintained over time.

Application

This Requirement applies to the whole of the Site.

Requirement 11 3.1 – Maintenance of VOC Vents

All vents or other works or structures for managing the risk from VOC's must be maintained in a proper and efficient manner and condition. There must be regular inspections of them and they must be repaired and kept free of defects.

12. Project Works - Design

12.1 Design Requirements

Background

Project Works have the potential to impact upon the effectiveness of Remediation Works and to impact Cap integrity. Project Works must be designed so that they are compatible with Remediation Works and requirements

Application

These Requirements apply to the whole of the Site.

Requirement 12.1.1 – General Design Obligations

Having regard to any contamination likely to be encountered, Project Works must be designed:

- (i) to provide adequate protection of the health and safety of people;
- (ii) to protect the environment;
- (iii) to comply with the requirements of the Site Auditor and all applicable legal requirements;
- (iv) to comply with the requirements of Parts 14 and 15 below;
- (v) to be consistent with the Key Documents, any RAP or other plans for the delivery and maintenance of Remediation Works approved by the Site Auditor or relevant Authorities.

Requirement 12.1.2 – Other Design Obligations

Project Works must be designed to be compatible with:

- (i) the requirements of the VRA and this CSMP and all legal requirements;
- (ii) Planning Approval requirements;
- (iii) levels at the boundary of the proposed development should match those documented on the Preliminary Design for site earthworks or those superseded by the Final Design;
- (iv) the drainage system is to accommodate the drainage pathways identified in the Preliminary Design or those superseded by the Works as Executed Plans, and to provide a similar pattern of drainage, and be compatible with the stormwater strategy for the site; (Patterson Britton, 2007);
- (v) stormwater systems and sewer systems (including subsoil drains, pumping stations, sumps and other infrastructure or equipment) are to be isolated from ingress of groundwater;
- (vi) limiting exposure to site contamination during site regrading earthworks;
- (vii) wharf heights agreed with the Newcastle Port Corporation;

(viii) railway gradings along the proposed alignment for the relocated Morandoo Sidings to One Steel railway line as documented in the Preliminary Design or subsequent design approved by the Hunter Development Corporation; and

(ix) levels at the perimeter of proposed works should be compatible with both the Preliminary Remediation Design for earthworks across the whole Closure Area and other Project Works, either proposed or constructed.

(x) landscaping to be compatible with remediation works with consideration to Capping maintenance issues and long-term Capping and drainage performance

(xi) manage risks associated with ground engagement contamination

Requirement 12.1.3 – Comply with Parts 11, 14, 15 and 19

Project Works must be designed to ensure ongoing compliance with:

(i) Parts 11, 14, 15 and 19 of this Plan; and

12.2 Site Auditor Confirmation

Background

The Site Auditor has been appointed

Application

This Requirement applies to the whole of the Site.

Requirement 12.2.1 – Site Auditor Confirmation

Prior to the commencement of Project Work obtain Site Auditor Confirmation that the design of proposed Project Works includes suitable and appropriate remediation and risk management controls and complies with the Requirements of this Plan.

13. Project Work - Delivery

13.1 Controls on delivery of Project Works

Background

Project Works have the potential to impact upon the effectiveness of Remediation Works and to impact Cap integrity. Project Works must be delivered in a manner so that they are compatible with Remediation Works and Requirements of this Plan.

Application

This Requirement applies to the whole of the Site.

Requirement 13.1.1 – Comply with Designs and Plans

Project Works shall be carried out in accordance with:

- (i) the design that has been approved by the Site Auditor in accordance with Requirement 12.2.1;
- (ii) the RAP and design for Remediation Works;
- (iii) the Key Documents;
- (iv) the Works Management Plan that has been approved under Requirement 8.2.1;
- (v) the Geotechnical Engineers report provided under Requirement 9.1.2;
- (vi) the plans prepared for future management under Requirement 9.1.5;
- (vii) the requirements of Parts 14 and 15 of this Plan,
- (viii) any requirements that limit the depth or location of excavations, drilling, piling or other subsurface works
- (ix) with due regard to implement strategies that minimise risk of ground engagement under Requirement 19.1

And in accordance with the requirements of the Site auditor and all applicable laws

Requirement 13.1.2 – Geotechnical Engineer Certification

At the completion of the Project Works a report confirming that the Project Works have been carried out in such a manner that they have not adversely impacted upon the integrity of the Cap must be obtained from a Geotechnical Engineer. The people to whom this report is addressed and delivered must include the Site Auditor and the EPA.

This certification must be provided prior to the use of the Project Works.

Requirement 13.1.3 – Environmental Scientist Certification

At the completion of Project Works a report from an Environmental Scientist must be obtained stating that the materials encountered during any excavation have been managed in accordance with the Materials Management Plan, and if replaced on site do not pose an

unacceptable exposure risk to human health. The people to whom this report is addressed and delivered must include the Site Auditor and the EPA.

This report must be provided prior to the use of the Project Works.

13.2 Site Auditor Confirmation

Background

The Site Auditor has been appointed.

Application

This Requirement applies to the whole of the Site.

Requirement 13.2.1

Prior to occupation or use of any Project Works obtain a Site Audit Statement from the Site Auditor confirming that the Project Works have been carried out in such a manner that the Site is suitable for the proposed use. The Site Audit Statement must certify suitability for the proposed use, either without conditions or subject to a long term environmental management plan that is specific to the area that the Site Audit Statement applies to.

14. Vapour Management

14.1 Whole of Site

Background

Contamination within the site may generate VOCs. The VOC Report provides a preliminary indication of the management measures to be implemented to manage the risk from VOCs.

A document titled Volatile Organic Compound Reference Document in Appendix H may provide useful reference background material in relation to this issue.

Application

This Requirement applies to the whole of the Site.

Requirement 14.1.1 – Assess VOC risks and incorporate into design

- (a) The risks associated with the potential presence of VOCs must be investigated, assessed and quantified in an appropriate and professional manner prior to the commencement of Works and at least in compliance with applicable legal requirements and the requirements of guidelines, standards or codes adopted or applied by relevant Authorities.
- (b) In respect of risks identified or anticipated for VOCs having regard to the results of such investigations assessments or quantifications:
 - (i) the design of Works must include adequate controls and protections to protect the health and safety of people using the Works or involved in the delivery of Works; and
 - (ii) the Work plans (including plans prepared to comply with this Plan) must include necessary controls and work methods to protect the health and safety of people using the content of the Works.

14.2 Within 'Benzol Plant' area

Background

Presence of VOCs, principally benzene, in the subsurface in this area presents a potential risk to building occupants. Also, any structures including paving could influence movement of VOCs and create a risk elsewhere.

As part of the Stage 1 Remediation Works, RLMC / HDC have constructed vents within this area following the completion of Capping works in 2008, to alleviate the potential build-up and migration of volatile gases. This is an interim measure and not intended as a final solution for future development. Additional risk management and control measures may be necessary.

Application

This requirement applies to the Area HA1.

Requirement 14.2.1 – Additional Management in Area HA1

Works must be designed and carried out so that:

- i. gas management system must be installed for any building structure in which people may work or gas may accumulate
- ii. no building basements or other accessible voids below the final Cap surface level
- iii. no penetrations into buildings that could act as pathways for gas migration
- iv. venting (existing or new) to be installed and maintained in areas not covered by structures
- v. venting of VOCs must not present a hazard to this or adjoining parts of the site.
- vi. either the existing vents are kept/left and maintained in their current location or in an alternative location that manages the risks associated with the presence of VOC or alternative methods for the management of risks associated with VOC are utilised;
- vii. excavations are no deeper than 1.5m below the Area 1 finished Cap level;
- viii. there are no building basements or other accessible voids below the Cap level; and
- ix. for any part of the Site the method location and extent of management or of venting of VOCs does not limit or adversely affect the development of adjoining part of the Site. For example, venting must be set back from or elevated from lot boundaries or other techniques used to ensure that venting from one lot does not present hazards for another lot.

14.3 Within Area 1

Background

VOCs have been found in some places in the remainder of Area 1 at levels that may present a risk to site users. They may also exist in other areas that have not yet been located. Specific risks have been identified in respect of VOCs in Area 1 which require specific management precautions.

Application

For remediation or Project Works anywhere within Area 1 comply with additional requirements below.

Requirement 14.3.1 – VOC Management in Area 1

- i. Gas management system must be installed for any structure in which people may work or gas may accumulate or sufficient investigation done to conclusively demonstrate (to the satisfaction of the Site Auditor) that no building-specific gas management system is required.

- ii. Investigations for project works must include investigations into the presence of VOCs within the project Area, at depths below surface that correspond with the depth of proposed project works and associated utility services.
- iii. Where VOCs are detected that may pose a risk, venting or suitable controls must be installed.
- iv. Investigations for Project Works must include investigations into the presence of VOC's within the Project Area, at depths below the surface that correspond with the depth of proposed Project Works and associated utility services.

14.4 Area 2

Background

VOC's have been detected in Area 2, and may exist locally in concentrations that could present a risk to building occupants or maintenance workers. VOC's have been detected in subsoils adjacent the Roll Shop (Refer to M area Reports and Buildex IIP investigation in Appendix T also Figure 4 Indicative Risk Map Area 2B) and also in the vicinity of the former Wagon Repair Shed (Refer to RCA Investigation Reports Appendix T and Figure 4 of this Plan).

Application

For remediation or Project Works anywhere within Area 1 comply with additional requirements below.

Requirement 14.4 .1 – VOC Management in Area 2

- i. Investigations for project works must include investigations into the presence of VOCs within the project Area, within proposed building footprints and at depths below surface that correspond with the depth of proposed project works and associated utility services.
- ii. Where VOCs are detected that may pose a risk, restrictions on development, venting or suitable development controls must be installed or implemented.

15. Other specific Requirements

15.1 Barrier Wall

Background

A subsurface low permeability Barrier Wall was constructed as part of the Stage 1 Remediation Works, and is described in Part 5 of this Plan. The Barrier Wall is constructed from a soil-bentonite mix, which has a lesser load bearing capacity than the surrounding ground. The Barrier Wall construction includes a "surface completion beam" to distribute surface loadings across the wall. The completed wall has been designed to accommodate a sustained traffic load equivalent to SM1600 (as outlined in AS 5100) applied at any location(s) on the existing ground surface, including asymmetrical loadings. The SM1600 design loading is equivalent to a 3.2 metre wide sustained loading of 36kPa.

Due to the lower strength and consolidation properties of the completed soil-bentonite Barrier Wall structure, there is a risk of surface and subsurface displacement resulting from sustained future loadings of the site, both laterally and vertically. Restrictions on further Remediation Works and Project Works in the vicinity of the Barrier Wall are described below.

Loads in excess of the design load may be allowable, subject to:-

- a) analysis and certification by a suitably qualified Geotechnical Engineer that there will not be any adverse affect on the Barrier Wall or surrounding ground; and
- b) certification from a structural engineer that the design of the structures takes account of ground movements predicted by the certifying Geotechnical Engineer;

but only with written consent of the State of NSW.

Where higher design loads are required, it may be necessary to replace or reinforce the existing Capping system to support the required loads. No guarantee on the performance of the existing Capping system or Barrier Wall is given. For all Works, designers must make their own estimates on the capacity and potential for both total and differential settlements that may occur as a result of deformation of the wall under load and make such allowances in their designs to accommodate such conditions.

Application

Requirement 15.1.1 applies to the Area E.

Requirement 15.1.2 applies to the Area F.

Requirement 15.1.3 applies to Area F.

Requirement 15.1.4 applies to Area F.

Requirement 15.1.5 applies to Area F.

Requirement 15.1.6 applies to Area E.

Requirement 15.1.1 - Easement

Any plan of subdivision or lease is to maintain an easement for access and maintenance over Area E which as a minimum benefits the State Authorities and other public Authorities and their respective invitees. This easement is to have a total width of 15m, comprising 5m on that side of the barrier wall which is within the inside of the containment area and 10m on the other side (i.e. that side of the barrier wall which is exterior to the containment area).

Requirement 15.1.2 – Restriction on surface development

Work is not to include any activity that would result in a combination of dead and live loads that are in excess of the design load for the surface completion beam unless:

- (a) a Geotechnical Engineer has provided written certification that there will be no adverse effect on the Barrier Wall or Cap or surrounding ground. The people to whom this certification is addressed must include the State and the Site Auditor;
- (b) a structural engineer with appropriate qualifications and experience has certified that the design of the Work takes account of ground movements predicted by the Geotechnical Engineer and that the Works will not damage the Barrier Wall or beam. The people to whom the certificate is addressed must include the State and the Site Auditor;
- (c) the Site Auditor is satisfied that the Work will not adversely effect the Barrier Wall or beam; or
- (d) the State is satisfied that the Work will not adversely effect the Barrier Wall or beam.

Requirement 15.1.3 – Works to be designed for differential settlement

Works must be designed to allow for any differential settlement that may occur as a result of deformation of the Barrier Wall under load.

Requirement 15.1.4 – Control of Works affecting Capping beam

Works that involve trenching or excavation through the Capping beam must include:

- (a) appropriate controls and work methods to minimise damage to the beam; and
- (b) appropriate design to replace or reinstate the beam to ensure that the functionality of the beam, Barrier Wall and Cap is not adversely effected.
- (c) controls to ensure that capping beam excavations result in nil excavations into the underlying barrier wall. Excavations in capping beam are to be no deeper than 1m below “surface completion levels” in Barrier Wall WAE Plans, Appendix D, noting that the barrier wall sits 1.2m below the surface completion level. The area of Nil excavation below this depth is shown as Area M in **Figure 12**.

Requirement 15.1.5 – Geotechnical Engineer Certificate

A Geotechnical Engineers certificate must be obtained:

- (a) certifying that the design of the Works comply with the requirements of this Part 15; and
- (b) upon completion of the Works, certifying that the beam has been reinstated properly.

The people to whom each certificate is addressed must include the State and the Site Auditor.

Requirement 15.1.6 – Piles and footings

To protect the integrity of the Barrier Wall, no foundations are permitted (both pile and pad foundations) that penetrate into the surface completion beam or Barrier Wall. An exclusion zone either side of the Barrier Wall has been established for both pad and pile foundations that exceed the above design load for the surface completion beam.

Foundations within the exclusion zone may be allowable, subject to analysis and certification by a suitably qualified Geotechnical Engineer that there will not be any adverse affect on the Barrier Wall or surrounding ground and with the written consent of HDC. Where foundations are required in this zone they must not be within 15 metres (or greater if required) of the Barrier Wall outside alignment. No guarantee on the performance of the existing surface completion beam or Barrier Wall is given. For all foundation design works, designers must make their own estimates on the bearing capacity and potential for both total and differential settlements that may occur as a result of deformation of the wall under load and make such allowances in their designs to accommodate such conditions.

Any plan of subdivision or lease is to create a restriction on use within Area F consistent with the above restrictions.

No work may be carried out that involves excavations or trenches at or below 2m AHD.

15.2 Monitoring Wells

Background

The VRA requirements include the monitoring of site groundwater levels and water quality and this is carried out at a number of groundwater monitoring wells. The State and land owner requires access to these wells for continued monitoring of groundwater conditions.

Application

This Requirement applies to the whole of the Site.

Requirement 15.2.1 – Right of Access to Monitoring Wells

Provide legal right of access for the land owner, State Authorities and other public Authorities and their respective invitees to monitor groundwater from groundwater wells identified in Appendix F including plans of chemical monitoring and groundwater level monitoring.

Requirement 15.2.2 – Right to Revise Monitoring Well Network

Provide legal right of access for HDC and their consultants to install groundwater wells in access, road and utility corridors and easements or any community or common title lands and retain legal right of access for the purpose of monitoring these wells.

Provide legal right of access for HDC and their consultants to decommission and demolish existing or future groundwater wells.

15.3 Contaminated Materials within Area 1 and Area 2A

Background

Earthworks for the Stage 1 and Stage 2A Remediation Works encountered contaminated materials that were beneficially used on site for bulk earthworks below the Area 1 Cap. These contaminated materials were classified as Level 1, Level 2 or Level 3 materials in accordance with the Materials Management Plan. The Materials Management Plan is part of the Voluntary Remediation Agreement and allows for these materials to be left in-situ or relocated on site subject to certain conditions including depth below the finished surface levels.

The location of Level 2 and Level 3 materials is shown indicatively on Figure 2. All Level 2 and Level 3 materials, in situ or emplaced, have a minimum cover of at least 500mm of Level 1 plus the surface Cap. The following hazardous material areas (Area G) are shown:

- Level 3 Material Emplacement
- Level 3 Material In-Situ (indicative only)
- Level 2 Material Emplacement
- Level 2 Material In-Situ (indicative only)
- Level 2 Material Asbestos Emplacement
- Level 2 Material Asbestos In-Situ (indicative only)
- Level 3 Benzene Plume (indicative only)

In-situ contamination has been identified and mapped but the precise extents of contamination are not known.

Level 2 and Level 3 soils/solids do not pose an environmental or human health risk if they are not disturbed. Works involving disturbance of Level 2 or Level 3 soils needs to include precautions and methodologies that prevent unacceptable exposure to the contaminants.

Application

Requirement 15.3.1 applies to the Area G – Hazardous Materials Placement Area

Requirements 15.3.2 applies to Area G – Hazardous Materials Placement Area

Requirement 15.3.3 applies to the whole of Area 1

Requirement 15.3.4 applies to those parts of Area 1 previously Capped with a slag pavement as part of the Stage 1 remediation works.

Requirement 15.3.1 – Control of Work in Area G

The construction of buildings is not permitted within the following areas:

- Level 3 Material Emplacement
- Level 3 Material In-Situ (indicative only)
- Level 3 Benzene Plume (indicative only)

Excavation is not permitted at depths of more than 1.0m below the finished Cap (including 400mm air gap in Pavement Cap, Area 1) within:

- Level 3 Material Emplacement
- Level 3 Material In-Situ (indicative only)
- Level 2 Material Emplacement
- Level 2 Material In-Situ (indicative only)
- Level 3 Benzene Plume (indicative only)

Excavation is not permitted at all in areas of Level 2 Material Asbestos Emplacement, or Level 2 Material Asbestos In-Situ:

- Level 2 Material Asbestos Emplacement
- Level 2 Material Asbestos In-Situ (indicative only)

Requirement 15.3.2 – Work Management Plans within areas of known Level 2 and Level 3 Contamination

For Works within the following areas (Refer to Figure 2):-

- Level 3 Material Emplacement
- Level 3 Material In-Situ (indicative only)
- Level 2 Material Emplacement
- Level 2 Material In-Situ (indicative only)
- Level 2 Material Asbestos Emplacement
- Level 2 Material Asbestos In-Situ (indicative only)
- Level 3 Benzene Plume (indicative only)

the Work Management Plan prepared in accordance with Requirement 8.2 is to specifically address the following additional matters:

- Identify the fate of contaminated Level 2 or Level 3 materials encountered during the carrying out of the Works, the necessary approvals, and verification activities
- Specifically address the potential presence of Asbestos in the materials to be excavated
- Include controls to reduce, as far as practicable, the recharge of groundwater aquifers due to ingress of surface water during carrying out of the Works
- Include a program that shows the timeframes for carrying out the Works including Cap reinstatement and verification requirements.
- For Works below groundwater level show that the Works will not disturb the integrity of the aquitard between the upper and lower water tables

Requirement 15.3.3 – Work Management Plans within Area 1 or 2A

For any Works within Area 1, the Work Management Plans prepared in accordance with Section 8.2 and Section 19 of this Plan should specifically address the possibility of encountering previously unidentified contamination below the underside of Cap and include contingency plans to manage exposure risks arising from such occurrences, and identify the planned fate of Level 2 or Level 3 contamination.

For Works within those parts of Area 1 previously provided with a paved Cap constructed from site slag materials, the Work Management Plan is to specifically address health risks associated with worker exposure to PAH within the slag materials.

Requirement 15.3.4 – Site Auditor Requirements for future landuse

Project Works within parts of Area 1 previously provided with a paved Cap constructed from site slag materials must satisfy Site Auditor requirements for site occupant health risks associated with exposure to elevated PAH levels that exceed NEPM guidelines within the slag materials. Management measures might include overlaying the existing Cap with VENM material, placement of concrete slabs or hardstands, and site use restrictions and protocols.

15.4 Coke Ovens

Background

The former BHPB steelworks contained 5 coke oven batteries located within Area 1. All of these have been demolished by RLMC in 2007 to levels which are below the underside of the Cap constructed by RLMC and completed in 2008. Demolition levels on Coke Ovens 1, 4 and 5 are shown on Works as executed drawings in Appendix N. Restrictions on excavation are appropriate to minimise the risk of encountering contaminants associated with the former coke ovens, and to avoid demolition of remnant structures.

The excavation restrictions relate to the anticipated ultimate surface levels. For those parts of Area 1 which were Capped with VENM material these are the same as the Remediation FSL's constructed by RLMC. For those parts of Area 1 which were Capped with a pavement and bituminous seal it is anticipated that approximately 400mm thickness of additional pavement material will be added to the Cap levels constructed by RLMC.

Application

This Requirement applies to Area I.

Requirement 15.4.1

For areas identified as Area I on the CSMP Plan and which had a VENM Cap provided by RLMC, excavation is not permitted at levels which are more than 1.00m below the Remediation FSL.

For areas identified as Area I on the CSMP Plan and which had a Cap provided by RLMC which comprised of pavement and bituminous seal, excavation is not permitted at levels which more than 0.600m below the Remediation FSL.

15.5 Heritage Requirements

Background

The whole of the Closure Area has heritage requirements, and these are detailed in the Archaeological Management Plan for the Closure Area, included in Appendix P.

Some specific areas of the site with higher heritage significance are identified as Area J on the CSMP Plan. The Heritage Management Plan includes requirements for compliance with the Heritage Act 1977(NSW), obtaining an excavation permit from the NSW Heritage Office prior to excavation, modification or disturbance, and monitoring by an archaeologist in the following areas:-

- Hunter River Copper Smelting Works
- Coke Oven Battreies
- No 2 Blast Furnace
- 18 Inch Mill building
- Small Merchant Mills/Combination Mill
- Merchant Mill Boiler
- No 1 Pig Casting Machine

Some site buildings which are shown within Area J on Figure 13 and Figure 7, have heritage listings including:-

- Pattern Store (Local Significance)
- Master Mechanics Office (Local Significance)
- Admistration Building (State Significance)

Application

This Requirement applies to specific areas of the site with higher heritage significance identified as Area J on the CSMP Plan.

Requirement 15.5.1 – Heritage Protection

At these areas, comply with the requirements of relevant legislation, the Planning Consent, and the Archaeological Management Plan for the Closure Area.

15.6 Major Drains

Background

HDC has constructed major surface water drains within the Site. Construction was completed in 2012.

Application

Requirement 15.6.1 applies to Area K

Requirement 15.6.2 applies to Area K2

Requirement 15.6.1 – Maintenance of Major Drains

Any plan of subdivision or lease is to create a drainage easement over the areas denoted Area K on the CSMP Plan, and have suitable terms for access to maintain the drains which are acceptable to the State.

Prior to lodging for registration submit draft Plans of Subdivision with accompanying 88B Instruments to the State and receive written agreement.

Requirement 15.6.2 – Maintenance and Protection of HDPE Liners

Some of the major drains are lined with High Density Polyurethane Liners to act as an impermeable barrier between surface waters and groundwater. These liners are engineered and constructed with permanent welds to be completely impermeable. These liners are a key feature of the State Remediation Works and are to be maintained.

Liners are not to be cut, punctured or disturbed.

15.7 Additional Remediation Works

Background

The VRA requirements includes a requirement for contingency planning to cover the event that remediation works specified in the RAP do not work as expected, or there are unexpected finds of contaminated materials that require additional Remediation Work.

Application

This Requirement applies to all forms of Common or Association Property, access, road, drainage or utility corridors and easements and lands held by the Crown, a Public Authority or Public Corporation.

Requirement 15.7.1 – Right to Undertake Remediation Works

Provide legal right of access for the State and their respective invitees, the land owner and their representatives to undertake unforeseen Remediation Works as required, without recourse for any potential damages.

15.8 Remediation of Koppers LTP Facility

Background

The Koppers Liquid Tar Pitch Facility and access ramps are located in Area 1 as shown in Figure 14. This area was not fully remediated due to operational constraints, but the interim approach is not expected to have a material impact on the efficacy of the overall remediation. As interim measures, RLHC / HDC have applied a fresh 2 coat seal to the access ramps to prevent infiltration and decommissioned all stormwater drainage pit and pipe in the low area of the ramp; surface waters are now pump out and as required by Koppers. No remediation has been applied to the footprint of the operational LTP facility, which is located on the concrete slab. The facility is understood to be decommissioned by Koppers in 2014 and the area will be filled to surrounding grade at 1% and Capped in a manner consistent with the Area 1 Pavement Cap that surrounds.

Application

This Requirement applies to the area identified as Koppers LTP Area, as shown in Insert B in Figure 14.

Requirement 15.8.1 – Remediation of Koppers LTP Facility

Following cessation of Koppers LTP operations in 2014, the land owners will arrange for the filling, grading and Capping of the LTP footprint, to the extent necessary. A Section B Site Audit Statement is to be obtained from the Site Auditor to confirm the site has been managed in accordance with the VRA.

15.9 Remediation of OneSteel (Portion G) Carpark

Background

The OneSteel Car Park (Portion G) is located in Area 2A, as shown in Figure 14. It comprises a well graded bitumous area with engineered stormwater drainage system. This area was resealed by HDC in 2012 to ensure infiltration was minimised. Grades were surveyed by registered surveyor and noted to be generally >1%, with no significant surface ponding expected during rainfall, all aspects draining to a pit and pipe system that discharges into an adjacent stormwater channel within OneSteel.

There is no 500mm separation barrier installed by HDC in this portion due to operational constraints (occupation by OneSteel). The interim approach adopted is not expected to have a material impact on the efficacy of the overall remediation.

Application

This Requirement applies to the area identified as Portion G OneSteel Carpark, as shown in Insert A in Figure 14.

Requirement 15.9.1 – Remediation of OneSteel Carpark

This area is currently used as a carpark by Koppers. Any change of land use or redevelopment that will involve human occupation will require appropriate remediation measures that meet the VRA, to the satisfaction of the Site Auditor. A Section B Site Audit Statement is to be obtained from the Site Auditor to confirm the site has been managed in accordance with the VRA

15.10 Remediation of Koppers Operational Area

Background

The Koppers Berth Operational Area is a small portion shown in Area 2, as shown in Figure 14. This area has not been remediated due to operational and safety constraints (see also Seawall defect plan, Figure 15). The interim approach is not expected to have a material impact on the efficacy of the remediation due to immediate proximity to the active interface with the Hunter River (i.e. the area is already fully flushed by direct tidal exchange with the Hunter River. The main issue preventing immediate remediation by HDC was a failing sheet pile wall causing potholing behind the wall and significant safety risk for heavy vehicles and the area is subject to existing use rights (Koppers). The landowner has been notified of the defect in the seawall and the area is fenced off as a safety precaution. It is expected that the

defective seawall will be repaired by the landowner following Koppers vacating this area in 2014, when Berth 7 becomes operational, and the small footprint of the Operational Area will be graded and Capped by the landowner on Koppers departure.

Application

This Requirement applies to the area identified as Koppers Operational Area, as shown in Insert B in Figure 14.

Requirement 15.10.1 – Remediation of Koppers Operational Area

This area is currently used as a Berth Facility by Koppers. Any change of land use or redevelopment that will involve human occupation will require appropriate remediation measures that meet the VRA, to the satisfaction of the Site Auditor. A Section B Site Audit Statement is to be obtained from the Site Auditor to confirm the site has been managed in accordance with the VRA.

15.11 Remediation of Existing OneSteel Rail Line

Background

A residual portion of Freight Rail Line shown on the Plan has not been remediated, due to operational constraints of the active rail and the relatively inconsequential impact of this shortfall, given the immediate proximity to the uncapped lands adjacent (i.e. OneSteel). Note that this anomaly is a result of NPC requesting a change of alignment to the freight rail remediation works, causing a small, unremediated residual as shown. The remaining rail line undertaken in the Freight Rail Contract includes a contiguous VENM Cap integral to the rail embankment, compliant with the VRA.

Application

This Requirement applies to the area identified as Freight Rail Line, as shown in Insert A in Figure 14.

Requirement 15.11.1 – Remediation of Existing Onesteel Rail Line

This area is currently used as an operational rail line by Onesteel. Any change of land use or redevelopment that will involve human occupation will require appropriate remediation measures that meet the VRA, to the satisfaction of the Site Auditor. A Section B Site Audit Statement is to be obtained from the Site Auditor to confirm the site has been managed in accordance with the VRA.

15.12 Retention of Access to Future Emplacement Area

Background

A key feature of the State's remediation work to date has been the consolidation of Level 3 materials into Area 1. This is undertaken on the basis that Area 1 is hydraulically contained.

This infrastructure is critical to the cost effective delivery of the remaining remediation works in Area 2B. Subject to agreement by the NSW Government it may also be beneficial for other Developers, in the event that L3 material is encountered outside of the Area 1. Continued access in favour of the State is required for remaining works.

The intent of this restriction will not prevent development in the vicinity of the nominated area, only create a framework that would lend to logical planning and open space allocations for the nominated site, such as car or truck parking, terminal storage, bulk material storage and handling, lay-down area, removable structures and the like, or staging of development that preferences development on other parts of the site first.

The significant Infrastructure Exclusion Area requirement is shown in the attached plan. It is an area of 0.8Ha, or less than 1% of the Port Lands.

Application

This Requirement applies to the area identified as Future Cell 6 and Future Cell 7 in Figure 10.

Requirement 15.12.1 – Right to Access Future Cell 6 and 7

Provide legal right of access for the State and their respective invitees, the land owner and their representatives to undertake Level 3 emplacement works as required, without recourse for any potential damages.

15.13 Controls on Use of Groundwater

Background

Groundwater behaviour has been significantly modified by the remediation, to manage environmental risk posed by groundwater at the Site. Nevertheless, groundwater remains unsuitable for abstraction for beneficial use.

Risk from any groundwater encountered or extracted for dewatering during remediation or development activities will need to be managed in accordance with a work management plan that considers its contamination status.

Application

This Requirement applies to the Site.

Requirement 15.13.1 – Restriction on Beneficial Use of Groundwater

Beneficial use of groundwater at the Site should not be contemplated and is prohibited.

Requirement 15.13.2 – Management of Risks During Dewatering

Necessity for engagement with groundwater during Project Works or Remediation Works is to be minimised in the design phase. If unavoidable, a work management plan is to incorporate consideration of the contamination status of groundwater and take appropriate measures to manage risks to human health and the environment.

15.14 Controls on Taking of Shellfish

Background

Groundwater behaviour has been significantly modified by the remediation, to manage environmental risk posed by groundwater at the Site. Nevertheless, taking of shellfish along the shoreline remains an unquantified risk and should therefore be avoided.

Application

This Requirement applies to the foreshore interface with the Hunter River, for the Site.

Requirement 15.14.1 – Restriction on Taking of Shellfish

Taking of shellfish at the Site should not be contemplated and is prohibited.

16. Reporting and Information Management

Background

The VRA requires certain records and information to be kept and provided to the EPA upon request. It also requires material changes in Site conditions and any failure to comply with the VRA requirements to be notified to the EPA.

Application

This Requirement applies to the whole of the Site.

Requirement 16.1.1 – Keep records and information

Until the EPA has given notification that it considers that the contamination no longer poses a significant risk of harm, records of all monitoring data and information regarding the investigation and remediation of the Site must be retained and provided to the EPA at any time upon the EPA's request.

Requirement 16.1.2 – Notify material changes

Written notification must be given to the EPA if information or data indicates a material change in conditions at the Site or its surrounding environment which could adversely affect the ability to investigate or remediate the Site or result in harm to the environment.

Requirement 16.1.3 – Notify failure to comply with VRA

Written notification is to be given to the EPA of any failure by any person to comply with any component or aspect of the VRA or any pollution incident at the Site within the meaning of the Protection of the Environment Operations Act 1997.

17. Modification and control of this Plan

This Plan is intended to be applied to the Site. It is not intended that this Plan itself will be modified once it is in final form. Rather the Plan will be finalised and then copies retained by Authorities such as the DoP, Newcastle City Council and the EPA. Copies will also be held by the Site Auditor. [In addition a copy may be available through the General Register of Deeds.

However the Plan will be referenced and applied by other instruments such as:

- Conditions of development consent;
- Licence conditions;
- Conditions of Site Audit Statements;
- Contracts; and
- Registered instruments and agreements.

Those instruments will give legal effect to this Plan in accordance with the nature and terms of the instrument. For example a contract may require compliance with this Plan or a condition of planning approval may require compliance with this Plan.

However, in particular circumstances a modified approach to the management of contamination issues on the Site may be appropriate. If that is so then the relevant approvals, licences and contracts may apply this Plan with changes or modifications. Those changes or modifications would then apply to the relevant land or development in accordance with the approval, licence or contract.

The Requirements of this Plan and of Key Documents as applicable to any particular part of the Site may, having regard to particular circumstances and knowledge of the contamination and risks found, need to be implemented in a modified manner. Such modification should only occur to the satisfaction of the Site Auditor and relevant Authorities and be fully justified by appropriate technical assessments.

Records of decisions to modify any requirement for any part of the Site should be kept. In particular, it is expected that such records will be kept by:

- (a) the owner of the land who seeks the modification;
- (b) the Authorities that authorise it; and
- (c) the Site Auditor.

18. Information Disclosure

The Site has been subject to various environmental investigations, site assessments, risk assessment, audits and environmental monitoring regimes which may provide valuable context to inform a site owner, occupier, a proponent or works contractor of the risk of encountering contamination during ground engagement. This information may be relevant disclosure for (but not limited to) leases, licences, land disposals, Project Works, Remediation Works, concept and detailed design processes and construction activities.

The information compiled in this Plan is not intended to provide full disclosure of all site conditions that may be encountered during Project or Remediation Works and some information may be missing, or incomplete. Descriptions of the site and previous works are provided for contextual purposes only and are not intended to be an exhaustive description or compilation of the risks. All parties with due diligence responsibilities or interests in the land are required to undertake their own research and investigations as necessary to inform themselves of the risks.

The environmental characterisation of the Site is limited in the context of the size of the Site, the depth and complexity of impacted aquifers, the scale and heterogeneous distribution of impacted soil and the long history of industrial activities having some bearing on risk. The Site is recognised as one of Australia's first and most significant heavy industrial facilities, commencing in the 1860's as the Hunter Valley Copper Smelter Company and ultimately forming the site of the Newcastle BHP Steelworks. It is noted that there are limitations in the body of information available and that there is unavoidable inherent risks to be considered when undertaking ground engaging activities at the Site.

Relevant baseline information available is provided for information, as follows:

Figure 2 – Location of Hazardous Material In-Situ and Emplacement Areas

Appendix H – VOC Management Documents

Appendix Q – Validation Reports

Appendix R – Site Auditing

Appendix T – Environmental Technical Reports

19. Recommendations for Developers

The Site contains contaminated soil and groundwater which when exposed, may represent a significant risk to humans or the environment. Remediation works conducted by the State and compliance with this plan help manage the risks but are not necessarily a complete response. However, as the remediation is based on the system of containment it follows that steelwork era contamination remains at all times on the Site.

Therefore, removal of the installed human health and low permeability barriers and or subsequent excavations into contaminated fill will re-expose steelwork era contamination and potentially reactivate risk.

Future excavations into contaminated sub-grade or interface with contaminated groundwater at the Site should be avoided. This approach is to be applied to Project or Remediation

Works across the Site, to the extent practical. Where ground engagement is unavoidable, it should be undertaken in a manner that minimises risk.

Requirement 19.1 – Obligation to Manage Risk

All reasonable alternatives to excavations in steelworks era fill are to be explored prior to undertaking ground engaging activities that may expose contaminated soil or groundwater or affect the operation of the Cap.

Risk management strategies that should be considered by Developers of Project and Remediation Works include (but not limited to):

- a. Importation of environmentally and geotechnically appropriate fill (subject to appropriate approvals under the EP&A Act and meeting all legal obligations under the PEO Act) to build lands up to achieve desired landform or surface grades as an alternative to cut to fill strategies that expose contaminated soils
- b. In consideration of the above, exploring significant fill sources such as other major projects with surplus fill and or dredging of the Hunter River (Berth 2,3 and 7 will be undertaken in the near-term)
- c. Provision, where possible, of above ground services and utilities as a preference to trenching services into contaminated lands
- d. Development of above ground surface stormwater systems utilising open drains, swales and the like to minimise trenching and below ground infrastructure
- e. Deployment of vacuum sewer systems, shallow rising mains, concrete encased systems as necessary, to reduce minimum cover requirements of services and facilitate deployment of utilities in the clean fill zone above the under side of Cap
- f. Minimisation of trenching into BHP era fill generally by installation of IT or communication infrastructure into shallow encased service conduits and or deployment of above ground facilities
- g. Provision of above ground electrical reticulation service infrastructure

Service infrastructure discussed above may otherwise be installed below ground in areas of clean imported fill but this will require importation of significant quantities of fill. On the balance, this option may be strategically advantageous in area 2B as it removes constraints and mitigates risks while also improving hydraulic gradients at the rear of the site. This has the additional benefit of reducing potential planning and approval constraints arising from Climate Change and sea level rise (refer also to Section 5.3.3 Major Drains).

In the event that excavations into the steelworks era sub-grade are unavoidable, it is the proponent's responsibility to undertake investigations to route excavations to avoid high risk areas, with reference to information provided in the Plan in Section 19, supplemented with any other environmental investigations or expert advice deemed necessary to minimise risk of encountering significant contamination. In this case, a Work Management Plan is also to be provided in accordance with Section 8.2 of this Plan.

Appendix A

Planning Approval - Consent
Conditions
(Consolidated Instrument)

Appendix B

SPEMP

Appendix C

State Works Contract Specifications

Appendix D

Work-As-Executed Drawings

Appendix E

Not Used

Appendix F

Groundwater Monitoring Well Locations

Appendix G

VRA

Appendix H

VOC Management Documents

Appendix I

Materials Management Plan

Appendix J

Preliminary Design

Appendix K

Not Used

Appendix L

Drainage

Appendix M

Remediation Strategy

Appendix N

Utilities

Appendix O

Not Used

Appendix P

Heritage

Appendix Q

Remediation and Validation Reports

Appendix R

Site Auditing

Appendix S

GIS Mapping Digital Data
(Electronic Only)

Appendix T

Environmental Technical Reports

APPENDIX E – HEAVY VEHICLE ROUTE PLAN

HEAVY VEHICLE ROUTE PLAN

for

Mayfield No.4 Berth

2.

1. Purpose of the Plan

The Heavy Vehicle Route Plan has been prepared to address Condition 5.46 of the Conditions of Consent issued by the NSW Department of Planning for the development of the Multi-Purpose Terminal, former BHP site (now known as the Mayfield site), Mayfield reference DA 293-08-00, current version Mod 56-7-2008.

Condition 5.46

“Prior to site remediation works commencing, the Applicant submit to the Director-General for approval, a Heavy Vehicle Route Plan that identifies the shows the proposed routes for heavy vehicle movements to and from the site during all phases of the Stage 1 development. The plan shall be prepared in consultation with the Council and the RTA and demonstrate that proposed routes avoid the use of local streets in the Mayfield and Mayfield East localities. The plan shall also outline what measure will be undertaken to ensure that all drivers of heavy vehicles servicing the site are made aware of the approved routes.”

The plan will identify the heavy vehicle routes that will service the site.

2. Description of the Facility

Mayfield Berth No. 4 is a single multi-product berth that was constructed as part of the refurbishment of former BHP Wharf 5 (Figure 1 - Site Layout Plan). The berth is generally isolated from other facilities as the remainder of the former BHP lands are still to be remediated and developed. Further up river is an operating berth that caters for heavy petroleum products such as pitch and downriver is the Port Waratah Coal Services Carrington Terminal.

The new berth is approximately 266 metres long. It is constructed with reinforced concrete pile caps, edge beams, diaphragms and a 750mm thick apron slab. The new wharf is fitted with new fenders, bollards, capstans, kerbs and ladders as wharf furniture. The following new services are provided:

- fire hose reels and hydrants;
- potable water;
- three-phase power;
- single-phase power;
- wharf flood lighting; and
- wharf edge lighting.

Immediately behind the apron is a 400mm thick reinforced concrete slab on ground measuring approximately 262 metres by 23 metres. Along the south edge of the concrete slab runs an old service duct which has been capped with a 750mm thick reinforced concrete slab.

Immediately south of the concrete slab is an adjacent hardstand area of approximately 9000 square metres.

The site is accessed temporarily by an internal driveway crossing land yet to be remediated (approximately 500m long) from the eastern end of Selwyn St, Mayfield. The long term access arrangements are subject to development of the port side lands and remediation of the remainder of the Mayfield site by Hunter Development Corporation. It is intended that the long term access will continue via Selwyn St with the road leading into the site yet to be located.

3. Potential Cargo

The following cargoes have been identified by NPC as possibilities for Mayfield No. 4 Berth:

- project cargoes: e.g. wind turbines, transformers, mining equipment and materials, other heavy plant;
- break bulk (inert materials only): aluminium, timber logs, cement;
- general freight in containers;
- bulk cargoes which are transferred directly from ship to transport with no uncontained ground storage; and
- ammonium nitrate.

Of the potential cargoes identified, ammonium nitrate is the only one classified as a Hazardous Material. Transport of ammonium nitrate is addressed separately in the Transport of Hazardous Materials Study.

4. Heavy Vehicle Routes

4.1 Locality

The major road which services the site is Industrial Drive. Access to the site is from Selwyn St through a signalised controlled intersection with Industrial Drive.

Industrial Drive is a classified RTA road which provides road linkages to the west via the New England Highway, to the north via the Pacific Highway and south via the F3 Freeway. Figure 1 identifies the proposed Heavy Vehicle Routes and links to the highways and the F3.

4.2 Consultation with Newcastle Council and the NSW RTA

A draft copy of this plan was sent to both the RTA and Newcastle Council for consultation.

In reply the RTA raised no objection to the recommendations to restrict heavy vehicles to main roads and prohibit them from local residential areas.

The Council has advised NPC that they have no objection to the content of the plan and that they consider the plan satisfactory.

4.3 Routes

The majority of cargo transport to the port is via the wider road linkages identified above but all road transport will travel via Industrial Drive and Selwyn St to site. Travel to regional areas will be from site to Industrial Drive and beyond using the major road network.

Where local deliveries of cargo are required the heavy vehicles will be confined to the major roads identified in Figure 1 and shown as Collector Roads. All heavy vehicles are prohibited from passing through residential areas and in particular, no travel is allowed through Mayfield or Mayfield East.

Due to the uncertainty with the cargo sources and delivery locations precise heavy vehicle routes are not able to be determined. General principles to be applied to heavy vehicles are:

- not to travel through Mayfield and Mayfield East;
- that cargo transport shall be via designated main roads; and
- not to traverse designated local roads.

Figure 1: Locality Plan, Heavy Vehicle and Rail Routes to Mayfield Site



4.4 Driver Training

All drivers and contractors accessing the site are required to undertake Newcastle Port Corporation Induction training. As part of this training access routes will be covered to ensure that all drivers are aware of the requirement to avoid residential areas and to use the major roads.

4.5 Stevedores

All stevedores operating from NPC owned wharves are required to enter into licence agreements with NPC. The licence covers the use of the wharf and the conditions under which the wharf can be operated. As part of the conditions of the licence to use the wharf NPC will impose the condition that all heavy vehicles accessing the site are prohibited from using the residential streets of Mayfield and Mayfield East and are to follow the routes identified in this plan.

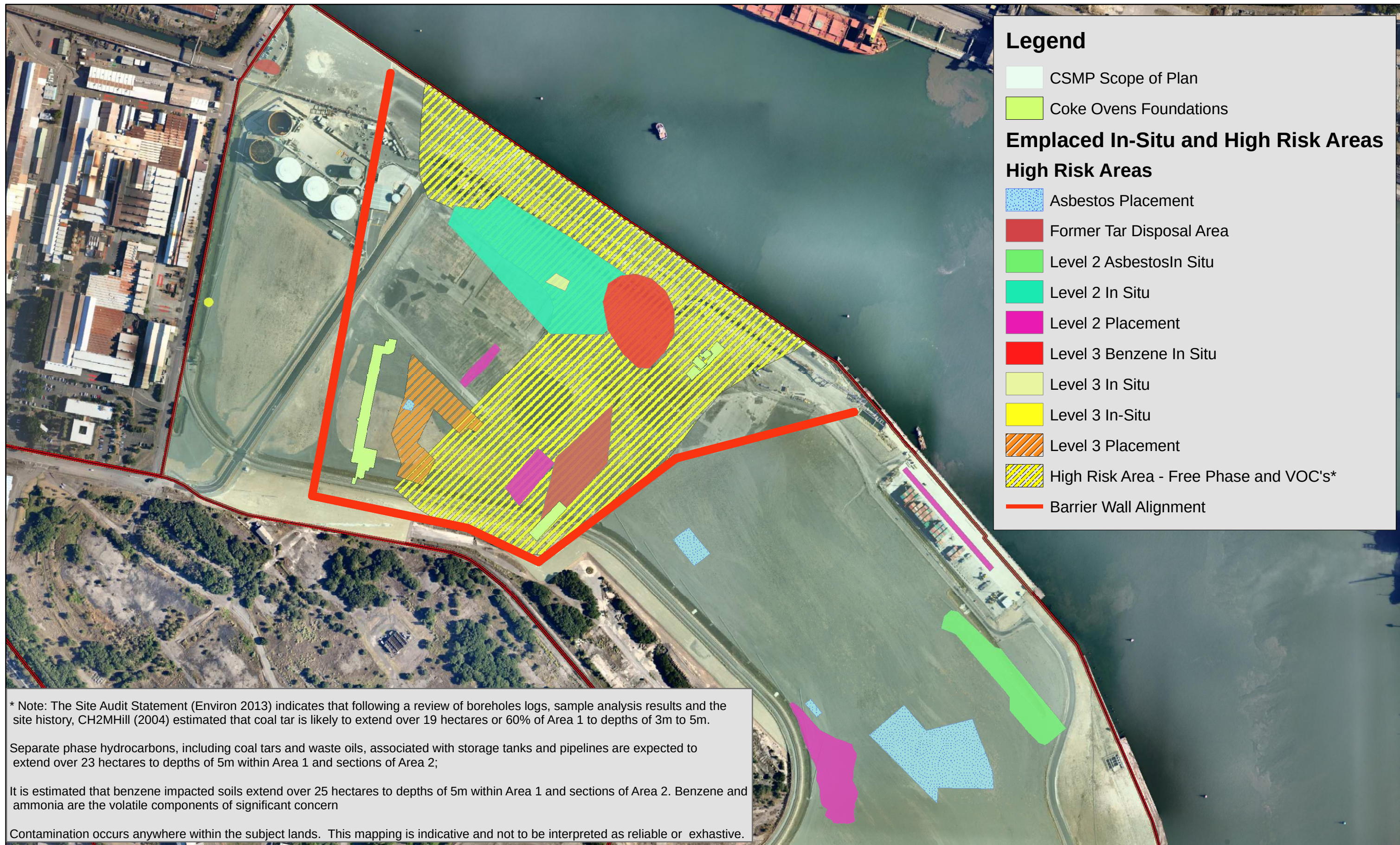
5. Conclusion

By ensuring heavy vehicles use the main roads through driver training and appropriate licence agreements with users heavy vehicles will avoid local residential streets. Although it cannot be determined at this time where the cargo will be delivered from or to, appropriate guiding principles have been developed to minimise the impact on local residents and ensure that heavy vehicles are kept from the local residential areas of Mayfield and Mayfield East.

6. References

- Transport of Hazardous Materials, NPC, September 2009
- Travel Restrictions Vehicle Routes, Plan for Town: Newcastle, RTA, 6 August 2009
- Australian Road Rules

APPENDIX F – CAPPING DIAGRAMS



Legend

- CSMP Scope of Plan
- Coke Ovens Foundations

Emplaced In-Situ and High Risk Areas

High Risk Areas

- Asbestos Placement
- Former Tar Disposal Area
- Level 2 AsbestosIn Situ
- Level 2 In Situ
- Level 2 Placement
- Level 3 Benzene In Situ
- Level 3 In Situ
- Level 3 In-Situ
- Level 3 Placement
- High Risk Area - Free Phase and VOC's*
- Barrier Wall Alignment

* Note: The Site Audit Statement (Environ 2013) indicates that following a review of boreholes logs, sample analysis results and the site history, CH2MHill (2004) estimated that coal tar is likely to extend over 19 hectares or 60% of Area 1 to depths of 3m to 5m.

Separate phase hydrocarbons, including coal tars and waste oils, associated with storage tanks and pipelines are expected to extend over 23 hectares to depths of 5m within Area 1 and sections of Area 2;

It is estimated that benzene impacted soils extend over 25 hectares to depths of 5m within Area 1 and sections of Area 2. Benzene and ammonia are the volatile components of significant concern

Contamination occurs anywhere within the subject lands. This mapping is indicative and not to be interpreted as reliable or exhaustive.



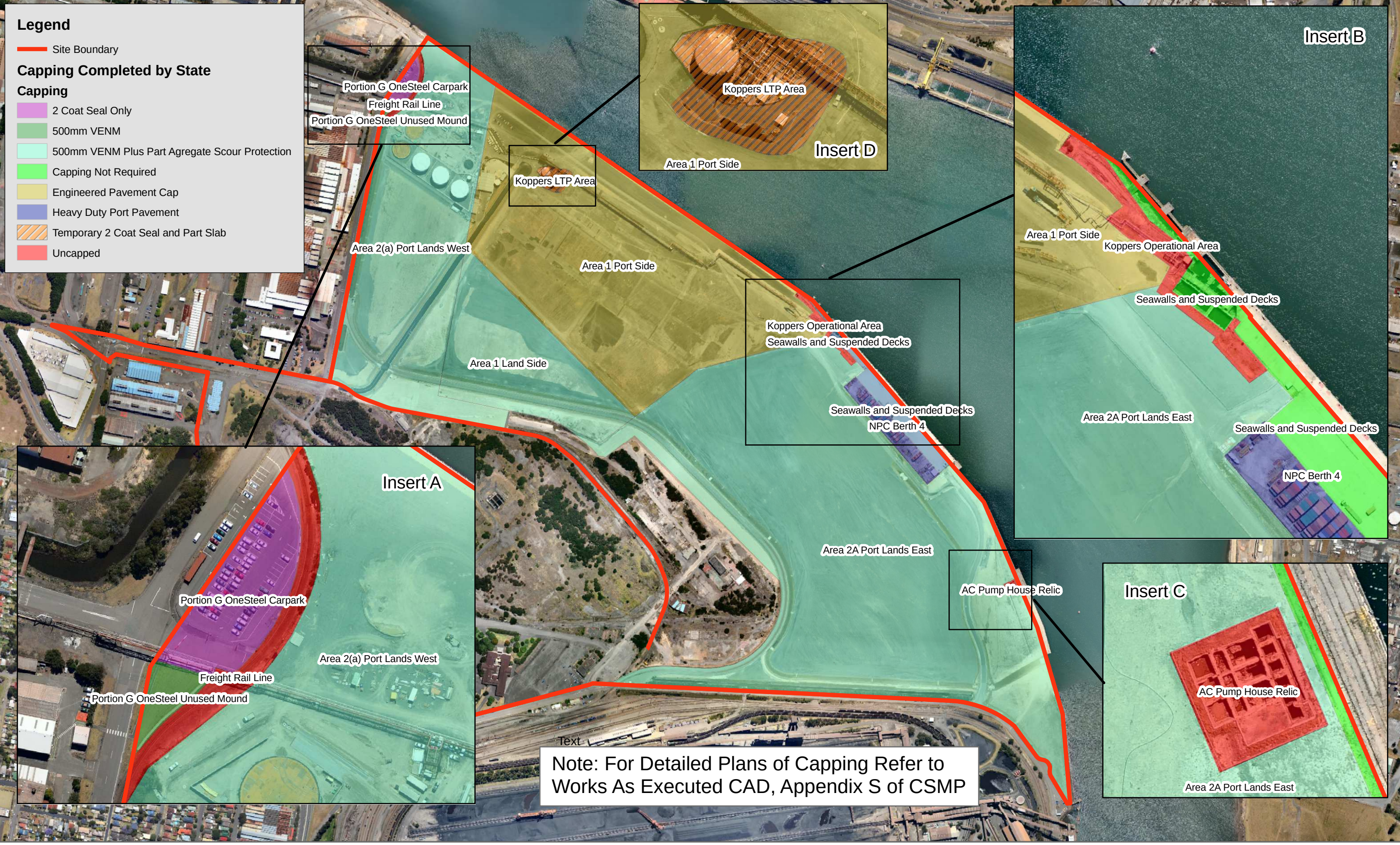
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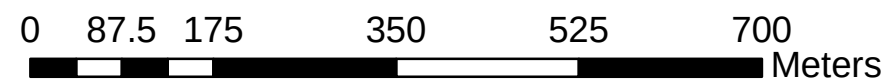
L2 and L3 Indicative Plan
Area 1 and 2A Mayfield Closure Area
February 2014



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Completed Capping VRA 26025
Port Lands, Mayfield Closure Area
October 2013