2 Site Condition & Surrounding Environment

2.1 Site Identification

The site is located between Erskineville and Macdonaldtown railway stations. The site is roughly triangular in shape, being part of the area commonly referred to as the Macdonaldtown Triangle. The site location is shown in **Figure 1**. The site details are summarised in **Table 2.1** and described in more detail in the following sections.

Table 2.1 Summary Site Details

Lot/DP	Part Lot 50 in DP1004167
Address	Burren Street, Erskineville NSW
Geographical Coordinates	624700N; 343200E
Local Government Authority	City of Sydney
Site Zoning	Railways as per SREP 26
Current Use	Vacant
Site Area	7732m^2

A plan showing the site is shown on **Figure 2**.

2.2 Current Site Condition

A site inspection was completed on 5 July 2010 by JBS. The majority of the site was roughly triangular in shape, with a short, narrow corridor of land forming the north – western portion of the site, and providing direct access to Burren Street. The main feature on the site was the Southern Gasholder, comprising a cylindrical metal frame extending to a height of approximately 12m above ground level. The metal frame is understood to be the remnants of a gasometer used as part of the former gasworks operation. The former gasworks contained a second gasholder, known as the 'Northern Gasholder', however, the above ground parts of this structure were demolished some time ago. It is understood that only the below ground components of the Northern Gasholder remain on site, which is consistent with observations of a ring of bricks, at ground level adjacent to the Southern Gasholder.

The level of the site along the northern boundary was generally in line with the adjacent Stabling Yards Access Road. A steep embankment or retaining wall was present parallel to, and between 1 and 5 m in from, the northern boundary, which dropped up to 2m in height to the level of the remainder of the site. From the base of this northern embankment, the ground level was generally observed to slope gently to the central southern site boundary. The level of the site was generally consistent with the surrounding land, with the exception of an embankment on the western boundary, where the ground level at the site fence was up to four metres higher than that in the adjacent backyards of the Burren Street residences.

The site was unsealed at the time of the inspection. Established high canopy tree vegetation was present along much of the northern embankment, through the north-eastern corridor, along the western boundary and in the south-western corner. The remainder of the site was covered in grass, bare earth or imported gravel.

Several stockpiles of material were present on the site at the time of inspection:

- Sections of 600mm diameter concrete pipe, stacked along the south-eastern boundary wall of the site;
- Three fill stockpiles, predominantly comprising brown gravelly sand fill but with plant matter, orange plastic pipe fragments, scrap metal, concrete pieces and glass inclusions, present along the southern-western boundary. This material, is understood to have been imported onto the site and was stockpiled to heights of between 1 and 1.5m, over an area of approximately 12m long by 1.5m wide;
- A grass covered stockpile, understood to contain ACM, present between the two gasholders on the eastern side. The stockpile extended approximately 1.5m high by 2.5m in diameter; and
- Separate stockpiles of gravel, ballast and sand, present in the north-eastern corner of the site.

2.3 Site Features Previously Identified

The site has been previously delineated into eight areas by CH2M Hill (March 2007) '*Delineation & Characterisation Sampling and review of Remedial Options*' (CH2M Hill 2007a). These areas are shown on **Figure 3** and include:

- Gasholders: encompasses both Gasholder structures adjoining the western boundary. The Southern Gasholder remains intact with the superstructure standing approximately 12 metres above the ground surface. The above ground structure of the Northern Gasholder has been demolished, however the brick annulus structure remains intact beneath the ground. The northern gas holder area was covered in grass and a single tree observed to be several metres high;
- Retort: encompasses the footprint of the former Retort House, Tar Wells, Condensers, Coal and Shale Storage areas and other building structures associated with the gasworks operations (office, amenities, etc). These buildings and structures have been demolished and associated structures are no longer visible above the ground surface. However some underground structures remain in place, including the two Tar Wells, pipework, brick flooring and foundations and concrete slabs;
- Gas Purifier: encompasses the footprint of the former Purifier Beds, Scrubbers and Gas Meters. Similar to the Retort Area, structures only remain buried below the ground surface, with no above ground structures remaining;
- Northeast: includes the majority of the northeast section of the Site;
- South Central: includes the portion along the central southeast boundary;
- Southwest: includes the majority of the southern area of the Site;
- Retaining Wall: includes the filled area embankment along the northern site boundary; and
- Western Lot: includes the small rectangular section of land that extends west to Burren Street.

Photomontages of the site in its pre-remediation condition are provided as **Figures 4** and **5**.

2.4 Surrounding Landuse

Surrounding land-uses include:

- North – The Macdonaldtown Stabling Facility, present adjoining the northern boundary of the former gasworks. Further north is located Macdonaldtown station and associated rail corridor;
- South-east – A noise barrier and access roadway is located adjoining the south-eastern boundary of the site. Further south is the rail corridor associated with the Illawarra and south-west rail corridor; and
- West – Residences fronting Burren St Erskineville are located adjoining the eastern boundary of the site. Residences consist of detached and semi-detached low and medium density dwellings and small yard areas. Further west is located the residential area of Erskineville.

2.5 Topography

The site topography has been described in '*Remedial Action Plan Former Macdonaldtown Gasworks – Burren Street, Erskineville, NSW*' (CH2M Hill 2007b). In summary, the site topography was described as generally flat with a gentle grade that falls toward the south east. Along the western boundary that adjoins residential properties, the ground level falls off sharply to the backyards of the residential homes forming an embankment. This is highest in the southern corner where there is a surface level difference of approximately four metres.

The ground surface of the adjoining northern property (Stabling Yards) is approximately 2m higher than the gasworks site, and in some places this surface elevation extends into the gasworks site up to five metres, where a pre-existing retaining wall was constructed (CH2M Hill 2007b).

3 Summary of Proposed Works

3.1 Proposed Future Use

RailCorp has advised that the site is to be remediated to a condition that facilitates commercial / industrial use of the site.

Following remediation it is intended that the site be reinstated to current levels. Furthermore, it is intended that the site be landscaped to achieve the following principles:

- Enhanced screening of the site for the benefit of residential properties adjoining the site;
- Stabilise embankments;
- Provide potential habitat;
- Prevent erosion;
- Contribute to the existing pattern of green habitat areas in the neighbourhood; and
- Reduce maintenance works required.

The species for revegetation of the site are to be determined, but will be selected based on consolation with the local community.

3.2 Proposed Remediation Works

The proposed remediation works generally comprise:

- Excavation of impacted materials. Given that some materials underlying the site have the potential to generate odours when exposed to the atmosphere, excavation in certain sections of the site will need to take place in an enclosure;
- Off-site disposal or on-site storage for low level contaminated soils for later re-use in non-sensitive site areas during backfilling;
- Off-site disposal of high level contaminated materials prior to disposal off-site and/or re-use on-site;
- On site treatment (stabilisation/immobilisation) of high level contaminated materials prior to disposal off-site and/or re-use on-site;
- Off site treatment (bioremediation or thermal desorption) of high level contaminated materials prior to disposal off-site and/or re-use on-site;
- Dewatering of excavations with treatment of dewater or off-site disposal of infiltrating seepage water / groundwater; and
- Backfilling of excavations and re-instatement of site levels.

Figure 3 includes a delineation of the site based on the contamination status. By reference to the areas shown on **Figure 3**, the following remediation works are proposed:

- The areas shown shaded in yellow (ash & coke gravel fill) do not have the potential to be malodorous. These soils will be excavated by standard excavation practice to an anticipated depth of 0.5m;
- Four distinct areas are shown shaded in green (contamination hotspots). Excavation works at these locations are not anticipated to exceed 2m in depth. These materials have the potential to be malodorous;