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Our Ref: PSM4265-015L Rev 4

26 February 2025

Goodman Property Services (Aust)
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Attention: Mack Bowman

Dear Mack

RE: PROJECT PLUTO DATA CENTRE – 132 MCCREDIE ROAD, GUILDFORD WEST - SALINITY MANAGEMENT PLAN

1. Introduction

This letter presents salinity management plan for the proposed data centre development at 132 McCredie Road, Guildford West (the Site). This work is undertaken in accordance with PSM's proposal dated 28 March 2024 (PSM4265-013L).

1.1 Development Overview

A State Significant Development Application (**SSDA**) has been prepared in support of a proposed data centre at 132 McCredie Road, Guildford West NSW 2161. The site is zoned E4 General Industrial and has a road frontage to McCredie Road. The developable site area is approximately 71,710 sqm.

The proposed development comprises:

- Site preparation works including bulk excavation and removal of existing hard standing and structures on the site, tree and vegetation clearing, and bulk earthworks;
- Construction, fit out and operation of a data centre with an approximate building height of 25.77m and total gross floor area of approximately 29,444 m2 comprising:
  - At-grade parking for 53 car parking spaces and 2 accessible car parking spaces
  - Two (2) loading dock spaces
  - Two (2) levels of technical data hall floor space with incorporating a total of nine (9) data halls
  - Ancillary office space.
- Provision of required utilities, including:
  - Fuel storage
  - Two (2) Switch-rooms
  - Four (4) industrial water storage tanks.
- Vehicle entry and egress driveways located along McCredie Road
- Internal access road
- Associated landscaping and site servicing

- Installation of services and drainage infrastructure.

The site was previously used for industrial purposes (manufacturing of lubricants and oils). We understand that the site has since undergone environmental remediation.

2. Objective

The objective of this salinity management plan (SMP) is to effectively manage site salinity, to minimise the effect of the proposed development on the salinity processes and to protect the proposed development from salinity damage. All works are to conform with the Western Sydney Salinity Code of Practice June 2003.

This report is prepared to also specifically respond to the SEARs requirement:

- Ground and Water Conditions – Assessment of salinity impacts.

3. Salinity Assessment

PSM previously undertook a geotechnical investigation at the Site in May 2023. The salinity investigation results from the geotechnical investigation (PSM4265-011L dated 15 June 2023) indicate the soils on site are classified as mostly “non-saline” to “slightly saline”, with 2 samples indicating moderately saline to very saline.

4. Salinity Management Strategies

4.1 Development Components

This SMP addresses the components of the proposed development during the construction stage for the permanent works. Salinity management regarding the following development components are provided in the following sections:

- Earthworks
- Imported soils
- Gardens and landscaped areas
- Roads, footpaths and hardstand areas
- Surface water, stormwater and drainage
- Durability of concrete structures in contact with the ground
- Durability of steel structures in contact with the ground.

4.2 Earthworks

The Site is expected to undergo cut and fill works as part of the site enabling works. Based on the provided cut-fill plan by Van Der Meer Consulting (Drawing No.: SY242-012 DA-C201 Rev A), we anticipate:

- Cut: Generally 0.5 m; up to 1.5 m at the basins
- Fill: Maximum of 4 m.

Design and construction of the earthworks should consider the following strategies and recommendations:

- Importation of soil as per Section 4.3 of this letter.
- Vegetation cover should be estimated and maintained on permanent batters upon completion to control erosion.
- The final surface of all areas of the development should be graded to prevent the ponding of surface water.
- Erosion control of temporary batters, stockpiles and disturbed areas should be planned prior to undertaking the earthworks and implemented during the earthworks. Consideration should be given to:

  - Grading and sealing partially completed surfaces
  - Installation of clearly visible fencing and traffic control measures to prevent unnecessary trafficking of areas and ensuring site disturbance
  - Establishing set vehicular access points and roads
  - Protecting stockpiles (temporary vegetation or mulching) where these are to be left in place for long durations.
- Sediment control shall be implemented by means of sediment traps and silt fencing where considered necessary.
- Dust suppression using water carts will avoid over-watering and only use sufficient water to manage dust rise. Surface ponding will be avoided using dust suppression.
- Water used for construction purposes (e.g., to achieve adequate compaction rates) will be applied sparingly.

4.3 Importation of Soil

Materials to be imported to site should be assessed for suitability for the intended use. Very-to-highly saline soils shall not be imported to site.

4.3.1 Salinity Testing

Salinity testing shall be undertaken on imported soil and in accordance with "Site Investigations for Urban Salinity", Department of Land and Water Conservation (2002). Material with Ece > 8 dS/m; i.e., very-to-highly saline shall not be imported.

4.4 Landscaped Areas

The proposed development will result in the majority of the site comprising the building structure, roads, footpaths, and hardstand areas. Landscaped areas are likely to be of limited extent. We recommend, and understand that the landscape consultant has considered the following in the design and construction of landscaped areas:

- Irrigation of rehabilitated or landscaped areas will utilize low-water-use fixtures such as automatic dripper lines or similar. Water will be applied only in quantities sufficient to promote plant growth in conjunction with the adoption of native plant species resulting in low water usage for irrigation.
- Selection of plant species should consider the soil conditions, including moderate salinity, relatively poor fertility and clayey low permeability soil profiles. Promotion of successful revegetation is likely to require use of nutrient rich topsoil. Saline topsoils should not be imported to site.
- Potential for water logging should be minimised by:
  - Adopting plant species with minimal watering requirements such as wet feet planting in swale and basins
  - Adopting 'waterwise' gardening principles
  - Minimising use of potable water in landscaped areas through the use of automatic drop lines
  - Properly designed and implemented irrigation systems
  - Establishment of perennial species and deep-rooted trees.

4.5 Roads, Footpaths and Hardstand Areas

As stated, the proposed development will result in the majority of the site comprising the building structure, roads, footpaths, and hardstand areas. We recommend, and understand that the civil designer has considered the following in the design and construction of roads, footpaths and hardstand areas:

- Roads, footpath and hardstand surfaces should be graded, and the grades maintained at all times to prevent ponding of surface water at locations where this can result in infiltration into the underlying soils (e.g. pavement joints).

- Connections between the roads, footpath and hardstand surfaces and the surface water and stormwater drainage infrastructure should be designed, constructed and maintained to restrict infiltration into underlying soils.
- Services that are to be located below the roads, footpath and hardstand surfaces should be installed, where practical, at the time of construction.
- Provision for a damp-proof course or membrane beneath slabs should be considered by the slab designer.

4.6 Surface Water, Stormwater and Drainage

Surface water, stormwater and drainage design should aim at restricting infiltration into the ground resulting in groundwater recharge. We recommend, and understand that the following will be considered in the design and construction of surface water, stormwater and drainage measures:

- Disturbance of natural drainage patterns should be reduced. Where these are disturbed or altered appropriate artificial drainage should be installed
- Stormwater and surface water should be managed to restrict infiltration
- Temporary water retaining structures used during construction should be managed to restrict infiltration
- Stormwater and surface water infrastructure should be designed and constructed to minimise the likelihood of leakage
- Guttering and down pipes should be connected and maintained
- Surface water runoff should be directed around all exposed surfaces, temporary stockpiles and landscaped areas
- Disturbance to the natural hydrological system shall be minimised by maintaining good surface drainage and reducing water logging on the Site
- Groundwater recharge is to be minimised to the extent it does not adversely impact groundwater dependent ecosystems downstream.

4.7 Durability of Concrete Structures in Contact with The Ground

In designing structural concrete elements in contact with the ground the design should consider the results of the salinity assessment and the durability requirements in AS2159:2009 Piling “Design and Installation” and AS3600:2018 “Concrete Structures”.

Both these standards provide guidance on minimum concrete grade/strength and minimum cover requirements.

Based on the salinity and aggressivity test results (ref.: PSM4265-011L dated 15 June 2023), it is recommended that:

1. The design of structural concrete members in contact with the ground (excluding piles) adopt an A2 exposure classification as defined in AS3600:2018. However, we note that one of the samples were assessed to have a “B1” classification at deeper depth.
2. The design of concrete cast in situ piles adopt a mild classification as defined in AS2159:2009.

4.8 Durability of Steel Structures in Contact with The Ground

Table 6.5.2(C) of Australian Standard AS2159:2009, Piling – Design and Installation provides criteria for exposure classification for steel piles based on resistivity, soil and groundwater pH, and chlorides in soil and groundwater. On the basis of soil chlorides, resistivity and pH testing completed we assess the exposure classification for steel piles in the soil to be mild.

5. Conclusion

We understand that the respective Designer(s) have considered the above recommended measures in their design. Similarly, the contractor(s) shall be responsible to implement the designs for the various development components.

The designer and contractors should contact PSM during the works if they have any queries with regards to the requirements in the SMP or if conditions significantly differ from those described in this SMP.

Yours Sincerely

KELVIN LIM
ASSOCIATE GEOTECHNICAL ENGINEER

AGUSTRIA SALIM
PRINCIPAL