KEYLAN
consulting pty ltd

Suite 2, Level 1
1 Rialto Lane
Manly NSW 2095

Modification Report
Section 4.55(1A) Modification

Orica Southlands Warehouse Estate
SSD 9691 Mod 1

Prepared for Goodman Property Services (Aust.) Pty Ltd
Submitted to the Department of Planning, Industry and Environment

December 2021

KEYLAN
consulting pty ltd

Suite 2, Level 1
1 Rialto Lane
Manly NSW 2095
ABN 51 45 22 11 892
ACN 613 590 775

This report has been prepared by:

Kane Winwood BEng MEIANZ
Principal Planner
E: kane@keylan.com.au

This report has been reviewed by:

Dan Keary BSc MURP MPIA RPIA
Director
E: dan@keylan.com.au

Cover image: Artist Impression (Source: Axis Architectural)

Revision	Prepared by	Reviewed by	Date	Revision Type
1	CT/KW	DK	7/12/2021	Draft
2	CT/KW	DK	21/12/2021	Final

Table of Contents

Figures

Tables

Appendices

1 Introduction

This Modification Report has been prepared by *Keylan Consulting Pty Ltd* (Keylan) to accompany a section 4.55(1A) application to modify the State Significant Development (SSD) consent for the Orica Southlands Warehouse Estate (SSD 9691) The modification application seeks to revise the design of the elevated concrete platform to improve its structural capabilities ensuring the suspended concrete platform can accommodate the long term requirements of future users typical of this precinct.

The application has been prepared on behalf of Goodman Property Services (Aust.) Pty Ltd (the Applicant) and is submitted to the Department of Planning, Industry and Environment (DPIE) pursuant to section 4.55(1A) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This report should be read in conjunction with the following documents:

- Flood Impact Assessment prepared by BMT (Appendix 2)
- Piling Plan prepared by Costin Roe Consulting (Appendix 3)

This application is the first modification sought to SSD 9691, which was approved by DPIE on 8 April 2021.

The proposed modification seeks to revise the approved design of the concrete platform elevated above the flood detention basin by:

- changing the intervals of the supporting piles from 10m to 5m
- reducing the size of each individual pier from 800mm to 400mm in diameter

It is considered that the proposed modification is acceptable as it:

- will result in improved structural performance of the elevated concrete platform to future-proof the development
- will result in a negligible change (approximately 35 cubic metres (m^3) or a 0.14% reduction) to the storage capacity of the retention basin
- will not impede ongoing access and maintenance of the basin
- supports the development of much needed warehousing, storage and distribution space as approved under SSD 9691 on a currently underutilised site close to the Sydney Central Business District (CBD) and Port Botany

This report concludes that the proposal is substantially the same development and will not result in any significant environment impacts. Accordingly, we recommend that the proposed modification be supported by DPIE and approved.

1.1 Site description

The subject site is located at 28 McPherson Street, Banksmeadow in the Bayside Local Government Area (LGA). The site is legally described as Lot 9 in DP 1205673 (Lot 9) and forms part of a broader 18.3 hectare (ha) industrial estate formerly referred to as the 'Southlands' industrial estate.

The site is located approximately 9 kilometres (km) south of the Sydney CBD, 4 km south-east of Sydney Airport and 400 m north of Port Botany. The site is within an established industrial location and in close proximity to the Botany Industrial Park (BIP). The site location is shown in the figure below.

Figure 1: Surrounding development (Base Source: Nearmap)

The site is bounded by McPherson Street to the south, Nant Street to the west, the Australian Government Detector Dog Facility to the east and north and a warehouse strata estate to the east.

The site is irregularly shaped, comprising an area of approximately 4.1 ha and is generally flat with a minor slope from the north and south to the centre of the site.

The site has been highly disturbed as a result of major earthworks activities that were undertaken in 2014 and 2015 (as part of previous development approvals) to prepare the site as a flood storage retention area. Due to the previous earthwork activities, the site is now cleared of any significant vegetation and currently comprises a mixture of new site plantings towards to the southern site boundary (along McPherson Street), grasses and exotic weeds.

The site currently operates as flood storage retention basin and is required to be maintained as a flood storage retention basin under a restriction and positive covenant under Section 88B of the *Conveyancing Act 1919*. The proposed modification to the elevated concrete platform ensures the ongoing functionality of the flood storage retention basin in maintained. The surrounding area is subject to major flooding and as such, the site plays an integral role in managing flood impacts within the precinct.

1.2 Surrounding locality

The site is located in an established industrial area that includes a variety of warehousing and distribution developments and is positioned in close proximity to the BIP which is located to the north-east of the site. The BIP is a 73 ha estate that provides for major industrial uses including chemical manufacturing.

The broader area is characterised by large-scale warehouses and industrial developments, chemical manufacturing and oil terminals located at Port Botany. The nearest residential development to the site is located approximately 1 km to the east and west and includes the suburbs of Hillsdale, Botany and Matraville.

The surrounding road network includes McPherson Street which is an east-west cul-de-sac road that intersects with Botany Road via the one-way pairing of Hills Street and Exell Street.

Nant Street adjoining the western site boundary is an unsealed road under the ownership of Bayside Council (Council) and provides direct access to the Qenos Tank Farm (located to the north of the site) via McPherson Street. The Port Botany rail line is located approximately 130 m east of the site.

Above-ground groundwater infrastructure including a pipe network and extraction wells that form part of the Botany Groundwater Clean-up Project (BGCP) are located along the southern site boundary, adjacent to McPherson Street.

To the east is a site currently being developed for 8 industrial units comprising 7 warehouses, storage and distribution units and 1 unit to be used as a distillery with associated warehousing storage and distribution. A warehouse facility owned by Goodman is located to the west of the site with two warehouses recently constructed and now operational.

In recent times there have been broader land use changes in the surrounding area including the recent closure of the Mobil terminal to the north, the establishment of the Veolia Waste Facility on the eastern side of the railway line and the recent proposal for a Holcim Concrete Batching Plant on Beauchamp Road.

The site in context to the surrounding region is shown in Figure 2.

1.3 Application history

On 8 April 2021, DPIE granted approval for SSD 9691 for the staged construction of the Orica Southlands Warehouse Estate, including:

- construction of a suspended concrete platform above the existing flood detention basin (Stage 1)
- construction and operation of two warehouse buildings with a combined gross floor area of 21,810 m^2 (Stage 2)
- associated landscaping, hardstand areas, stormwater and other on-site infrastructure
- subdivision of the site into two lots.

A copy of the Development Consent is provided at Appendix 1.

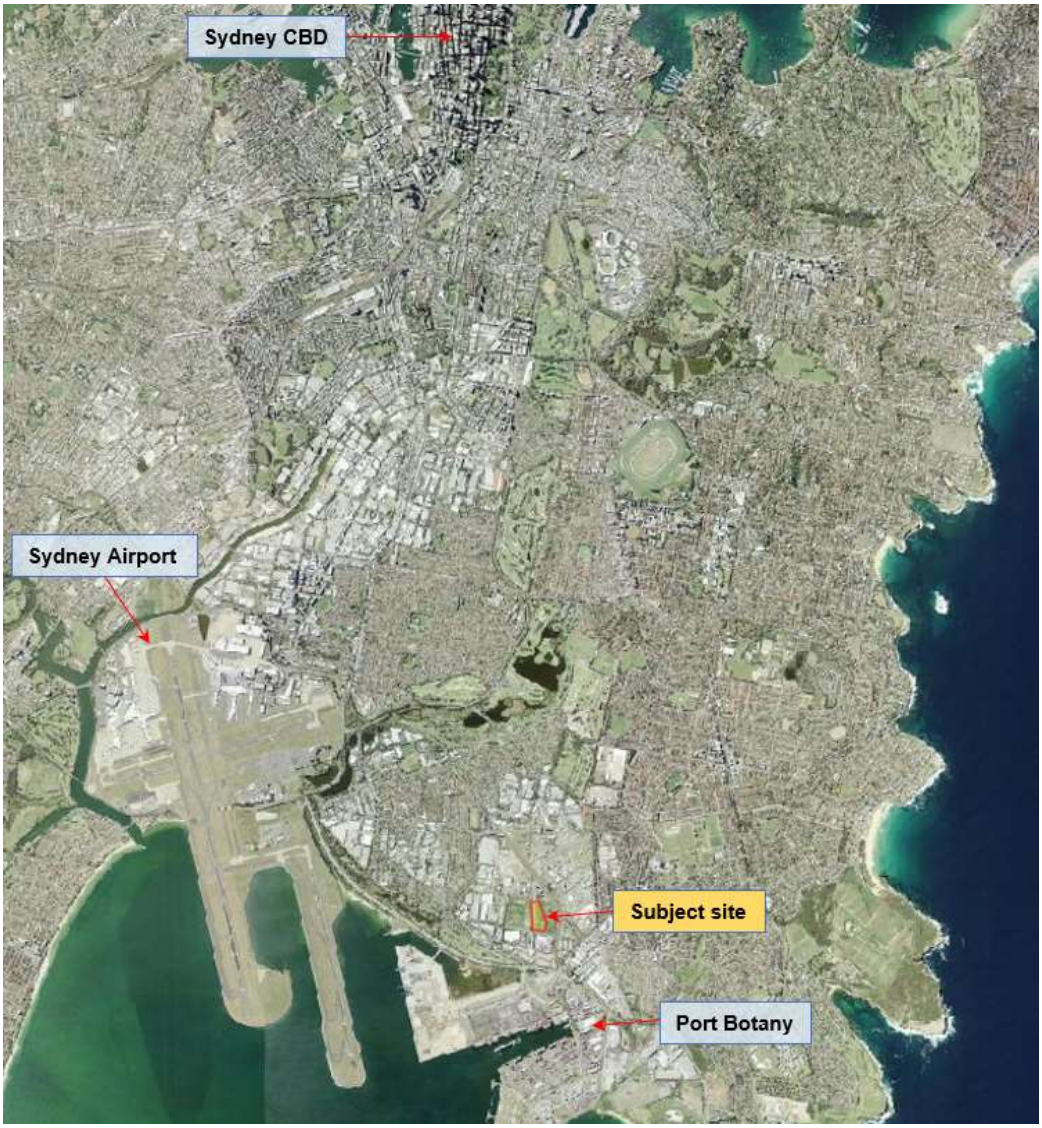

Figure 2: Site location in regional context (Base Source: SixMaps)

2 Strategic Context

The strategic context as relevant to the development has not substantially changed since SSD 9691 was approved by DPIE on 8 April 2021. The strategic context was addressed as part of the EIS submitted with SSD 9691 and subsequently DPIE's assessment determined the proposal had strategic merit.

Further, as the proposal is of a minor environmental impact and only relates to the structural design of the elevated concrete platform, this modification will not affect the development's consistency with the strategic context.

3 Description of Modifications

The proposed modification seeks to modify the approved design of the elevated concrete platform to improve its structural capabilities. The proposed modification only relates to the Stage 1 works defined in the consent for SSD 9691 as the construction of the elevated concrete platform and timber/concrete piles. No changes are proposed to the approved Stage 2 works as part of this application.

The underlying concept of the approved development is to raise the site levels utilising a elevated concrete platform over the flood storage area. The elevated platform is supported on a grid of columns meaning that the flood storage volume loss is not significant.

The proposed modifications seek to revise the approved design of the structures supporting the concrete platform elevated above the flood detention basin as follows:

- changing the intervals of the supporting piles from 10m to generally 5m with additional piles to support structures on top of the elevated platform
- reducing the size of each individual piles from 800mm to 400mm in diameter
- no longer including footings for the piles

The revised pile design is shown within Figure 3 and the plans at Appendix 3.

The proposed modifications seek to improve the structural capabilities of the elevated concrete platform to future-proof and ensure longevity of the development. The modifications do not seek to amend the height of the elevated concrete platform.

The elevated concrete platform remains and is now supported on a grid of smaller diameter piles spaced at a closer grid. While the number of supports is increased, the diameter is reduced and the volume loss from these structures is approximately 235 m^3, compared with approximately 200 m^3 under the approved design. The associated loss of storage volume of approximately 35 m^3 remains less than approximately 0.14% of the total storage capacity of the basin which is approximately 28,500 m^3.

Accordingly, this modification results in negligible changes to the storage capacity of the retention basin and will also not impede the ongoing access, performance and maintenance of the basin.

The spacing of the piles is designed to ensure that access for maintenance vehicles under the platform is maintained. A 10 m corridor is provided along the easement (Figure 3) and the 5 m spacings across the remainder of the basin can accommodate the maintenance vehicles as currently required and contemplated within the existing approval.

The modification will support the development of the site as a warehouse/distribution facility as approved under SSD 9691.

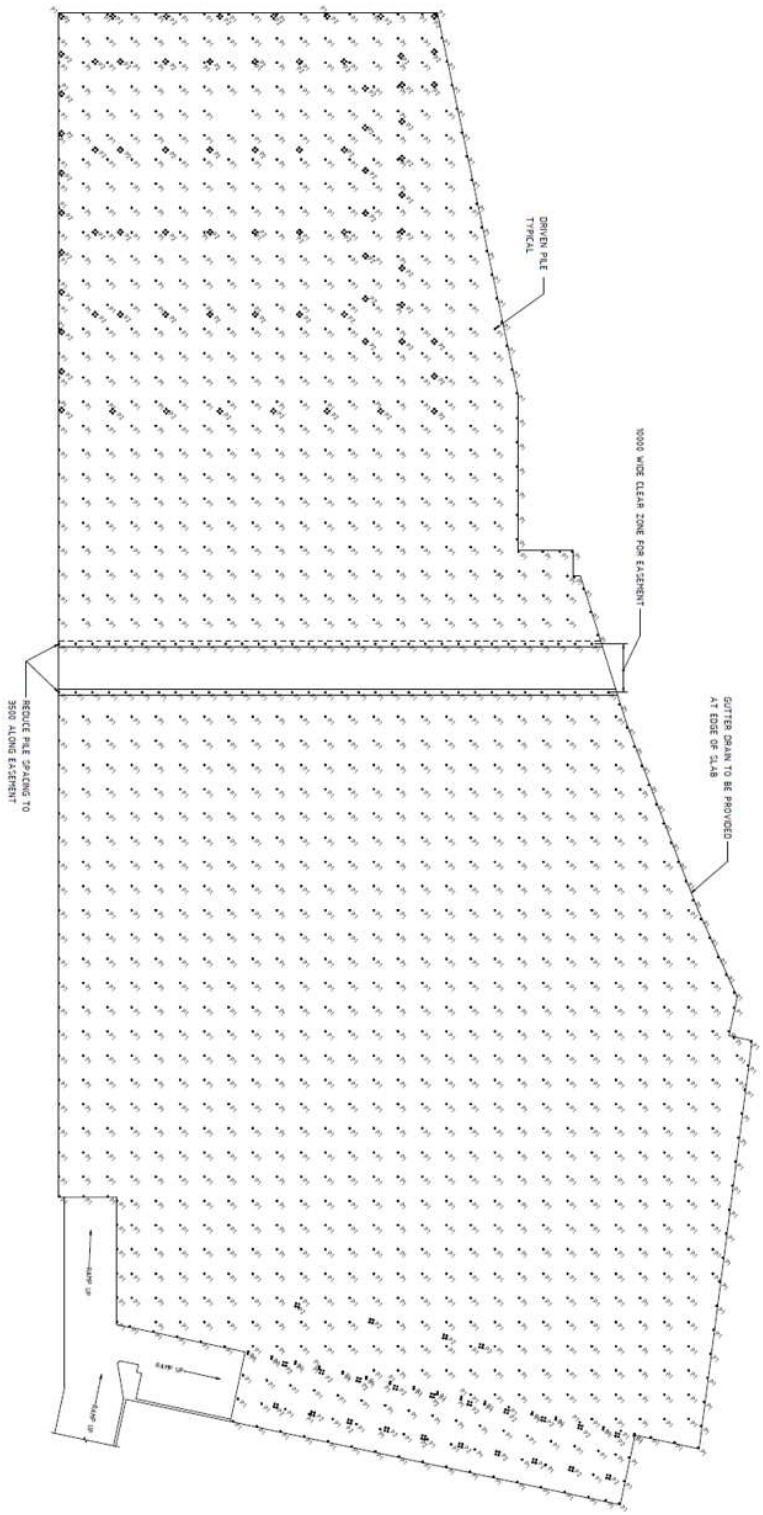

Figure 3: Site piles plan (Source: Costin Roe)

3.1 Request to modify the Conditions of Consent

The following conditions in SSD 9691 are proposed to be modified, as outlined below.

SCHEDULE 1

Definitions

Insert a new definition for SSD 9691 Mod 1.

SCHEDULE 2

PART A ADMINISTRATIVE CONDITIONS

TERMS OF CONSENT

Amend condition A2 to include reference to this modification application.

APPENDIX 1 DEVELOPMENT LAYOUT PLANS

Insert a new row under the heading 'Civil Engineering Plans prepared by Costin Roe Consulting as follows:

JOB NO.	DRAWING NO.	REV	DATE	TITLE
9349.13	SK-15	B	17/12/2021	Driven Pile Only Plan

4 Statutory Context

4.1 Environmental Planning and Assessment Act 1979

4.1.1 Section 4.55(1A) of the EP&A Act

The provisions under Section 4.55(1A) of the EP&A Act are required to be considered by the consent authority in determining a modification application. Section 4.55(1A) of the EP&A Act states:

> *A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if:*

Section 4.55(1A) Provision		Response
(a)	*it is satisfied that the proposed modification is of minimal environmental impact, and*	The proposed modification is of a minimal environmental impact as it only relates to the design of piles associated with the elevated concrete platform and will result in a negligible decrease to the storage capacity of the retention basin
(b)	*it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and*	The development is substantially the same as the development for which consent was originally granted as the modification does not seek to change the approved use, built form or environmental impacts associated with the development.
(c)	*it has notified the application in accordance with:* *i. the regulations, if the regulations so require, or* *ii. a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and*	The application will be notified in accordance with the regulations.
(d)	*it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.*	Consideration will be given to any submissions received.

Table 1: Section 4.55(1A) Assessment

4.1.2 Section 4.55(3) & 4.15(1) of the EP&A Act

Section 4.55(3) of the EP&A Act states:

> *In determining an application for modification of a consent under this section, the consent authority must take into consideration of the matters referred to in section 4.15(1) as are of relevance to the development the subject of the application. The consent authority must also take into consideration the reasons given by the consent authority for the grant of the consent that is sought to be modified.*

Accordingly, this modification report considers the relevant matters prescribed within Section 4.15(1) of the EP&A Act. The relevant environmental planning instruments, development control plans and statutory instruments are addressed at Section 4.2. The likely impacts of the development, site suitability and public interest is addressed at Section 6.

The following section of the report provides an assessment against the statutory environmental planning instruments relevant to the development. The section also includes discussion and evaluation of the key issues and matters for consideration under Section 4.15(1) of the EP&A Act.

4.2 Other Statutory Instruments

The proposed modifications are minor in nature and do not affect the development's compliance with the following statutory instruments as assessed under SSD 9691:

- *Biodiversity Conservation Act 2016*
- *Contaminated Land Management Act 1997*
- *Civil Aviation (Buildings Control) Regulations 1998*
- *State Environmental Planning Policy (Three Ports) 2013*
- *State Environmental Planning Policy No. 33 – Hazardous and Offensive Development*
- *State Environmental Planning Policy No. 55 – Remediation of Land*
- *State Environmental Planning Policy No. 64 – Advertising and Signage*
- *State Environmental Planning Policy (Infrastructure) 2007*
- *Draft State Environmental Planning Policy (Remediation of Land)*
- *Draft State Environmental Planning Policy (Environment)*
- *Environmental Planning and Assessment Regulation 2000*
- *Botany Bay Development Control Plan 2013*

5 Engagement

Extensive consultation was undertaken with DPIE, Council, relevant NSW Government agencies and the community as part of SSD 9691.

Given the minor nature of the proposed modification and general consistency with the approved development, no further formal engagement has been undertaken as part of the preparation of this modification.

6 Assessment of Impacts

The modification is consistent with the conclusions of the EIS submitted with SSD 9691 that found the development will result in acceptable environmental impacts, appropriately mitigates impacts and will provide much needed warehousing, storage and distribution space close to the Sydney CBD and Port Botany.

However, in accordance with Section 4.15(1) of the EP&A Act, an assessment of the development's environmental impacts (natural and built), social and economic impacts has been undertaken. These are discussed in detail below.

6.1 Flooding

The proposed modification seeks to revise the dimensions and intervals of piles to improve the structural capabilities of the elevated concrete platform. The revised design increases the number of piles located within the flood detention basin which could reduce the volume of the retention basin and potentially result in flooding impacts. However, we note that the piles are smaller than the originally proposed columns and footings are no longer proposed. The net additional loss of storage volume associated with the amended design is negligible and is estimated at 35 m^3. This equates to an approximately 0.14% reduction of the total site storage of 28,500m^3.

The original development of the flood retention basin included the creation of additional storage capacity, which accommodates the approved 100 mm capping layer and structures supporting the concrete platform with a residual additional capacity of approximately 249 m^3. The additional storage reduction of 35 m^3 associated with the proposed modification ensures the design capacity of the flood retention basin is maintained. Following the completion of construction, detailed surveys will be undertaken to demonstrate the flood storage capacity of the basin meets the approved site levels.

In addition, a Flood Impact Assessment (FIA) has been prepared by BMT (Appendix 2) to assess likely impacts on changes to peak flood levels and flood hazard levels. The FIA supports the more detailed assessment submitted with SSD 9691.

The FIA includes updated modelling to consider how the revised design impacts upon the 5% Annual Exceedance Probability (AEP), 1% AEP and the Probable Maximum Flood (PMF) events.

Maps included within the FIA (Appendix 2) identify areas where:

- *Flooding previously occurred in the current scenario model but no longer occurs in the proposed scenario model (identified as "was wet now dry");*
- *Flooding now occurs in the proposed scenario model which was previously not flooded in the current scenario model (referenced "was dry now wet"); and*
- *Extent and degree of change in the peak water levels.*

Overall, the modelling and maps provided within the FIA demonstrate that the revised pile design will result in negligible off-site impacts for all flood events and drainage scenarios modelled. The results are also consistent with those reported in the FIA submitted with SSD 9691 despite the changes proposed to the pile configuration design. The change in peak flood levels during the PMF event and a blocked drainage scenario is demonstrated at Figure 4.

The FIA also considered predicted flood hazard levels on site. The flood hazard maps provided within the FIA demonstrate the highest flood hazard in the undercroft area can reach category "H5" on the flood hazard curve during the PMF event. Flood hazard mapping for the PMF event in a blocked drainage scenario is provided at Figure 5. Buildings and structures within the H5 zone could be vulnerable to structural damage.

Accordingly, all structures within the undercroft area are to be designed and constructed to withstand forces under the PMF event. Detailed design will ensure the piles are reinforced to provide the required structural resistance to the calculated impact forces.

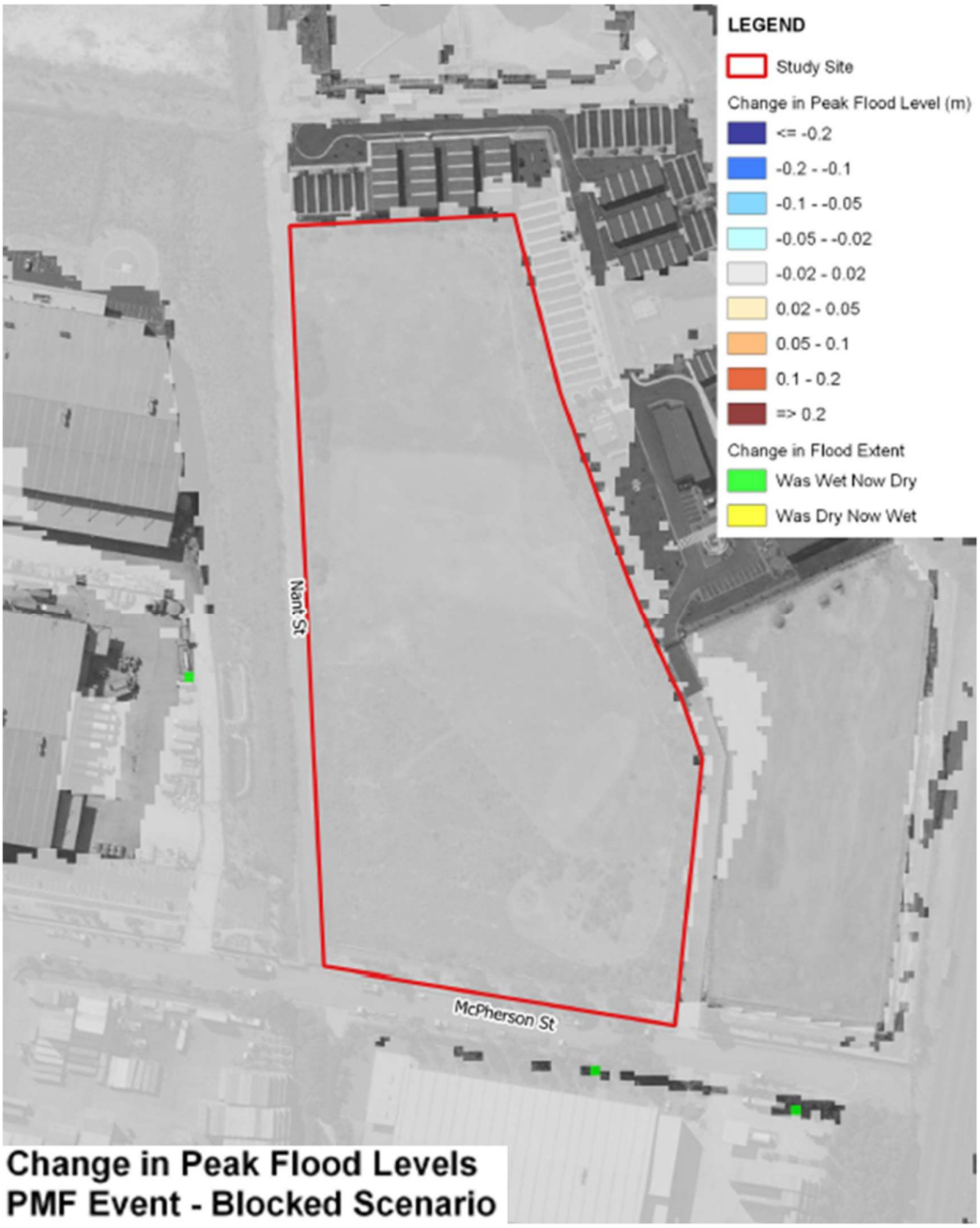

Figure 4: Change in peak flood levels in the PMF event in a blocked scenario (Source: BMT)

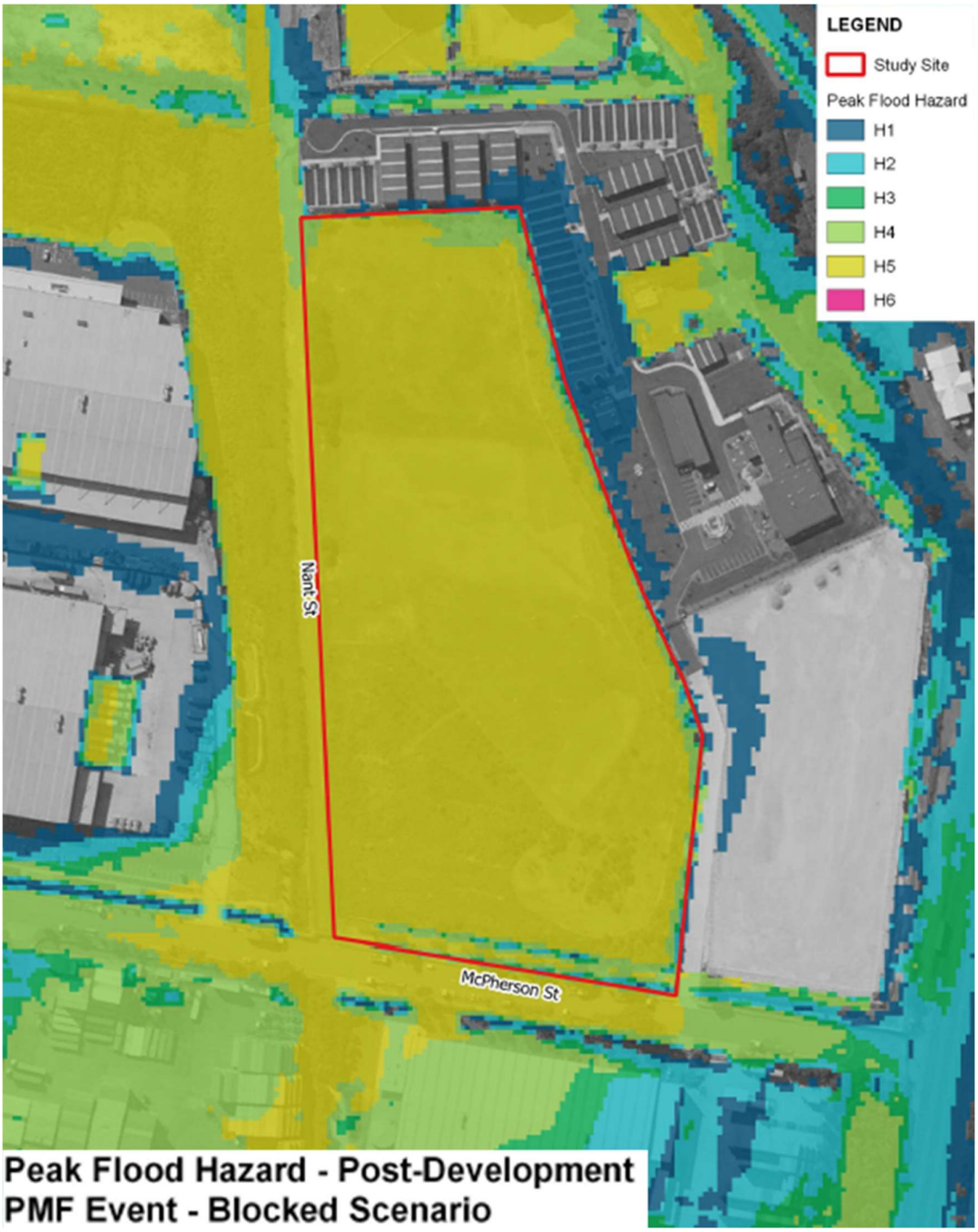

Figure 5: Change in peak flood hazard in the PMF event in a blocked scenario (Source: BMT)

6.2 Contamination

The proposed modifications relate to the intervals and diameter of piles supporting the elevated concrete platform. The subject piles would be driven to a depth of approximately 8 to 10m below the ground surface.

Under the approved Remediation Action Plan (RAP) dated 15 May 2019 prepared by JBS&G and submitted with the EIS, the site is proposed to be remediated via on-site containment of fill materials impacted by bonded and friable asbestos using marker and barrier/capping layers across the site. The proposed modifications to the intervals and diameter of the piles will not impact the approved RAP.

It is also noted the RAP anticipated and considered piling activities in its assessment, including piling at 5m intervals. The approved RAP found piling:

- will not affect soil vapour migration
- will not result in unacceptable changes to the distribution of dissolved phase contamination at the site
- will have no significant effect on the distribution of dense non-aqueous phase liquids on site

The revised pile design will not impede ongoing access and maintenance of the storage basin. With 10 m spacings along the access easement and 5 m spacing providing sufficient space for vehicles, the manoeuvring of maintenance vehicles under the platform can continue to be completed as currently required and contemplated within the existing approval.

Additionally, the concrete platform is elevated at a height of 6.7m (AHD) to allow for access underneath to facilitate works associated with ongoing remediation. The proposed modification does not seek to amend the height of the concrete platform and therefore access underneath for remediation works will not be impacted.

In accordance with Condition B27 of SSD 9691, a Validation Report will be submitted to confirm remediation works have been completed in accordance with the RAP and the Construction Environmental Management Plan. The Validation Report will include details confirming how the platform, void and associated foundations have been constructed.

6.3 Construction Impacts

The construction of the elevated concrete platform, including piling, was approved under SSD 9691. Due to the revised interval and diameter of the piles, the overall number of piles will increase to 1,828.

While the proposed modification will require more piles to be installed in total, the duration of construction activities is likely to be similar to that required to construct the approved design. In the approved design, piles are in groups (eight per group) under the columns to be constructed above the ground. The revised proposal spreads the piles over a regular grid spacing and no longer requires the construction of the footings and columns.

The intensity of Stage 1 piling works associated with the revised design will be comparable with the works as currently approved. The existing construction management measures are considered appropriate to address and mitigate impacts associated with the revised piling

design. Accordingly, the proposed modification is unlikely to result in additional construction impacts.

6.4 Suitability of the site for the development

The site remains suitable for the proposed development for the reasons outlined in the EIS submitted with SSD 9691.

6.5 Public interest

The proposal continues to be in the public interest as the modification will:

- facilitate much needed warehousing, storage and distribution space on a currently underutilised site close to the Sydney CBD and Port Botany
- result in negligible impacts upon the storage capacity of the retention basin
- result in improved structural performance of the elevated concrete platform to future-proof the development

7 Justification for Modified Project

This report has assessed the proposed modification of SSD 10399 against the requirements of sections 4.15 and 4.55(1A) of the EP&A Act, supported by technical studies. This assessment has concluded that the proposed modification is acceptable as it:

- will result in improved structural performance of the elevated concrete platform to future-proof the development
- will result in negligible impacts upon the storage capacity of the retention basin as approved
- will not impede ongoing access and maintenance of the basin
- will not result in any adverse environmental impacts beyond those approved under SSD 9691.
- supports the development of much needed warehousing, storage and distribution space as approved under SSD 9691 on a currently underutilised site close to the Sydney CBD and Port Botany

This assessment has concluded that on balance, the changes proposed:

- are of minimal environmental impact
- are substantially the same as the development for which consent was originally granted
- will not result in any adverse environmental impacts
- will facilitate the orderly economic development of the land.

Based on the assessment in this report, we consider that the applicant has shown good cause for DPIE to modify the consent as requested.

Appendix 1

Development Consent SSD 9691

Appendix 2

Flood Impact Assessment (BMT)

Appendix 3

Piling Plan (Costin Roe Consulting)