

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL

Approval no: DEV2020/1100

Date: 3 August 2020



Report

Engineering Services

Prepared for Gateway Airport Parking

20-000029-ESR.AJ.LR(C) 28 April 2020

Calibre Professional Services Pty Ltd
55 070 683 037



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QUALITY ASSURANCE STATEMENT

TASK	NAME	SIGNATURE
Project Manager	Les Roche	
Prepared by	Alex Jansen	
Reviewed by	Les Roche (RPEQ 14843)	
Approved for Issue by	Les Roche	

DOCUMENT CONTROL

ISSUE	DATE	ISSUE DETAILS	AUTHOR	CHECKED	APPROVED
A	24/01/20	Issue for DA	A.Jansen	L.Roche	L.Roche
B	04/02/20	Issue for DA	L. Roche	L.Roche	L.Roche
C	28/04/20	Issue for DA	A.Jansen	L.Roche	L.Roche

20-000029-ESR01C .Docx

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1. Introduction

Calibre Professional Services Pty Ltd has been commissioned by Gateway Airport Parking Pty Ltd to prepare an Engineering Services Report for the proposed development at 32-92 MacArthur Avenue, Hamilton. The proposed development is located within the Hamilton Northshore Priority Development Area, within the Brisbane City Council local government area and Queensland Urban Utilities authority area.

This report identifies civil infrastructure required to service the proposed development, roadways, stormwater quantity and quality management, water and wastewater reticulation and information on other utilities.

The objective of this report is to demonstrate that the proposed development can be supported by the existing and/or proposed civil infrastructure in compliance with the Brisbane City Council and Queensland Urban Utilities guidelines.

2. Site Description

The proposed development is located at 32 – 92 MacArthur Avenue, Hamilton within the Hamilton Northshore Priority Development area, within the Brisbane City Council local government area. The location of the proposed development will be referred to in this report as ‘the site’.

The site has the survey plan descriptions of Lot 916 on SL5057 and part of Lot 1161 on SP108457, Lot 968 on SL5770 and Lot 886 on SL6135 and has a total site area of approximately 30,600 square metres. Lot 916 on SL5057, Lot 1161 on SP108457 and Lot 886 on SL6135 is currently a mix of warehousing buildings and hardstand / laydown areas. Lot 968 on SL5770 is a combination of hardstand / laydown areas.

The approximate location the site is as shown in Figure 1 below.



Figure 1 Site Locality Plan (Source: Nearmap)

3. Proposed Development

Gateway Airport Parking Pty Ltd are proposing relocate their current airport and cruise ship terminal parking onto the site. It is proposed that the car park operations will have a capacity for 1,500 cars. It is understood that the relocation will be temporary in nature, with anticipated duration of five years.

To service the car park operations there will be an administration office, on site car wash and detailing, and drop off / collection parking bays for customers, and bus bays for transport to / from the airport and cruise ship terminal.

It is proposed that all public access will be limited to 32 MacArthur Avenue, where the drop off / collection parking, bus bays, office, and on site car wash and detailing will be located.

The remaining areas of the site will only be accessed by employees of Gateway Airport Park for the purposes of storing / collecting customer vehicles. It is anticipated that the existing hardstands across the site will be reutilised for car storage.

The proposed layout of the site shown in Appendix A.

4. Earthworks

No significant earthworks, or cut or fill operations are anticipated, as the development will utilise existing hardstand as the storage for 1,500 vehicles.

Minor spot repairs of existing hardstand, where damaged may be required, and it is anticipated that the repairs will not change the existing surface levels.

5. Road Access

5.1 Traffic Impact Assessment

A Traffic Impact Assessment for the development has been undertaken by Pekol Traffic and Transport (report reference 20-205, dated 18 December 2019). This assessment provides details on the proposed vehicle access to the site, as well as details of onsite traffic movements for the development.

5.2 Existing Road Network

The site bounded by MacArthur Avenue to the south, Finnegan Street to the west, and Curtain Avenue West to the north.

MacArthur Avenue is classified as a Neighbourhood Access Road. Finnegan Street is not classified by Brisbane City Council, but is believed to perform the function of a local access street. Curtain Avenue North is classified as a District Road.

Extensive roadworks to MacArthur Avenue were undertaken in 2017 and 2018, as shown in Figure 2 below, including the construction of a new vehicle crossover to 32 MacArthur Avenue.

No modifications to the existing public road network are proposed to service the proposed development. Given the temporary nature of the proposed development, removal of redundant vehicle crossovers and subsequent reconstruction of verges is not proposed.

5.3 Site Access

Public vehicle and pedestrian access to the site will be from the existing vehicle crossover that services 32 MacArthur Avenue. It is expected that the majority of public access to the site will be via vehicle.

It is proposed that an emergency access point will be provided onto Curtain Avenue West. It is proposed that an existing vehicle crossover will be used for the emergency access point.



Figure 2 Existing Roadworks (Source: Nearmap)

6. Utilities

The following provides general information in regards to existing utilities within the vicinity of the proposed development as well as proposed water and wastewater service strategies. Existing utilities have been identified through Brisbane City Council eBIMAP2 information, Queensland Urban Utilities GIS, and Dial Before You Dig (DBYD) searches.

6.1 Potable Water Supply

It is proposed that all activities requiring potable water supply will be located at 32 MacArthur Avenue.

There is an existing DN250 PE water main located along the frontage of 32 MacArthur Avenue. It appears that 32 MacArthur Avenue is serviced by a 40mm connection, made from the existing DN250 PE water main.

There is an existing 150mm diameter uPVC water main located in Finnegan Street. It appears that a 150mm diameter Ductile Iron connection has been provided to 32 MacArthur Avenue.

It is proposed to retain the existing 40mm diameter connection to service the proposed development.

Refer to drawing 20-000029-SK001 in Appendix B for details of the existing water reticulation.

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6.2 Wastewater Services

It is proposed that all activities requiring connection to the Queensland Urban Utilities sewerage network will be located at 32 MacArthur Avenue.

There is an existing DN400 PE gravity sewer located along the frontage of 32 MacArthur Avenue. There is an existing DN250 PE gravity sewer located within Finnegan Street.

32 MacArthur Avenue is serviced by an existing 150mm diameter property connection, which runs south under MacArthur Avenue, prior to connecting to an existing 225mm unreinforced concrete gravity sewer. It is proposed to retain the existing 150mm diameter connection to service the proposed development. All uses requiring sewerage connection, being plumbing and drainage from the office, and car wash can be serviced by this existing connection.

An undercover washdown area is proposed. The undercover nature of this washdown area will prevent any stormwater entering the sewer reticulation network. Refer to drawing 20-000029-SK01 in Appendix B for details of the existing wastewater reticulation works.

6.3 Electrical Reticulation

The site is currently serviced with existing underground Energex electrical reticulation. It is anticipated that this existing connection will be maintained to service the proposed development.

6.4 Telecommunication Reticulation

The site is currently connected to the NBN network, and is provided with a Fibre to the Premises connection. It is anticipated that this existing connection will be maintained to service the proposed development.

7. Stormwater Quantity and Quality

7.1 Stormwater Quantity

The proposed use of the site will retain the existing hardstand areas. The existing hardstand areas are serviced by an array of piped stormwater drainage of varying age, size, and capacity.

32 MacArthur Avenue falls south towards MacArthur Avenue and Finnegan Street, with existing piped drainage connections located at the intersection of Finnegan Street and MacArthur Avenue. There are some existing field inlets located on 32 MacArthur Avenue which appear to connect to the existing piped drainage connections located at the intersection of Finnegan Street and MacArthur Avenue. It is anticipated that these existing field inlets may capture some runoff from minor storm events, with the majority of stormwater runoff in major storm events discharging the site onto MacArthur Avenue and Finnegan Street as sheet flow, as occurs in the existing scenario.

The portion of the site that is located on 45 MacArthur Avenue falls north towards Curtin Avenue West. From inspection it does not appear that any existing piped drainage is located on this portion of the site. It is expected that in all storm events stormwater will discharge the site as sheet flow, as occurs in the existing scenario.

The portion of the site that is located on 57 MacArthur Avenue mostly falls north towards Curtin Avenue West, with a small part of the site falling south towards the Northshore Car Park developed by Economic Development Queensland. From inspection of the site, it has been identified that there is existing piped drainage that services part of 57 MacArthur Avenue. This existing piped drainage consists of field inlets and an underground piped network that heads south through the Economic Development Queensland North Shore Car Park, before connecting to existing council drainage in MacArthur Avenue, as indicatively shown in Figure 1 Figure 3 below.

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Figure 3 Existing Stormwater Runoff (Source: Nearmap)

It is anticipated that the existing drainage on 57 MacArthur Avenue would capture some runoff from minor storm events, with the majority of the runoff in major storm events discharging the site as sheet flow, predominately to Curtin Avenue West to the north. The remainder of the site that falls to the south, will discharge runoff as sheet flow onto the North Shore Car Park, developed by Economic Development Queensland. The volume and rate of sheet flow discharging onto the North Shore Car Park will be consistent to the existing scenario.

The proposed wash down area will be located within an existing undercover structure preventing stormwater from reaching the washdown area, mitigating any risk of stormwater entering the sewerage reticulation network. Refer to Appendix A depicting the proposed undercover wash down area.

It is noted the proposed development will not modify the runoff characteristics (quantity or discharge locations) from the site relative to the existing scenario, and is therefore not causing any new impact to the surrounding road network. No modification of the existing stormwater drainage is proposed, and no new drainage infrastructure is proposed to be constructed.

7.2 Stormwater Quality

The proposed use for the site is temporary in nature. The proposed use for the site does not change the existing runoff characteristics. Similar to the approach that has been adopted by Economic Development Queensland for the recently constructed Northshore Car Park located at 57 MacArthur Avenue, it is not proposed to retrofit any Stormwater Quality treatment devices into the existing stormwater network.

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8. Code Responses

The following Code Responses are included in Appendix C:

- Infrastructure Design Code;
- Stormwater Code; and
- Flood Overlay Code.

9. Conclusion

The information presented in this report demonstrates that:

- The site is serviced with water and sewer reticulation, and the existing connections are anticipated to be able to be reused for the proposed development;
- The site is serviced with electrical and telecommunications reticulation, and the existing connections are anticipated to be able to be reused for the proposed development;
- The proposed development will not change the existing stormwater runoff characteristics, in that the proposed development will not increase the runoff quantity, or the discharge locations; and
- The proposed development Stormwater Quantity and Quality Management will match the measures implemented by the adjacent car park recently constructed by Economic Development Queensland.

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Appendix B Engineering Services Plan



LEGEND

- DN150 WATERMAIN
- DN250 WATERMAIN
- 40mm WATER PROPERTY CONNECTION
- DN250 GRAVITY SEWER
- DN400 GRAVITY SEWER
- TYPE F MANHOLE (1200mm dia)
- 150mm SEWER PROPERTY CONNECTION

- EXISTING STORMWATER MANHOLE
- EXISTING STORMWATER DRAINAGE
- EXISTING STORMWATER GULLY PIT
- EXISTING STORMWATER FIELD INLET

- EXISTING 110mm GAS MAIN
- EXISTING 150mm GAS MAIN
- EXISTING UNDERGROUND NBN
- EXISTING UNDERGROUND ELECTRICAL
- EXISTING LIGHT POLE



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Sketch Plan

Title: ENGINEERING SERVICES PLAN			
Client: GATEWAY AIRPORT PARKING	Scale: 1:750-A3	Drawn By: A.JANSEN	Date: 23/01/20
Brisbane Office	Project #: 20-00029	Sheet #: 50/1	Revision: 1

