Consultant Advice

From:	**Ashwin Muralidharan**	**Date:**	**17 Jul. 19**	**File No:**	S25504\148\H-\21\ca190717s0010	**Pages:**	2
Project:	**Qantas Flight Training & Simulator Centre (Tender No. 9760)**					**No:**	**H-003**[1.0]

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Hydraulics – Water Supply Reticulation

This CAN is being issued in relation to the new 150mm water supply pipework route to the proposed Qantas Flight Training Centre and Car Park Building in response to ARTC comments received during the public exhibition of the SSD 10154 for the development of a new flight training centre at 297 King Street, Mascot. This CAN shall be read in conjunction with NDY SEARs Infrastructure Report G-006_ca190130s0001 [Rev 3.0].

Proposed Water Supply Reticulation Design:

To meet the potable water and fire services water supply demand for the proposed Qantas Flight Training Centre and Car Park Building a new 150mm galvanised mild steel water main will be installed. The proposed new 150mm water main will be:

1. Connected into the existing 250mm in-ground private water supply at the corner of the Qantas Service Road;
2. The inground pipework will be extended from the point of connection and rise above ground adjacent to the nature strip inside the Qantas boundary fence;
3. 150mm GMS pipework reticulates above ground wholly within Qantas land between the boundary fence and the trees.
4. Bollard protection will be provided as required to prevent mechanical damage to the above ground pipework.

Please see the 3 attached sketches (SKH-010A, b and C) identifying the above items 1-3.

Justification of Current Design:

During the detailed design process, options were explored to reticulate the water supply to the proposed building. The basis for the proposed water reticulation strategy was mainly due to the following constraints:

1. Soil Contamination Issues: Inground reticulation of the 150mm water supply within the access road leading to the proposed car park building. This option was considered at length but could not be pursued due to the existing soil contamination in the area.;

2. Ownership of Access Road: Reticulation of the water supply below ground under the current access road outside the Qantas fence leading to the proposed Qantas Flight Training Centre Building was assessed as a secondary option. Due to land ownership issues this option was not considered.

Protection of above ground pipework:

The above ground pipework is to be proposed to be protected using the measures listed below. The measures prescribed below are in addition to provide protection to the pipework from mechanical damage and are recommended to address the concerns raised by ARTC with regards to water damage / spill over into the rail corridor.

In our understanding the primary risk associated with water spillage into the rail corridor is mainly from damage / rupture to the above ground pipework in the event of mechanical damage to the pipework from vehicular traffic in the area.

1. An existing continuous metal crash barrier will protect the pipework along the southern end outside the Qantas fence line and adjacent to the access road leading into the proposed Qantas Flight Training Centre.
2. A new continuous metal crash barrier is proposed along the northern end of the above ground pipework adjacent to the access road leading into catering building loading dock and proposed carpark building.
3. Provision of a new continuous concrete culvert over the new pipework.
4. Provision of an above ground isolation for ease of access to shut down supply in the event of pipe damage. This arrangement will be implemented in conjunction with the measures listed above.

Please feel free to contact me if you have any questions.

NORMAN DISNEY & YOUNG

Ashwin Muralidharan
Senior Project Engineer
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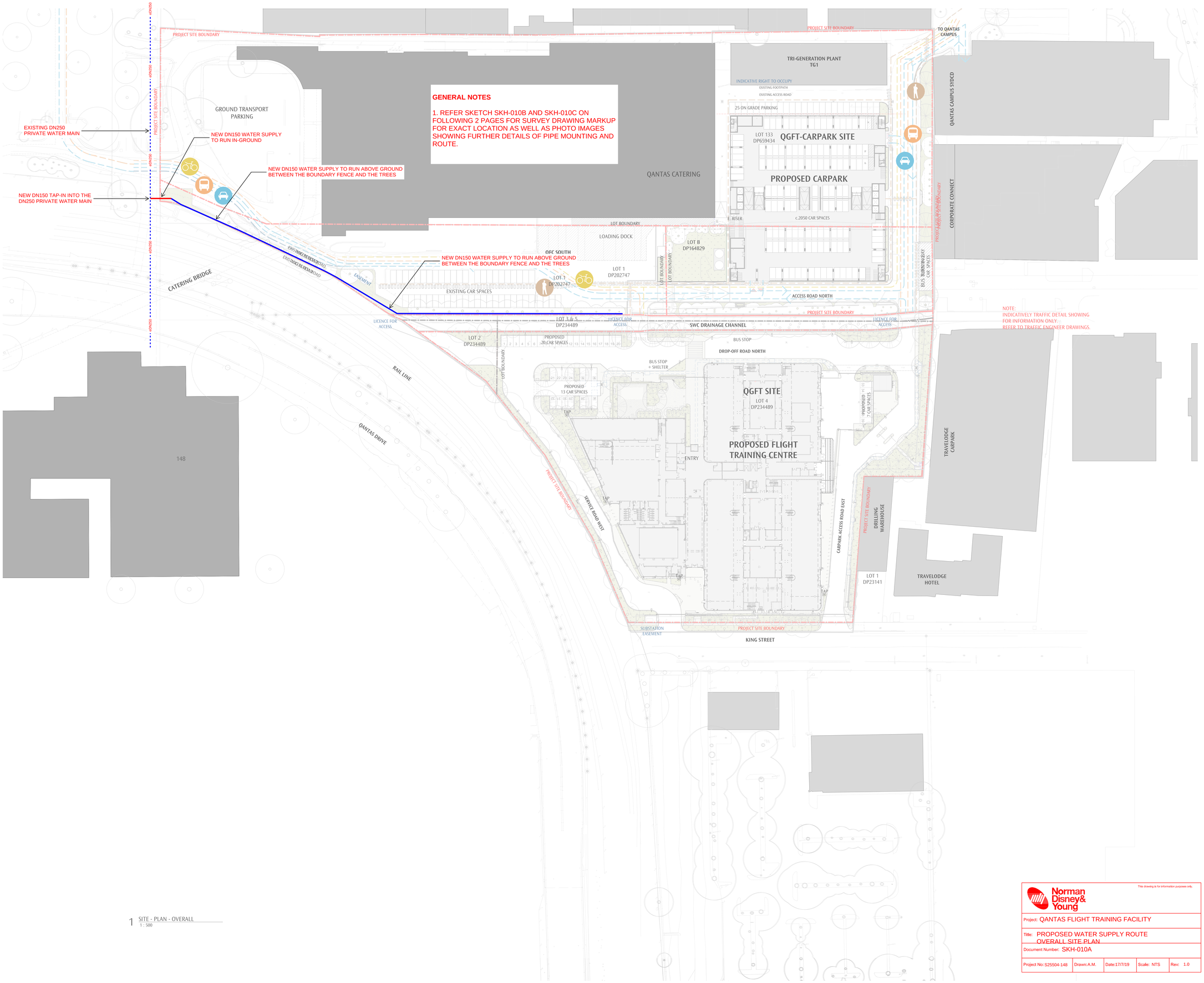
ATTACHMENTS

SKETCHES:

- SKH-010A - PROPOSED WATER SUPPLY ROUTE - OVERALL SITE PLAN
- SKH-010B - PROPOSED WATER SUPPLY ROUTE – SURVEY PLAN – SHEET 1 OF 2
- SKH-010C - PROPOSED WATER SUPPLY ROUTE – SURVEY PLAN – SHEET 2 OF 2



1 SITE - PLAN - OVERALL
1 : 500

DO NOT SCALE OFF THIS DRAWING. USE FIGURED DIMENSIONS ONLY. VERIFY ALL DIMENSIONS ON SITE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

PRELIMINARY
NOT FOR CONSTRUCTION

F1	FOR TENDER	26/09/19
REV	REASON FOR ISSUE	DATE

1:500@A0, 50%@A2

SCHEDULES LEGEND — REFER KEY STATUS FOR DETAILS

ITEM G1 | TYPE C EL-IT T1

SUPPLIER	CATEGORY	ELEMENT
GROUP 1, UNO	D DEMOLISH	FL FLOOR
G2 GROUP 2	M MATERIALS	CE CEILING
G3 GROUP 3	C CONSTRUCTION	ME MECH
	F FITOUT	EL ELECT
	L LANDSCAPE	etc
	S SERVICES	

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PROJECT MANAGER: APP
QUANTITY SURVEYOR: Altus Group
STRUCTURAL & CIVIL: enstruct
SERVICES: Norman Disney & Young
LANDSCAPE: Scott Carver

QANTAS

QANTAS GROUP FLIGHT TRAINING CENTRE
297 KING STREET MASCOT

SITE - PLAN - OVERALL - PROPOSED

T1
NGA-S1822-DWG-A2.01.01

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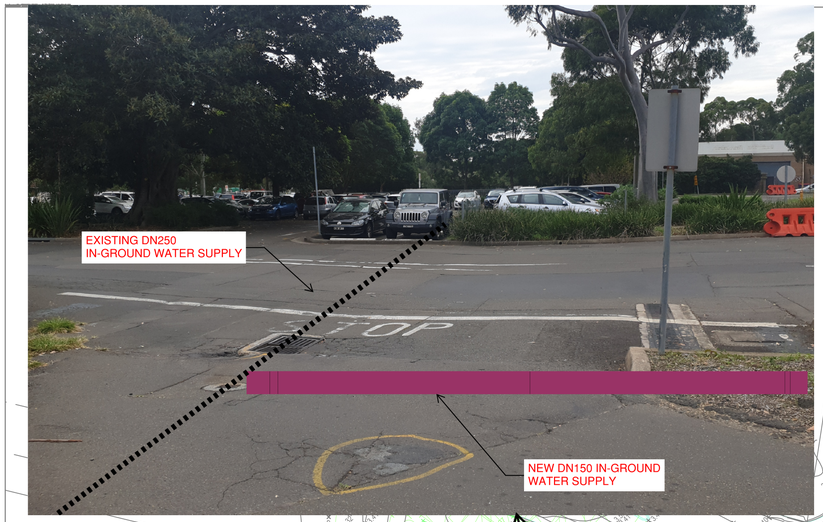
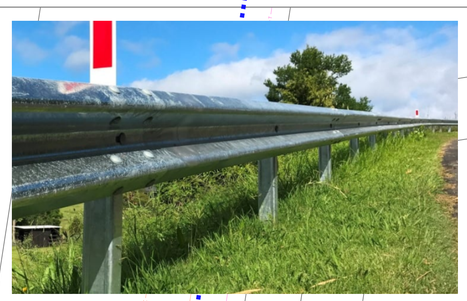
This drawing is for information purposes only.

Project:	QANTAS FLIGHT TRAINING FACILITY				
Title:	PROPOSED WATER SUPPLY ROUTE OVERALL SITE PLAN				
Document Number:	SKH-010A				
Project No: S25504-148	Drawn: A.M.	Date: 17/7/19	Scale: NTS	Rev: 1.0	





PROPOSED CRASH BARRIER IMAGE FOR INFORMATION

EXISTING DN250
PRIVATE WATER
MAIN

ALL THE EXISTING TREES SHOWN
IN LIGHT GREEN ALONG THIS AREA
NEED TO REMAIN

PROPOSED CRASH BARRIER
TO PROTECT THE WATER MAIN

NEW DN150 WATER SUPPLY
TAKE-OFF FROM EXISTING
MAIN TO RUN IN-GROUND
UNDERNEATH ROADWAY

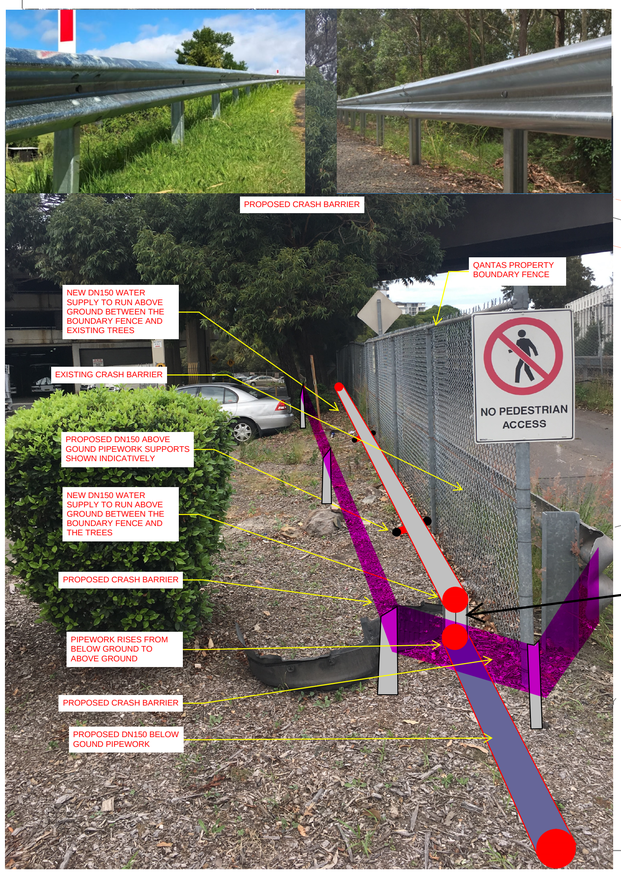
NEW DN150 WATER SUPPLY TO
RUN ABOVE GROUND BETWEEN
THE BOUNDARY FENCE AND THE
TREES

NEW DN150 WATER SUPPLY TO
RUN ABOVE GROUND BETWEEN
THE BOUNDARY FENCE AND THE
TREES

PROPOSED CRASH BARRIER
TO PROTECT THE WATER MAIN

EXISTING FENCE LINE RUNNING AND CRASH
BARRIER ALONG QANTAS PROPERTY
BOUNDARY HIGHLIGHTED YELLOW

NEW DN150 WATER SUPPLY TO
TRANSFER FROM IN-GROUND UP TO
RUN ABOVE GROUND IN THIS LOCATION



ADJOINS PAGE 3

EFP	ELECT FIRE PUMP
ELP	ELECT GARDEN LIGHT
EP	ELEC GREEN PILLAR
LP	ELEC LIGHT POLE
EP	ELECT SINGLE PIT
SPL	ELEC STAY POLE
PP	ELEC POWER POLE
ELP	ELEC POLE/LIGHT
TRANS	ELE POLE/TRANSFORM
FD	FUEL DIP
GM	GAS MAIN
GMR	GAS METER
GAS	GAS VALVE
AG	GATE
GUL	GULLY PIT
HYD	HYDRANT
BOR	BOREHOLE
TS	SHRUB
TCA	TELSTRA PIT
SLH	SEWER LAMP HOLE
SMH	SEWER MANHOLE
SVP	SEWER VENT PIPE
SI	SIGN
BUS	BUS STOP SIGN
	TREE
SGL	TRAFFIC LIGHT
SCL	TRAFFIC CONTROLLER
SJX	TRAFFIC JUNCTION BOX
US	UNKNOWN SERVICE
WAV	WATER AIR VALVE
WMR	WATER METER
WEP	WATER PUMP
WSV	WATER STOP VALVE
WTP	WATER TAP

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.

DRAINAGE PIPE U/G	SW
DRAIN	S
ELECT. CABLE A/G	E
ELEC. CABLE U/G	W
GAS PIPE	G
FENCE LINE	
SEWERAGE PIPE	
TELSTRA CABLE	T
WATER PIPE	W

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ISO 9001:2008
FS 535063

HEIGHT DATUM: AHD	LOCAL AUTHORITY: BAYSIDE COUNCIL
HEIGHT ORIGIN: SSM96420 RL 9.902	SCALE: 1:250 (A1)

Norman Disney & Young

This drawing is for information purposes only.

Project: QANTAS FLIGHT TRAINING FACILITY

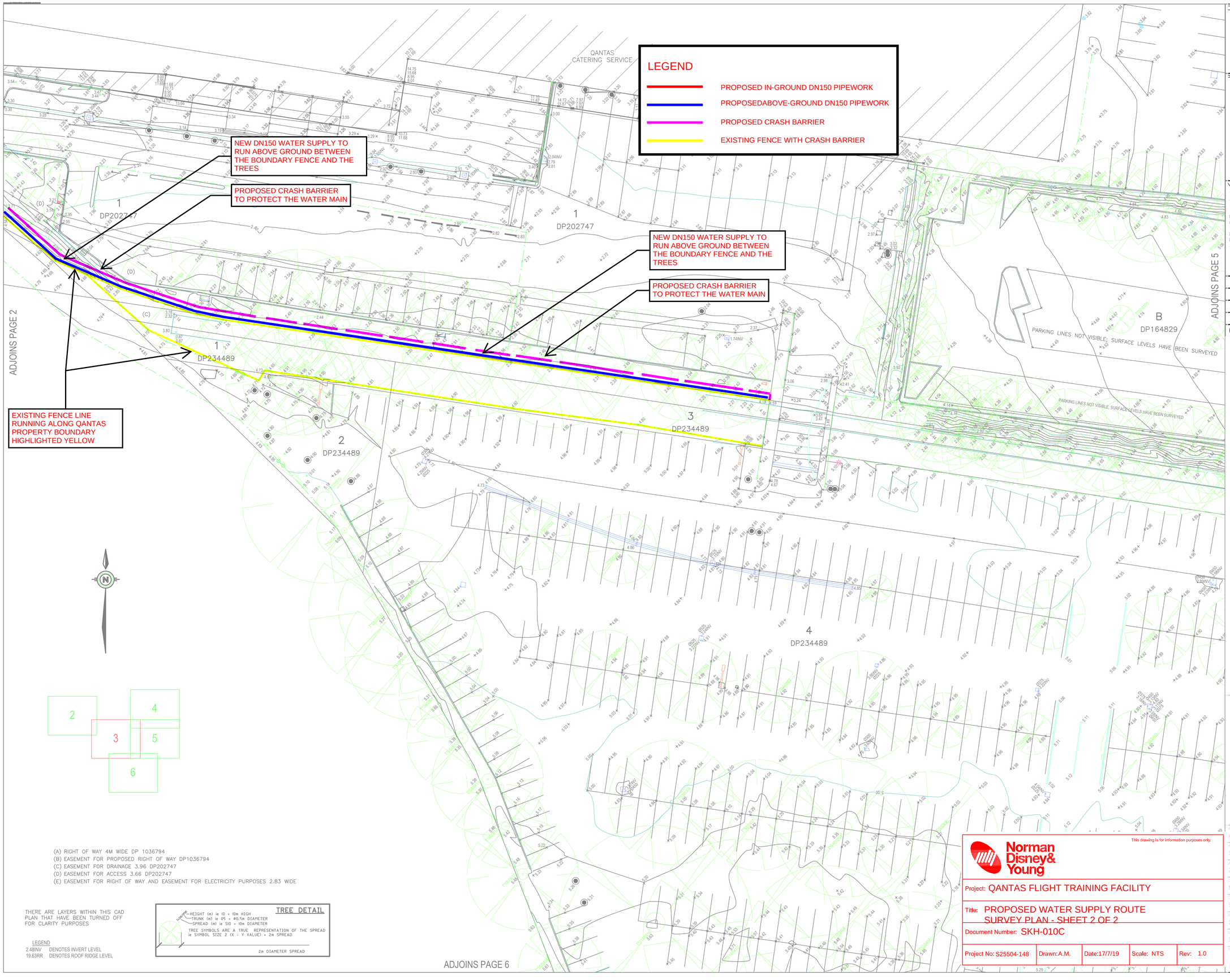
Title: PROPOSED WATER SUPPLY ROUTE
SURVEY PLAN - SHEET 1 OF 2

Document Number: SKH-010B

Project No: S25504-148	Drawn: A.M.	Date: 17/7/19	Scale: NTS	Rev: 1.0

LEGEND

- PROPOSED IN-GROUND DN150 PIPEWORK
- PROPOSEDABOVE-GROUND DN150 PIPEWORK
- PROPOSED CRASH BARRIER
- EXISTING FENCE WITH CRASH BARRIER



CLIENT

QANTAS

PROJECT

DETAIL SURVEY OF QANTAS CATERING FACILITY CARPARK AREA

NOTES

The title boundaries shown hereon were not marked at the time of survey and have been determined by plan dimensions only and not by field survey.
Services shown hereon have been located where possible by field survey. If not able to be so located, services have been plotted from the records of relevant authorities where available and have been noted accordingly on the plan. Where such records do not exist or are inadequate a notation has been made hereon.
Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services.

A	GKO	03/10/2018	CLIENT ISSUE
PPP/CF	LPL	DD/MM/YY	COMMENT

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ISO 9001:2008 FS 595061

HEIGHT DATUM: AHD	LOCAL AUTHORITY: BAYSIDE COUNCIL
HEIGHT ORIGIN: SSM96420 RL 9.902	SCALE: 1:250 (A1)
MERIDIAN: ZONE 56	CONTOUR INTERVAL: 0.2 Metre
CO-ORD SYSTEM: MGA	SURVEYOR: SA — DATE OF SURVEY: 26/09/2018
DCAD FILE: SY074560.000	DRAWN: TF — DATE: 11/10/2018
AUTOCAD FILE: SY074560.	CHECKED: GKO — DATE: 08/10/2018
ARCHIVE FILE: SY074560.	APPROVED: GKO — DATE: 08/10/2018
PLAN NUMBER: SY074560.000	SHEET 3 OF 6 — REVISION: A

Norman Disney & Young

Project: QANTAS FLIGHT TRAINING FACILITY

Title: PROPOSED WATER SUPPLY ROUTE SURVEY PLAN - SHEET 2 OF 2

Document Number: SKH-010C

Project No: S25504-148	Drawn: A.M.	Date: 17/7/19	Scale: NTS	Rev: 1.0