



190296PM AO/LF

20th July 2016

Lend Lease Building
30 The Bond
30 Hickson Road
MILLERS POINT NSW 2000

Attention: Uma Springford

Dear Uma,

**RE: GOSFORD HOSPITAL DEVELOPMENT SSD 6916
HEALTH AND WELLBEING PRECINCT
INFRASTRUCTURE MANAGEMENT PLAN**

We are pleased to enclose herewith our Infrastructure Management Report identifying matters relating to the servicing of the Health and Wellbeing Precinct as well as land tenure and subdivision.

This report has been based on information available at this time including results of consultation with various authorities, third party information and the HWP design team input.

This report generally reflects the changes that have occurred in comparison to the development proposal and associated information as approved in December 2015 and more specifically, the Infrastructure Management Plan prepared by Steensen Varming dated 24th June 2015 reference 15712SR001.

We also refer you to the:

- Civil Engineering Report prepared by Taylor Thompson Whitting referenced 141191 dated 22nd May 2015; and
- Integrated Water Management Plan prepared by Donnelly Simpson Cleary reference 7630 dated 2nd June 2015,

both of which form part of the approved documents of SSD 6916. Given the modification to the development as proposed is still generally consistent in both concept and purpose as currently approved, it is anticipated the conditions of consent will ensure the orderly development of the land, despite any variation from the specific content of these reports.

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Should you wish to discuss the above matter further, please do not hesitate to contact me on phone number or email anthonyo@adwjohnson.com.au.

Yours faithfully,

A handwritten signature in black ink that reads 'Anthony Oliver'.

Anthony Oliver
Consultant
ADW JOHNSON

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Gosford Hospital Health & Wellbeing Precinct State Significant Development

Infrastructure Management Plan

Property:

Holden Street, Gosford

Date:

20th July 2016

Working Beyond Expectations



Project Management • Town Planning • Engineering • Surveying
Visualisation • Economic Analysis • Social Impact • Urban Planning

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Document Control Sheet

Issue No.	Amendment	Date	Prepared By	Checked By
A		15 July 2016	AO/CM/ND	AO
B		19 July 2016	AO	AO
C		20 July 2016	AO	AO

Limitations Statement

This report has been prepared in accordance with and for the purposes outlined in the scope of services agreed between ADW Johnson Pty Ltd and the Client. It has been prepared based on the information supplied by the Client, as well as investigation undertaken by ADW Johnson and the sub-consultants engaged by the Client for the project.

Unless otherwise specified in this report, information and advice received from external parties during the course of this project was not independently verified. However, any such information was, in our opinion, deemed to be current and relevant prior to its use. Whilst all reasonable skill, diligence and care have been taken to provide accurate information and appropriate recommendations, it is not warranted or guaranteed and no responsibility or liability for any information, opinion or commentary contained herein or for any consequences of its use will be accepted by ADW Johnson or by any person involved in the preparation of this assessment and report.

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The Client should be aware that this report does not guarantee the approval of any application by any Council, Government agency or any other regulatory authority.

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1.0 Executive Summary

This Infrastructure Management Plan (IMP) has been prepared for lodgement with an application to modify the State Significant Development (SSD) application (No 6913) for the Gosford Hospital Health and Wellbeing Precinct (HWP) project which was approved in December 2015.

The report is provided to facilitate a record of investigations and information gathering regarding existing capacity of these services, and any augmentation/upgrades required, combined with a summary of the road closure subdivision works required to accommodate the development.

We note the **proposed key changes** from the approved SSD 6913 include:

- ✓ A single development lot for the Health and Wellbeing Precinct incorporating the 'future development lot', increasing the overall site area from 11,526sqm to 11,808sqm;
- ✓ The 800 space carpark is to be moved further east. This will allow for a more economical build by minimising excavation whilst also allowing sufficient setbacks on the northern and southern frontages of the site for natural ventilation;
- ✓ The proposed office buildings have been moved slightly to accommodate changes to the carpark. The buildings have also been lowered overall due to a reduction in the floor to floor heights. Building A (western building) has been moved further west and the boundary of the development within Holden Street has moved approximately 2.2m further west (refer to appendix A layout). Building B has moved slightly east to accommodate the carpark position and also enlarged slightly. The overall GFA has increased to 18,509sqm;
- ✓ The retail and plaza layout (Levels 6 and 7) have been rationalised to allow for a more efficient build and to accommodate retail tenants needs. The main entry walkway has also been modified slightly to allow for these changes.

The details within this document are preliminary and based on initial consultation with relevant authorities (and in some cases formal applications) combined with preliminary design works by the project team.

This report considers the impacts and requirements for the following services:

- Titling and Land Tenure;
- Ausgrid high voltage and low voltage electricity networks;
- Telecommunications cable including:
 - o Telstra;
 - o NBN Co;
 - o Gosford Hospital LHD ICT;
- Sewer;
- Water;
- Gas;
- Fire Hydrants and Sprinklers; and
- Stormwater.

2.0 Introduction

The Health and Wellbeing Project:

1. The Health and Wellbeing Precinct is located generally on the eastern side of Holden Street opposite the existing main hospital entry.
2. The infrastructure broadly consists of:
 - a. 800 space split level carpark;
 - b. Building A: five (5) storey commercial building (L7 to 11), approx. 7,609sqm GFA;
 - c. Building B: four (4) storey commercial building (L7 to 10) approx. 8,560sqm GFA;
 - d. L6 provide retail and other health related uses approx. 2,340sqm GFA;
 - e. Additional uses to be provided on L6 include:
 - i. Volunteer room;
 - ii. Security room; and
 - iii. Carpark management room.



Diagram 1: Site Plan

3.0 Services Information

3.1 ELECTRICAL POWER

Preliminary consultation has been completed and formal applications made to Ausgrid for electrical services.

Advice from Ausgrid is that the Infrastructure network has capacity to support the required load, however some infrastructure is currently located within the development footprint, and further, additional switching infrastructure including kiosks is required to facilitate the orderly development of the site.

A range of options have been considered taking in to account Ausgrid design standards, combined with the desire to maximise NLA and also provide independent servicing outcomes for the three (3) main elements of the HWP including Building A, Building B and the Carpark/Retail areas.

Service Diversions

Ausgrid high and low voltage assets are to be relocated generally in accordance with the layout shown in Appendix B, Item 1 prepared by Webb Australia (subject to detailed design and approval by Ausgrid). This includes the relocation of cables in Beane Street West to be realigned along the southern boundary of the HWP lot in a two (2) metre wide easement. Other services within Holden Street are to be realigned and undergrounded as required also as shown in the layout, combined with new street lighting.

Building Services

The preferred solution following consultation and in principle support from Ausgrid (and now subject to detailed design, application and approval) is to install three (3) of 1500kVa kiosks generally as per the layouts shown in Appendix B Items 2 and 3. Existing LV services in Showground Road are also to be undergrounded and new street lighting installed.

Key Changes from the approved SSD:

- Service diversions will occur within the development lot, rather than being entirely located within the surrounding road network. This minimises the amount of disturbance to surrounding land owners and access to the hospital, whilst providing a more efficient solution to Health Infrastructure;
- Servicing of the new buildings will be via three (3) kiosks rather than a chamber substation. This allows for more flexibility for managing the various land uses within the development and is more consistent with the proposed land tenure outcomes.

3.2 TELECOMMUNICATIONS

Preliminary consultation has been completed in order to identify affected carriers and future supply requirements for the HWP development. This consultation has included Telstra, NBN, Optus, TPG, Soul Australia, Pipe Networks, AAPT and NextGen.

It has been established that Telstra and NBN are the only public telco authorities directly impacted by the development at this time for both initial diversions works and also the future servicing requirements.

Service Diversions

Applications have been made to affected telecommunication authorities for the diversion of services affecting the HWP lot. Existing fibre and copper services are to be realigned via Showground Road to Racecourse Road and Faunce Street West in order to maintain all existing supply requirements.

This will then allow services within Holden Street and Beane Street West to be removed from the HWP development footprint. Appendix C shows the general arrangements for diversions as required by Telstra and NBN.

Building Services

Given a substantial part of the HWP will be used by LHD it is proposed to provide a link from the main campus, across Holden Street (once closed) to the HWP. This will allow for integration with existing ICT services and security as required. Provision for future lead-in services direct from the relevant telecommunications carriers will also be provided from Showground Road (subject to future application).

Key Changes from the approved SSD:

- Most copper services do not need to be diverted as they are already redundant and will be removed;
- Telstra and NBN services do not need to be realigned in Holden Street eliminating the need for a specific Comms Services corridor;
- NBN will use new and existing Telstra pit and pipe in order to minimise the amount of disturbance in the area and cost to the development.

3.3 SEWER

Preliminary consultation has been completed with Central Coast Council (Local Water Authority) in order to confirm their requirements for both diversions and future connection of the HWP development.

Service Diversions

Sewer diversions are to be completed in two (2) locations generally as shown on the attached plan in Appendix D, both south and north of the development footprint. These diversions have been agreed in principle with Council and are subject to formal application and approval.

Building Services

Sanitary plumbing and drainage from the HWP development will connect to the existing authority's mains located in Showground Road.

Key Changes from the approved SSD:

- Sewer will be realigned northwards within 89-99 Holden Street, avoiding impacts on adjoining owners.

3.4 WATER

Preliminary consultation has been completed with Central Coast Council (Local Water Authority) in order to confirm their requirements for both diversions and future connection of the HWP development.

Service Diversions

Water diversions will be generally as shown on the attached plan in Appendix E in Holden Street and Showground Road. These diversions have been agreed in principle with Council and are subject to formal application and approval.

Building Services

Water supply for the proposed HWP will be provided from the 150mm authority main in Holden Street. Three (3) separate services will be taken from the 1500mm authority main including a 150mm fire hydrant service, a 150mm fire sprinkler service and an 80mm potable cold water service.

A 10,000L potable cold water buffer tank will be utilised. Water main supply an onsite water storage tank, with water from this tank supplying domestic cold water fixtures and fittings as well as hot water plant and mechanical services plant.

A 100,000L fire sprinkler storage tank will also be required.

Key Changes from the approved SSD:

- It is no longer necessary to realign the water main on the eastern side of Holden Street. Rather, this will be linked to the new 150mm water main on the western side of Holden Street.

3.5 GAS

Preliminary consultation has been completed with Jemena, combined with a formal application for diversion works.

Service Diversions

The diagram shown in Appendix F demonstrates the diversion works currently required by Jemena including relocation of the mains on the eastern side of Holden Street and connection through Holden Street on the western side.

Building Services

Gas supply to the HWP development will be connected to the main supply located in Holden Street. Gas will supply domestic hot water plant and mechanical heating plant via a gas meter located within the site.

The final configuration will be determined with the supply authority.

Key Changes from the approved SSD:

- As the 'future development lot' has been removed, it will no longer be necessary to link gas services from Holden Street to Showground Road.

3.6 FIRE HYDRANTS AND SPRINKLERS

Fire hydrants and Sprinklers for the HWP development will be connected to the 150mm water main within Holden Street. Booster assemblies will be located on Holden Street, adjacent to the main entry to the Western administrative building. Supplementary water storage will be provided for the fire hydrant and fire sprinkler protection systems, in accordance with BCA, AS2419 and AS2118.

All Fire Hydrant and Sprinkler services are subject to final design and approval.

Key Changes from the approved SSD:

- The proposed works are fundamentally the same with modifications to suit the new building design.

3.7 STORMWATER

Stormwater servicing strategies have been developed including preliminary consultation with Central Coast Council. These strategies are subject to final approval. The general arrangement for the stormwater solutions are shown in Appendix G.

Service Diversions

A stormwater diversion will be constructed to convey the stormwater from Holden Street down the southern boundary of the development site to allow the removal of stormwater through Beane Street West. This stormwater diversion will be constructed within an easement in the landscaped land between the southern boundary and the proposed building to Central Coast Council's requirements.

The stormwater diversion will connect to the existing stormwater system in Holden Street, providing additional surface inlet pits to capture surface flow from the proposed pavement and landscape works in Holden Street and discharge to the existing stormwater system in Showground Road.

The existing overland flow path falling from the crest of Holden Street and down to Beane Street will be replaced by this stormwater diversion system.

The stormwater line will be designed to convey flows from the upstream catchment for up to the 1 in 100 year ARI storm event including provision for up to 50% blockage with emergency overland flow going down Holden Street in the event of complete system blockage.

Building Services

Stormwater runoff from within the development site will be captured by a combination of pit and pipe networks, trench grates and pipes suspended under slabs and conveyed to onsite detention tanks. Due to the size and levels of the development, stormwater detention will be achieved through a number of storage tanks.

Stormwater from the roof and plaza level of the HWP will be collected and conveyed to an OSD tank located beneath level 6 of the development. This detention tank will consist of a rainwater storage component, a water quality component and a detention component. The rainwater storage will be a minimum of 96m³ and is proposed to be fitted with a pump and pipes to allow for reuse of retained stormwater for landscape irrigation and non-potable uses within the proposed HWP health related office and retail buildings. Water quality will be achieved through the use of filter cartridges within the detention tank. The onsite detention component of the tank (509m³) has been sized in accordance with Council's DCP.

Stormwater discharge from the OSD tank will be controlled by a 145mm diameter orifice to limit post development flow rates to predevelopment flow rates for all storms up to the 1 in 100 year recurrence interval. Discharge from the OSD tank will be conveyed via a 300mm diameter pipe through to the stormwater diversion system along the southern boundary.

Stormwater from the lower carpark and drop off area of the HWP will be collected and conveyed to two (2) linked OSD tanks located beneath the drop off area. These detention tanks will consist of a water quality component and a detention component. Water quality will be achieved through the use of filter cartridges within the detention tanks. The combined onsite detention component of the tanks (267m³) has been sized in accordance with Council's DCP.

Stormwater discharge from the OSD tank will be controlled by a 109mm diameter orifice to limit post development flow rates to predevelopment flow rates for all storms up to the 1 in 100 year recurrence interval. Discharge from the OSD tank will be conveyed via a 225mm diameter pipe to the existing stormwater system in Showground Road.

Stormwater quality treatment devices will be selected to meet Council's pollutant loading reduction criteria prior to each new stormwater discharge point.

Key Changes from the approved SSD:

- The proposed building works are fundamentally the same with modifications to suit the new building design;
- Stormwater diversion from Beane Street West will now be aligned along the southern boundary of the development site, sized to accommodate the 1% AEP.
- Despite the modification to the development footprint, the catchment areas for the land and building stormwater systems remain similar in area and landuse.

Consequently, we anticipate, as shown above, that there will be minimal impact to the previously modelled stormwater discharge and it will be managed generally in accordance with the original consent.

4.0 Road Closures and Subdivision

The Gosford Regional Hospital Redevelopment consists of 50 existing allotments contained within the area bound by Racecourse Road, Showground Road, Faunce Street West, Ward Street, Cape Street North and Beane Street West.

The State Significant Development is intended to rationalise the land holdings in order to develop two (2) key precincts for development. The resultant titling structure will allow for the future management and development of the land in an orderly and effective manner.

The development of the allotments include:

- The Gosford Hospital Precinct; and
- Health and Wellbeing Precinct (HWP).

In order to facilitate the future development of the HWP, the existing allotments will be subdivided generally in accordance with the layout included within Appendix A.

4.1 ROAD CLOSURES

To facilitate the construction of the proposed HWP, road closures are required for Beane Street West and part of Holden Street. This road closure has been approved by Central Coast Council and agreed to by Dept. of Primary Industries - Lands.

Holden Street and Beane Street currently provide access to the existing hospital, several health facilities and HAC owned properties. Access to these properties will be maintained during the course of the redevelopment of the site through the creation of easements for access and services as required. As the redevelopment of the site proceeds, and in conjunction with the relevant authorities, existing services will ultimately be removed or realigned as required.

As part of the construction works, a section of Holden Street road formation will be removed generally extending across the frontage of the HWP. This area will allow for service vehicle entry or emergency access, but will otherwise be for the enjoyment of pedestrians as a promenade. Beane Street West will be closed in its entirety (between Holden Street and Showground Road).

Access to the proposed HWP carpark will be from Showground Road and the northern Holden Street cul-de-sac. The proposed loading bay can be accessed from Holden Street by trucks up to 8.8m (MRV). New bus stops are proposed on Showground Road adjacent to the Health and Wellbeing Precinct Stage 1.

4.2 HWP DEVELOPMENT LOT

The following list of allotments along Beane Street West (between Holden Street and Showground Road) and part of Holden Street (between allotment A DP 316723 and 1 DP 163187 are to be amalgamated into a single allotment referred to as allotment 301.

- 1 DP163187;

- 1 DP 996187;
- B DP 160507;
- 1 DP 157518;
- 9 DP 503890;
- 8 DP 503890;
- 31 DP 1074996;
- 32 DP 1074996;
- 5 DP 503890;
- 6 DP 503890;
- 7 DP 503890;
- 1 DP 1050222;
- A DP 316723;
- B DP 316723;
- C DP 316723.

All other allotments bound by Racecourse Road, Showground Road, Faunce Street West, Ward Street, Cape Street North and Beane Street West are proposed to be consolidated into a single allotment during the course of the development, combined with the rationalisation and removal of titling encumbrances where possible (such as easements, leases and restrictions).

In reference to Appendix A (page 2) and to suit the proposed future subdivision into Lots 301 and 302, the power, water and telecommunications building services augmentation, together with the stormwater and sewer services from the blocks of lands, will be diverted or removed as appropriate. Where necessary, easements and right of ways will be established as per the relevant authority's requirements.

Details of the services will be coordinated with the relevant authorities and the detailed design and final consent will be undertaken in the finalisation of the subdivision and its registration.

Key Changes from the approved SSD:

- The 'future development lot' will be removed and incorporated into the HWP development;
- The western boundary, fronting Holden Street will be moved approximately 2.2m west.

Appendix A

PLAN OF PROPOSED ROAD CLOSURE -
HOLDEN STREET & BEANE STREET WEST

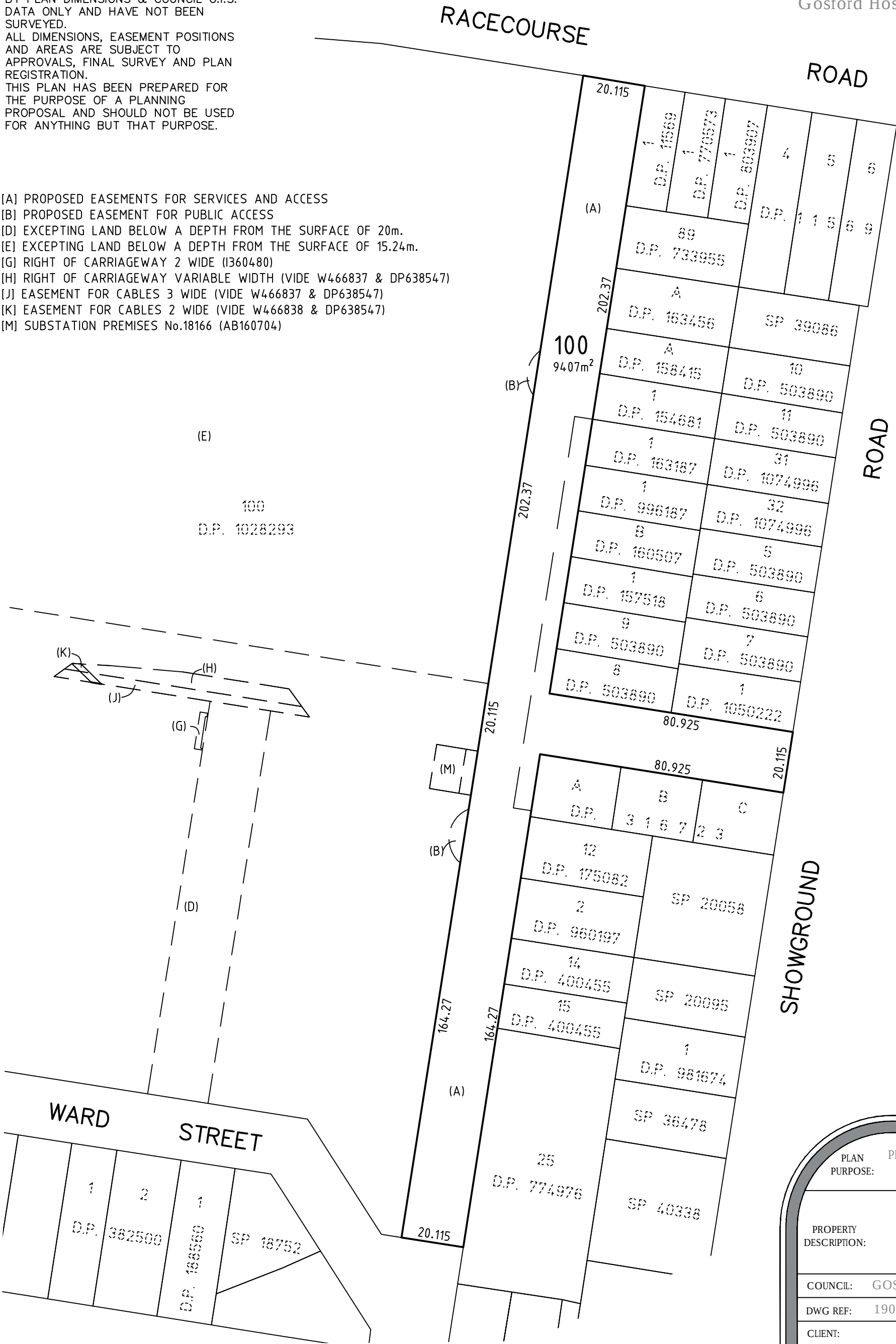
Gosford Hospital



1 of 1

NOTE:
BOUNDARIES HAVE BEEN DETERMINED
BY PLAN DIMENSIONS & COUNCIL G.I.S.
DATA ONLY AND HAVE NOT BEEN
SURVEYED.
ALL DIMENSIONS, EASEMENT POSITIONS
AND AREAS ARE SUBJECT TO
APPROVALS, FINAL SURVEY AND PLAN
REGISTRATION.
THIS PLAN HAS BEEN PREPARED FOR
THE PURPOSE OF A PLANNING
PROPOSAL AND SHOULD NOT BE USED
FOR ANYTHING BUT THAT PURPOSE.

- [A] PROPOSED EASEMENTS FOR SERVICES AND ACCESS
[B] PROPOSED EASEMENT FOR PUBLIC ACCESS
[D] EXCEPTING LAND BELOW A DEPTH FROM THE SURFACE OF 20m.
[E] EXCEPTING LAND BELOW A DEPTH FROM THE SURFACE OF 15.24m.
[G] RIGHT OF CARRIAGEWAY 2 WIDE (I360480)
[H] RIGHT OF CARRIAGEWAY VARIABLE WIDTH (VIDE W466837 & DP638547)
[J] EASEMENT FOR CABLES 3 WIDE (VIDE W466837 & DP638547)
[K] EASEMENT FOR CABLES 2 WIDE (VIDE W466838 & DP638547)
[M] SUBSTATION PREMISES No.18166 (AB160704)



Ver.	Date	Comment	Drafter	Co-ordinate & Level Information
A	23/02/2015	PRELIMINARY ISSUE	G.H.	CO-ORDINATE SYSTEM: MGA 56
B	10/03/2015	AMENDMENT TO ROAD CLOSURE BDY	P.B.	
C	13/03/2015	MODIFICATION TO TURNING HEAD EASEMENT	P.B.	DATUM: N/A CONTOUR INTERVAL: N/A
				ORIGIN OF LEVELS: N/A

SURVEY

DO NOT SCALE

PLAN PURPOSE: PLAN OF PROPOSED ROAD CLOSURE

PROPERTY DESCRIPTION: GOSFORD HOSPITAL

COUNCIL: GOSFORD CITY

DWG REF: 190170-SK-001

PM: AO

CLIENT:

N.S.W. HEALTH
INFRASTRUCTURE



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hunter office ph: (02) 4978 5100

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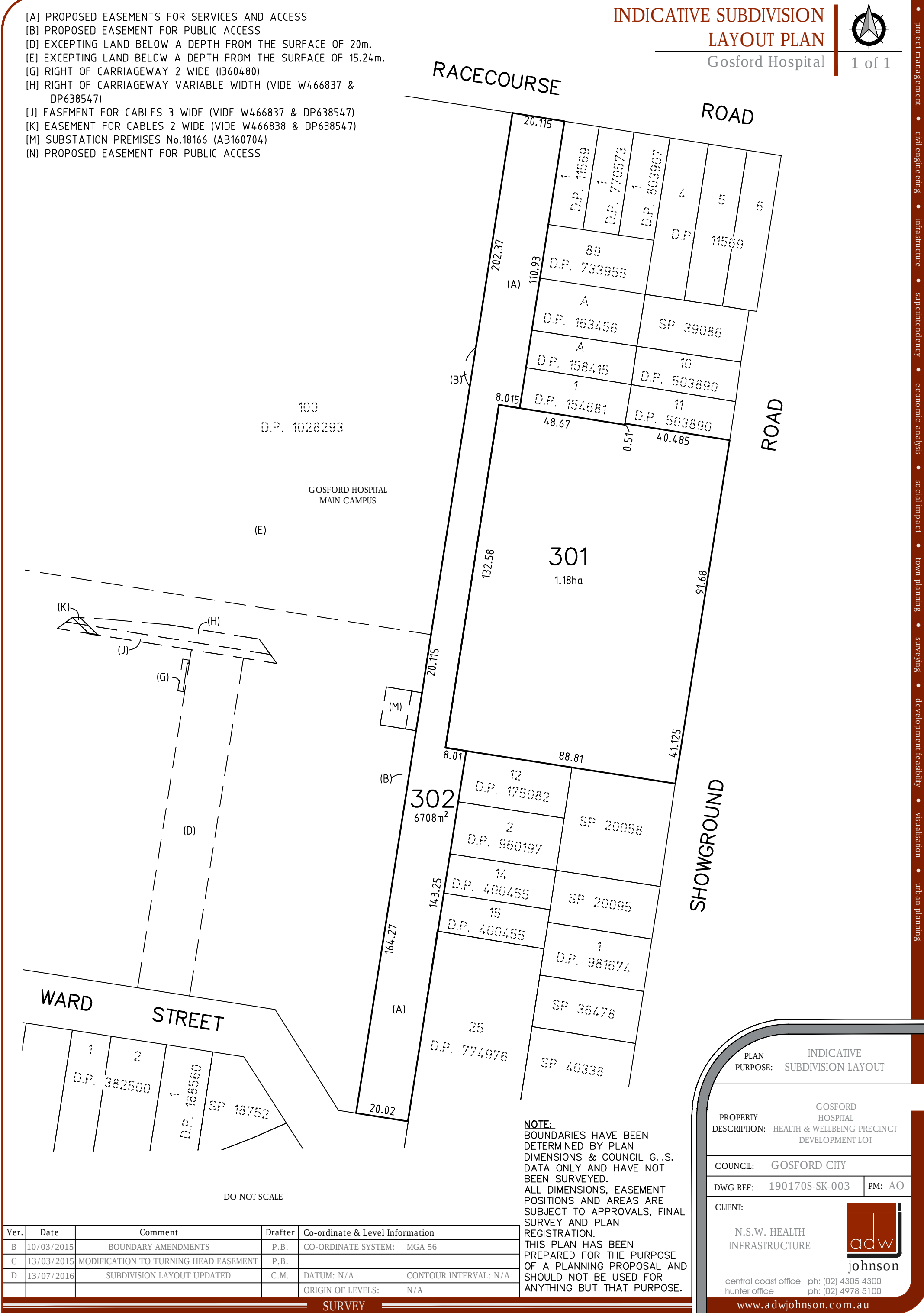
- [A] PROPOSED EASEMENTS FOR SERVICES AND ACCESS
[B] PROPOSED EASEMENT FOR PUBLIC ACCESS
[D] EXCEPTING LAND BELOW A DEPTH FROM THE SURFACE OF 20m.
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[J] EASEMENT FOR CABLES 3 WIDE (VIDE W466837 & DP638547)
[K] EASEMENT FOR CABLES 2 WIDE (VIDE W466838 & DP638547)
[M] SUBSTATION PREMISES No.18166 (AB160704)
[N] PROPOSED EASEMENT FOR PUBLIC ACCESS

INDICATIVE SUBDIVISION
LAYOUT PLAN
Gosford Hospital



1 of 1

project management • civil engineering • infrastructure • superintendency • economic analysis • social impact • town planning • surveying • development feasibility • visualisation • urban planning



Ver.	Date	Comment	Drafter	Co-ordinate & Level Information
B	10/03/2015	BOUNDARY AMENDMENTS	P.B.	CO-ORDINATE SYSTEM: MGA 56
C	13/03/2015	MODIFICATION TO TURNING HEAD EASEMENT	P.B.	
D	13/07/2016	SUBDIVISION LAYOUT UPDATED	C.M.	DATUM: N/A CONTOUR INTERVAL: N/A
				ORIGIN OF LEVELS: N/A

SURVEY

NOTE:
BOUNDARIES HAVE BEEN DETERMINED BY PLAN DIMENSIONS & COUNCIL G.I.S. DATA ONLY AND HAVE NOT BEEN SURVEYED.
ALL DIMENSIONS, EASEMENT POSITIONS AND AREAS ARE SUBJECT TO APPROVALS, FINAL SURVEY AND PLAN REGISTRATION.
THIS PLAN HAS BEEN PREPARED FOR THE PURPOSE OF A PLANNING PROPOSAL AND SHOULD NOT BE USED FOR ANYTHING BUT THAT PURPOSE.

PLAN PURPOSE: INDICATIVE SUBDIVISION LAYOUT

PROPERTY DESCRIPTION: GOSFORD HOSPITAL HEALTH & WELLBEING PRECINCT DEVELOPMENT LOT

COUNCIL: GOSFORD CITY

DWG REF: 190170S-SK-003

PM: AO

CLIENT:

N.S.W. HEALTH
INFRASTRUCTURE



central coast office ph: (02) 4305 4300
hunter office ph: (02) 4978 5100

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Appendix B

NOTES

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DO NOT SCALE DRAWINGS. CHECK DIMENSIONS BEFORE COMMENCING WORK

INCONSISTENCIES ARE TO BE REPORTED TO FITZPATRICK + PARTNERS

NUMBERS FOLLOWING AN ABBREVIATION DENOTE A PARTICULAR TYPE OF ITEM. FOR EXPLANATION OF ITEM TYPES REFER TO SPECIFICATION AND FINISHES SCHEDULE

ABBREVIATIONS

COL	COLUMN	MECH	MECHANICAL
COS	CHECK ON SITE	MIN	MINIMUM
DP	DOWNPIPE	MAX	MAXIMUM
ELEC	ELECTRICAL	NOM	NOMINAL
EXT	EXTENDING	NSW H	NSW HEALTH INFRASTRUCTURE
FCL	FINISHED CEILING LEVEL	RL	RELATIVE LEVEL
FFL	FINISHED FLOOR LEVEL	RWO	RAN WATER OUTLET
FS	FIRE SPRINKLER	SM	SMALL
FHR	FIRE HOSE REEL	SPEC	SPECIFICATION
FSL	FIRE RESISTANCE LEVEL	SIL	STRUCTURAL SLAB LEVEL
FS	FIRE SMAR	TBC	TO BE CONFIRMED
FW	FLOOR WARE	TOW	TOP OF WALL
HYD	HYDRAULIC	TYP	TYPICAL
LL	LEND LEASE	US	UNDERSIDE

CODING LEGEND

AP	ACCESS HATCH / PANEL	MR	MIRROR
AP	ACCESS PLATFORM	PA	PAINT
BF	BATHROOM FITTING	RF	ROOFING
BH	BALUNDRAGE	RM	REINFORCED MATERIAL
BL	BUILDING / CURTAINS	SN	SANITARY FITTING
BO	BOLLARD	ST	STONE
CD	CLOTHING	ST	STONE
CG	CORNER GUARD	ST	STONE
CL	CLOTHING	ST	STONE
CO	CONCRETE FINISH	T/C	TILE / CURTAIN / PARTITION
CP	CORNER GUARD	TF	TIMBER FLOORING / FLOOR
CU	CURB	TL	TILING / PAVING
FZ	FURNITURE	TW	TAPWARE
FL	FLOOR FINISHES (Misc.)	WM	WATERPROOF MEMBRANE
GL	GLAZING TYPE	WT00	WALL TYPE - CONCRETE
HR	HANDRAIL	WT00	WALL TYPE - MASONRY
IN	INSULATION	WT00	WALL TYPE - DRY WALL
J	JOINTERY ITEM	WT00	WALL TYPE - SHAFT WALL
LV	LOUVER	WT00	WALL TYPE - COMPOSITE WALL

AMENDMENTS

REV	DATE	DESCRIPTION	CHK
01	06/16/16	PRELIMINARY DESIGN DEVELOPMENT ISSUE	RP
02	10/04/16	PRELIMINARY DESIGN DEVELOPMENT ISSUE UPDATE	AS
03	21/04/16	PRELIMINARY DESIGN DEVELOPMENT ISSUE UPDATE	AS
04	25/04/16	50% PRELIMINARY DESIGN DEVELOPMENT ISSUE	AS
05	23/05/16	50% PRELIMINARY DESIGN DEVELOPMENT ISSUE	AS
06	23/05/16	50% PRELIMINARY DESIGN DEVELOPMENT ISSUE	AS
07	06/06/16	50% PRELIMINARY DESIGN DEVELOPMENT ISSUE	AS
08	23/06/16	50% PRELIMINARY DESIGN DEVELOPMENT ISSUE	AS

CLIENT

LEND LEASE
30 HICKSON ROAD
MILLERS POINT NSW 2000



FOR

NSW HEALTH INFRASTRUCTURE
77 PACIFIC HWY
NORTH SYDNEY NSW 2060



PROJECT

GOSFORD HOSPITAL
HEALTH & WELLBEING PRECINCT



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PROJECT NORTH

50mm ON ORIGINAL

DRAWING
PLANS - GENERAL ARRANGEMENT
LEVEL 6

DRAWN
AS

APPROVED
RP

PRINT DATE
23/06/2016

STATUS
DESIGN DEVELOPMENT

SCALE @ A1
1:200

PROJECT NO.
21516

DRAWING NO.
AR-0106

NOT FOR CONSTRUCTION

CODING LEGEND	
AC	ACCESSWAY / PANEL
AP	ACCESS PLANT
BF	BATHROOM FITTING
BH	BAULSTRADE
BL	BLINDS / CURTAINS
BO	BOLARD
CO	CLADDING
CG	CORNER GUARD
CL	CERILING
CC	CONCRETE FINISH
CP	CORNER
FU	FURNITURE
FX	FITTINGS & FIXTURES (MISC.)
GZ	GLAZING TYPE
HR	HANDRAIL
IN	INSULATION
J	JUNCTION / JELLY
LJ	LOBBIE
MR	MIRROR
PA	PANEL
PF	POINT
RM	RESILIENT MATERIAL
RN	RENDER
SP	SPARKLY FINISH
ST	STUCCO
TC	TILE CURBULE / PATTERNS
IF	TIMBER FLOORING / DECK
TR	TILING / PAVING
UP	UPRAISE
W	WATERPROOF MEMBRANE
W100	WALL TYPE - CONCRETE
W200	WALL TYPE - MASONRY
W300	WALL TYPE - DRY WALL
W400	WALL TYPE - SHEET WALL
W500	WALL TYPE - COMPOSITE WALL

AMENDMENTS			CHK
REV	DATE	DESCRIPTION	
01	08/04/16	PRELIMINARY DESIGN DEVELOPMENT ISSUE	RP
02	15/04/16	PRELIMINARY DESIGN DEVELOPMENT ISSUE UPDATE	AS
03	21/04/16	PRELIMINARY DESIGN DEVELOPMENT ISSUE UPDATE	AS
04	29/04/16	50% PRELIMINARY DD ISSUE DRAFT	AS
05	23/05/16	50% PRELIMINARY DD -+VE ISSUE DRAFT	AS
06	27/05/16	50% PRELIMINARY DD -+VE ISSUE	RP
07	06/06/16	50% PRELIMINARY DD -+VE ISSUE	AS
08	21/06/16	50% DESIGN DEVELOPMENT ISSUE	RP

CLIENT
LEND LEASE
30 HICKSON ROAD
MILLERS POINT NSW 2000



FOR
NSW HEALTH INFRASTRUCTURE
77 PACIFIC HWY
NORTH SYDNEY NSW 2060



PROJECT
GOSFORD HOSPITAL
HEALTH & WELLBEING PRECINCT



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PROJECT NORTH

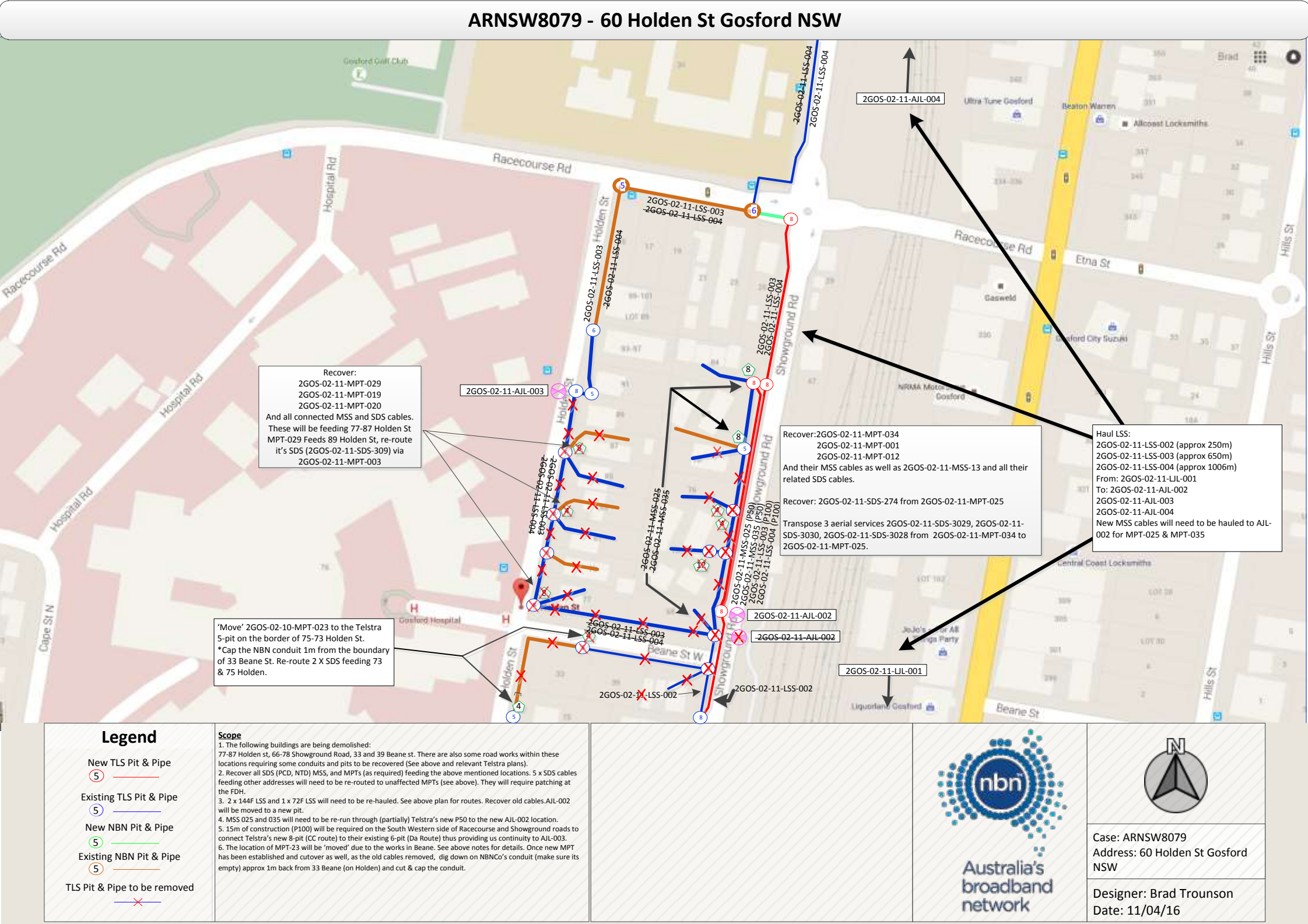
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PLANS - GENERAL ARRANGEMENT
LEVEL 7

DRAWN AS	APPROVED RP	PRINT DATE 22/06/2016
STATUS DESIGN DEVELOPMENT		ISSUE 08
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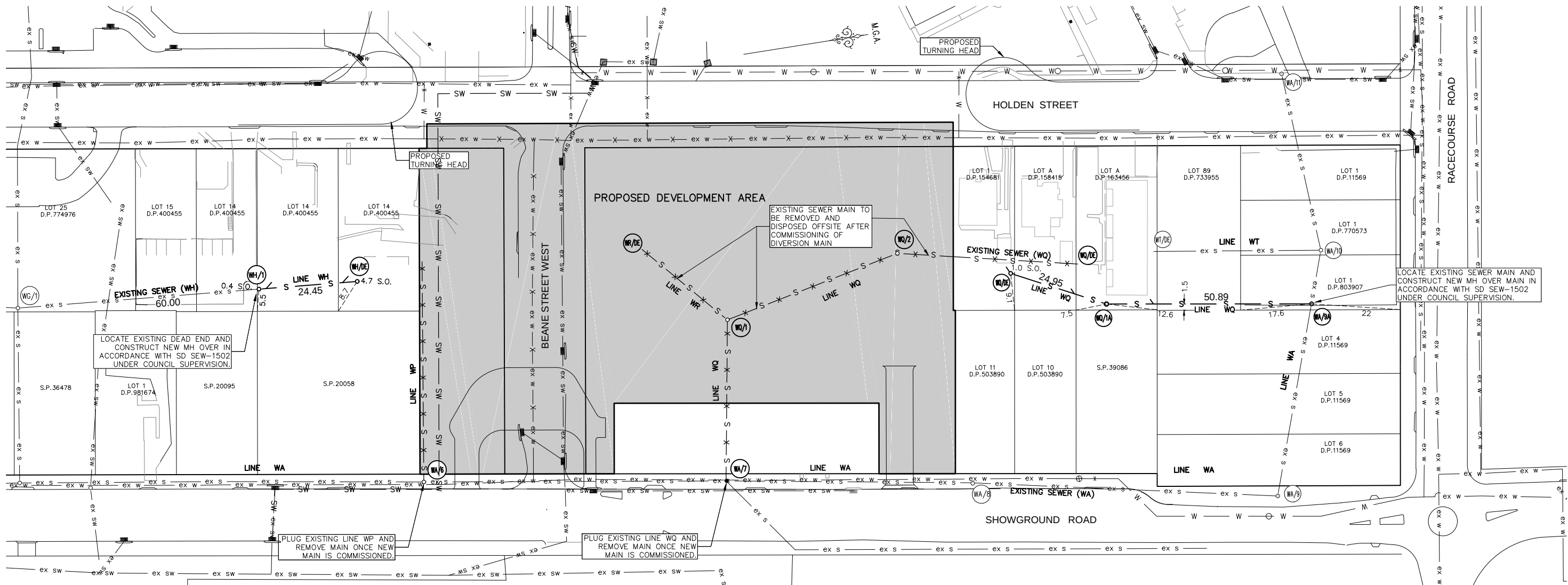
Appendix C



Attachment A
Proposed Relocation



Appendix D



SEWER PLAN

SCALE 1:500

CONSTRUCTION NOTES – SEWER

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH GOSFORD CITY COUNCIL'S ADDENDUMS AND SYDNEY WATER EDITION OF THE WSAA SEWER CODE.
- CONTRACTORS SHALL ENSURE ALL EMPLOYEES HAVE APPROPRIATE CERTIFICATION PRIOR TO COMMENCING WORKS.
- THE CONTRACTOR SHALL SUPPLY THE FOLLOWING TO GOSFORD CITY COUNCIL.
 - CONSTRUCTION SCHEDULE IN BAR FORM WITH COMMENCEMENT AND COMPLETION DATES TWO WEEKS PRIOR TO COMMENCEMENT.
 - A MATERIALS LIST.
 - COPY OF CONTRACTORS' INDEMNITY INSURANCE POLICY.
 - NAME AND DETAILS OF THE NOMINATED NATA ACCREDITED PIPE TESTER.
- MANHOLE (GATIC) LIDS ARE TO BE TYPE "B" OR TYPE "D" AND TO CONFORM TO FINISHED ROAD AND FOOTPATH LEVELS.
- THE LOCATION OF ANY UNDERGROUND SERVICES, ENERGY AUSTRALIA, TELSTRA, GAS, EXISTING SEWER RISING MAINS, WATER AND SEWER MAINS AND WATER SERVICES, TO BE DETERMINED PRIOR TO ANY EXCAVATION.
- SEWER JUNCTIONS ARE TO BE INSTALLED TO SERVICE EACH LOT, AND LOCATION AND DEPTH OF JUNCTION TO BE SHOWN ON WAE PLAN.
- COUNCIL TO BE NOTIFIED PRIOR TO BACKFILLING TO ENABLE INSPECTION TO BE CARRIED OUT.

NOTICE OF COMMENCEMENT

- AT LEAST TWO (2) WEEKS PRIOR TO COMMENCEMENT OF THE WORKS THE DIRECTOR WATER AND SEWERAGE SHALL RECEIVE WRITTEN NOTICE OF INTENTION TO COMMENCE WORK, AND SHALL BE SUPPLIED WITH THE NAME OF THE SUPERVISING ENGINEER OR SURVEYOR, AND THE CONTRACTOR. IF WORK HAS TO CEASE FOR A PERIOD OF SEVEN (7) DAYS, OR LONGER THE DIRECTOR WATER AND SEWERAGE SHALL BE NOTIFIED WITH AT LEAST TWO (2) WORKING DAYS NOTICE, WHEN WORK WILL RECOMMENCE.

WORK-AS-EXECUTED DETAILS

- SPECIFIC LINE NUMBERING DETAILS SHOULD BE OBTAINED FROM GOSFORD CITY COUNCIL, WATER SEWERAGE DESIGN OFFICE, TELEPHONE: (02) 4325 8327/(02) 4325 8820 PRIOR TO SUBMISSION OF WORK-AS-EXECUTED PLANS TO ALLEVIATE FUTURE AMENDMENTS TO THE WORK-AS-EXECUTED DRAWINGS.
- WORK-AS-EXECUTED DETAILS OF ALL WORK CARRIED OUT SHALL BE PREPARED AND SUBMITTED IN A MANNER APPROVED BY THE DIRECTOR WATER AND SEWERAGE AND SHALL BE CERTIFIED BY A REGISTERED SURVEYOR OR CONSULTING ENGINEER AS BEING A TRUE AND CORRECT RECORD OF THE WORK CARRIED OUT.
- THE ABOVEMENTIONED DETAILS SHALL BE SUBMITTED TO THE DIRECTOR WATER AND SEWERAGE PRIOR TO CARRYING OUT OF THE ACCEPTANCE TEST. COUNCIL WILL NOT COMMISSION THE WORK UNTIL WAE DETAILS ARE SUBMITTED.
- ANY AMENDMENTS TO THE APPROVED DESIGN DRAWING SHOWN ON THE WAE PLAN MUST BE DESCRIBED ON A COUNCIL REDESIGN FORM AND SIGNED BY THE DIRECTOR WATER AND SEWERAGE.
- A RESUBMISSION FEE, MINIMUM OF \$100, IS PAYABLE IN THE EVENT OF COUNCIL REQUIRING RESUBMISSION OF THE WAE PLANS.
- ORIGINAL JUNCTION SHEETS ARE TO BE SUBMITTED WITH WAE PLANS.
- INTERALLOTMENT DRAINAGE TO BE SHOWN ON SEWER WAE PLANS.
- MANHOLES AND DEAD ENDS TO BE TIED INTO TWO (2) PROPERTY BOUNDARIES AND SHOWN ON WAE PLANS.
- EROSION/SEDIMENTATION CONTROL TO CONFORM TO COUNCIL'S CODE OF PRACTICE.
- IT IS THE DEVELOPER'S RESPONSIBILITY TO OBTAIN WRITTEN CONSENT FROM ANY OTHER PROPERTY OWNERS AFFECTED BY THE WORKS. FAILURE TO DO SO SHALL VOID APPROVAL FROM COUNCIL TO CARRY OUT WORKS IDENTIFIED ON THIS PLAN.

EROSION AND SEDIMENT CONTROL NOTES

- DISTURBED AREAS TO BE KEPT TO A MINIMUM.
- CONTROL CLEAN WATER FROM ABOVE THE SITE, THROUGH THE SITE OR AROUND THE SITE.
- KEEP CLEAN WATER SEPARATE FROM DIRTY WATER.
- CONSERVE ALL TOPSOIL, STOCKPILE AND PROTECT FOR RE-USE ON SITE.
- PROTECT ALL DISTURBED AREAS FROM EROSION.
- MINIMISE SEDIMENTATION.
- MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL COMPLETE REHABILITATION IS ACHIEVED.
- EROSION/SEDIMENT CONTROL MEASURES TO CONFORM WITH EROSION AND SEDIMENT CONTROL PLAN FOR SUBDIVISION WORKS.

WARNING

UNLESS NOTIFIED TO THE CONTRARY IN WRITING, THE APPLICANT SHALL BE HELD RESPONSIBLE FOR ANY BREACHES OF THE PROTECTION OF ENVIRONMENT OPERATIONS ACT 1997. PLEASE NOTE: FAILURE TO IMPLEMENT OR MAINTAIN APPROPRIATE EROSION/SEDIMENT CONTROL MEASURES IS A BREACH OF THE ACT. SUCH A BREACH IS LIABLE FOR A ON-THE-SPOT FINE AND/OR PENALTY.
07 SEPTEMBER 2005

SEWER SETOUT			
PIT NAME	PIT TYPE	EASTING	NORTHING
		m	m
WA/9	SMH	345850.459	6301009.094
WA/9A	SMH	345804.732	6301024.887
WQ/1A	MS	345796.757	6300974.628
WQ/DE	DE	345785.516	6300952.349
WG/1	SMH	345755.198	6300707.739
WH/1	SMH	345759.982	6300767.548
WH/DE	DE	345761.931	6300791.925

LEGEND

- PROPOSED LOT BOUNDARY
- EXISTING LOT BOUNDARY
- MAJOR CONTOURS
- MINOR CONTOURS
- EXISTING ROAD
- PROPOSED KERB
- FUTURE KERB
- PROPOSED SEWER AND JUNCTION
- PROPOSED WATER
- PROPOSED STORMWATER
- EXISTING SEWER
- EXISTING WATER TO BE REMOVED
- EXISTING SEWER TO BE REMOVED
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING SW PIT
- EXISTING LINTEL

CONTOUR INTERVAL = 0.5m

- ORIGIN OF LEVELS
- BENCH MARK
- S.S.M. 119133
- E 345818.786
- N 6300822.391
- R.L. 11.650 A.H.D.
- R.L. 111.702 G.W.R.D.
- (G.W.R.D.=A.H.D.+100.052)



REV.	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED	SCALES
A	31.03.16	PRELIMINARY ISSUE	TL	KT	TL	ND	
B	3.05.16	REVISED SEWER	TL	GH	TL	ND	
C	31.05.16	WATERMAIN DESIGN AMENDED	TL	KT	TL	ND	
D	9.6.2016	WATERMAIN DESIGN AMENDED	TL	TM	TL	ND	

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ALL DIMENSIONS ARE IN METRES. DO NOT SCALE



Central Coast
5 Pioneer Avenue,
P.O. Box 3717,
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Fax: (02) 4305 4399
email: coast@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

CLIENT



Health
Infrastructure

PROPERTY DESCRIPTION

GOSFORD HOSPITAL
HEALTH AND WELLBEING PRECINCT
HOLDEN STREET & SHOWGROUND ROAD

SURVEYED

ADWJ

DATUM

A.H.D.

PROJECT

HWP - SHOWGROUND ROAD WORKS

PLAN TITLE

SEWER DIVERSION WORKS

PROJECT No.

190296

DISCIPLINE

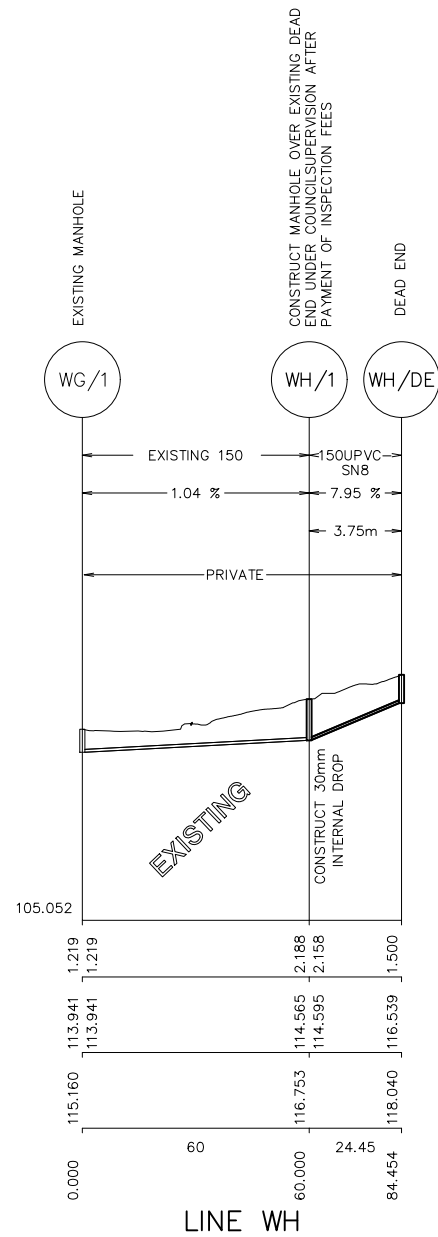
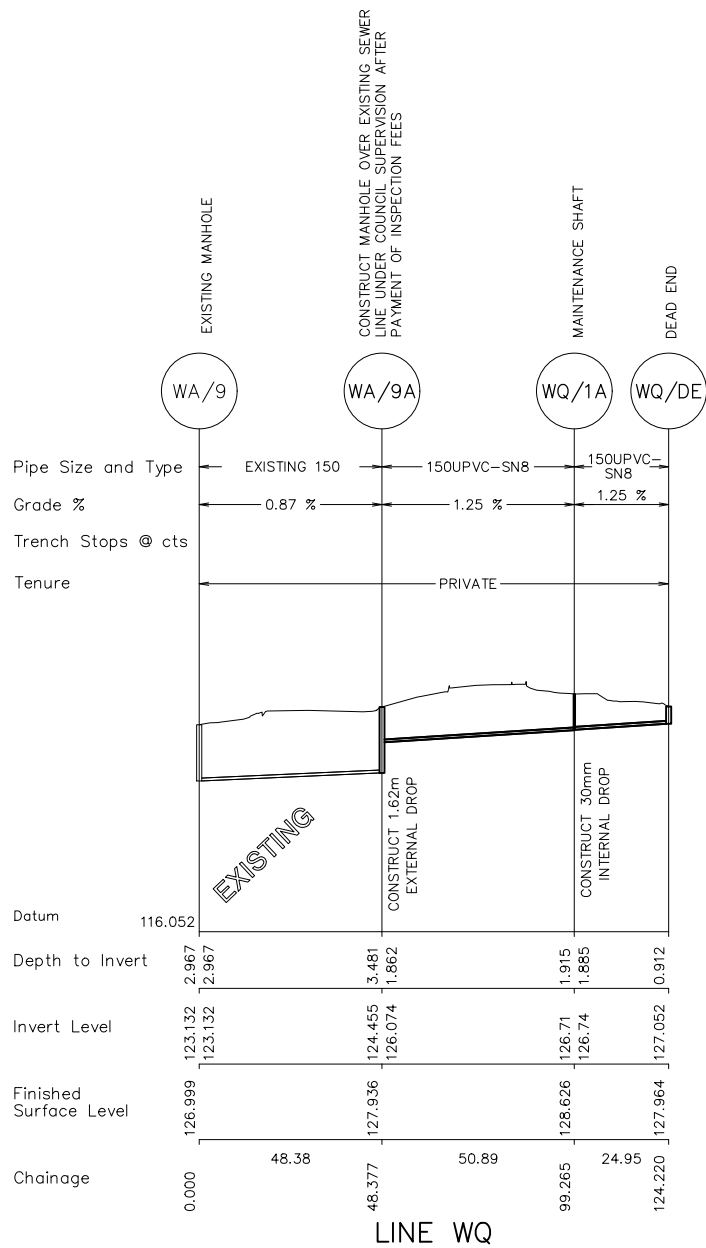
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NUMBER

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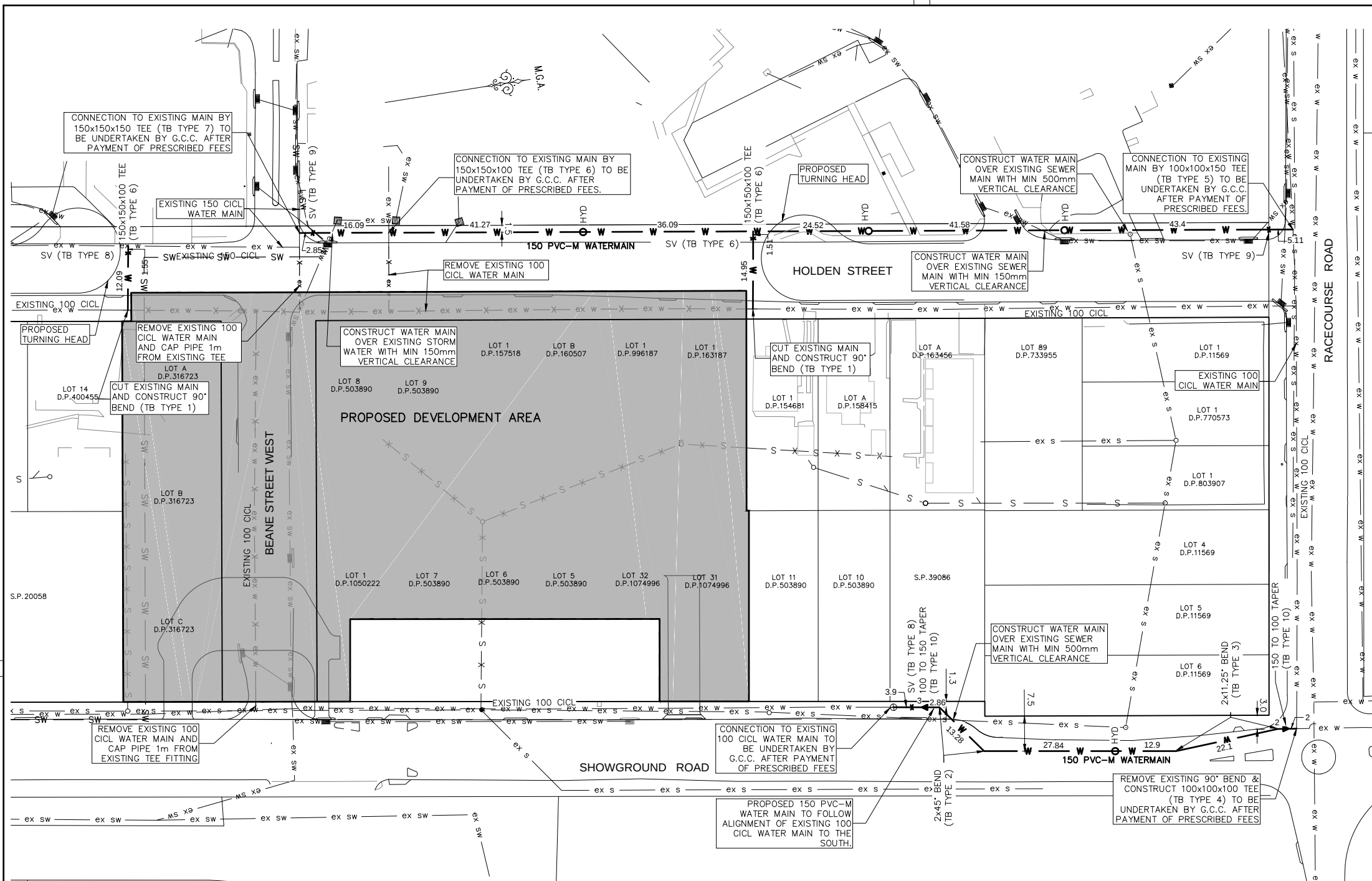
ORIGIN OF LEVELS
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REV.	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED	SCALES	CLIENT	PROPERTY DESCRIPTION	PROJECT	PLAN TITLE	SURVEYED	DATUM	PROJECT No.	DISCIPLINE	NUMBER	REV.
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B	3.05.16	REVISED SEWER	TL	GH	TL	ND	0 1 2 3 4 A1 / A3 1:100 / 1:200				SEWER LONGITUDINAL SECTIONS LINE WQ & WH						

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Appendix E



WATER PLAN

SCALE 1:500

LEGEND

- EXISTING LOT BOUNDARY
- MAJOR CONTOURS
- MINOR CONTOURS
- EXISTING ROAD
- PROPOSED KERB
- PROPOSED WATER
- EXISTING WATER TO BE REMOVED
- EXISTING WATER
- PROPOSED SEWER
- EXISTING SEWER
- EXISTING SEWER TO BE REMOVED
- EXISTING STORMWATER
- PROPOSED SW PIT
- PROPOSED LINTEL
- PROPOSED HYDRANT
- PROPOSED STOP VALVE
- PROPOSED TAPER

CONTOUR INTERVAL = N/A

NOTE

ALL PROPOSED PVC-M WATER MAINS TO BE SERIES 2 TO ENSURE COMPATIBILITY WITH EXISTING CIL MAINS.

STAGING OF WORKS--

- EXISTING MAIN TO BEANE STREET WEST AND HOLDEN STREET TO REMAIN IN PLACE UNTIL CIL EXTENSION IN SHOWGROUND ROAD IS COMMISSIONED.
- EXISTING 100 CIL IN HOLDEN STREET TO REMAIN IN PLACE UNTIL 150 CIL EXTENSION ON WESTERN SIDE OF HOLDEN STREET IS COMMISSIONED.

ORIGIN OF LEVELS
BENCH MARK
S.S.M. 119133
E 345818.786
N 6300822.391
R.L. 11.650 A.H.D.
R.L.111.702 G.W.R.D.
(G.W.R.D.=A.H.D.+100.052)

CONSTRUCTION NOTES – WATER SUPPLY

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH GOSFORD CITY COUNCIL'S "ADDENDUMS AND SYDNEY WATER EDITION OF THE WSAA WATER CODE" UNLESS SPECIFIED OTHERWISE.
- CONTRACTORS SHALL ENSURE ALL EMPLOYEES HAVE APPROPRIATE CERTIFICATION PRIOR TO COMMENCING WORKS.
- THE CONTRACTOR SHALL SUPPLY THE FOLLOWING TO GOSFORD CITY COUNCIL:
 - CONSTRUCTION SCHEDULE IN BAR FORM WITH COMMENCEMENT AND COMPLETION DATES TWO WEEKS PRIOR TO COMMENCEMENT.
 - A MATERIALS LIST.
 - COPY OF CONTRACTORS' INDEMNITY INSURANCE POLICY.
 - NAME AND DETAILS OF THE NOMINATED NATA ACCREDITED PIPE TESTER.
- DEPTH OF MAINS TO BE SUCH AS TO CONFORM TO FINISHED ROAD AND FOOTPATH LEVELS.
- THE LOCATION OF ANY UNDERGROUND SERVICES, ENERGY AUSTRALIA, TELSTRA, GAS, EXISTING SEWER RISING MAINS, WATER AND SEWER MAINS AND WATER SERVICES, TO BE DETERMINED PRIOR TO ANY EXCAVATION.
- CONNECTIONS TO EXISTING MAINS TO BE CARRIED OUT BY COUNCIL ON PAYMENT OF THE REQUIRED FEE.
- WATER SERVICES ARE TO BE INSTALLED TO EACH LOT AND SHOWN ON WAE PLAN. ALL WATER SERVICES IN EXCESS OF 3.0 METRES IN LENGTH TO BE MINIMUM 25MM OR SIZED IN ACCORDANCE WITH AUSTRALIAN STANDARDS. ALL WATER SERVICES SHALL BE HARD DRAWN CLASS A COPPER. CONNECTION BETWEEN MAIN TAP AND COPPER LINE SHALL BE SOFT SOLDERED.
- COUNCIL TO BE NOTIFIED PRIOR TO BACKFILLING TO ENABLE INSPECTION TO BE CARRIED OUT.
- ALL WATER MAINS TO BE DICL OF A CLASS APPROVED BY THE WATER AUTHORITY AND ARE TO BE POLYTHENE WRAPPED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDED METHOD.
- HYDRANTS ARE TO BE LOCATED AT ALL HIGH AND LOW POINTS ON THE WATER MAIN IN ADDITION TO SPECIFICATION REQUIREMENTS. FLUSHING HYDRANTS TO BE USED AT END OF MAIN.
- MAXIMUM DISTANCE BETWEEN HYDRANTS IS SIXTY (60) METRES.
- SOCKET, SOCKET AND SOCKET TEES ARE TO BE ANCHORED USING AN APPROVED ANCHOR ARRANGEMENT. SOCKET, SOCKET, FLANGE TEES TO BE UTILISED WHERE STOP VALVES ARE TO BE INSTALLED.
- ONLY GIBAULT END CAPS TO BE USED WHEN CAPPING OFF MAIN.
- ACTUAL LOCATION OF SINGLE SERVICES WITHIN SUBDIVISION TO BE DETERMINED ON SITE BY WATER CONTRACTOR.
- ALL CONDUIT CONNECTIONS TO CHARGED MAINS TO BE DONE BY COUNCIL AFTER PAYMENT OF THE REQUIRED FEE.
- A WATER SERVICE CONDUIT TERMINATING AT THE ROAD BOUNDARY WITH A RISER FOR A METER CONNECTION, SHALL BE EXTENDED BY THE DEVELOPER THE FULL LENGTH OF THE BATTLE-AXE OR EASEMENT FOR SERVICES TO THE BODY OF THE PROPOSED LOT. ALL WORK TO BE CARRIED OUT BY A LICENSED PLUMBER IN ACCORDANCE WITH NSW CODE OF PRACTICE AND AS 3500. ALL PIPEWORK AND FITTINGS SHALL BE APPROPRIATELY MARKED WITH MATERIAL SPECIFICATIONS.
- THE WATER SERVICE SHALL BE SIZED TO MINIMISE HEAD LOSS AND ENSURE COMPLIANCE WITH RELEVANT CODES AND STANDARDS FOR THE EFFECTIVE OPERATION OF WATER FIXTURES WITHIN THE SITE, TAKING INTO CONSIDERATION THE POTENTIAL FOR TWO (2) STOREY DWELLINGS.
- WORK-AS-EXECUTED DETAILS OF ALL WORK CARRIED OUT SHALL BE PREPARED AND SUBMITTED IN A MANNER APPROVED BY THE DIRECTOR WATER AND SEWERAGE AND SHALL BE CERTIFIED BY A REGISTERED SURVEYOR OR CONSULTING ENGINEER AS BEING A TRUE AND CORRECT RECORD OF THE WORK CARRIED OUT. DISTANCES BETWEEN HYDRANTS, TEES AND STOP VALVES TO BE SHOWN ON WAE PLANS.
- THE ABOVEMENTIONED DETAILS SHALL BE SUBMITTED TO THE DIRECTOR WATER AND SEWERAGE PRIOR TO CARRYING OUT OF THE ACCEPTANCE TEST. COUNCIL WILL NOT COMMISSION THE WORK UNTIL WAE DETAILS ARE SUBMITTED.
- ANY AMENDMENTS TO THE APPROVED DESIGN DRAWING SHOWN ON THE WAE PLAN MUST BE DESCRIBED ON A COUNCIL REDESIGN FORM AND SIGNED BY THE DIRECTOR WATER AND SEWERAGE.
- A RESUBMISSION FEE, MINIMUM OF \$100, IS PAYABLE IN THE EVENT OF COUNCIL REQUIRING RESUBMISSION OF THE WAE PLANS.
- ALL STOP VALVES TO BE ANTI-CLOCKWISE ROTATION TO CLOSE.
- EROSION/SEDIMENTATION CONTROL TO CONFORM TO COUNCIL'S CODE OF PRACTICE.
- MINIMUM 10 WORKING DAYS NOTICE REQUIRED FOR ISOLATION OF WATER MAINS OR WATER MAIN CUT-IN.
- FOR MAINS LOCATED IN FILL, FILL NEEDS TO BE PLACED IN AND FULLY COMPACTED PRIOR TO MAINS TRENCHING AND INSTALLATION. EVIDENCE OF COMPACTION TO BE PROVIDED TO COUNCIL INSPECTOR.
- PROVIDE MINIMUM 300mm HORIZONTAL AND 150mm VERTICAL CLEARANCE TO STORMWATER PIPES.

EROSION AND SEDIMENT CONTROL NOTES

DISTURBED AREAS TO BE KEPT TO A MINIMUM.

CONTROL CLEAN WATER FROM ABOVE THE SITE, THROUGH THE SITE OR AROUND THE SITE.

KEEP CLEAN WATER SEPARATE FROM DIRTY WATER.

CONSERVE ALL TOPSOIL, STOCKPILE AND PROTECT FOR REUSE ON SITE.

PROTECT ALL DISTURBED AREAS FROM EROSION.

MINIMISE SEDIMENTATION.

MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL COMPLETE REHABILITATION IS ACHIEVED.

EROSION/SEDIMENT CONTROL MEASURES TO CONFORM WITH EROSION AND SEDIMENT CONTROL PLAN FOR SUBDIVISION WORKS.

WARNING

UNLESS NOTIFIED TO THE CONTRARY IN WRITING, THE APPLICANT, SHALL BE HELD RESPONSIBLE FOR ANY BREACHES OF THE PROTECTION OF THE ENVIRONMENT OPERATIONS ACT 1997. PLEASE NOTE: FAILURE TO IMPLEMENT OR MAINTAIN APPROPRIATE EROSION/SEDIMENT CONTROL MEASURES IS A BREACH OF THE ACT. SUCH A BREACH IS LIABLE FOR AN ON THE SPOT FINE AND/OR PENALTY.



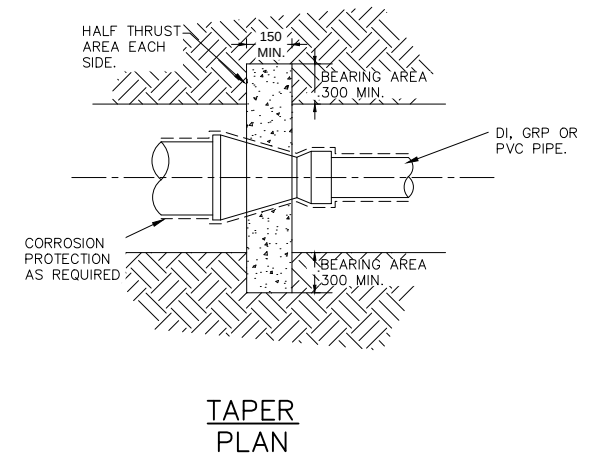
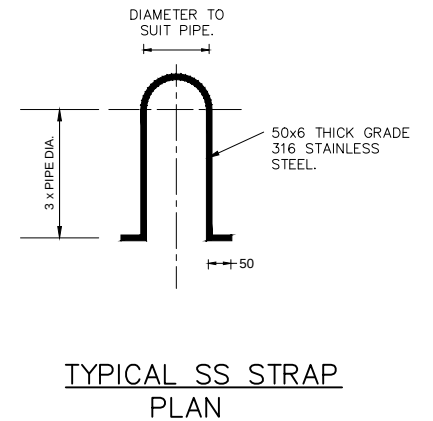
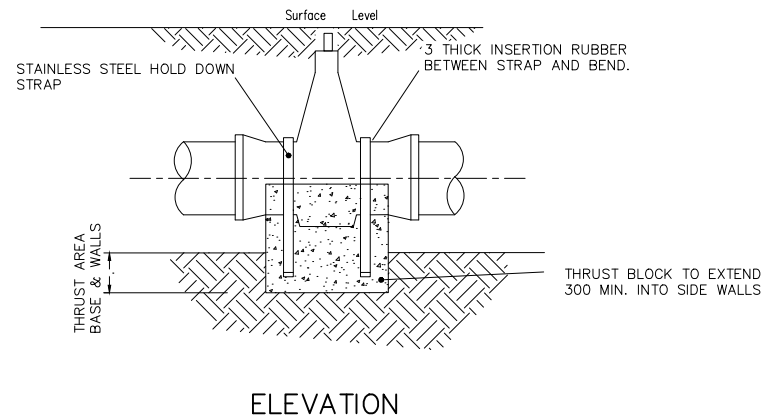
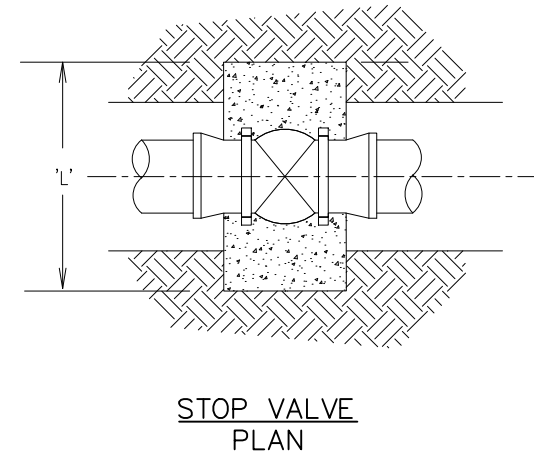
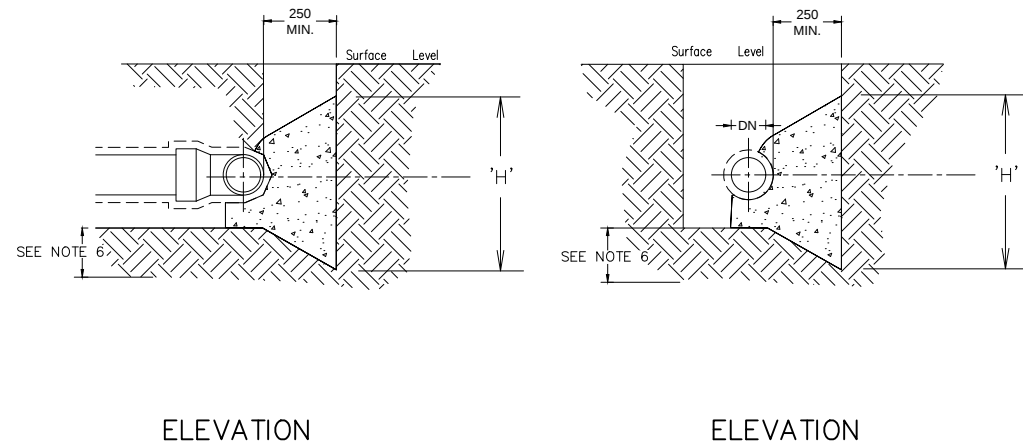
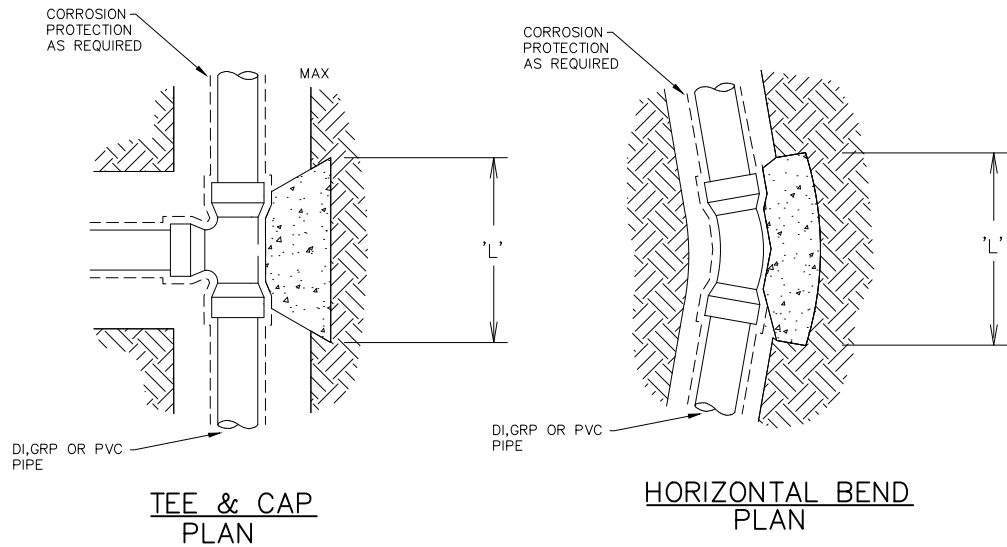
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A	31.03.16	PRELIMINARY ISSUE	TL	KT	TL	ND	0 10 20 A1 / A3	Central Coast	GOSFORD HOSPITAL	HWP - SHOWGROUND ROAD WORKS				190296	ENG	951	D
B	3.05.16	REVISED SEWER	TL	GH	TL	ND	1:500 / 1:1000	5 Pioneer Avenue, P.O. Box 3717, Tuggerah N.S.W. 2259	HEALTH AND WELLBEING PRECINCT								
C	31.05.16	WATERMAIN DESIGN AMENDED	TL	KT	TL	ND		Phone: (02) 4305 4300	HOLDEN STREET & SHOWGROUND ROAD								
D	9.6.2016	WATERMAIN DESIGN AMENDED	TL	TM	TL	ND		Fax: (02) 4305 4399									

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ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

adw Johnson

NSW GOVERNMENT Health Infrastructure



THRUST BLOCK SCHEDULE

TYPE	FITTING	SOIL PBH (kPa)	DESIGN STP (kPa)	TA (m ²)
1	100x90° BEND	50	1000	0.34
2	150x45° BEND	50	1000	0.18
3	150x11.25° BEND	50	1000	N
4	100x100x100 TEE	50	1000	0.24
5	100x100x150 TEE	50	1000	0.50
6	150x150x100 TEE	50	1000	0.24
7	150x150x150 TEE	50	1000	0.50
8	100 SV	50	1000	0.34
9	150 SV	50	1000	0.70
10	100 TO 150 TAPER	50	1000	0.50

'N' DENOTES NOMINAL THRUST AREA - (SEE NOTES 5 & 6)

THRUST BLOCK NOTES:

1. CONCRETE THRUST BLOCKS ARE TO BE PROVIDED FOR ALL FITTINGS IN ACCORDANCE WITH TABLE.
2. THRUST BLOCK DIMENSIONS ARE BASED ON THE MINIMUM ALLOWABLE HORIZONTAL BEARING PRESSURES OF THE SOIL AS SHOWN. IF GROUND CONDITIONS ENCOUNTERED INDICATE THAT THESE BEARING PRESSURES MAY NOT BE ACHIEVED, THRUST BLOCK DESIGN IS TO BE REVISED.
3. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE ADVISED.
4. CAST THE THRUST AREA OF ALL THRUST BLOCKS AGAINST A CLEAN FACE OF UNDISTURBED NATURAL SOIL. THRUST BLOCKS NOT TO INTERFERE WITH OTHER SERVICES.
5. THE NOMINAL THRUST AREA 'N' TO BE ACHIEVED BY POURING CONCRETE THE FULL LENGTH OF THE FITTING AND EXTENDING FROM THE FLOOR OF THE TRENCH TO ABOVE THE FITTING (SEE ALSO NOTE 6).
6. FINISH THRUST BLOCKS APPROXIMATELY 100mm ABOVE THE TOP OF THE FITTING OR BEARING PAD AND EXTEND TO THE FLOOR OF THE TRENCH OR DEEPER IF NECESSARY TO ACHIEVE THE REQUIRED THRUST AREA 'N'. MAXIMUM ENCASEMENT TO BE 180°.
7. WHEN POURING CONCRETE AGAINST FITTINGS PLACE A MEMBRANE OF POLYETHYLENE, PVC OR FELT BETWEEN THE FITTING AND CONCRETE TO PREVENT DAMAGE TO THE FITTING JOINTS TO BE CLEAR OF CONCRETE.
8. CONCRETE FOR THE THRUST BLOCKS TO BE GRADE S25 USING CEMENT TYPE "SR" TO A53972. CONCRETE TO BE MECHANICALLY VIBRATED.
9. CONCRETE THRUST BLOCKS ARE TO BE CURED FOR A MINIMUM OF 7 DAYS BEFORE BEING SUBJECTED TO ANY THRUST LOAD.
10. REFER TO WAT-1205-V FOR GENERAL FITTING THRUST BLOCK ARRANGEMENTS.
11. REFER TO WAT-1207-V FOR GENERAL VALVE AND VERTICAL BEND THRUST BLOCK ARRANGEMENTS.



REV.	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED	SCALES	CLIENT	PROPERTY DESCRIPTION	PROJECT
A B C	31.03.16 31.05.16 9.6.2016	PRELIMINARY ISSUE WATERMAIN DESIGN AMENDED WATERMAIN DESIGN AMENDED	TL TL TL	KT KT TM	TL TL TL	ND ND ND		Central Coast 5 Pioneer Avenue, P.O. Box 3717, Tuggerah N.S.W. 2259 Phone: (02) 4305 4300 Fax: (02) 4305 4399 email: coast@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	GOSFORD HOSPITAL HEALTH AND WELLBEING PRECINCT HOLDEN STREET & SHOWGROUND ROAD	HWP - SHOWGROUND ROAD WORKS
DRAFT										PLAN TITLE THRUST RESTRAINT DETAILS
DESIGN FILE S:\150192\DESIGN\120\150192.project			ALL DIMENSIONS ARE IN METRES. DO NOT SCALE					NSW GOVERNMENT Health Infrastructure	SURVEYED ADWJ	DATUM A.H.D.
Plotted By: Tom Langdon Plot Date: 09/06/16 4:08:07PM Cad File: S:\190296\DRAWINGS\ENG\190296-ENG-952(C).DWG			PROJECT No. 190296			DISCIPLINE ENG		NUMBER 952		REV. C

Appendix F

 Existing Gas Main (medium pressure)
 - S - S - S - S -
 Existing Gas Main (HIGH pressure)
 ≠ † † † † † † † † † † ≠
 Proposed 40mm PE Gas Main
 Proposed 50mm NY Gas Main
 Proposed 200MM HIGH pressure Gas Main

Jemena Land Services Officer - Anne Westwood 0402 059 798
Jemena Field Co-Coordinator - Neil Jack 0402 060 311
Luke Rudge 0402 060 340
Subcontractor - M&E Pratt

This map shows a residential neighborhood in Portland, Oregon. The streets depicted include Holden St, Beane St, Showground Rd, Pacific Hwy, Keever Ln, Watt St, Hills St, Gertrude St, and Etna St. A green bus stop marker labeled 'B83' is located on Pacific Hwy near Etna St. The map also shows a park area in the bottom right corner.

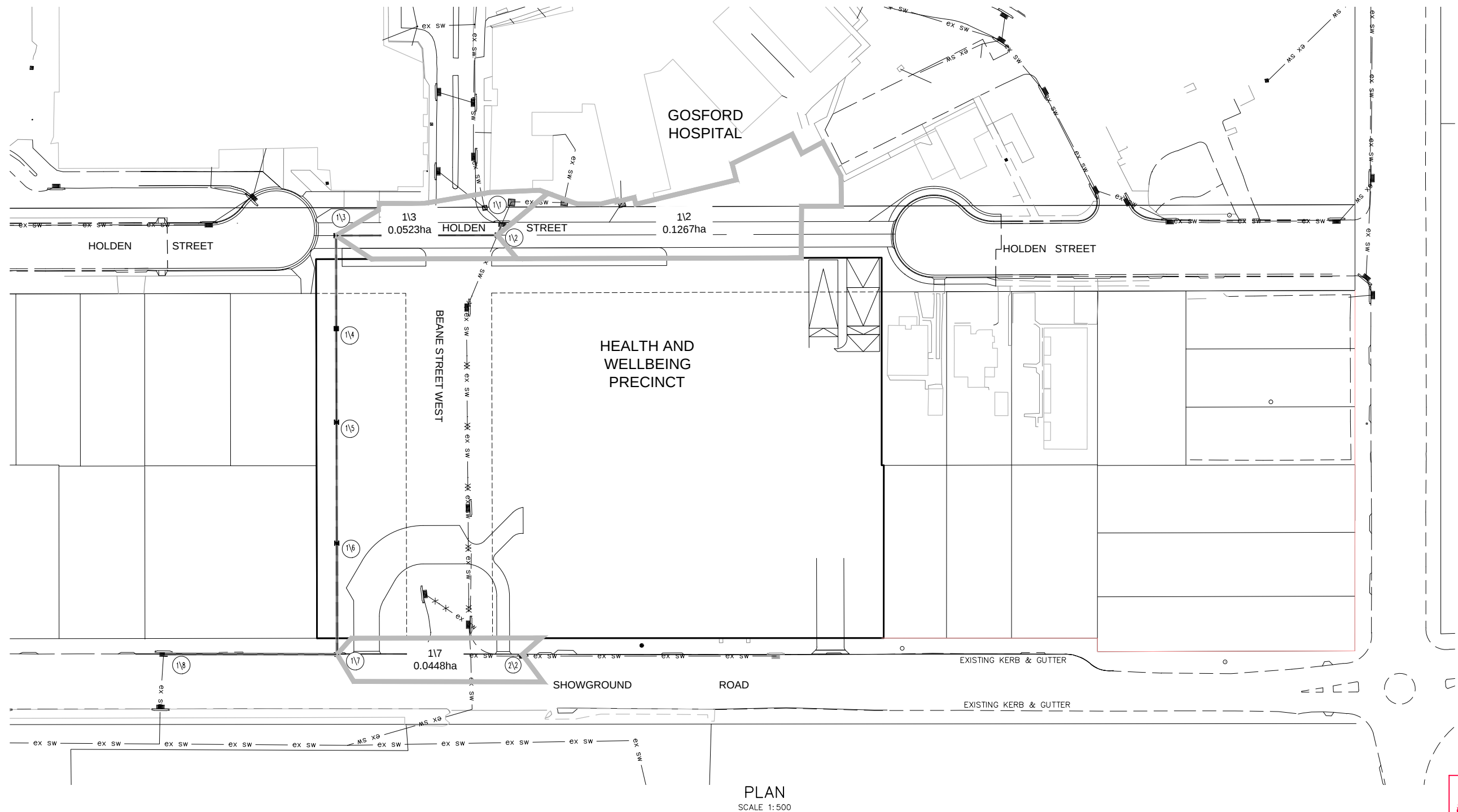
9. Contractor to provide Marker stones for new pavement
10. Client to provide permanent restorations
11. Client to provide all Traffic Management
12. All works to be carried out in accordance with WorkCover requirements and comply with Jemena Occupational Health 5Safety and Environment policies
13. Works are to take place during normal work hours (M-F)

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-	-	--	--	--	--
-	-	--	--	--	--
-	-	--	--	--	--
0	PROPOSED DRAWING	--	15/10/15	BD	--
REV	PARTICULARS	CHKD	DATE	CAD	APPR

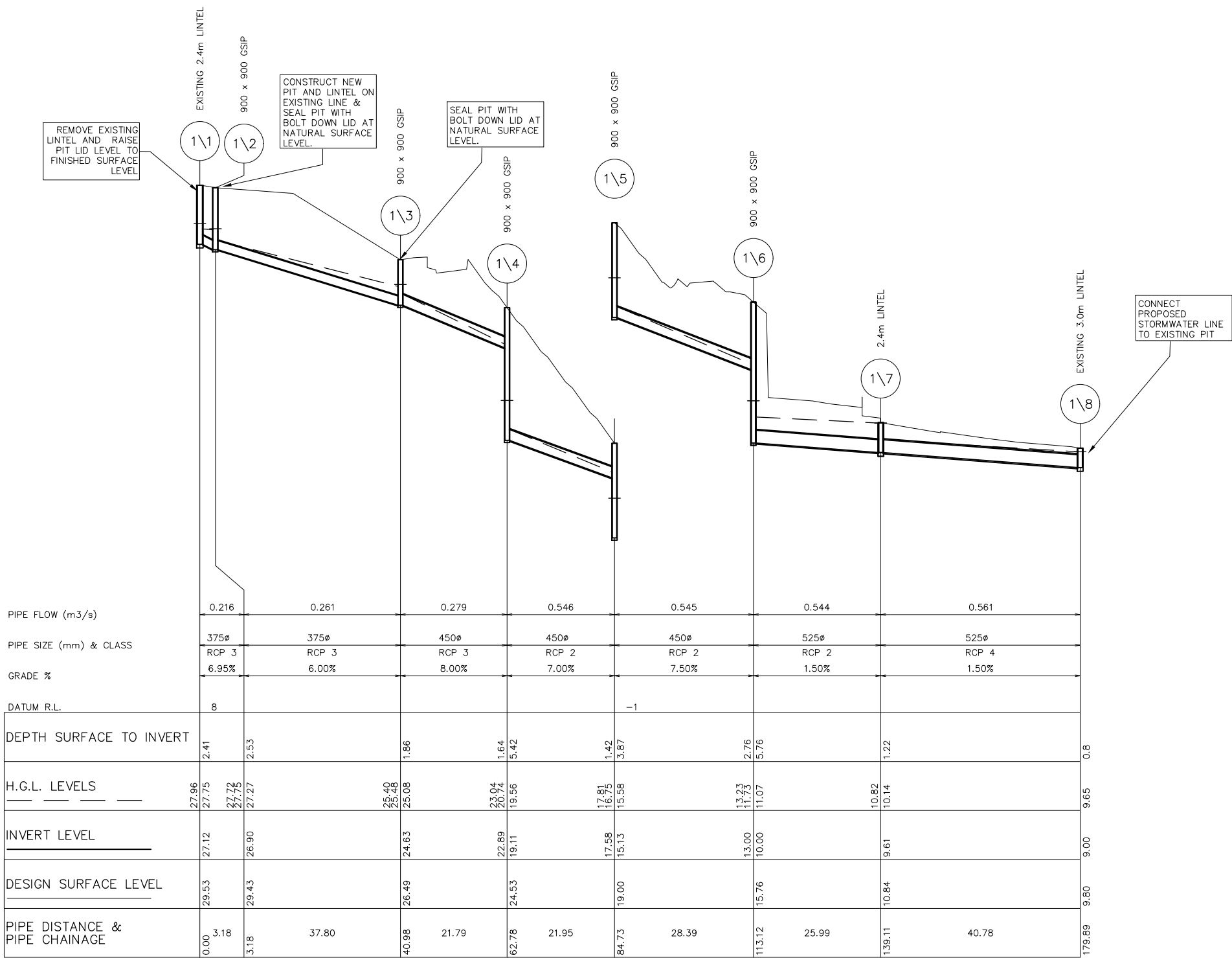


ENGINEER	APPROVED	OFFICER	CHECKED	DRAWN	DATE	SCALE	SIZE	DRAWING NO.	REV
--	--	--	—	BD	15/10/2015	N.T.S.	A3	13000228	0

Appendix G



REV.	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED	SCALES	CLIENT				PROPERTY DESCRIPTION				PROJECT			
A	15.06.16	PRELIMINARY ISSUE	TL	GH	TL	ND	0 10 20 A1 / A3 1:500 / 1:1000	Central Coast 5 Pioneer Avenue, P.O. Box 3717, Tuggerah N.S.W. 2259 Phone: (02) 4305 4300 Fax: (02) 4305 4399 email: coast@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398				GOSFORD HOSPITAL HEALTH AND WELLBEING PRECINCT HOLDEN STREET & SHOWGROUND ROAD SSD 6913				HWP - EARLY WORKS PACKAGE			
DRAFT								NSW GOVERNMENT Health Infrastructure				SURVEYED ADWJ DATUM A.H.D.				PLAN TITLE CATCHMENT PLAN			
DESIGN FILE S:\150192\DESIGN\120\150192.project								ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				PROJECT No. 190296 - DISCIPLINE ENG(EW) - NUMBER 401				REV. A			

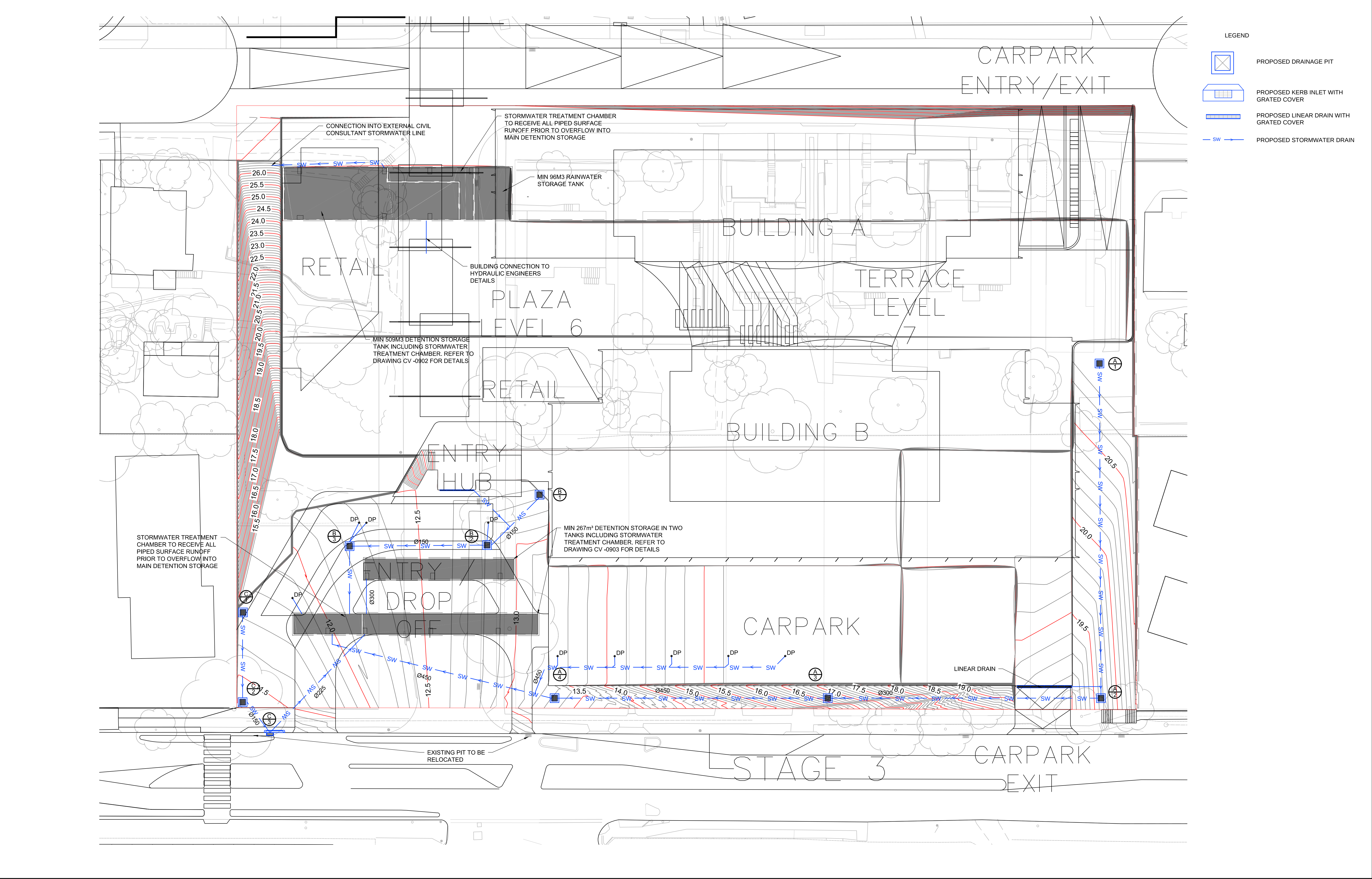


LINE 1

NOTE:
FINISHED DESIGN SURFACE
SHOWN ON STORMWATER
LONGITUDINAL SECTIONS.



REV.	DATE	AMENDMENT	DESIGN	DRAWN	CHECKED	APPROVED	SCALES		Central Coast 5 Pioneer Avenue, P.O. Box 3717, Tuggerah N.S.W. 2259 Phone: (02) 4305 4300 Fax: (02) 4305 4399 email: coast@adwjohnson.com.au www.adwjohnson.com.au ABN 62 129 445 398	CLIENT  Health Infrastructure	PROPERTY DESCRIPTION		PROJECT	HWP - EARLY WORKS PACKAGE		
A	15.06.16	PRELIMINARY ISSUE	TL	GH	TL	ND	 A1 / A3 1:100 / 1:200  A1 / A3 1:500 / 1:1000				GOSFORD HOSPITAL HEALTH AND WELLBEING PRECINCT HOLDEN STREET & SHOWGROUND ROAD SSD 6913		PLAN TITLE	STORMWATER LONGITUDINAL SECTION LINE 1		
DESIGN FILE S:\150192\DESIGN\12D\150192.project							ALL DIMENSIONS ARE IN METRES. DO NOT SCALE				SURVEYED ADWJ	DATUM A.H.D.	PROJECT No. 190296	DISCIPLINE ENG(EW)	NUMBER 431	REV. A



rev	date	description	dm	ch/k
3	01/07/16	50% DESIGN DEVELOPMENT + VE ISSUE	CF	IY
2	03/06/16	50% DESIGN DEVELOPMENT + VE ISSUE	CF	GH
1	23/03/16	30% DESIGN DEVELOPMENT	CF	GH

rev	date	description	dm	ch/k

client

enstruct group pty ltd

Level 4, 2 Glen Street
Mills Point NSW 2061
Australia

Telephone (02) 8904 1444
Facsimile (02) 8904 1555
www.enstruct.com.au

project

GOSFORD HOSPITAL

drawing title

STORMWATER DRAINAGE
CONCEPT PLAN

status

PRELIMINARY

scale at A1
1:250

drawn by
CF

checked
GH

date
MAR-16

project no.
5135

drawing no.
CV-0100

rev.
03