



Lismore Base Hospital Stage 3B Redevelopment SSD Civil Engineering Design Report

for Health Infrastructure

13 November 2014

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1.0 INTRODUCTION

As part of the Lismore Base Hospital development, Taylor Thomson Whitting have been engaged by Health Infrastructure to investigate and report on civil engineering aspects of the project.

1.1 Existing Site

The development site is part of the existing grounds of Lismore Base Hospital.



Figure 1 – Existing Lismore Base Hospital Site – 29 July 2014

1.2 Proposed Development

The proposed Stage 3B development includes internal modifications and vertical additions to the existing Stage 3A building for;

- Peri-operative
- CSSD
- Maternity
- Inpatients
- Paediatrics
- Plant
- Helipad
- -

Stage 3B also includes the following improvements within the area south of the existing Mental Health Unit and north of the existing Stage 3A building;

- Demolition of the eastern portion of Block A and relocation of the temporary Maternity Unit off site
- Construction of a new L3 loading zone with entrance from Little Uralba Street servicing the new development for trucks up to 12.5m Heavy Rigid Vehicles
- New building construction consisting of L4 to L7 including pharmacy, front of house, imaging, and biomedical departments.
- Earthworks cut for the new building and loading zone,
- Stormwater drainage adjustments and coordination of overland flow paths with building entry points and pedestrian zones,
- Coordination with service routes

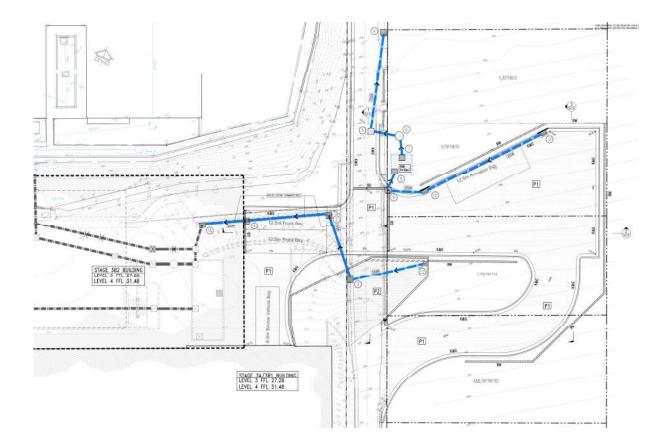


Figure 2 – Proposed Stage 3B Loading Access Siteworks Plan

Loading access improvements within Little Uralba Street and three formerly residential lots to the east are proposed in Stage 3B including;

- Vehicular access on Little Uralba Street at L4 to serve Stage 3A mortuary,
- Truck access for 12.5m trucks to new Stage 3B L3 loading zone,
- Earthworks cut and retaining walls for loading zone access,
- Stormwater drainage, on-site detention storage and water quality treatment,
- Coordination of overland flow paths,
- Coordination with service routes

2.0 CIVIL ENGINEERING

2.1 Geotechnical Conditions

Douglas Partners (DP) prepared the most recent Geotechnical Investigation for the proposed redevelopment of the hospital (June 2013). DP divided the site into three (3) zones depending on the upper level geotechnical conditions;

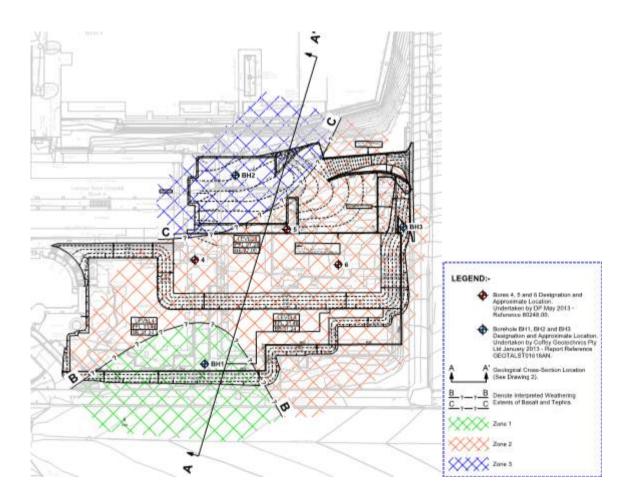


Figure 3 – Geotechnical Test Locations Plan, Douglas Partners, 11 July 2013

Zone 1 (Southern Area)

- Uncontrolled fill and gravelly clay to a depth of approximately 0.9m over,
- Upper basalt flow consisting of high strength mderately weathered basalt for the upper 5m and then slightly weathered to fresh basalt to approximately 18.8m depth over;
- Tephra and Agglomerate.

Zone 2 (Central Area)

- Fill and clay to a depth of approximately 0.4m to 1.2m over,
- Upper basalt flow consisting of an upper weathered zone to about 2.5m in depth and then a lower high strength fresh basalt layer to depths of between 12.2m to 13.44m over,

- Tephra to depths of 18.8m to 19.7m over,
- Lower basalt flow comprised of high to very high strength basalt.

Zone 3 (Northern Area)

- Fill and clay to a depth of approximately 0.75m over,
- Upper basalt flow consisting of considerably weathered and lower strength basalt in the upper 6m grading to higher strength basalt 11.3m depth over,
- Tephra to a depth of approximately 12.1m over,
- Lower basalt flow comprised of low to medium strength basalt

The DP report provided recommendations for temporary batters within the various strata as per the following table. Recommendations can be summarized as;

- 1H:1V for controlled fill and clay
- 2H:1V for uncontrolled fill;
- 1H:1V for low strength basalt;
- 0.75H:1V for medium strength, fractured or fragmented basalt;
- Vertical for high strength, slightly fractured or fragmented basalt.

A CBR of 5% was recommended to be used for pavement design based on the gravelly clay on site. Variable groundwater flow should be anticipated to follow defects and seams in the various rock layers.

2.2 Road System Design

Modifications to the existing road system include access from Little Uralba Street to the proposed loading zone at L3 for delivery vehicles up to Heavy Rigid Vehicles (12.5m) and to the mortuary at L4 for hearses (7.8m) and ambulances (5.8m).

Three formerly residential lots on the east side of Little Uralba Street will be utilized to provide vehicle manoeuvring area to the L3 and L4 access. Levels across Little Uralba Street will be adjusted as required.

The proposed access modifications require road reserve acquisition to be negotiated with Lismore Council. Little Uralba Street is proposed to be closed to public access north and south of the proposed hospital access.

No changes are proposed to the existing hospital loading dock and access from Hunter Street.

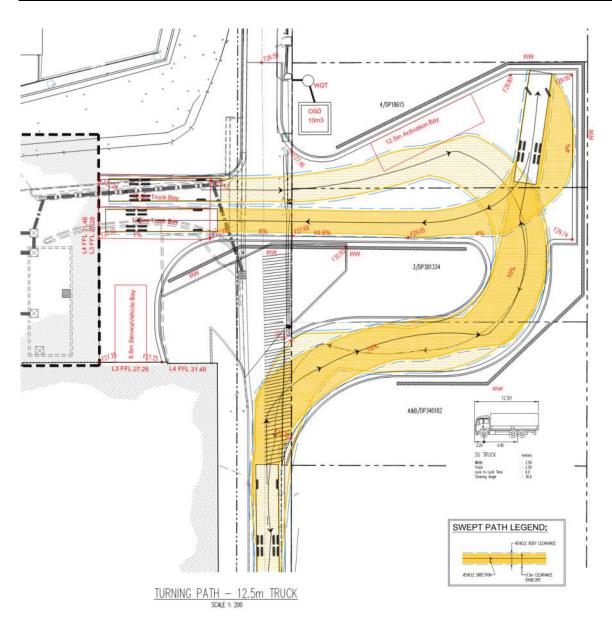


Figure 4 – Truck Turning Paths

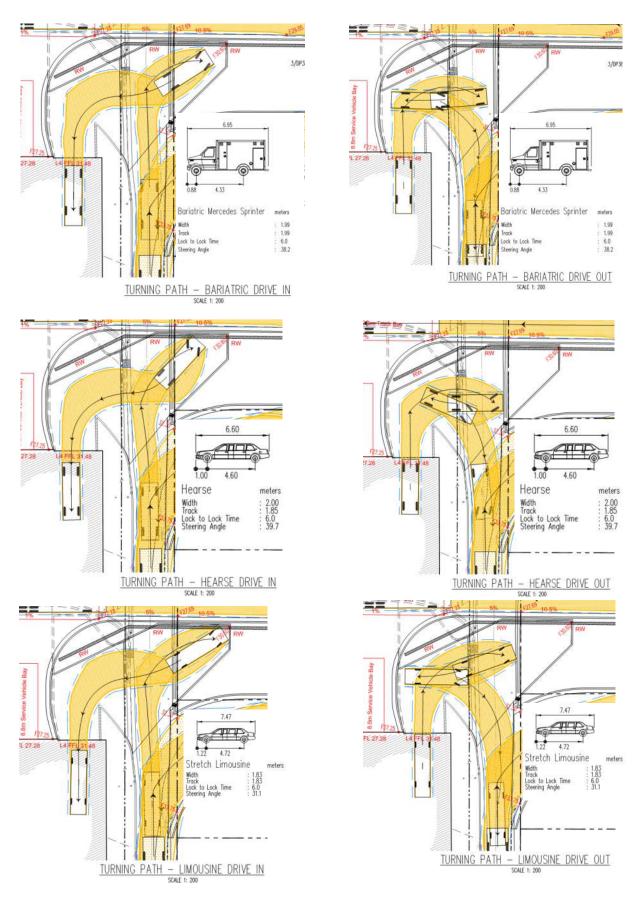


Figure 5 – Mortuary Turning Paths

2.3 Stormwater Design

2.3.1 Stage 3B Building Site

TTW previously prepared a stormwater management report for Stage 3A of the hospital redevelopment (Appendix B).

No significant change is proposed for the Stage 3A stormwater system including stormwater detention in accordance with Council's Development Control Plan (DCP) will remain in place with minor modifications to stormwater conveyance to the detention tank. Stormwater flows for the 1-year through to the 100-year ARI storm events will be maintained with no negative downstream impact.

Existing storm water overland flow paths will be maintained across the site.

2.3.2 Stage 3B Loading Access Site

Separately to building improvements on the main hospital site, the Stage 3B development includes modifications to Little Uralba Street and three formerly residential lots to accommodate access to a new loading zone at L3.

Within this new loading access area, On-site Detention will be provided in accordance with Council's Development Control Plan (DCP) to maintain stormwater flows for the 1-year through to the 100-year ARI storm events.

The catchment area of the new loading access area was calculated to be $1,475m^2$. This area is 35% impervious in the existing condition and is proposed to be up to 61% impervious after redevelopment. DRAINs was used to demonstrate that the DCP requirement can be met through provision of an OSD tank with storage capacity of 10m³ and a 200 mm diameter orifice on the outlet.

Table 1	Site discharge rates	8	
Avera	ge Recurrence Interval	Existing (I/s)	Developed with OSD (I/s)
	1-year	37	38
	5-year	62	61
	20-year	81	76
	100-year	95	92

Stormwater pits and piping in Little Uralba Street will be adjusted as required for the proposed street levels.

2.4 Water Sensitive Urban Design

In addition to stormwater detention, stormwater quality control will be required prior to discharge from impervious areas. As compared to baseline, Council's Water Sensitive Design DCP requires the following reduction in mean annual pollutant loading:

- 75% reduction in Total Suspended Solids (TSS)
- 65% reduction in Total Phosphorus (TP)
- 40% reduction in Total Nitrogen (TN)
- 90% reduction in Gross Pollutants (GP)

Within the main hospital site, the previously approved Stage 3A water quality system will be maintained. Within the new loading access area, TTW recommend a treatment train of onsite detention tank, trash rack, proprietary secondary treatment device and proprietary tertiary treatment units to meet Council pollutant loading reduction requirements.

2.5 Flood Risk

The majority of the Lismore Base Hospital site including the Stage 3B development area is located outside of the Lismore City Council Flood Risk Area.

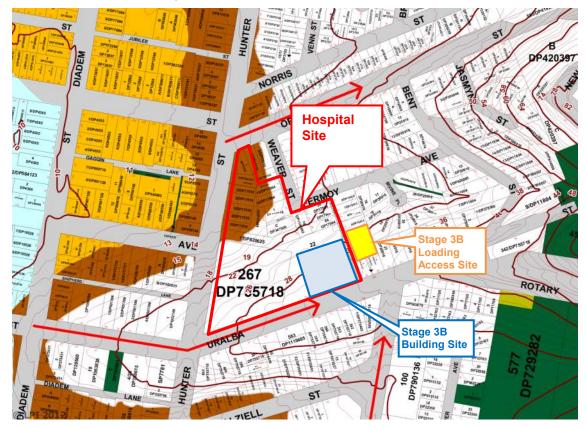


Figure 6 – Lismore City Council Flood Hazard Categories Map

2.6 Erosion and Sediment Control

TTW have prepared an Erosion and Sediment Control plan for the project in accordance with Managing Urban Stormwater – Soils & Construction Volume 1 2004 (Landcom).

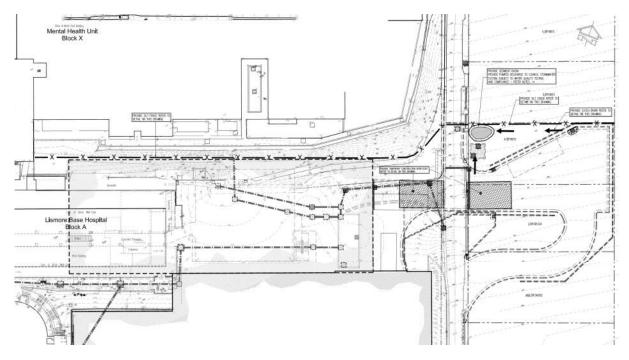


Figure 7 – Erosion and Sediment Control Plan

2.7 Retaining Systems

Retaining structures will be required as depicted in the drawings in Appendix A to allow for vehicular access to the proposed Stage 3B loading zone.

2.8 Services Restrictions

Existing service routes are identified on the survey. Services within the existing Little Uralba Street road reservation include a water main, telecommunications conduits and overhead power.

Vertical and/ or horizontal services diversions will be required to allow for the proposed loading zone and truck access straddling Little Uralba Street. Services easements may also be required.

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Stephen Brain Technical Director

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APPENDIX A

Civil Design Drawings

LISMORE BASE HOSPITAL REDEVELOPMENT

STAGE 3B

GENERAL NOTES	SURVEY AND SERVICES INFORMATION	CONCRETE FINISHING NOTES	SAFETY IN DESIGN	SITEWORKS LEGEND	PAVEMENT LEGEND	
1. Contractor must verify all dimensions and existing levels on site prior	SURVEY	 All exposed concrete pavements are to be broomed finished UNO. All edges of the concrete pavement including keyed and dowelled 	Contractor to refer to Appendix B of the Civil Specification for the Civil Risk and Solutions Register.	 F22.20 Finished surface level 	NOTES 1. Asphaltic concrete shall conform to AS2150 and the specification	TYPE DESCRIPTION
to commencement of works. Any discrepancies to be reported to the Contract Administrator.	Origin of levels : PM8029 RL24.403 SCIMS Datum of levels : A.H.D. AUSTRALIAN HEIGHT DATUM	joints are to be finished with an edging tool.	EXISTING SERVICES	Finished contour	 Raymand concrete shall contain to AS2150 and the specification Pavement based on geotechnical report by Douglas Partners 12 July 2013 	450 X 900 CLASS D GALVANISED MILD STEEL GRATE HINGED TO FRAME
 Strip all topsoil from the construction area. All stripped topsoil shall be disposed of off-site unless directed othermise. 	Coordinate system : <u>MGA</u> Survey prepared by : NDC	Concrete pavements with grades greater than 10 % shall be heavily broomed finished.	Contractor to be aware existing services are located within the site.	K&G	40mm Thickness asphaltic concrete (AC10) on	WITH 1800 LINTEL
Make smooth connection with all existing works.	Setout Points : CONTACT THE SURVEYOR	 Carborundum to be added to all stair treads and ramped crossings U.N.O. 	Location of all services to be verified by the Contractor prior to commencing works. Contractor to confirm with relevant authority	K0 Kerb and gutter	200mm Compacted thickness fine crushed rock	B SURFACE INLET PIT
 Compact subgrade under buildings and pavements to minimum 98% standard maximum dry density in accordance with AS 1289 5.1.1. 	Taylor Thomson Whitting does not guarantee that the survey information	u u u u u u u u u u u u u u u u u u u	regarding measures to be taken to ensure services are protected or procedures are in place to demolish and/or relocate.	DD Kerb only	(DGB20) on 200mm Compacted thickness fine crushed rock	JUNCTION PIT
Compaction under buildings to extend 2m minimum beyond building footprint	shown on these drawings is accurate and will accept no liability for any inaccuracies in the survey information provided to us from any cause	JOINTING NOTES	EXISTING STRUCTURES	Dish drain	(DCS40) on CBR 5%	
 All work on public property, property which is to become public property, or any work which is to come under the control of the 	whatsoever. UNDERGROUND SERVICES - WARNING	Vehicular Pavement Jointing	Contractor to be aware existing structures may exist within the site.	TES Timber adap strip	CBR 5%	C STORMWATER TREATMENT
Statutory Authority is to be carried out in accordance with the	The locations of underground services shown on Taylor Thomson	 All vehicular pavements to be jointed as shown on drawings. Keved construction joints should generally be located at a 	To prevent damage to existing structure(s) and/or personnel, site works to be carried out as far as practicably possible from existing	linber euge strip	40mm Thickness asphaltic concrete (AC10) on	D EXISTING PIT TO REMAIN AND
requirements of the relevant Authority. The Contractor shall obtain these requirements from the Authority. Where the requirements of	Whittings drawings have been plotted from diagrams provided by service authorities. This information has been prepared solely for the	maximum of 6m centres. 3. Sawn joints should generally be located at a maximum of 6m	structure(s).	50 Stormwater pit number	P2 Suspended concrete stab	D EXISTING PIT TO REMAIN AND RECONSTRUCT TO SUIT PROPOSED WORKS
the Authority are different to the drawings and specifications, the requirements of the Authority shall be applicable.	authorities own use and may not necessarily be updated or accurate.	centres or 1.5 x the spacing of keyed joints, where key joint	EXISTING TREES Contractor to be aware existing trees may exist within the site which	→ → Stormwater pit, flow direction		E DETENTION TANK
6. For all temporary batters refer to geotechnical recommendations.	The position of services as recorded by the authority at the time of installation may not reflect changes in the physical environment	spacing is less than 4m, with dowelled expansion joints at maximum of 30m centres.	need to be protected. To prevent damage to trees and/or personnel, site works to be carried out as far as practicably possible from	and line with IL10.00 Invert level upstream		
	subsequent to installation.	 Provide 10mm wide full depth expansion joints between buildings and all concrete or unit payers. 	existing trees. Advice needs to be sought from Arborist and/or	600 ¢ 2' 1.25% Pipe size and class Pipe grade		
REFERENCE DRAWINGS	Taylor Thomson Whitting does not guarantee that the services information shown on these drawings shows more than the presence	The timing of the saw cut is to be confirmed by the contractor on site. Site conditions will determine how many hours after the	Landscape Architect on measures required to protect trees.	Q=345 L/s Flow (Litres per second) IL9.65 Invert level downstream		
 These drawings have been based from, and to be read in conjunction with the following Consultants drawings. Any conflict to the drawings 	or absence of services, and will accept no liability for inaccuracies	concrete pour before the saw cuts are commenced. Refer to the	Contractor to be aware ground water levels are close to existing	GD Invertievel downstream		
must be notified immediately to the Engineer.	in the services information shown from any cause whatsoever. The Contractor must confirm the exact location and extent of	specification for weather conditions and temperatures required. 6. Vehicular pavement jointing as follows.	surface level. Temporary de-watering may be required during construction works.	Grated drain		
Consultant Dwg Title Dwg No Rev Date	services prior to construction and notify any conflict with the drawings	FACE OF KERB	EXCAVATIONS	O IR Intermediate riser with subsoil		
NDC DETAIL & CONTOUR SURVEY 12100 10 21.06.13	immediately to the Engineer/Superintendent.	ଅ _{ଭା} ଳି ଆ ଆ ଆ ଆ ଲା	Deep excavations due to stormwater drainage works is required. Contractor to ensure safe working procedures are in place for works. All	drainage line (100 dia)		
	The contractor is to get approval from the relevant state survey department, to remove/adjust any survey mark. This includes but is not	6m MAX	excavations to be fenced off and batters adequately supported to approval of Geotechnical Engineer.	O FP Flushing point with subsoil drainage line (100 dia)		
	limited to; State Survey Marks (SSM), Permanent Marks (PM), cadastral reference marks or any other survey mark which is to be removed or	KJ Et	GROUND CONDITIONS			
	adjusted in any way.	KJ	Contractor to be aware of the site geotechnical conditions.	Grass catch drain		
	Taylor Thomson Whitting plans do not indicate the presence of any survey mark. The contractor is to undertake their own search.		Refer to geotechnical report by (Douglas Partners Project 80243.00 July 2013) for details.	Overland flow path		
STORMWATER DRAINAGE NOTES	-	EJ FACE OF BUILDING	HAZARDOUS MATERIALS	RW 777777777777777777777777777777777777		
1 Stormwater Design Criteria :	SITEWORKS NOTES	Pedestrian Footpath Jointing	Existing asbestos products & contaminated material may be present on site. Contractor to ensure all hazardous materials are identified prior to			
 (A) Average recurrence interval – 1:100 years for roof drainage to first external pit 	 All basecourse material to comply with RTA specification No 3051 and compacted to minimum 98% modified standard dry density in 	 Expansion joints are to be located where possible at tangent points of curves and elsewhere at max 6.0m centres. 	commencing works. Safe working practises as per relevant authority to be adopted and appropriate PPE to be used when handling all	● [TOW22.20] Top of wall level		
1:20 years for paved and landscaped areas	accordance with AS 1289 5.2.1. 2. All trench backfill material shall be compacted to the same density	 Weakened plane joints are to be located at a max 1.5 x width of the payement. 	hazardous materials. Refer to geotechnical/environmental report by		-	
(B) Rainfall intensities – Time of concentration: 6 minutes	as the adjacent material.	3. Where possible joints should be located to match kerbing and / or	(Douglas Partners Project 80243.00 July 2013) for details.	SERVICES LEGEND		
1:100 years = 266 mm/hr 1:20 years = 209 mm/hr	 All service trenches under vehicular pavements shall be backfilled with an approved select material and compacted to a minimum 	adjacent pavement joints. 4. All pedestrian footpath jointings as follows (uno).	CONFINED SPACES Contractor to be aware of potential hazards due to working in	Existing power		
(C) Runoff coefficients - Roof areas: C100 = 1.00	98% standard maximum dry density in accordance with AS 1289 5.1.1	FACE OF KERB	confined spaces such as stormwater pits, trenches and/or tanks. Contractor to provide safe working methods and use appropriate PPE	— — — Existing underground power		
Roads and paved areas: $C_{20} = 0.95$ Landscaped areas: $C_{20} = 0.7$			when entering confined spaces.	— — — — Existing comms		Drawing No Drawing
2. Pipes 300 dia and larger to be reinforced concrete Class 2	BULK EARTHWORKS NOTES	1.5 x W (1.5m MAX)	MANUAL HANDLING	— — — — Existing gas		3B - C01 NOT
approved spigot and socket with rubber ring joints U.N.O. 3. Pipes up to 300 dia shall be sewer grade uPVC with solvent	 All bulk earthworks setout from grid lines U.N.O. All batters at a slope of 1 (H) : 1 (V) U.N.O. 	6.0m MAX	Contractor to be aware manual handling may be required during construction. Contractor to take appropriate measures to ensure manual	– – Existing stormwater		3B - C02 ERC
welded joints. 4. Equivalent strength FRP pipes may be used subject	 Excavated material may be used as structural fill provided, (i) it complies with the specification requirements for fill material, 	I	handling procedures and assessments are in place prior to commencing	Existing semer Existing telstra cable and		
to approval. 5. Precast pits may be used external to the building within the	(ii) the placement moisture content complies with the Geotechnical	SIGNS AND LINE MARKING NOTES	works. WATER POLLUTION	top of cable level		3B - C05 SITE
site subject to approval by Contract Administrator 6. Enlargers, connections and junctions to be manufactured	Consultants requirements, and allows filling to be placed and proofrolled in accordance with the specification. Where	 Pavement marking and sign posting to be in accordance with R.M.S. delineation supplement, to Austroad Guides to Traffic Management and 	Contractor to ensure appropriate measures are taken to	 — ₃₂³¹ — Existing water and top of pipe level 		3B - C10 TUR
fittings where subsoil drains pass under floor slabs and vehicular	necessary the Contractor must moisture condition the excavated material to meet these requirements.	AS 1742, AS 1743, AS 2890. 2. Contractor is to provide guide posts, spaced in accordance with	prevent pollutants from construction works contaminating the surrounding environment.	— — — — Unknown service and top		3B - C11 TUR
 mere subsol arans pass under moor stats and venicular povements, unslotted uPVC sewer grade pipe is to be used. Grates and covers shall conform with AS 3996–2006, and 	Compact fill areas and subarade to not less than:	AS1742.2. They are to be located near all head walls and pipe outlets	SITE ACCESS/EGRESS	of pipe level		
AS 1428.1 for access requirements.		3. Raised pavement markers to be in accordance with AS1742.2	Contractor to be aware site works occur in close proximity to footpaths and roadways. Contractor to erect appropriate barriers and	LINEMARKING LEGEND	1	3B - C20 DET
 Pipes are to be installed in accordance with AS 3725. All bedding to be type H2 U.N.O. 	Location Standard dry density Moisture (AS 1289 5.1.1.) (OMC)	 Where existing pavement marking conflicts with proposed, it is to be removed. 	signage to protect site personnel and public.	F1		3B - C30 SEC
 Care is to be taken with levels of stormwater lines. Grades shown are not to be reduced without approval. All stormwater pipes to be 150 dia at 1.0% min fall U.N.O. 	Under building slabs on around: 98% ±2%	 Lane widths do not include width of gutter. Line marking plan does not define boundaries. 	VEHICLE MOVEMENT Contractor to supply and comply with traffic management plan and	Edge line type E1		3B - C31 SEC
Subsoil drains to be slotted flexible uPVC U.N.O.	Under roads and carparks: 98% ±2% Landscaped areas: 95% ±2%	7. Erect temporary sign 'changed traffic conditions ahead' 120m ahead	provide adequate site traffic control including a certified traffic marshall to supervise vehicle movements where necessary.	Edge line type E5		
 Adopt invert levels for pipe installation (grades shown are only nominal). 		of new work in both directions. 8. Establish the location of existing utility services and locate new	marshall to supervise venicle movements where necessary.	Barrier line		
	 Before placing fill, proof roll exposed subgrade with a 10 tonne minimum roller to test subgrade and then remove soft spots 	signs clear of these installations. 9. The sloped face of the SF median kerbs which adjoin through lanes,	CONCRETE NOTES	na na na ma na na Holding line		
KERBING NOTES	(areas with more than 3mm movement under roller). Soft spots to be replaced with select fill U.N.O.	are to be painted white in lieu of an E3 edge line. The reflective pavement markers normally associated with an E3 edge line are to	EXPOSURE CLASSIFICATION : External : A2 Internal : A2	TF Stop line		
Includes all kerbs, gutters, dish drains, crossings and edges.	6. Contractor shall place safety barriers around excavations in	be located on the pavement adjacent to the SF kerb. 10. Bicycle pavement markings and sign posting to be in accordance	CONCRETE	C1 Continuity line		
 All kerbs, gutters, dish drains and crossings to be constructed on minimum 75mm granular basecourse compacted to minimum 98% 	accordance with relevant safety regulations. 7. For interpretation of bulk earthworks foot print line shown on the	with Austroads Standards.	Place concrete of the following characteristic compressive strength f'c as defined in AS 1379.	<u>11</u> Turn line		
modified maximum dry density in accordance with AS 1289 5.2.1.	bulk earthworks drawings refer to the bulk earthworks construction legend.	 The design of major directional sign posting to be prepared and assessed by the R.M.S. 	Location AS 1379 fc MPa Specified Nominal at 28 days Size	S1 Separation line type S1		
 Expansion joints (EJ) to be formed from 10mm compressible cork filler board for the full depth of the section and cut to profile. 	 Bulk earthwork drawings are not to be used for detailed excavation. Refer to Geotechnical Report prepared by – 	TENDER NOTES	Slabs \$32 80 20	S2 Separation line type S2		
Expansion joints to be located at drainage pits, on tangent points of curves and elsewhere at 12m centres except for integral kerbs	Douglas Partners	1. To determine the full extent of work, these drawings shall be read	Pits, footing S32 80 20 Kerb S25 80 20	L1 L0		
where the expansion joints are to match the joint locations in slabs.	Project 80243.00 12 July 2013	in conjunction with the architectural drawings and other contract	Nero 525 80 20	B1 Bike lane line		
 Weakened plane joints to be min 3mm wide and located at 3m centres except for integral kerbs where weakened plane joints are to 	BOUNDARY AND EASEMENT NOTE	documents. Allow for all items shown on architectural and other drawings as	1. Use Type 'GP' cement, unless otherwise specified.	PCW Signalised pedestrian crossing		
match the joint locations in slabs. 4. Broomed finished to all ramped and vehicular crossings, all other	The property boundary and easement locations shown on Taylor Thomson Whitting drawing's have been based from information	not all items are shown on the structural/civil works drawings. 2. Should any ambiguity, error, omissions, discrepancy, inconsistency	 All concrete shall be subject to project assessment and testing to AS 1379. 	NOTE		
kerbing or dish drains to be steel float finished. 5. In the replacement of kerbs -	received from : <u>NDC</u>	or other fault exist or seem to exist in the documents, immediately notify in writing to the Superintendentent.	 Consolidate by mechanical vibration. Cure all concrete surfaces as directed in the Specification. For all falls in schedule arround realists chamfers ato rafer to 	Line marking to be in accordance with R.M.S. delineation supplement, to Austroad Guides to Traffic Management and AS 1742, AS 1743,		
Existing road pavement is to be sawcut 900mm from lip of	Taylor Thomson Whitting makes no guarantees that the boundary or easement information shown is correct.	3. Rates shown on the drawings are for the final structure/civil	 For all falls in slab, drip grooves, reglets, chamfers etc. refer to Architects drawings and specifications. Unless shown on the drawings, the location of all construction joints shall be submitted to Engineer for review. 	AS 2890.		
gutter. Upon completion of new kerbs, new basecourse and surface is to be laid 900mm wide to match existing materials	Taylor Thomson Whitting will accept no liabilities for boundary	works in place and do not allow for any wastage, rolling margins, over supply or fabrication requirements. etc.	 Oness snown on the arowings, the location of all construction joints shall be submitted to Engineer for review. No holes or chases shall be made in the slab without the approval 			
and thicknesses. Existing allotment drainage pipes are to be built into the new	inaccuracies. The contractor/builder is advised to check/confirm all boundaries in relation to all proposed work prior to the commencement	···· ·	of the Engineer. 7. Conduits and pipes are to be fixed to the underside of the top			
kerb with a 100mm dia hole. Existing kerbs are to be completely removed where new kerbs	of construction. Boundary inaccuracies found are to be reported to the superintendent prior to construction starting.		reinforcement layer. 8. Slurry used to lubricate concrete nump lines is not to be used in			
are shown.		I	any structural members. 9. All slabs cast on ground require sand blinding with a Concrete			
<u>.</u>			Underlay			
			10. (170) Indicates Slab or Band thickness variation.			
			FORMWORK 1. The design, certification, construction and performance of the			
			formwork, falsework and backpropping shall be the responsibility of the contractor. Proposed method of installation and removal of formwork			
			is to be submitted to the superintendent for comment prior to work being carried out.			



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PIT SCHEDULE	
COVER	PIT NO.
450x900 CLASS 'D' (HEAVY DUTY) GALVANISED MILD STEEL GRATE HINGED TO FRAME.	10,11
900 X 900 CLASS 'D' DISH DRAIN GALVANISED MILD STEEL GRATE HINGED TO FRAME	18,9
900 X 900 CLASS 'C' CAST IRON COVER WITH CONCRETE INFILL	5
class 'C' covers	6
PROVIDE 900 X 900 CLASS 'C' GRATE TO EXISTING PIT	14,2,3,4
900 X 900 CLASS 'C' CAST IRON COVER WITH CONCRETE INFILL	7,8

WING LIST

awing Title

NOTES AND LEGENDS SHEET EROSION AND SEDIMENT CONTROL PLAN

SITEWORKS PLAN

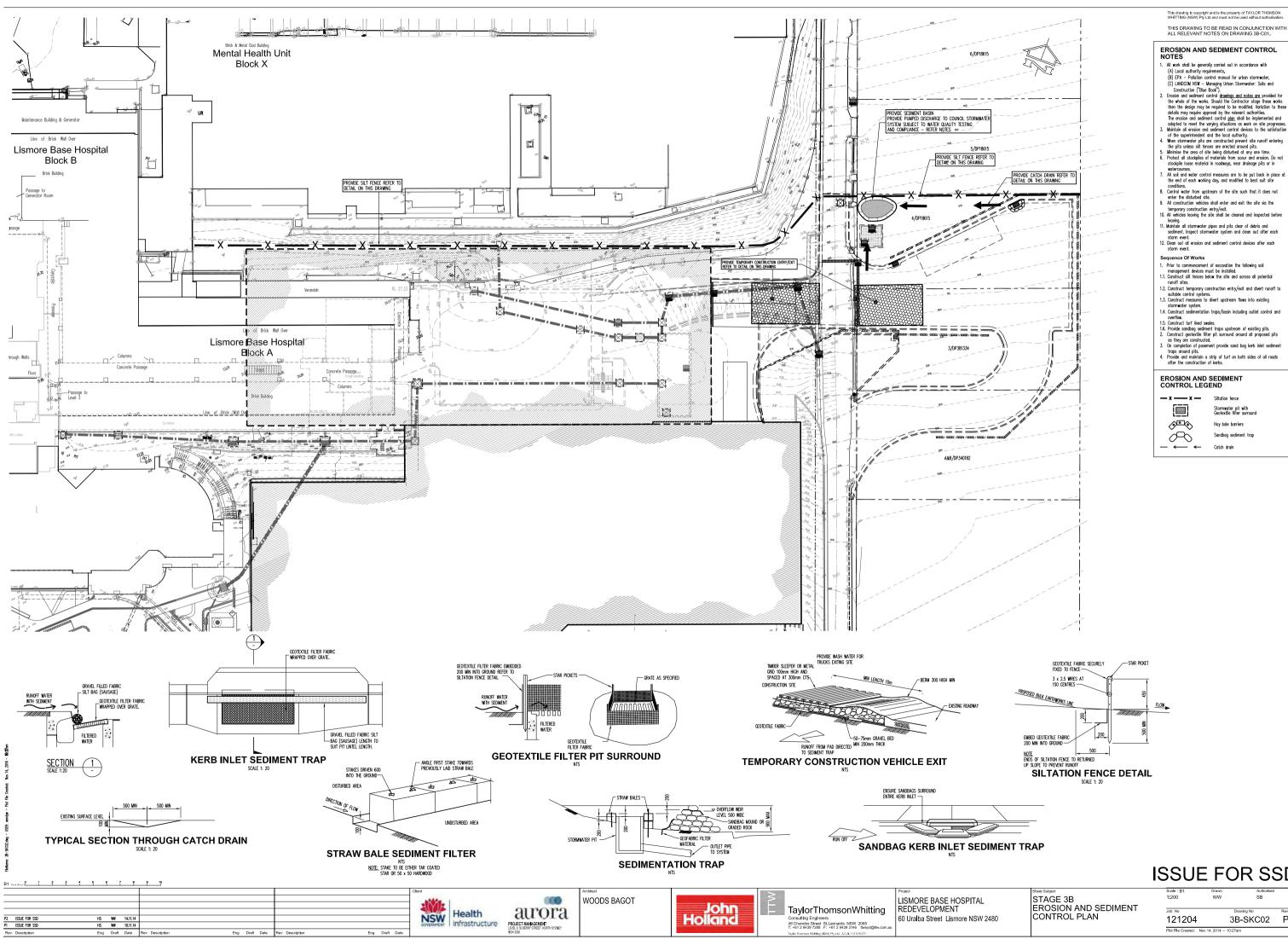
TURNING PATHS - MORTUARY TURNING PATHS - LOADING TRUCK

DETAILS SHEET

SECTIONS SHEET 1 SECTIONS SHEET 2

ISSUE FOR SSD

Sheet Subject	Scale : B1	Drawn	Authorised	
STAGE 3B	NTS	ww	SB	
NOTES AND LEGENDS SHEET	Job No	1	Drawing No	Revision
	121204	3	B-SKC01	P2
				. –
	Plot File Created: N	ov 14, 2014 - 10:36	Sam	



ISSUE FOR SSE

STAGE 3B	1:200	ww	SB	
EROSION AND SEDIMENT CONTROL PLAN	Job No 121204	:	Drawing No 3B-SKC02	Revision P2
	Plot File Created: N	ov 14, 2014 - 10	27am	

