

General Notes:

1. Only contractors accredited by Barwon Water with level 1S & 1W shall be eligible to construct these works.
2. Only products approved and catalogued by the Water Agency shall be used. Barwon Water adopts the approved catalogue developed by City West Water, with some limitations and exceptions defined in the Barwon Water Supplementary Product Catalogue.
3. Works must be to constructed according to WSA-A Sewerage code of Australia WSA 02-2014-3.1, WSA 03-2011-3.1 MRWA edition and Barwon Water's Supplementary Information.
4. The contractor shall ensure they are conversant with all current revisions, amendments and updates that Barwon Water have made to their standards.
5. The works shall be undertaken between the hours of 7:30 AM and 4:30 PM, Monday to Friday. In the event these works are to take place outside these hours a letter requesting approval of out of hours work is to be lodged by the Consulting Engineer to Barwon Water's Senior Quality Auditor 48 hours prior to the planned works.
6. All existing services are to be located prior to any excavation.
7. Barwon Water is to be notified 7 clear days prior to the commencement of works by the Consulting Engineer.
8. The consultant is to notify all property owners prior to the commencement of works.
9. Backfill to be in accordance with MTRWA backfill specification 04-03.1 and local road authority requirements in the road reserve.
10. Copies of cadastral map grid (inga) connection and Australian Height Datum (AHD) are to be submitted to Barwon Water with "As Constructed Information".
11. Contact prior to the commencement of works:-

26. All specific pipe materials (eg. PVC-O) shall be indicated in the As Constructed information.
27. Mechanical compaction is required for all trench works. Trench compaction reels are to be forwarded to Barwon Water by the consulting engineer with the "As Constructed" package.
28. All contours and levels are in metres to the Australian height datum (A.H.D.)
29. All co-ordinates shown are to map grid of Australia (MGA).
30. Chainages shown on detail plans are discontinuous at maintenance structures. Chainages shown on long section sheets are continuous.
31. Coordinates are to lower level intersection point unless otherwise shown.
32. Before commencement of work, the contractor must complete a level check between all TBMs to verify level values. TBMs and control points are to be maintained and protected at all times during construction. Should any marks be disturbed, the contractor will immediately notify the consultant to arrange re-statement at the contractors expense.

33. Number of lots to be seweraged: 2 new property connections.
 34. All property connections to be DN100 unless otherwise indicated.
 35. Properties requiring boundary traps are indicated in the detailed plans. The remainder do not require boundary traps.
 36. Branch tie distance shown on detail plan are from approved subdivision survey pegs. Branch ties for future lots are shown as a chainage. (Ch) Distance is from the downstream sewer structure.
 37. Invert level of the property connection point is shown opposite the branch position.
 38. Where a Spur Branch connects to a shaft, both property connections are considered to be shaft connections.
- Earthworks and Retaining Walls:**
39. In areas subject to earthworks, construction of sewers shall not commence until earthworks has been completed unless written approval has been given by the Bawoon Water.

Earthworks and Retaining Walls:

39. In areas subject to earthquakes, construction of sewers shall not commence until earthworks has been completed unless written approval has been given by the Barron Water.
- Embedment**
40. Embedment shall be Type A (refer MFWA-S-202) unless otherwise specified on the long section.

Embedment

40. Embedment shall be Type A (refer MRWA-S-202) unless otherwise specified on the long section.
- Backfill**
41. Backfill as per Barwon Water's specifications and MRWA Backfill Specification 04-03, 1 section 3 "Traffic Areas" (ie 20mm FCR Class 2 plant mixed wet mix crushed rock to full depth and in accordance with local road authority requirements in road reserve).
42. Non trafficable backfill shall be completed as per MRWA-V-201 and Version 1 of the MRWA Backfill Specification.
43. Refer to Long Section drawings for backfill requirements.

Compaction Testing

44. Test results shall be provided to the superintendent prior to practical completion / acceptance of works.
45. The contractor is required to undertake all testing of fill compaction in accordance with Banown Water Agency adopted version of the MRWA Backfill Specification 04-03 Version 1.

Work on Live Sewers:

46. All works on live sewers must be carried out by a Bawdon Water accredited contractor.
47. Warning: Entry into any sewer or maintenance hole is controlled by confined space regulations being "Occupational Health & Safety (Confined Spaces) regulations" 1996, Statutory Rule No. 148/1996 and AS 2865-1993 Safe Working in Confined Spaces. Persons requiring access to any Bawdon Water sewer or maintenance hole as part of the developer works process must

48. All existing sewers must be plugged to stop gas emissions prior to contact the senior quantity auditor for entry requirements.
49. To enable connections to live assets or any work on live assets, the contractor shall submit the appropriate forms to the superintendent at least 3 working days prior to any works on live sewers.
50. The contractor is not permitted to break into an existing live pipeline, enter a live sewer or remove the cover to a live maintenance structure unless authorised by Banwon Water.
51. Prior to commencement of works on site, the contractor must ensure that all matters relating to the Occupational Health and Safety Act 2004 and Occupational Health and Safety regulations 2007, have been and will be complied with.

Testing:

52. The contractor is to give a minimum of three (3) days notice to the superintendent and Barwon Water prior to the testing being undertaken. Testing is to be undertaken in the presence of superintendent.

Environmental Management Plan:

53. On commencement of construction works the contractor must comply with the recommendations of the EPA publication "construction techniques for sediment pollution control" (publication no ZT5 1991).
 54. All trees and vegetation are to be protected unless otherwise indicated for removal.
The extent of any vegetation removal shall be confirmed on site with the superintendent and local council prior to commencement, and in accordance with any planning permits. Any removal shall be documented.
 55. All areas containing creek vegetation, trees and revegetated areas near the construction zone are to be fenced off during the works with secure and highly visible material such as para-webbing fencing.
 56. Ensure all machinery, equipment and/or footwear entering the site is weed and pathogen free.
- Special**
57. Existing house connection branch to be subject to CCTV inspection with report to be submitted to Barwon Water. If branch is found to be unsatisfactory it is to be replaced.
 58. Connection of existing house to be in accordance with VBA requirements and after approval by Barwon Water's Senior Quality Auditor.
 59. Abandoned length of existing house drain to be filled with cement slurry and capped at ends.

WATER NOTES

Property Services

60. Water tapplings to be clear of driveways and a minimum of 700mm horizontal clearance is to be maintained from other services.

Connections (All types)

61. All property service connections to new residential RRU reticulation mains are to be completed in accordance with Barwon Water's Standard Dwg 70112.

Other Services (Ref- Table 3 & 7)

62. To receive the most up to date information prior to construction, "Dial before you Dig" shall be undertaken to aid in the location of other services. Other services shall be carefully located prior to full excavation at the contractor's cost. Any dashes of proposed new works with other assets shall be reported to the Superintendent immediately for clarification.
63. Clearances to other services shall be as per Table 7 and Section 5.4.1 of Barrow's Supplement. These clearances shall apply to surface covers as well as underground assets.

Testing, Asset Acceptance and Live Connections

64. NA
- Special**
65. Install 32mm tapping under pressure with manifold to accommodate 3No. x 20mm meters. Contractor to extend 25mm PE service from meter to each new allotment.

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Schedule 4: Maintenance Structures (other than Maintenance Holes) Inspection Shafts (IS), Maintenance Shafts (MS), and Maintenance Chambers (MC)				
Maintenance Structure ID	Type (IS/MS/MC)	Cover Class	Depth to Invert (mm)	Comments/References (ofsets/Details)
MS	MS	D	1500mm	-

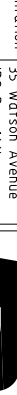
TABLE 3 & 5
SCHEDULE OF SERVICES

STREET NAME	GAS	WATER	TELSTRA	POWERCOR	SEWER
PLANTATION ROAD	3.30 S	2.10 S	1.65 S	2.50 N	N/A

SURVEY INFORMATION		
DESCRIPTION	LEVEL	SOURCE
T.B.M. RIVET IN CONCRETE MEBB - PLANTATION ROAD	R.L. 21.16	
T.B.M. SURVEY MALL - LOT 2	R.L. 21.26	
MORANGHURK PM 30 (CNR PLANTATION ROAD & MATTHEWS ROAD) (S.M.E.S)	R.L. 22.24	S.M.E.S
MORANGHURK PM 50 (180 MATTHEWS ROAD) (S.M.E.S)	R.L. 21.600	S.M.E.S
MORANGHURK PM 130 (180 TOWER HILL DRIVE) (S.M.E.S)	R.L. 22.650	S.M.E.S

Schedule 5: Maintenance Holes

MH ID	MH Shaft Type (GRP/PP (Plastic) / concrete)	MH Top Type (Conical/Flat)	Cover Class	Internal Diameter (mm)	Min. Wall Thickness Invert (mm)	Depth to Drops	Ladder (L) Step Ions (S) Landing (Ld)	Corrosion Protection (Coating/PE or PVC Lining)	Shaft Re-inforcement	Comments (Offsets / Details)
MH1	Plastic	Flat Top	B	1050	150	2390	1	S	PE	-

REV	DESCRIPTION	DATE	APPROVED	REV	DESCRIPTION	DATE	APPROVED	<div> <div>  <div> PHIPPS CONSULTING 35 Watson Avenue Belmont, VIC. 3216 Phone: (03) 52419022 </div> </div> <div> PHIPPS CONSULTING URBAN DESIGN & DEVELOPMENT LAND SUBDIVISION CIVIL ENGINEERING PROPERTY DEVELOPMENT PROJECT MANAGEMENT </div> </div>
					DESIGNED	P. PHIPPS DATE: 23.01.2020	271plantation	PHIPPS CONSULTING 35 Watson Avenue Belmont, VIC. 3216 Phone: (03) 52419022
					DRAWN	P. PHIPPS DATE: 23.01.2020	431, H5	
A	SUBMIT TO BARWON WATER FOR ACCEPTANCE	23.01.2020			CHECKED	S. PHIPPS DATE: 23.01.2020	5 PHIPPS DATE: 23.01.2020	
REV	FIRST SUBMISSION							

PLANTATION

EX.225mm AC @ 2.10m O/S

TBM RIVET IN
CONCRETE KERB
RL.21.16 AHD

INSTALL 32mm TAPPING UNDER PRESSURE WITH
MANIFOLD TO ACCOMMODATE 3No. x 20mm METERS.
CONTRACTOR TO EXTEND 25mm PE SERVICE FROM
METER TO EACH NEW ALLOTMENT.

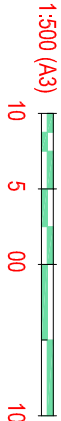
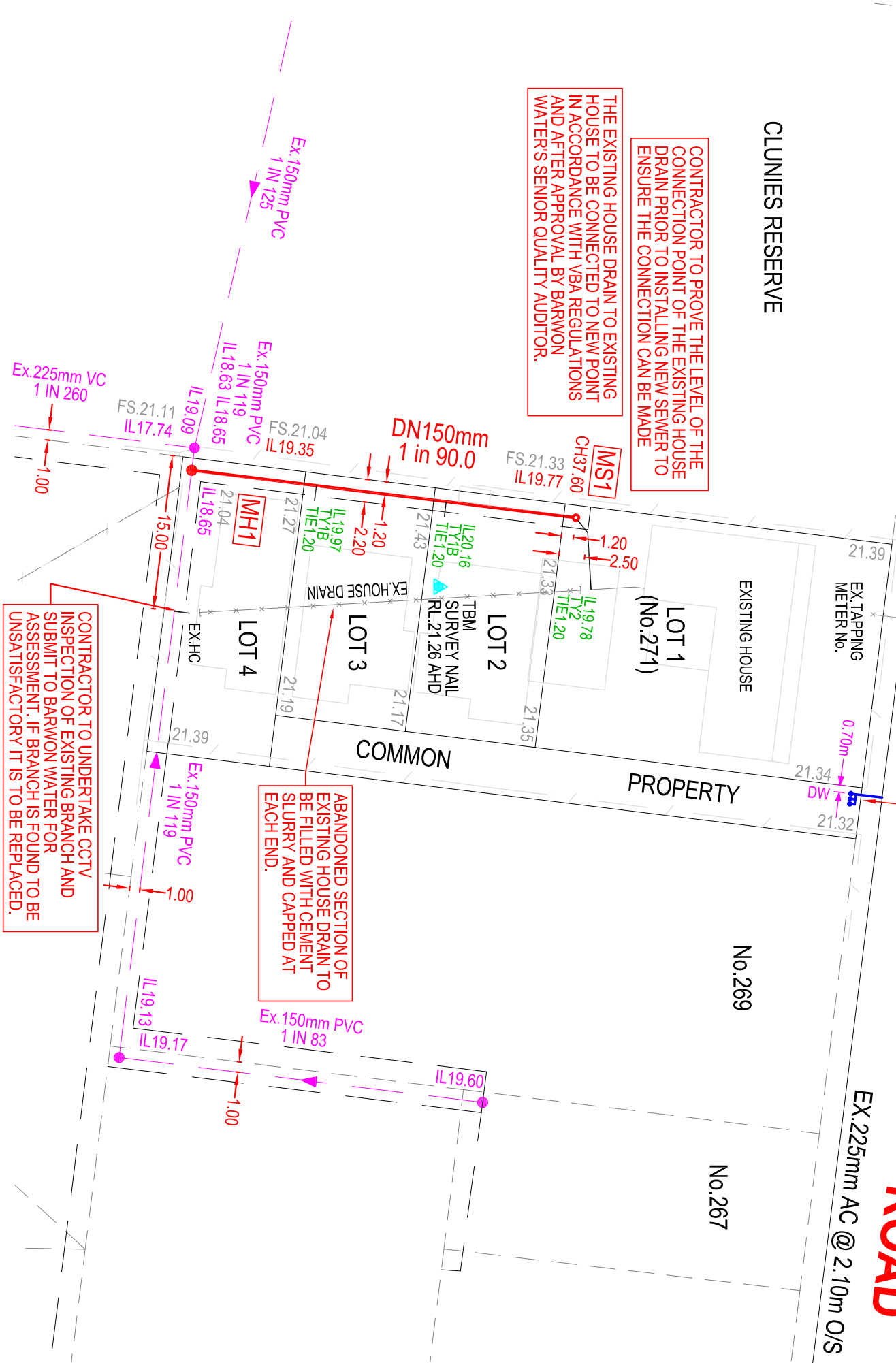
ROAD

EX.225mm AC @ 2.10m O/S

CLUNIES RESERVE

CONTRACTOR TO PROVE THE LEVEL OF THE
CONNECTION POINT OF THE EXISTING HOUSE
DRAIN PRIOR TO INSTALLING NEW SEWER TO
ENSURE THE CONNECTION CAN BE MADE

THE EXISTING HOUSE DRAIN TO EXISTING
HOUSE TO BE CONNECTED TO NEW POINT
IN ACCORDANCE WITH VBA REGULATIONS
AND AFTER APPROVAL BY BARWON
WATER'S SENIOR QUALITY AUDITOR.



SYMBOLS LEGEND

●	MAINTENANCE HOLE (MH)
●	MAINTENANCE CHAMBER (MC)
●	MAINTENANCE SHAFT (MS)
□	INSPECTION SHAFT (IS)
—	WATER SEAL
—	PIPE STUB
—	VERTICAL BEND
—	RETAINING WALL
—	ROCK RETAINING WALL
—	GAS MAINS
—	ELECTRICAL CABLES
—	COMMS CABLES
—	DRAINAGE

TABLES 3 & 5
SCHEDULE OF SERVICES

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REV	DESCRIPTION	DATE	APPROVED	REV	DESCRIPTION	DATE	APPROVED
A	SUBMIT TO BARWON WATER FOR ACCEPTANCE	23.01.2020					
1	FIRST SUBMISSION						

PHPPS CONSULTING 35 Watson Avenue (PO Box 166) Belmont, VIC, 3216 Phone: (03) 524.19022		PHPPS CONSULTING URBAN DESIGN & DEVELOPMENT LAND SUBDIVISION CIVIL ENGINEERING PROPERTY DEVELOPMENT PROJECT MANAGEMENT
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BARWON WATER REF L015557
271 PLANTATION ROAD - CORIO
SEWER & WATER PLAN
SEE SHEET 1 FOR NOTES, SHEET 3 FOR SECTIONS

SCALE: AS SHOWN @ A3	SHEET: 2 OF 3	REV
	DRAWING No.:	L015557
		A

WARNING
BEWARE OF ASBESTOS

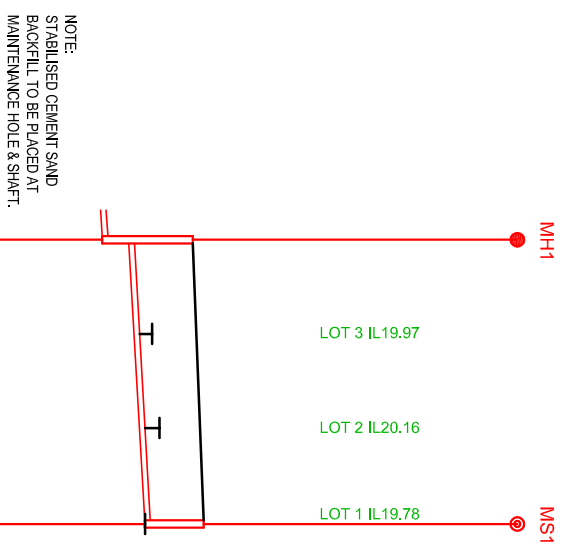
SOME UNDERGROUND SERVICES MAYBE
CONSTRUCTED FROM ASBESTOS
CONTAINING MATERIAL. CONTACT THE
SUPERINTENDENT FOR INSTRUCTIONS ON
HOW TO MANAGE ANY POTENTIAL
ASBESTOS HAZARD

WARNING
BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES
ARE APPROXIMATE ONLY AND THEIR EXACT
POSITION SHOULD BE PROVEN ON SITE. NO
GUARANTEE IS GIVEN THAT ALL EXISTING
SERVICES ARE SHOWN.

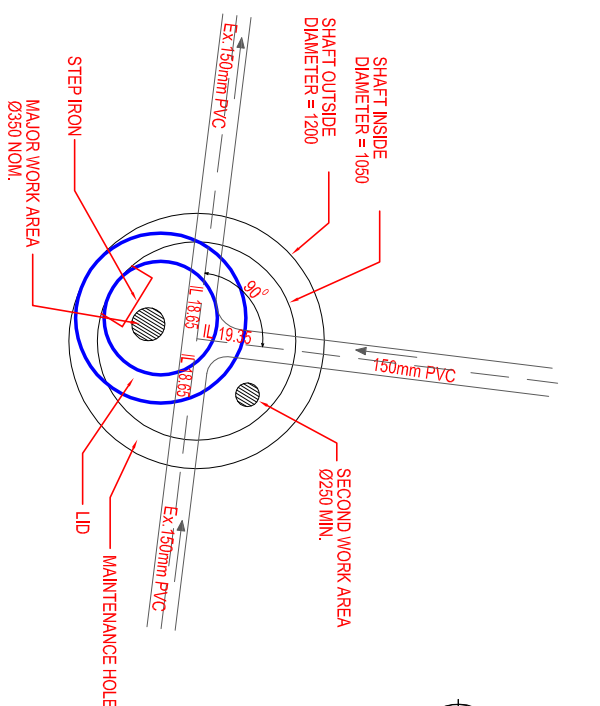
ACCEPTED BY BARWON WATER.....
SIGNED: DESIGN COORDINATOR - ENTERPRISE PROJECT DELIVERY

WORKS SHALL NOT COMMENCE UNTIL PLANS SIGNED AND ACCEPTED BY BARWON WATER



DATUM 10		
PIPE DETAILS	150mm PVC	
GRADE	1:90	
EMBEDMENT	A	
BACKFILL TYPE	O	
DEPTH TO INVERT	2.39	1.56
INVERT LEVEL	18.65	19.77
FINISHED SURFACE LEVEL	21.04	21.33
CHAINAGE	0.00	37.60
LENGTH		(37.60)

SCALE
HORIZ. 1:1000 (A3)
VERT. 1:200 (A3)

[illegible]

PHIPS CONSULTING
35 Watson Avenue
(PO Box 166)
Belmont, VIC, 3216
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PHIPS

PHIPS CONSULTING
URBAN DESIGN &
DEVELOPMENT
LAND SUBDIVISION
CIVIL ENGINEERING
PROPERTY DEVELOPMENT
PROJECT MANAGEMENT

BARWON WATER REF L015557
271 PLANTATION ROAD - CORIO
SEWER LONGITUDINAL SECTIONS.
SEE SHEET 1 FOR NOTES, SHEET 2 FOR PLAN

SCALE: AS SHOWN @A3	
SHEET: 3 OF 3	
DRAWING No.:	REV
L015557	A

ACCEPTED BY BARWON WATER.....

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