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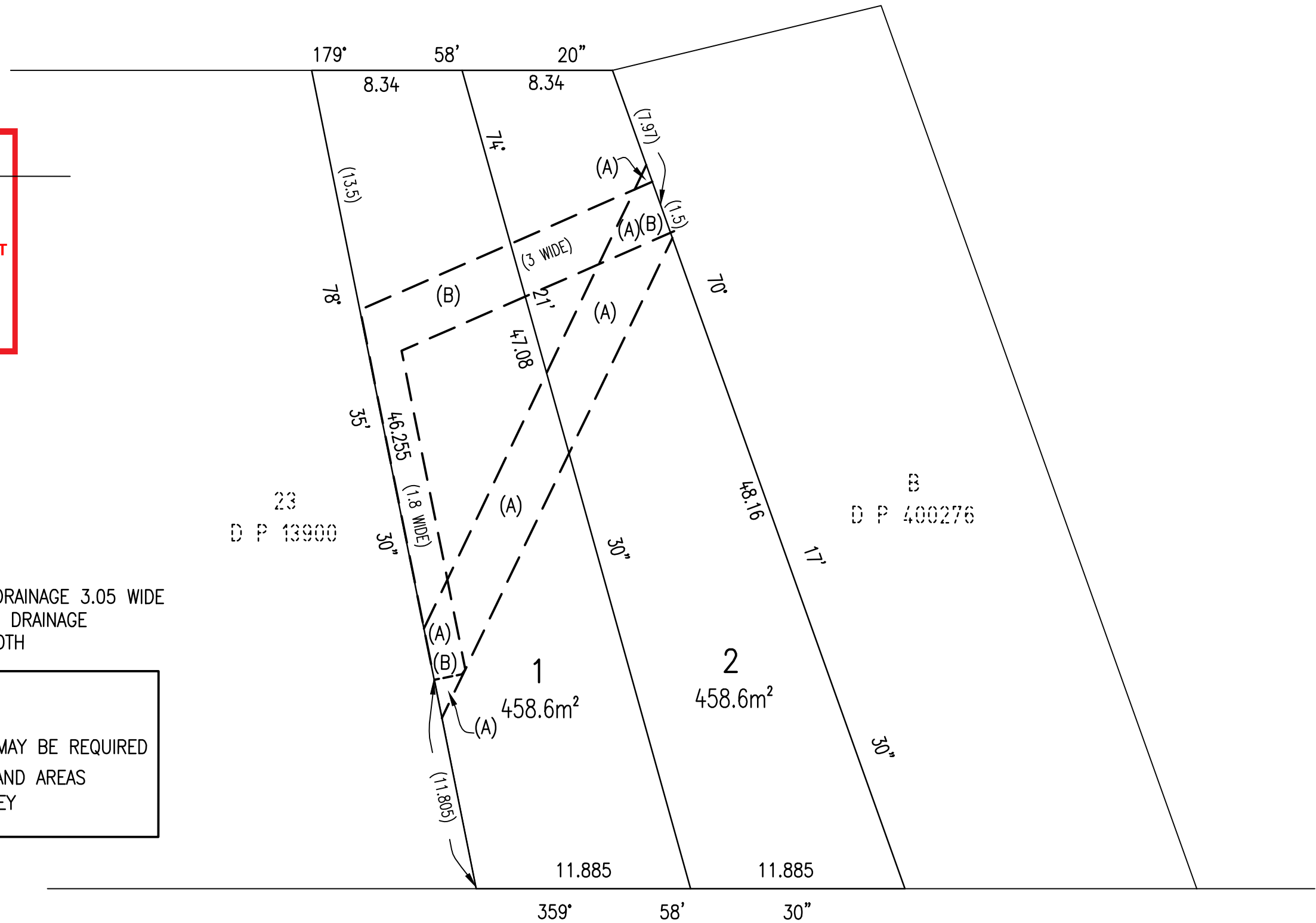


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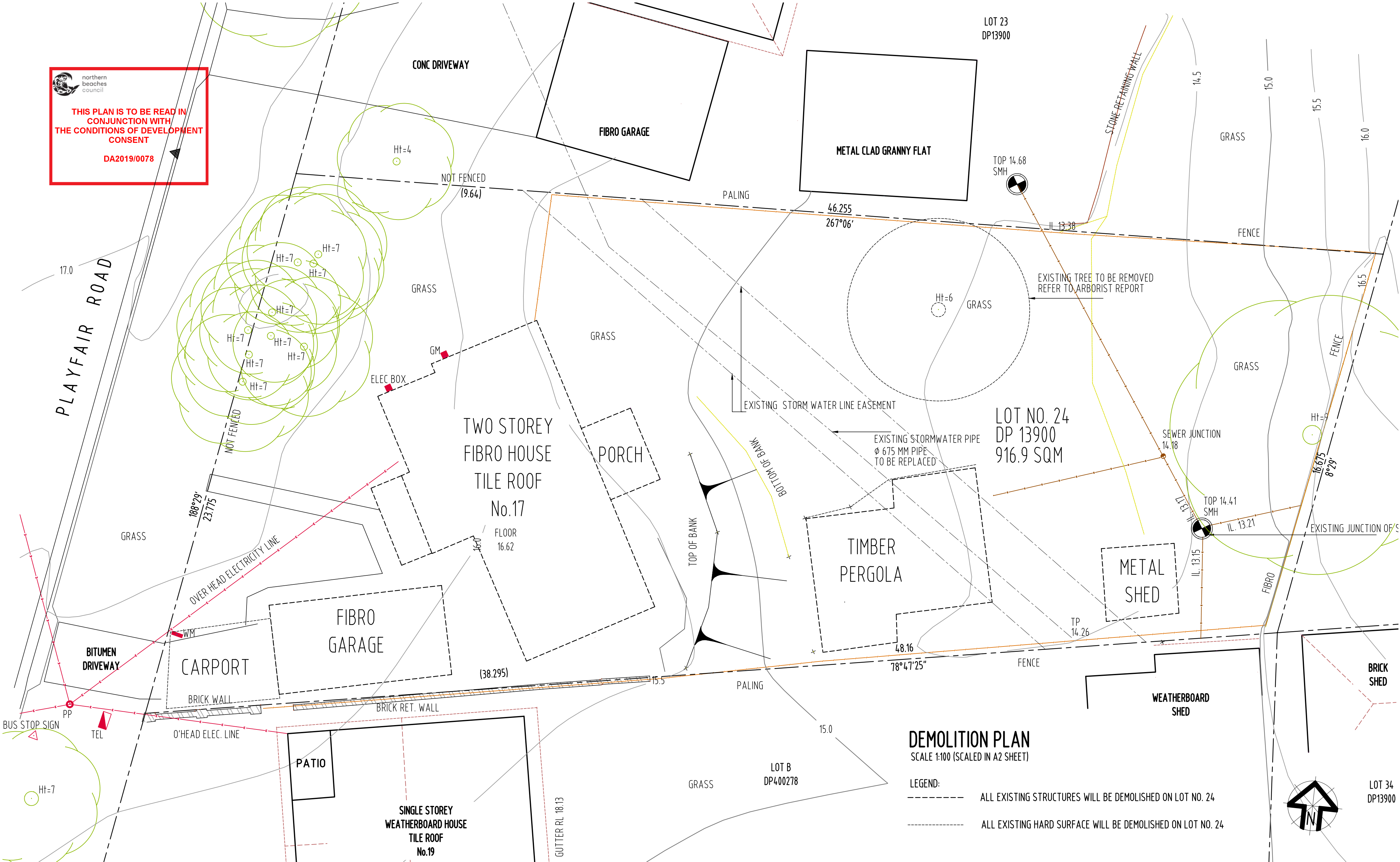
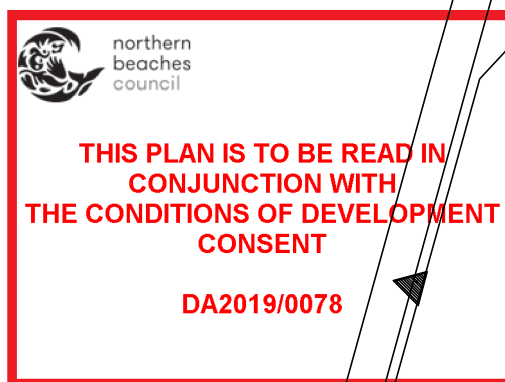
DA2019/0078

- (A) EXISTING EASEMENT FOR DRAINAGE 3.05 WIDE  
(B) PROPOSED EASEMENT FOR DRAINAGE  
1.8, 3.0 AND VARIABLE WIDTH

NOTE:  
ADDITIONAL EASEMENTS MAY BE REQUIRED  
BOUNDARY DIMENSIONS AND AREAS  
SUBJECT TO FINAL SURVEY



ISSUE	DATE	AMENDMENT	BY	NORTH CURL ROAD		ROTATION RATIO	
2	05.12.18	AMEND EASEMENT FOR DRAINAGE (B)	MA/PH	OCT 2018		NORTH CURL ROAD	
				NORTH CURL ROAD		NORTH CURL ROAD	
				NORTH CURL ROAD		NORTH CURL ROAD	
				NORTH CURL ROAD		NORTH CURL ROAD	
				NORTH CURL ROAD		NORTH CURL ROAD	
				NORTH CURL ROAD		NORTH CURL ROAD	
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				NORTH CURL ROAD		NORTH CURL ROAD	



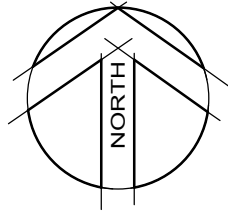
rev.	date	details
A	July 2018	DEVELOPMENT APPLICATION ISSUE
B	Dec. 2018	DEVELOPMENT APPLICATION ISSUE
		RETAINING AND REMOVING OF THE TREES ON SITE HAVE BEEN CORRECTED

**PROPOSED NEW RESIDENTIAL  
DEVELOPMENT  
at  
No. 17 Playfair Road/ North Curl Curl  
for  
Mrs. P. Simson**

title sheet: DEMOLITION PLAN

scale: 1:200  
date: December 2018  
drawn: Milan Busina.  
sheet No.: 10  
revision: B





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DA2019/0078

# MRS. P SIMSON 17 PLAYFAIR ROAD NORTH CURL CURL STORMWATER DRAINAGE WORKS DEVELOPMENT APPLICATION



LOCALITY PLAN  
N.T.S

DEVELOPMENT SITE

## SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY VERIS (FORMERLY LAWRENCE GROUP), BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. CARDNO DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT THE SUPERINTENDENT.

## EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION, SURE SEARCH UNDERGROUND SERVICES REPORT (11/01/16) AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED TO SHOW THE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. CARDNO CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY. CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS. CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

## PROPOSED WORKS LEGEND

	PROPOSED SITE BOUNDARY
	DRAINAGE EASEMENT BOUNDARY
	BOX CULVERT
	PRECAST PIPE / CULVERT CONNECTION
	PIT NUMBER
	PROPOSED RETAINING WALL

## EROSION AND SEDIMENT CONTROL NOTES

### GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, OFFICE OF WATER, SYDNEY WATER AND OFFICE OF ENVIRONMENT AND HERITAGE. TO THIS END, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.

2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.

3. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH  
a. LOCAL AUTHORITY REQUIREMENTS  
b. NSW OFFICE OF ENVIRONMENT & HERITAGE REQUIREMENTS  
c. NSW GOVERNMENT "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.

4. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.

5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

### LAND DISTURBANCE

6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:

a. INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.  
b. INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.  
c. UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

### EROSION CONTROL

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

### SEDIMENT CONTROL

9. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS FEASIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.

10. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, IE. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.

11. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

### OTHER MATTERS

12. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.

13. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:  
a. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE  
b. ENSURING THAT NOTHING IS NAILED TO THEM  
c. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:  
(i) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 15 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICHEVER IS THE GREATER  
(ii) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH  
(iii) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

## BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES  
2. STRIP TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE.

3. EXCAVATED MATERIAL TO BE REMOVED FROM SITE  
4. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	STANDARD DRY DENSITY (AS 1289 5.1.1)
UNDER BUILDING SLABS ON GROUND	98%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	95%

5. FOR NON COHESIVE MATERIAL, COMPACT TO 70% DENSITY INDEX.  
6. THE EXPOSED SURFACE SHOULD BE COMPACTED WITH A MINIMUM OF 8 PASSES OF A 10 TONNE (MINIMUM DEAD WEIGHT) ROLLER, FOLLOWED BY TEST ROLLING IN THE PRESENCE OF A GEOTECHNICAL ENGINEER AND RECTIFIED AS REQUIRED.

WHERE SOFT SPOTS ARE IDENTIFIED, THEY SHOULD BE EXCAVATED AND THEN BACKFILLED USING SUITABLE GRANULAR MATERIAL AND COMPACTED IN 0.25m (LOOSE THICKNESS) LAYERS.  
IF SOFT MATERIALS EXCEED 0.5m, A BRIDGING LAYER MAY BE REQUIRED.

7. FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN :-  
(A) 1 TEST PER 200m<sup>3</sup> OF FILL PLACED PER 250 LAYER OF FILL.  
(B) 3 TESTS PER VISIT  
(C) 1 TEST PER 1000m<sup>2</sup> OF EXPOSED SUBGRADE  
TESTING SHALL BE "LEVEL 1" TESTING IN ACCORDANCE WITH AS 3798 (2007).

8. FILLING TO BE PLACED IN MAXIMUM 250mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED

9. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF CERTIFYING AUTHORITY AND THE GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

## STORMWATER DRAINAGE NOTES

1. ALL BOX CULVERTS SHALL COMPLY WITH THE REQUIREMENTS OF AS 1597.1. EACH BATCH OF CULVERT SECTIONS SHALL BE SUBJECTED TO THE PROOF LOADING TEST AS PRESCRIBED IN SECTION 3.2 OF AS 1597.1.

2. CULVERTS SHALL HAVE THE FOLLOWING INFORMATION CLEARLY MARKED TO IDENTIFY MANUFACTURER, BATCH NUMBER, CULVERT DIMENSIONS AND INSPECTION STATUS.

3. CULVERT UNITS TO BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS USING JOINT TAPE AS APPROPRIATE.

4. ALL PRECAST CONCRETE STRUCTURES SUCH AS LID SURROUNDS, LINK SLABS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH AS 3600.

5. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.

6. GRATES AND COVERS SHALL CONFORM TO AS 3996.

7. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

8. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.



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## SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
59918041-DA-000	DRAWING LIST, LOCALITY PLAN AND GENERAL NOTES
59918041-DA-001	STORMWATER PLAN
59918041-DA-002	SITWORKS PLAN
59918041-DA-003	EROSION AND SEDIMENT CONTROL PLAN
59918041-DA-004	EROSION AND SEDIMENT CONTROL DETAILS
59918041-DA-005	STORMWATER DETAILS
59918041-DA-010	STORMWATER SECTIONS
59918041-DA-011	SITE EARTHWORKS LONGITUDINAL SECTIONS

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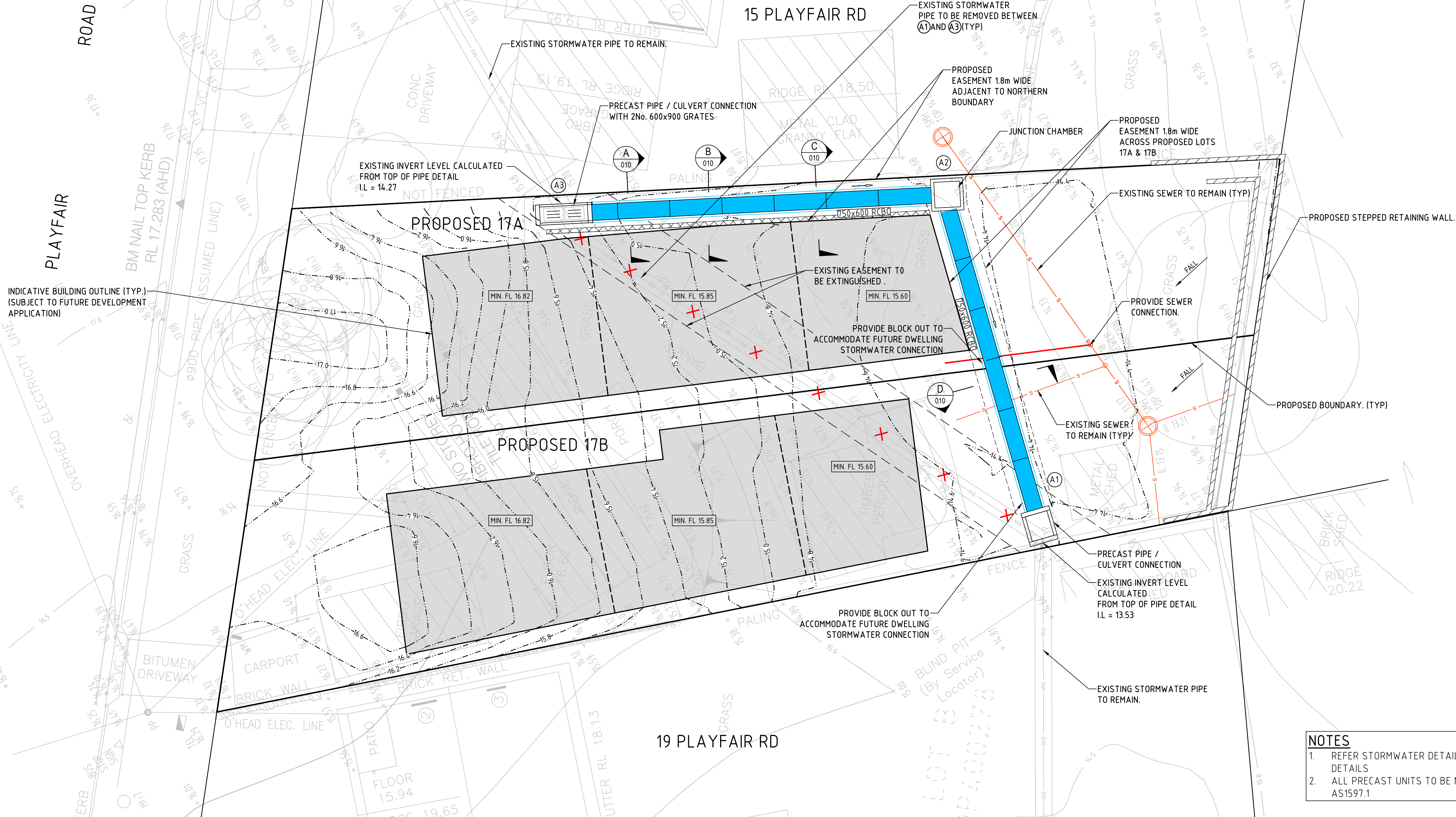
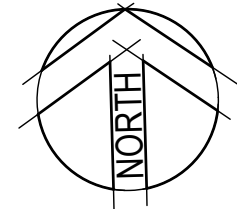
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HD	12.09.2019	
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Verified	Date	
PL	12.09.2019	
Approved		
DW	12.09.2019	

DATUM	DATE	Scale	Size
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Drawing Number			Revision
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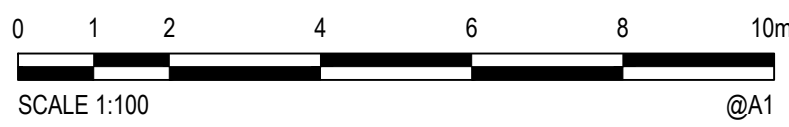


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- NOTES**
1. REFER STORMWATER DETAILS ON DRG. 005 FOR PIT DETAILS
  2. ALL PRECAST UNITS TO BE MANUFACTURED TO AS1597.1

Rev.	Date	Description	Des.	Verif.	Appd.
5	12.09.2019	ISSUED FOR CLIENT REVIEW	HD	PL	DW
4	30.04.2019	ISSUE FOR DEVELOPMENT APPLICATION	HRT	DW	HRT
3	09.04.2019	ISSUE FOR DEVELOPMENT APPLICATION	HRT	DW	HRT
2	13.12.2018	ISSUE FOR DEVELOPMENT APPLICATION	TM	HT	TM
1	03.12.2018	ISSUE FOR DEVELOPMENT APPLICATION	TM	HT	TM



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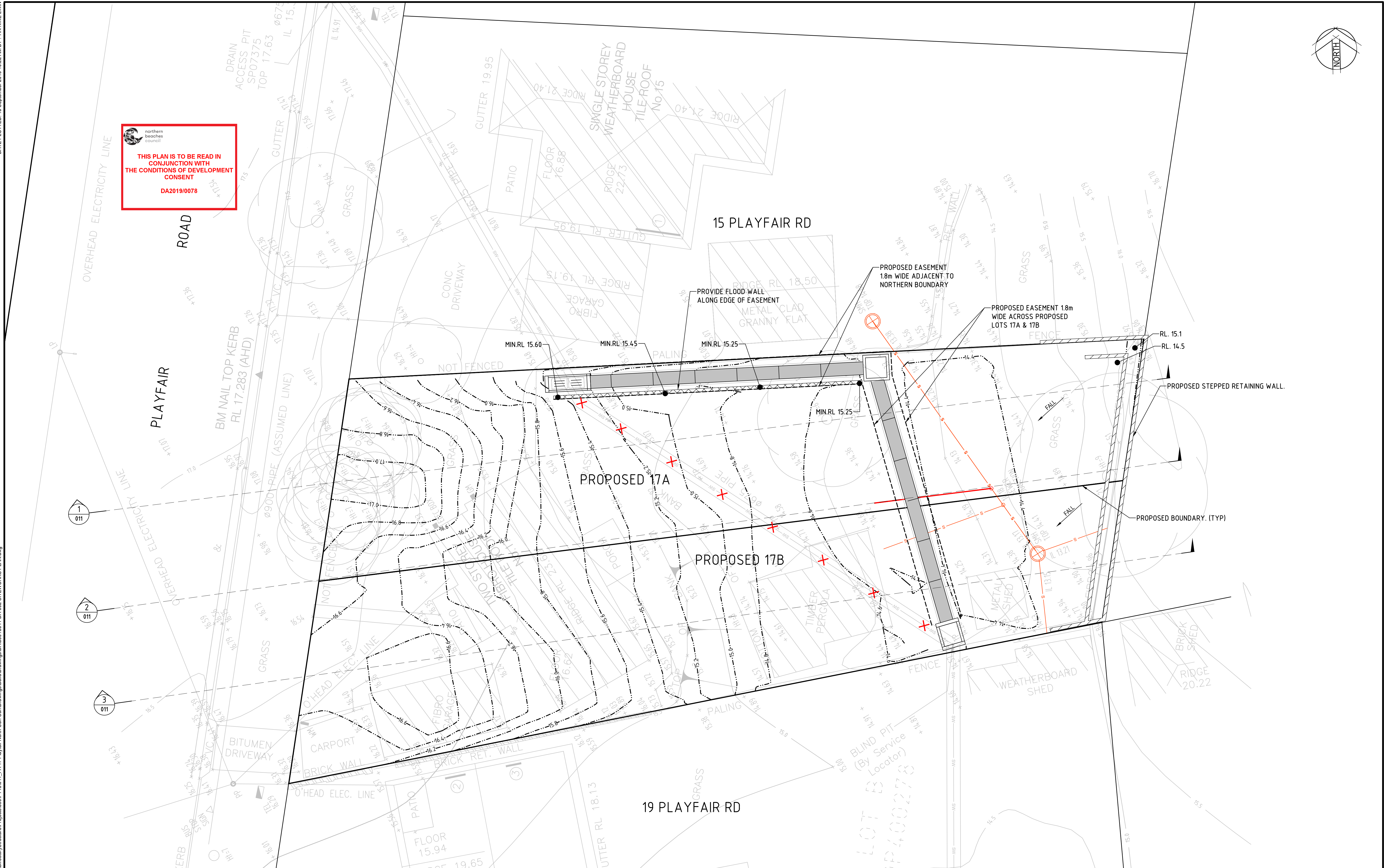
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Designed	HD	Date	12.09.2019
Verified	PL	Date	12.09.2019
Approved	DW	Date	12.09.2019

Client **MRS. P SIMSON**  
Project **17 PLAYFAIR ROAD**  
**NORTH CURL CURL**  
**DEVELOPMENT APPLICATION**  
Title **STORMWATER PLAN**

Status				<b>FOR APPROVAL</b>			
NOT TO BE USED FOR CONSTRUCTION PURPOSES							
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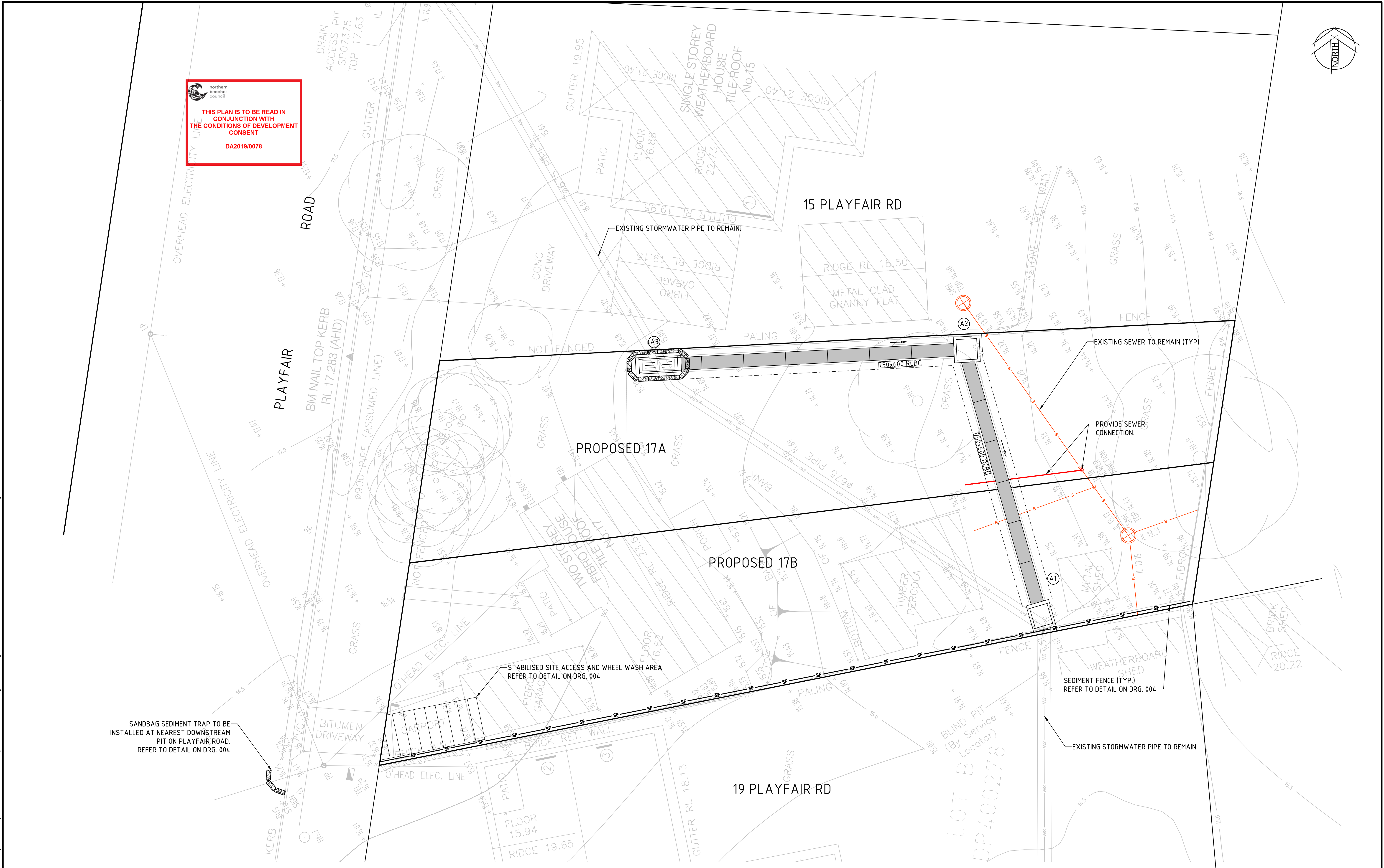
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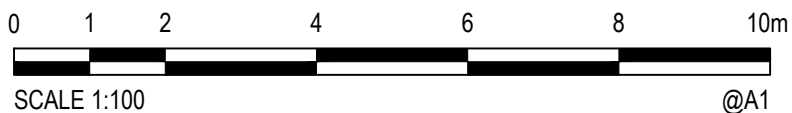
Client	MRS. P SIMSON
Project	17 PLAYFAIR ROAD
	NORTH CURL CURL
	DEVELOPMENT APPLICATION
Title	SITEWORKS PLAN

Status	FOR APPROVAL
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DATE	SEP' 19
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Drawing Number	59918041-DA-002
Revision	5





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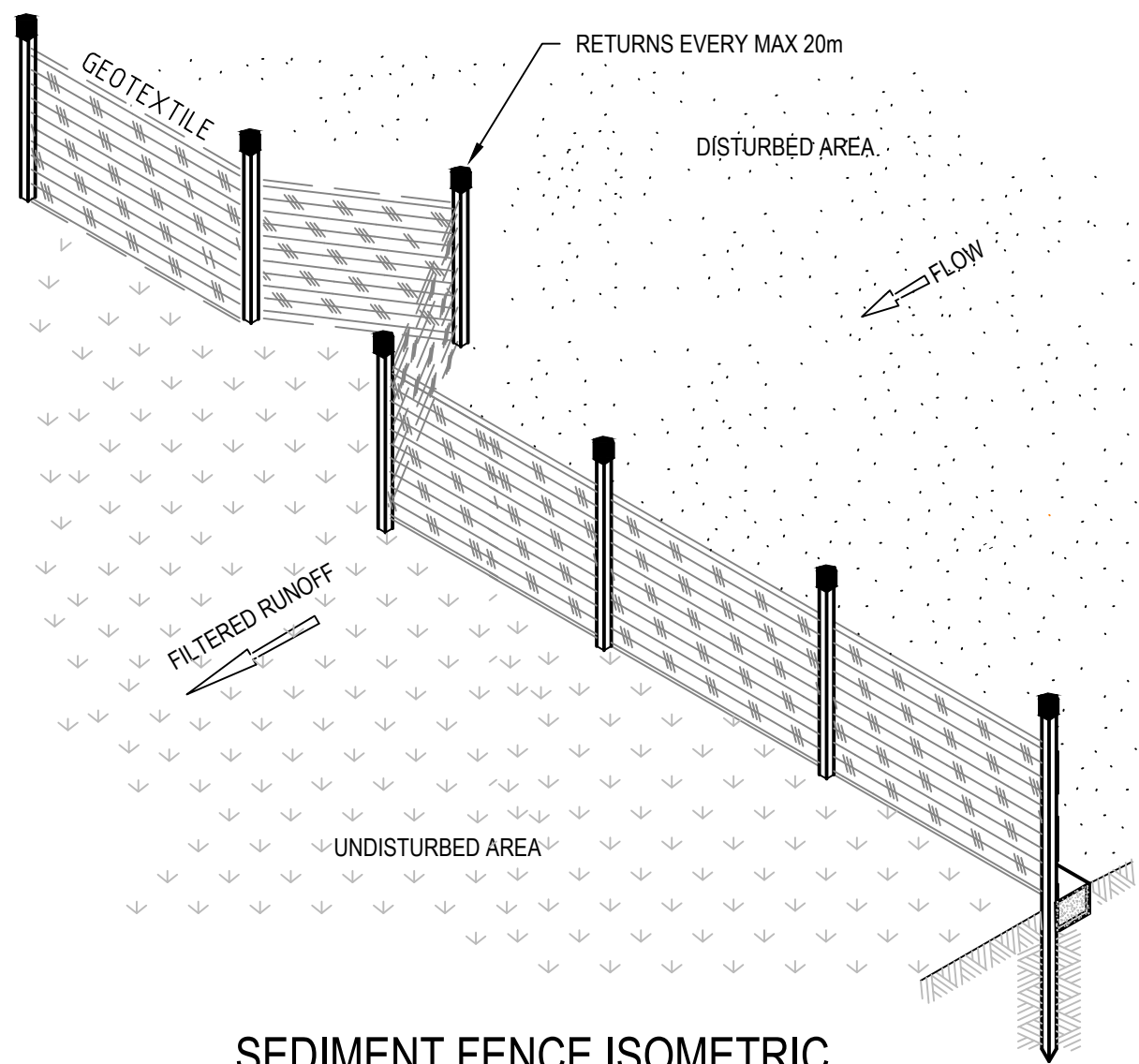
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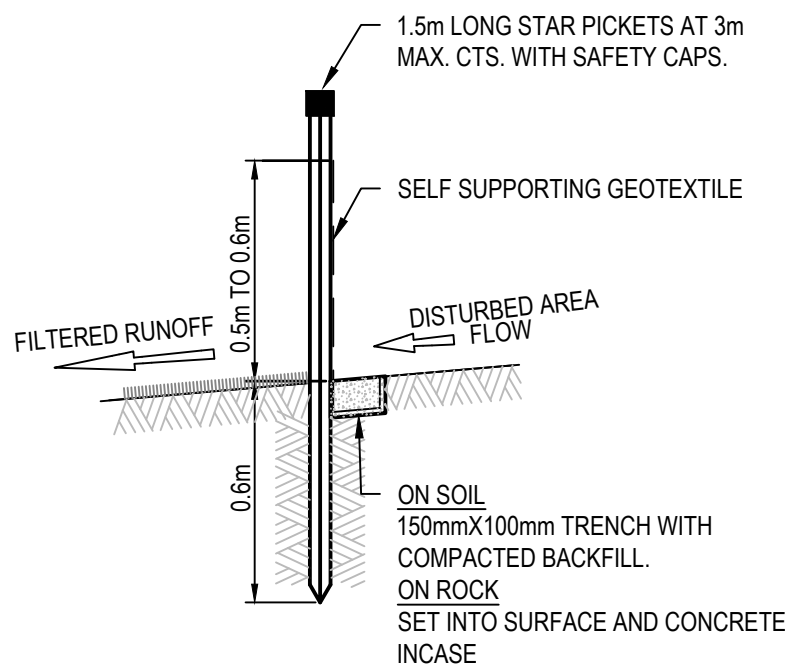
Client	MRS. P SIMSON
Project	17 PLAYFAIR ROAD
	NORTH CURL CURL
	DEVELOPMENT APPLICATION
Title	EROSION AND SEDIMENT CONTROL PLAN

Status	FOR APPROVAL
DATUM	AHD
DATE	SEP 19
Scale	AS SHOWN
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Drawing Number	59918041-DA-003
Revision	5

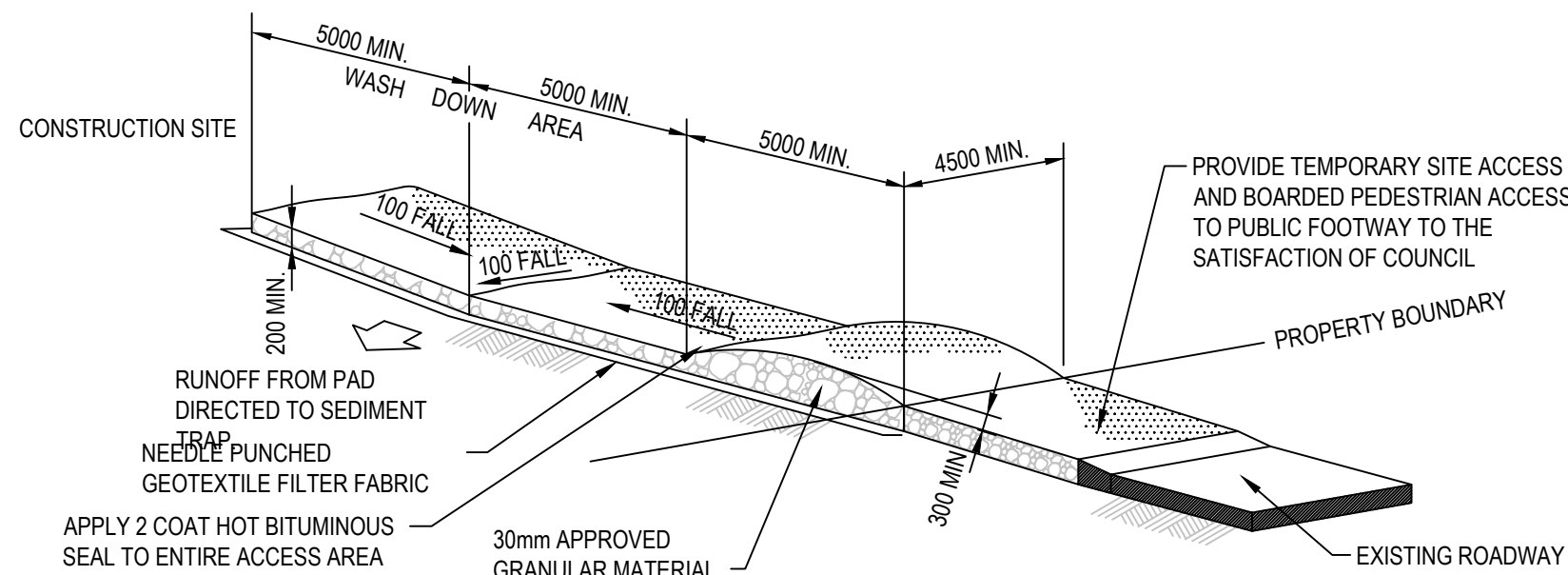




**SEDIMENT FENCE ISOMETRIC**  
NOT TO SCALE



**SEDIMENT FENCE SECTION**  
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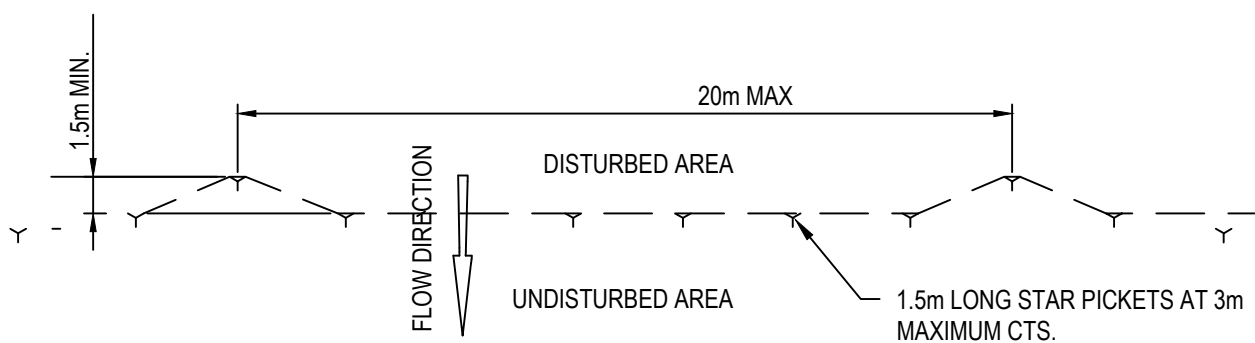


**STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA**  
NTS

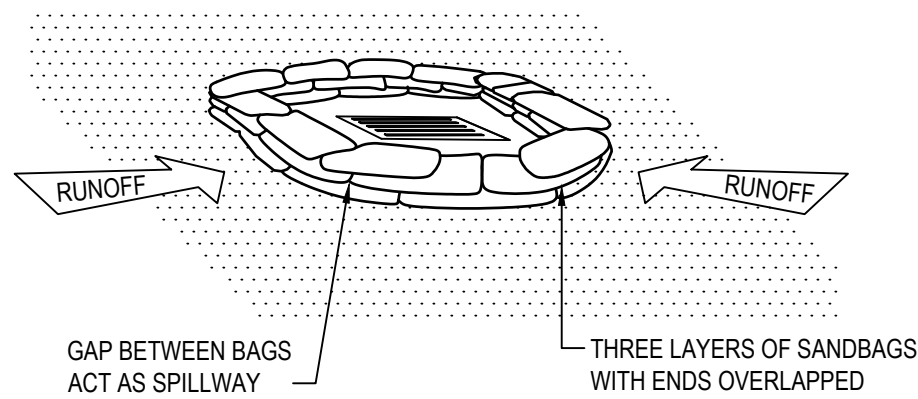
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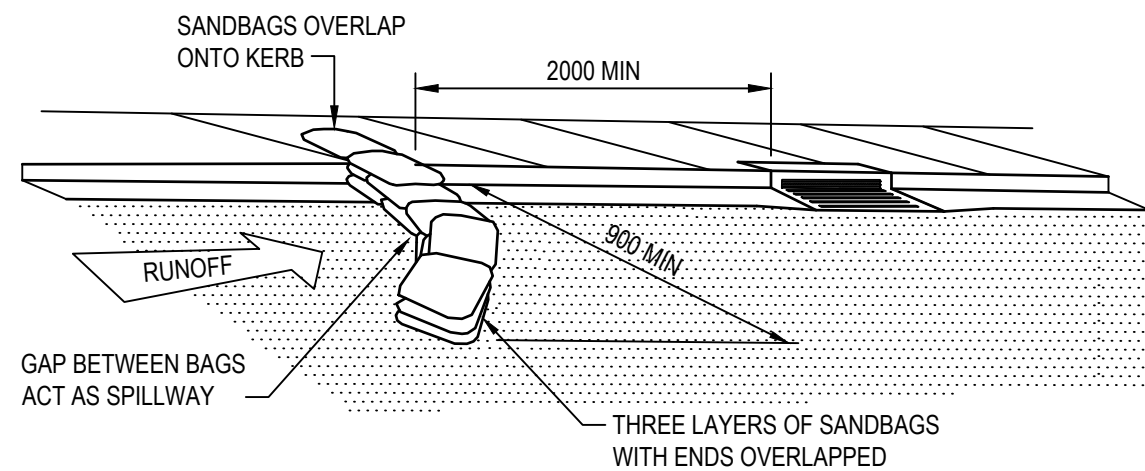
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**SEDIMENT FENCE PLAN**  
NOT TO SCALE



**SEDIMENT TRAP AT LOW POINT - SANDBAG**  
NOT TO SCALE



**SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)**  
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Client	MRS. P SIMSON
Project	17 PLAYFAIR ROAD NORTH CURL CURL DEVELOPMENT APPLICATION
Title	EROSION AND SEDIMENT CONTROL DETAILS

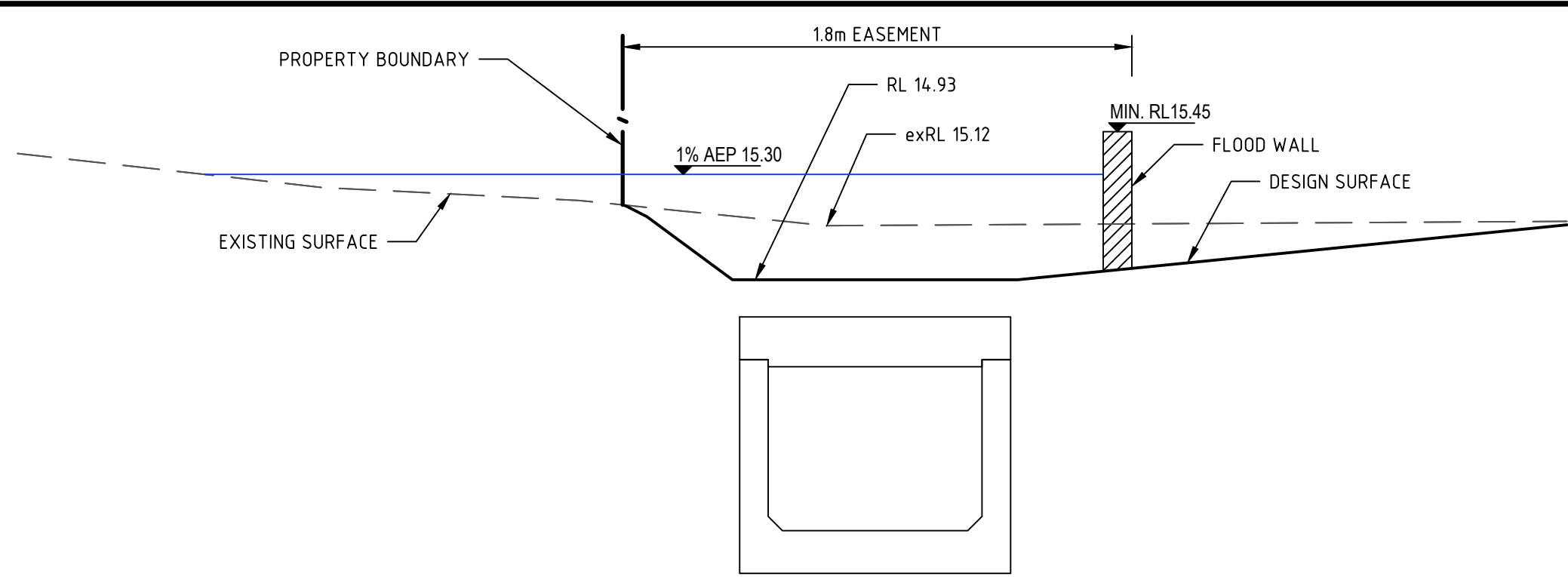
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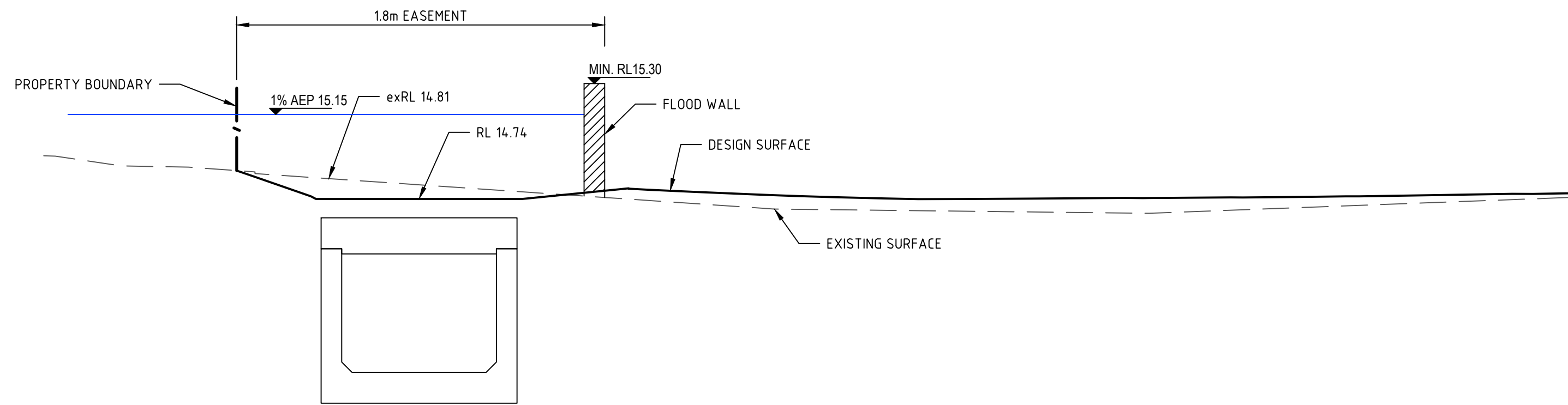


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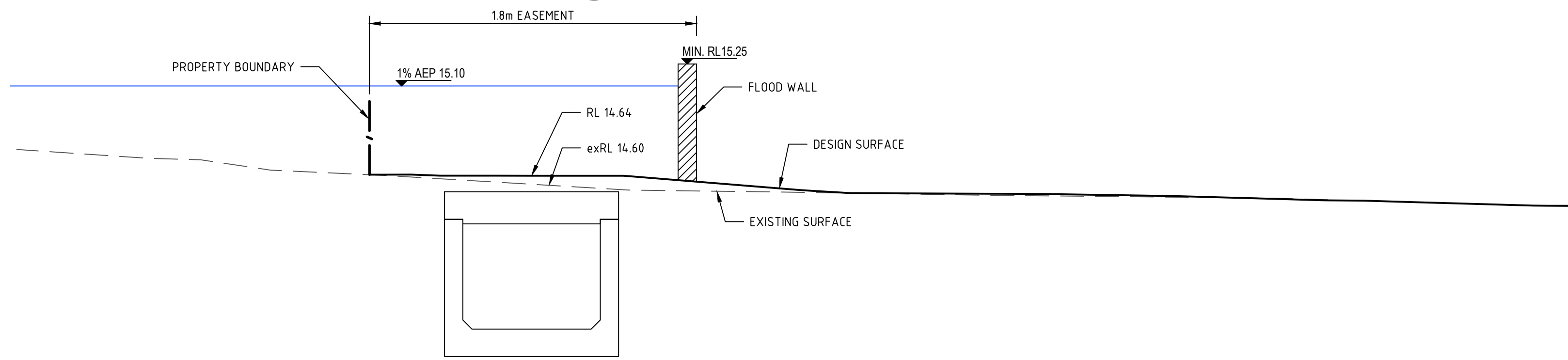




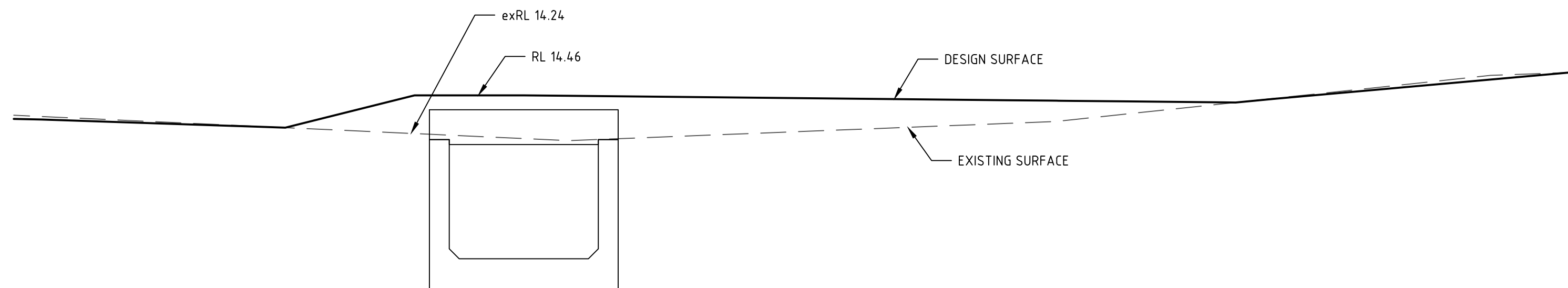
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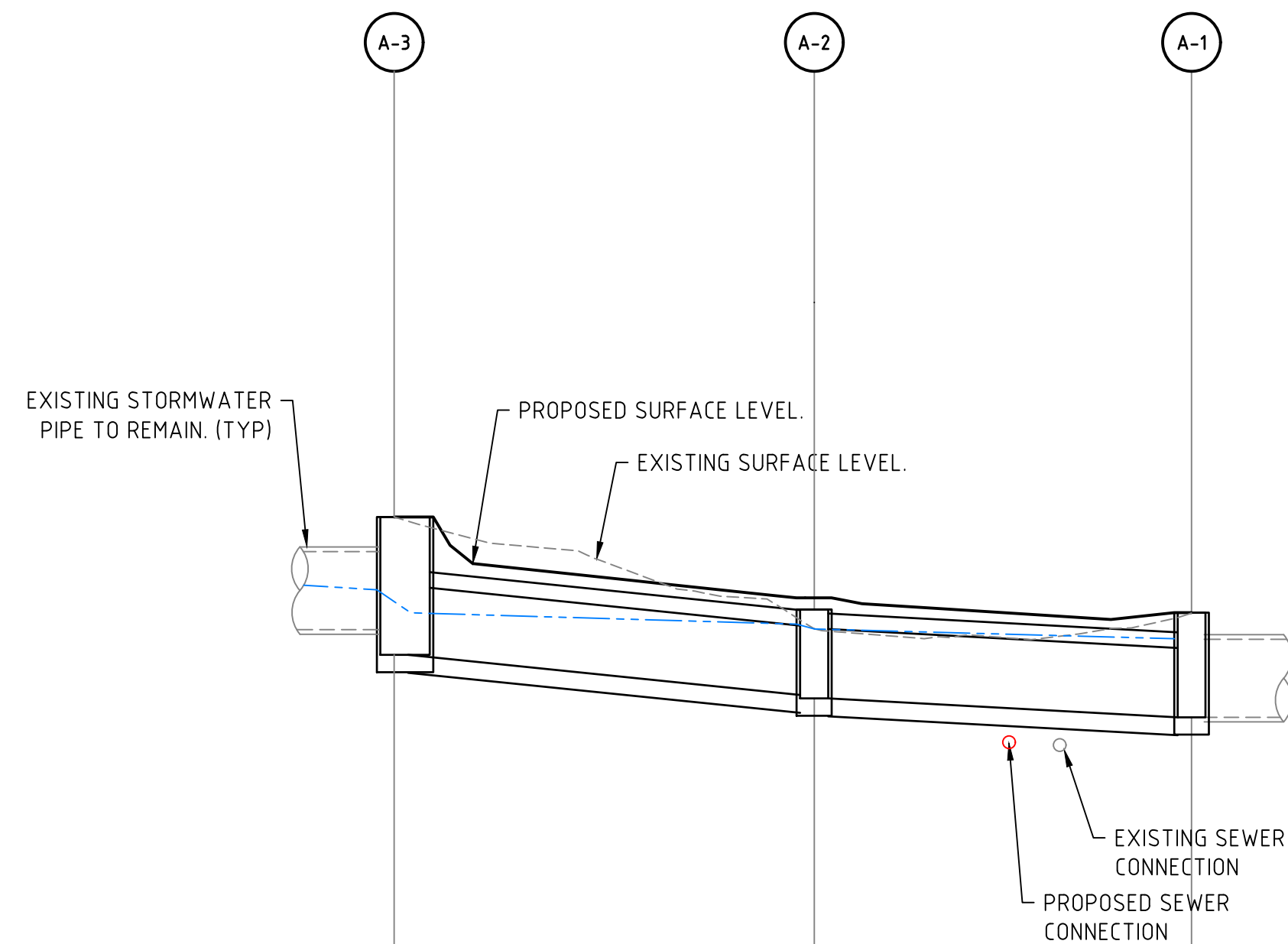


SECTION C  
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SECTION D  
Scale 1:20  
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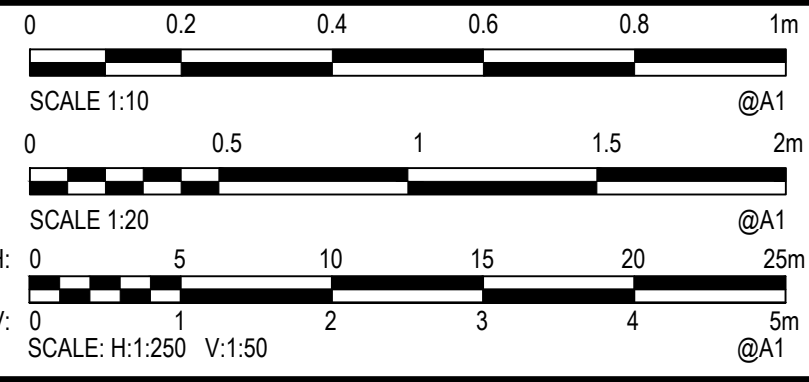
  
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5% AEP FLOW (m³/s)	0.542	0.542
5% AEP VELOCITY (m/s)	1.99	1.21
CULVERT SIZE	750x600 RCBC	750x600 RCBC
GRADE (%)	1.91%	1%
Datum R.L.	5.00	
DEPTH TO INVERT	1.193	0.740
5% AEP H.G.L. LEVEL	14.663 14.464	14.366 14.320
INVERT LEVEL	14.27 14.100	13.753 13.723
PROPOSED LEVEL	15.293	14.493
EXISTING LEVEL	15.293	14.326
CHAINAGE	0.000 L=18.178	18.178 L=16.320

LINE A  
SCALE 1:250(H) 1:50 (V)

Rev.	Date	Description	Des.	Verif.	Appd.
5	12.09.2019	ISSUED FOR CLIENT REVIEW	HD	PL	DW
4	30.04.2019	ISSUE FOR DEVELOPMENT APPLICATION	HRT	DW	HRT
3	09.04.2019	ISSUE FOR DEVELOPMENT APPLICATION	HRT	DW	HRT
2	13.12.2018	ISSUE FOR DEVELOPMENT APPLICATION	TM	HT	TM
1	03.12.2018	ISSUE FOR DEVELOPMENT APPLICATION	TM	HT	TM

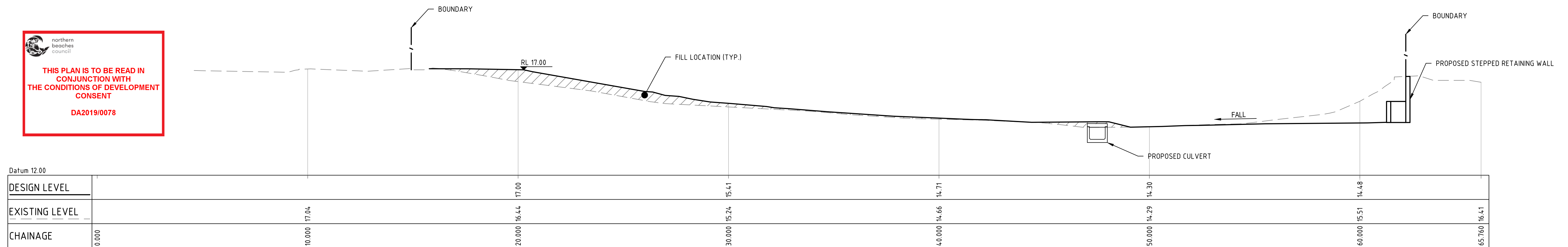


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Drawn YI 12.09.2019	Date 12.09.2019	Client MRS. P SIMSON
Checked HD 12.09.2019	Date 12.09.2019	Project 17 PLAYFAIR ROAD
Designed HD 12.09.2019	Date 12.09.2019	North Curl Curl DEVELOPMENT APPLICATION
Verified PL 12.09.2019	Date 12.09.2019	Title STORMWATER SECTIONS
Approved DW 12.09.2019	Date 12.09.2019	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
Drawing Number 59918041-DA-010		Revision A1 5





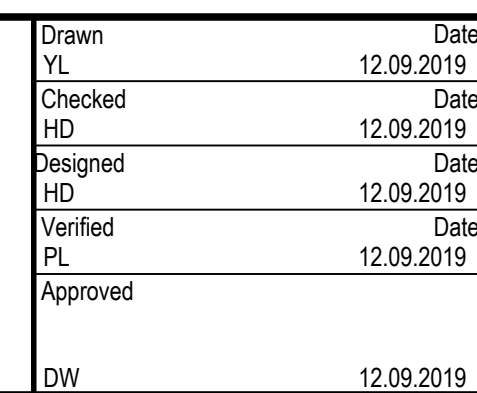
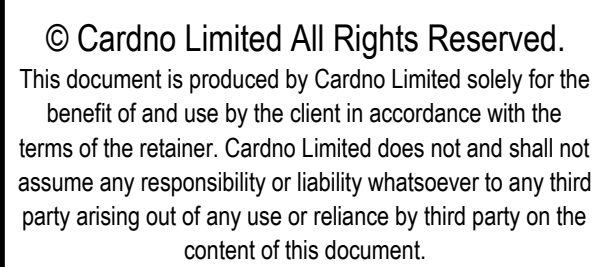
The profile view shows the existing ground level (dashed line) and the proposed ground level (solid line). The proposed ground level includes a culvert and a stepped retaining wall. The chainage is marked from 0.00 to 63.978. The design level is constant at 12.00. The existing level starts at 16.83 and ends at 16.53. The proposed level starts at 16.27 and ends at 14.65. The profile includes a boundary, a fill location, and a fall line.

CHAINAGE	EXISTING LEVEL	DESIGN LEVEL	PROPOSED LEVEL
0.00	16.83	12.00	16.27
20.00	16.35	12.00	15.53
30.00	15.42	12.00	14.74
40.00	14.76	12.00	14.32
50.00	14.32	12.00	14.65
60.00	15.42	12.00	14.65
63.978	16.53	12.00	14.65

The longitudinal section shows the road profile from chainage 0+000 to 61+779. The existing ground level is shown as a dashed line, and the proposed road level is a solid line. Key features include a boundary at chainage 10+000, a fill location at chainage 20+000 (RL 16.80), a proposed culvert at chainage 50+000, and a proposed stepped retaining wall at chainage 61+779. The profile shows a general downward slope with a slight rise at the retaining wall.

Chainage	Existing Level (RL)	Design Level (RL)
0+000	16.48	16.62
10+000	16.48	16.62
20+000	16.18	16.62
30+000	15.68	15.58
40+000	14.68	14.70
50+000	14.29	14.29
60+000	16.04	16.04
61+779	16.05	16.05

2	12.09.2019	ISSUED FOR CLIENT REVIEW		HD	PL	DW
1	30.04.2019	ISSUE FOR DEVELOPMENT APPLICATION		HRT	DW	HRT
Rev.	Date	Description		Des.	Verif.	Appd.



Project	17 PLAYFAIR ROAD NORTH CURL CURL DEVELOPMENT APPLICATION
Title	SITE EARTHWORKS LONGITUDINAL SECTIONS

DATUM AHD	DATE SEP' 19	Scale 1:100	Size A1
Drawing Number 59918041-DA-011			Revision 2