

BUSHLANDS AVENUE, HORNSBY HEIGHTS

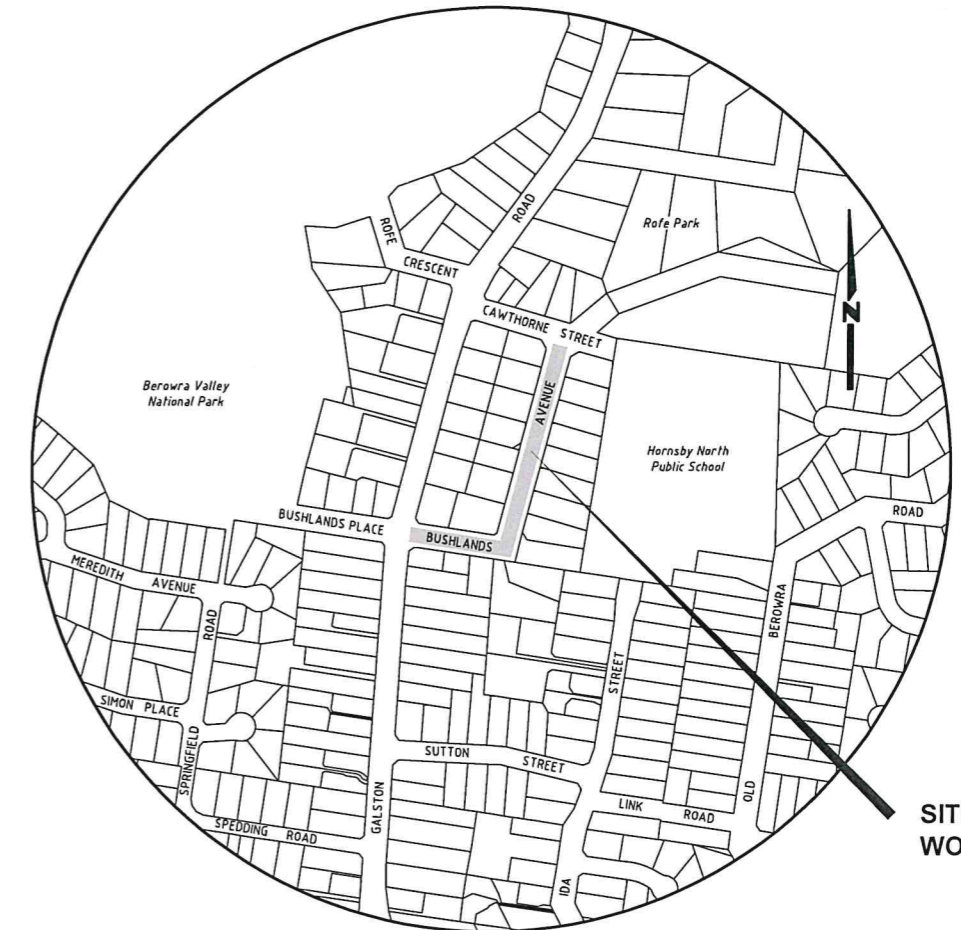
ROAD RECONSTRUCTION

FULL LENGTH

LEGEND

	EXISTING KERB & GUTTER.
	EXISTING EDGE OF BITUMEN.
	EXISTING FENCE.
	EXISTING CONCRETE PATH EDGE.
	EXISTING STORMWATER PIPE.
	EXISTING POWER POLE.
	EXISTING SIGN.
	EXISTING TREE.
	EXISTING TREE TO BE REMOVED.
	SURVEY TRAVERSE STATION.
	STATE SURVEY MARK.
	SURVEY REFERENCE MARKS - DRILL HOLE & WING/GALVANISED IRON PIPE.
	EXISTING SEWER MANHOLE.
	EXISTING FIRE HYDRANT.
	EXISTING WATER STOP VALVE.
	EXISTING TELSTRA PIT.
	EXISTING TELSTRA PILLAR.
	EXISTING SEWER MAIN.
	EXISTING U/G TELSTRA CABLES.
	EXISTING U/G GAS MAIN.
	EXISTING U/G ELECTRICAL CABLES.
	EXISTING OVERHEAD ELECTRICAL CABLES.
	EXISTING WATER MAIN.
	PROPOSED KERB & GUTTER.
	PROPOSED STORMWATER PIT.
	PROPOSED STORMWATER PIPE.
	STORMWATER PIT LABEL (HSC GIS REFERENCE).
	STORMWATER PIT LABEL (LINE No./PIT No.).
	EXTENT OF NEW PAVEMENT CONSTRUCTION (REFER TO TYPICAL SECTION ON SHEET No.2 FOR DETAILS).
	EXTENT OF DRIVEWAY RECONSTRUCTION REINSTATED WITH EXISTING OR MATCHING MATERIALS UNLESS NOTED OTHERWISE.
	EXTENT OF NEW FOOTPATH CONSTRUCTION. ALL PATHS N25 CONCRETE (COLOUR: PLAIN CONCRETE).
	EXTENT OF PAVEMENT PROFILING TO SUIT FINISHED DESIGN LEVELS.

DRAWING SCHEDULE		
SHEET No.	TITLE	ISSUE
1	DRAWING SCHEDULE, LOCALITY PLAN, LEGEND & GENERAL NOTES.	1
2	TYPICAL CROSS SECTION & PAVEMENT DETAILS.	1
3	OVERALL LAYOUT PLAN.	1
4	CONTROL LINE 1 SETOUT DETAILS.	1
5	GENERAL WORKS & SERVICES PLAN - SHEET 1 OF 3.	1
6	GENERAL WORKS & SERVICES PLAN - SHEET 2 OF 3.	1
7	GENERAL WORKS & SERVICES PLAN - SHEET 3 OF 3.	1
8	CL1 CROSS SECTIONS - CH20.000 TO CH110.000.	1
9	CL1 CROSS SECTIONS - CH120.000 TO CH230.000.	1
10	CL1 CROSS SECTIONS - CH240.000 TO CH250.000.	1
11	KERB DEVELOPMENT PLAN & SETOUT DETAILS	1
12	DRIVEWAY PROFILES - SHEET 1 OF 2.	1
13	DRIVEWAY PROFILES - SHEET 2 OF 2.	1
14	STORMWATER DRAINAGE CATCHMENT PLAN.	1
15	STORMWATER DRAINAGE DATA TABLES.	1



LOCALITY PLAN
NOT TO SCALE

ROAD CLASSIFICATION : 2 LANE URBAN
DESIGN SPEED : 50km/h

GENERAL NOTES:

- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS & SPECIFICATIONS OF HORNSBY SHIRE COUNCIL.
- LEVELS SHALL BE OBTAINED FROM ESTABLISHED BENCH MARKS & NOT FROM SURVEY PEGS.
- PROVIDE TRAFFIC MANAGEMENT, LINEMARKING & SIGNAGE IN ACCORDANCE WITH "THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" / AS1742 REQUIREMENTS.
- SERVICES SHOWN ON THESE PLANS HAVE BEEN LOCATED FROM INFORMATION SUPPLIED FROM THE RELEVANT AUTHORITIES VIA A "DIAL BEFORE YOU DIG" ENQUIRY. THE LOCATION OF SERVICES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED AS ACCURATELY AS POSSIBLE FROM DIAGRAMS PROVIDED BY SERVICE AUTHORITIES & FIELD INVESTIGATIONS & ARE TO BE VERIFIED PRIOR TO CONSTRUCTION.
- EROSION & SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED IN ACCORDANCE WITH THE LANDCOM PUBLICATION- "MANAGING URBAN STORMWATER, SOILS & CONSTRUCTION" Vol. 1, 4th EDITION.
- ALL DISTURBED AREAS OF THE SITE ARE TO BE REINSTATED WITH EXISTING OR MATCHING MATERIALS UNLESS NOTED OTHERWISE AT THE COMPLETION OF THE WORKS.
- ARRANGE SET-OUT BY HORNSBY SHIRE COUNCIL DESIGN & CONSTRUCTION BRANCH SURVEYOR. NOTIFY ENGINEERING SURVEYOR A MINIMUM OF 24 HOURS IN ADVANCE.
- WHERE PAVEMENT RESURFACING IS UNDERTAKEN ENSURE ALL BLUE HYDRANT MARKER RRPMS ARE REINSTATED AT THE COMPLETION OF WORKS.
- COUNCIL'S TREE MANAGEMENT GROUP CONTACT DETAILS.
CONTACT: Peter Harrigan PH: 9847 6991

ACCESS & SAFETY NOTES:

- THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY & INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC CONTROL.
- THE CONTRACTOR SHALL PROVIDE TRAFFIC MANAGEMENT PLANS FOR THE PROPOSED WORKS COMPLETED BY A SUITABLY QUALIFIED PERSON & APPROVED BY COUNCIL/REGULATORY AUTHORITY. WORK IS NOT TO COMMENCE ON SITE PRIOR TO APPROVAL OF TRAFFIC MANAGEMENT SCHEME.
- THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO BUILDINGS/RESIDENCES ADJACENT TO THE WORKS IS NOT DISRUPTED.
- WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF EMERGENCY SERVICE VEHICLES AND/OR EMERGENCY SERVICE PERSONNEL THROUGH THE SITE.

SUBSOIL DRAINAGE NOTES:

- SUBSOIL DRAINAGE TO BE INSTALLED AS DIRECTED BY SUPERVISING CONSTRUCTION ENGINEER.
- SUBSOIL FLUSHING POINTS TO BE INSTALLED AT ALL U/S ENDS OF LINES & AT 60m MAXIMUM CENTRES. CONNECT SUBSOIL PIPES TO STORMWATER PITS.

ASSET MANAGEMENT & MAINTENANCE BRANCH

Senior Asset Engineer
Name: A. BOYD
Telephone: 9847 6672
Accepted as complying with the general intent of the design brief

Signed:	Date:
Project Number	100183
Sheet of	1 15
Issue	1
HSC Drawing Number	599.2

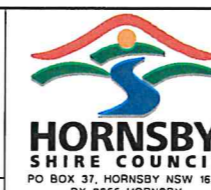
Hornsby Shire Council
Design & Construction
Branch

TELEPHONE: (02) 9847 6656
FACSIMILE: (02) 9847 6999
Authorised for release - Manager Design & Construction
Name: R. RAJCA
Signed: [Signature]
Date: 10/10/24

Designer X. ZHENG	Design Checked Signed: [Signature]	Design Team Leader Signed: [Signature]
Drawn X. ZHENG	Drawing Checked Signed:	
Surveyor R. TERTELI	NA	NA
	Field Book	Level Book
	AHD	Datum
Project Identifier \ CAD File Name H:\Bushlands Ave_LR_100183\Design\ACAD\Bushlands.dwg		
TRIM Document Number 008495515		

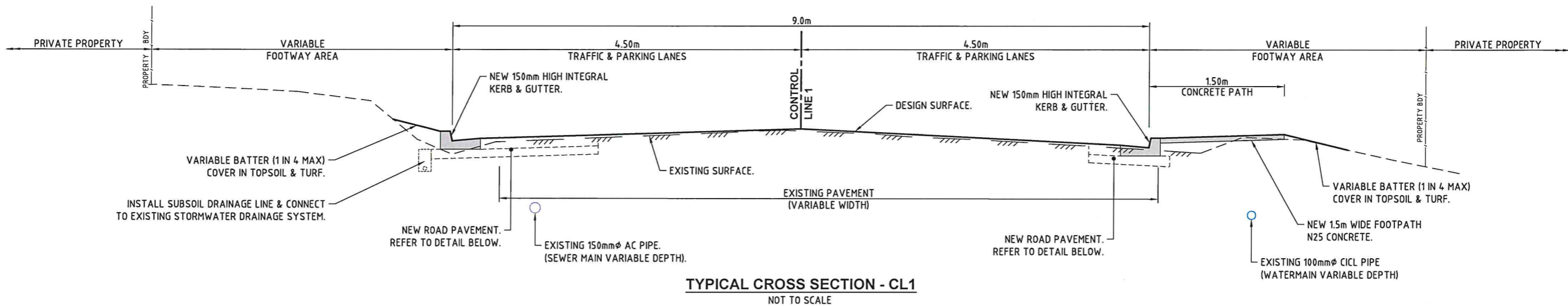
1	ISSUED FOR CONSTRUCTION	M. DRAKE	[Signature]	10/10/24
Issue	Description	Name	Initial	Date
Design not to be amended without authorisation by Manager Design & Construction				

Bar Scale
NOT TO SCALE
DD NOT SCALE, USE FIGURED DIMENSIONS ONLY

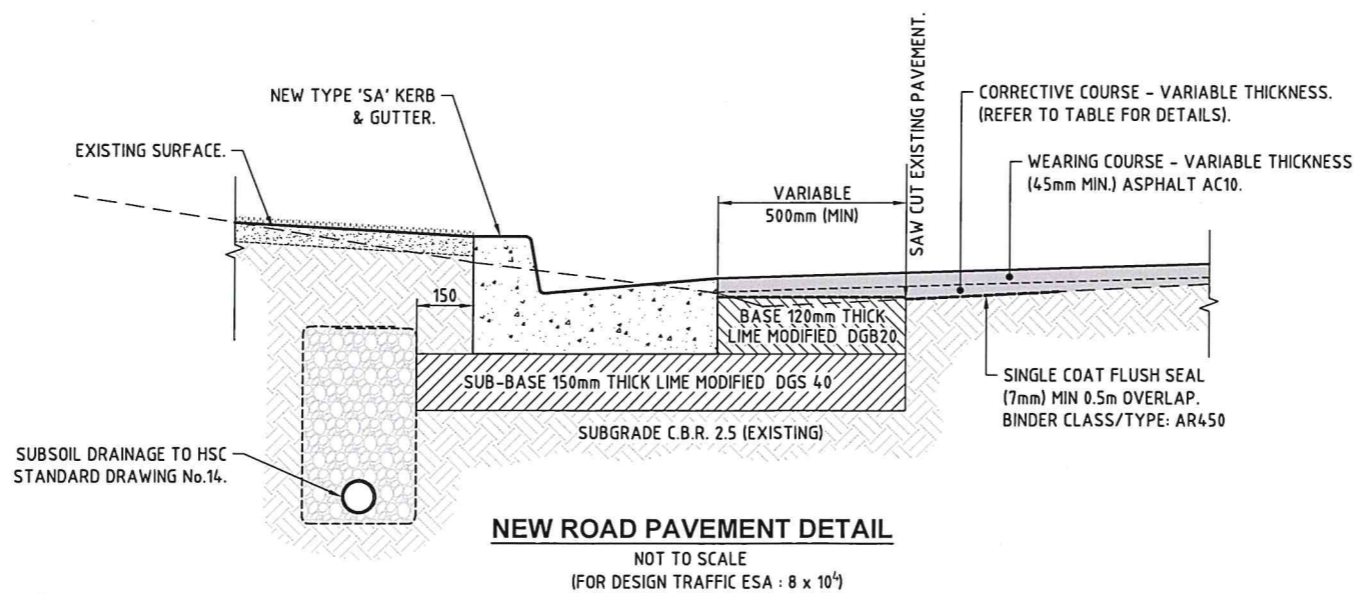


BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH

DRAWING SCHEDULE, LOCALITY PLAN, LEGEND
& GENERAL NOTES



TYPICAL CROSS SECTION - CL1
NOT TO SCALE



ASPHALT COURSE & LAYER THICKNESS TABLE

NOMINAL SIZE OF ASPHALT (mm)	COMPACTED LAYER THICKNESS (mm)	TYPE OF WORK
10	45	WEARING COURSE
10	20 TO 45	CORRECTIVE COURSE
14	30 TO 55	CORRECTIVE COURSE
20	40 TO 90	CORRECTIVE COURSE

GEO-TECHNICAL / PAVEMENT INVESTIGATION NOTES:

1. A GEO-TECHNICAL INVESTIGATION HAS BEEN UNDERTAKEN AT THIS PROJECT SITE BY STS GEOTECHNICS PTY LTD (PROJECT No:30291/3491D-G) IN FEBRUARY 2020 TO ASCERTAIN THE EXISTING EARTH MATERIAL FOR THE PROPOSED ROAD WORKS. THE INVESTIGATION & MORE INFORMATION CAN BE FOUND IN COUNCIL'S DOCUMENT MANAGEMENT SYSTEM (TRIM) AS DOCUMENT# D08492927.
2. CARE WILL BE REQUIRED TO ENSURE THAT NEARBY STRUCTURES & INFRASTRUCTURE ARE NOT DAMAGED WHEN EXCAVATING IN ROCK. EXCAVATION METHODS SHOULD BE ADOPTED WHICH LIMIT GROUND VIBRATIONS AT THE ADJOINING STRUCTURES TO NOT MORE THAN 5mm/SEC.
3. IT IS RECOMMENDED THAT BEFORE COMMENCING EXCAVATION TO UNDERTAKE A DILAPIDATION SURVEY OF ANY STRUCTURES THAT MAY POTENTIALLY BE DAMAGED. THIS WILL PROVIDE REASONABLE BASIS FOR ASSESSING ANY FUTURE CLAIMS OF DAMAGE.
4. STS CONTACT DETAILS:
CONTACT NAME: Joanne Saggiomo PH: 02 9756 2166
5. FOR MORE ROAD PAVEMENT DESIGN INFORMATION REFER TO TRIM DOCUMENT# D08492930.

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Name: R. RAJCA Signed: *[Signature]* Date: 21/02/24

Designer: X. ZHENG
Signed: *[Signature]*
Drawn: X. ZHENG
Signed: *[Signature]*
Surveyor: R. TERTELI
Project Identifier \ CAD File Name: H:\Bushlands Ave_LR_100183\Design\ACAD\Bushlands.dwg
TRIM Document Number: D08495515

Issue	Description	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	MD	17/10

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Bar Scales
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DO NOT SCALE, USE FIGURED DIMENSIONS ONLY



**BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH**

TYPICAL CROSS SECTION & PAVEMENT DETAILS.

Project Number	100183	
Sheet of	2	15
Issue	1	
HSC Drawing Number	599.2	



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Name: R. RAJCA
Signed: *[Signature]*
Date: 18/10/24

Designer: X. ZHENG
Signed: *[Signature]*

Drawn: X. ZHENG
Signed: *[Signature]*

Surveyor: R. TERTELI

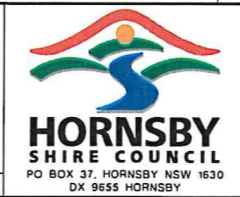
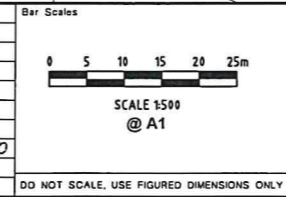
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Field Book	Level Book	Datum

Project Identifier \ CAD File Name
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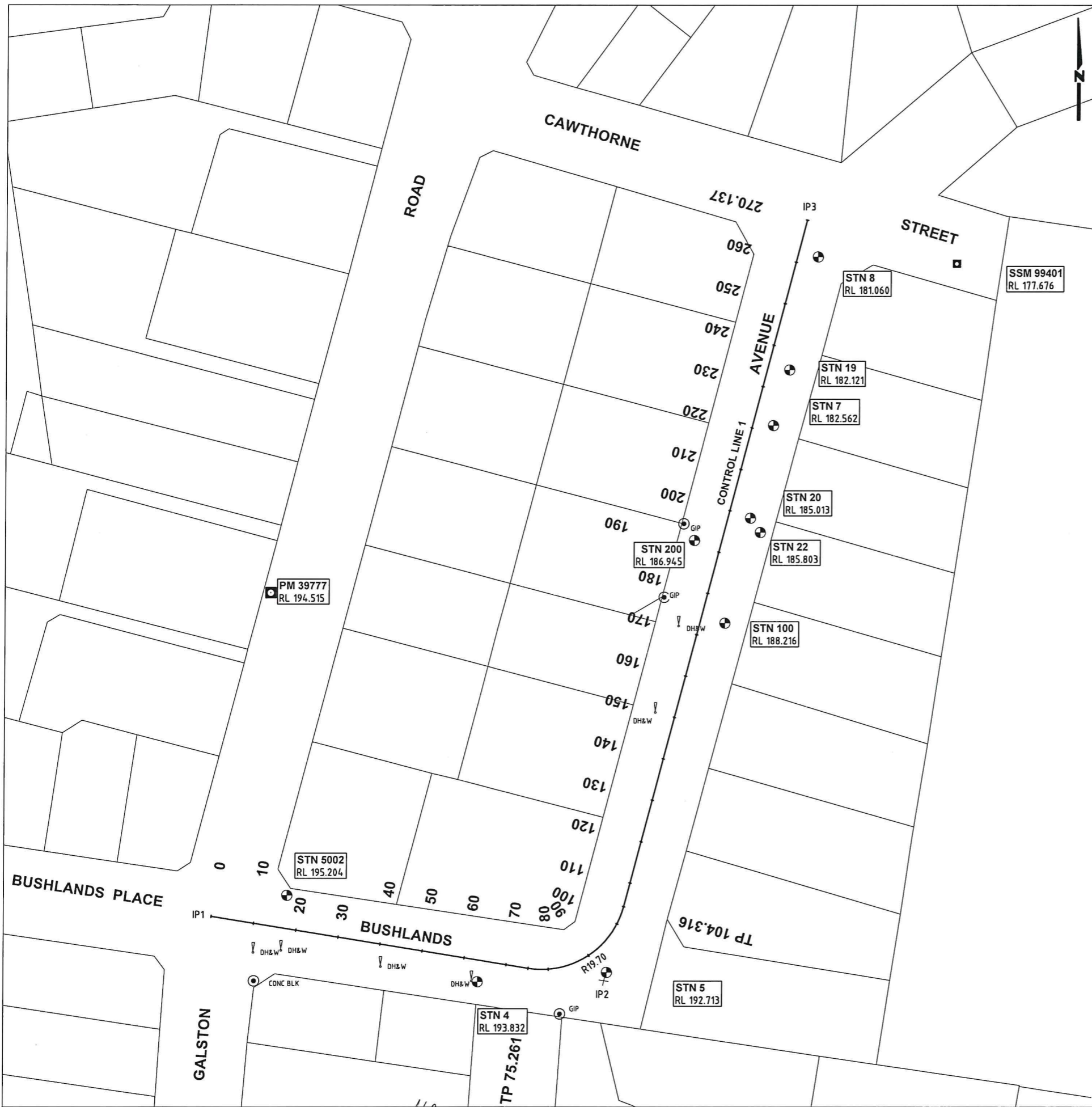
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**BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH**

OVERALL LAYOUT PLAN

Project Number		100183
Sheet	of	Issue
3	15	1
HSC Drawing Number		599.2



SURVEY STATIONS TABLE				
NUMBER	EASTING	NORTHING	LEVEL	DESCRIPTION
39777	323542.923	6271424.288	194.515	PERMANENT MARK 39777
5002	323547.059	6271353.616	195.204	NAIL IN CONCRETE PATH
4	323591.747	6271333.472	193.832	NAIL IN KERB
5	323621.975	6271335.673	192.713	NAIL IN SOIL
100	323649.224	6271417.272	188.216	NAIL IN PAVEMENT
200	323641.989	6271436.607	186.945	NAIL IN ROCK
22	323657.431	6271438.474	185.803	NAIL IN ROCK
20	323655.095	6271441.797	185.013	NAIL IN ROCK
7	323660.402	6271463.422	182.562	NAIL IN PAVEMENT
19	323664.117	6271476.445	182.121	NAIL IN PAVEMENT
8	323670.683	6271502.829	181.060	NAIL IN KERB
99401	323703.132	6271501.217	177.676	STATE SURVEY MARK 99401

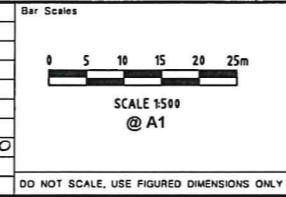
SURVEY MARKS:
 NOTE: SURVEY MARKS MUST NOT BE DISTURBED. IF MARKS HAVE TO BE REMOVED APPLICATION MUST BE MADE THROUGH A REGISTERED SURVEYOR TO SUBMIT A "PRESERVATION OF SURVEY INFRASTRUCTURE" FORM TO SPATIAL SERVICES NSW.

CONTROL LINE No.1 SETOUT DETAILS					
PT	CHAINAGE	EASTING	NORTHING	LEVEL	RAD/SPIRAL
IP1	0.000	323529.419	6271348.713	EXISTING	
	10.000	323539.289	6271347.105	195.389	
	20.000	323549.159	6271345.497	195.043	
	30.000	323559.029	6271343.889	194.754	
	40.000	323568.899	6271342.281	194.512	
	50.000	323578.768	6271340.672	194.238	
	60.000	323588.638	6271339.064	193.917	
TC	70.000	323598.508	6271337.456	193.583	
	75.261	323603.700	6271336.610	193.407	-19.700
IP2	80.000	323608.424	6271336.416	193.248	-19.700
	89.788	323621.363	6271333.733	192.919	-19.700
CT	90.000	323617.774	6271339.648	192.912	-19.700
	100.000	323624.374	6271347.018	192.570	-19.700
	104.316	323625.919	6271351.039	192.409	
	110.000	323627.366	6271356.535	192.183	
	120.000	323629.912	6271366.206	191.740	
	130.000	323632.458	6271375.876	191.248	
	140.000	323635.004	6271388.547	190.742	
	150.000	323637.549	6271395.217	190.152	
	160.000	323640.095	6271404.888	189.452	
	170.000	323642.641	6271414.559	188.647	
	180.000	323645.187	6271424.229	187.770	
	190.000	323647.733	6271433.900	186.549	
	200.000	323650.278	6271443.570	184.969	
210.000	323652.824	6271453.241	183.620		
220.000	323655.370	6271462.911	182.846		
230.000	323657.916	6271472.582	182.384		
240.000	323660.461	6271482.252	181.978		
250.000	323663.007	6271491.923	181.628		
260.000	323665.553	6271501.593	EXISTING		
270.000	323668.099	6271511.264	EXISTING		
IP3	270.137	323668.134	6271511.397	EXISTING	

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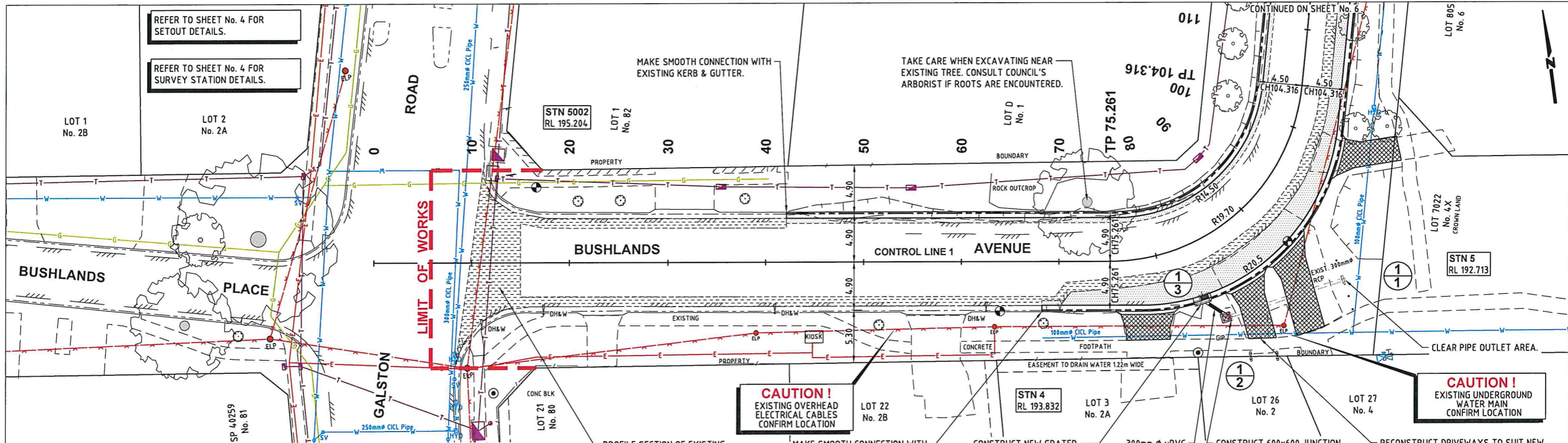
Designer: X. ZHENG
 Drawn: X. ZHENG
 Surveyor: R. TERTELI
 Project Identifier: CAD File Name
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Issue	Description	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	[Signature]	17/10



**BUSHLANDS AVENUE, HORNSBY HEIGHTS
 PROPOSED ROAD RECONSTRUCTION
 FULL LENGTH**
 CONTROL LINE 1 SETOUT DETAILS

SURVEY CONTROL		
SURVEY STATION AND/OR CONTROL LINE DETAILS CHECKED AND VERIFIED		
Signed: [Signature] Date: 29/09/22		
Project Number: 100183		
Sheet: 4	of: 15	Issue: 1
HSC Drawing Number: 599.2		



WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES HAVE BEEN INTERPOLATED FROM KNOWN POSITIONS OF VALVES, MANHOLES ETC. AND/OR INFORMATION SUPPLIED BY SERVICE AUTHORITIES. NO RESPONSIBILITY IS TAKEN FOR THE ACCURACY OF THE INTERPOLATED INFORMATION SUPPLIED. ENSURE ALL SERVICES ARE ACCURATELY LOCATED PRIOR TO COMMENCEMENT OF WORK.

GALSTON ROAD

Station	0	9.854	10	13.699	20	23.699	30	33.699	37.146	40	47.146	50	57.146	60	61.789	70	75.261	76.789	80	90	91.789	95.85	100	104.316	110
CUT / FILL DEPTH TO EXISTING																									
CONTROL LINE FINISHED LEVEL																									
EXISTING SURFACE LEVEL	195.485	195.394	195.389	195.231	195.043	194.874	194.712	194.627	194.551	194.480	194.258	194.159	193.923	193.831	193.777	193.524	193.359	193.307	193.198	192.802	192.747	192.618	192.499	192.352	192.132
CONTROL LINE CHAINAGE	0	9.854	10	13.699	20	23.699	30	33.699	37.146	40	47.146	50	57.146	60	61.789	70	75.261	76.789	80	90	91.789	95.85	100	104.316	110

Horizontal Geometry Data

Vertical Geometry Grade (%)
 Vertical Grade Length (m)

Vertical Curve Length (m)
 Vertical Curve Radius (m)

DATUM R.L. 185.000

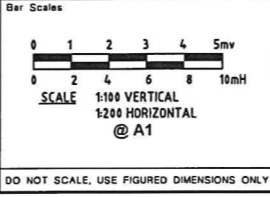
LONGITUDINAL SECTION - CL1

SCALE 1:200 HOR
 1:100 VERT

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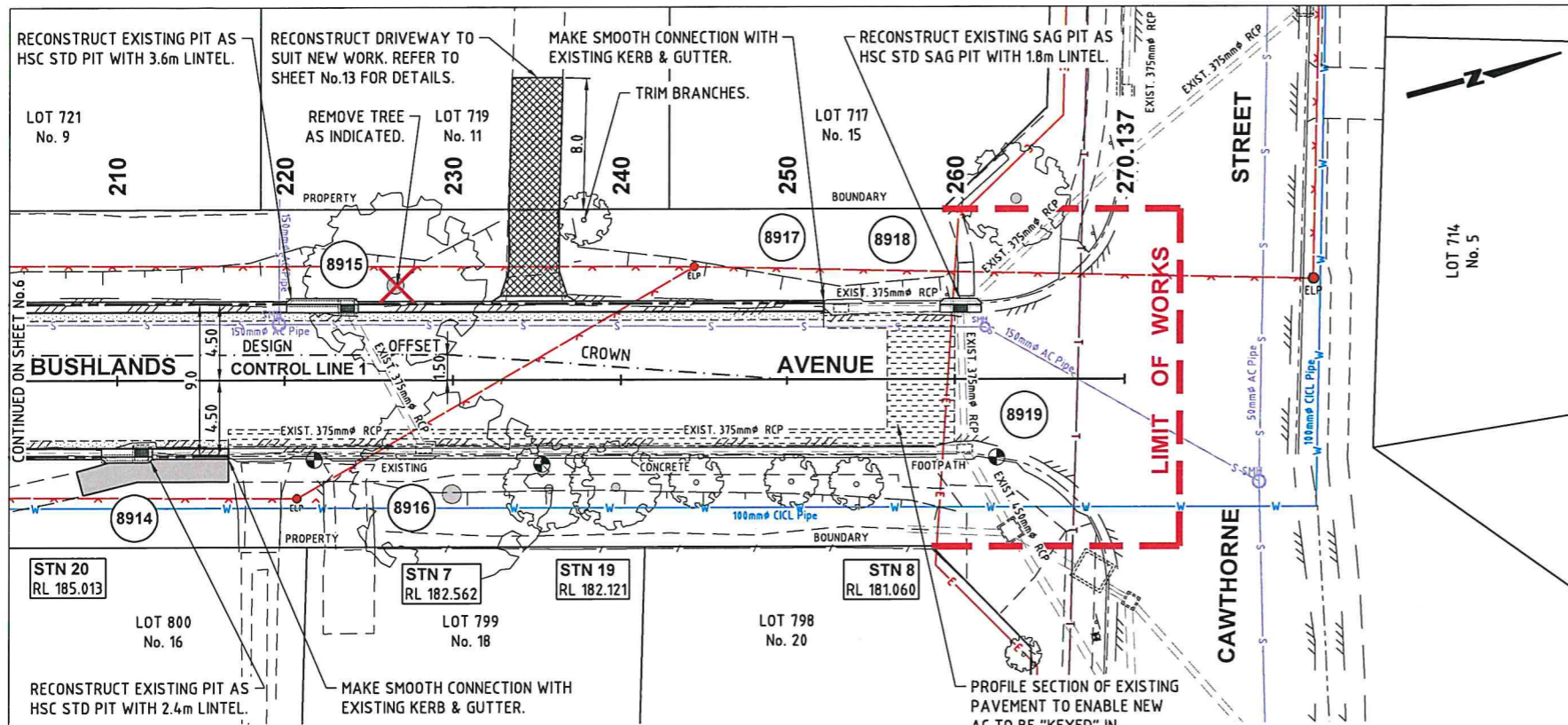
Designer: X. ZHENG
 Design Checked: [Signature]
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 Surveyor: R. TERTELI
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Issue	Description	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	MD	14/10/22



BUSHLANDS AVENUE, HORNSBY HEIGHTS
 PROPOSED ROAD RECONSTRUCTION
 FULL LENGTH
 GENERAL WORKS & SERVICES PLAN
 SHEET 1 OF 3

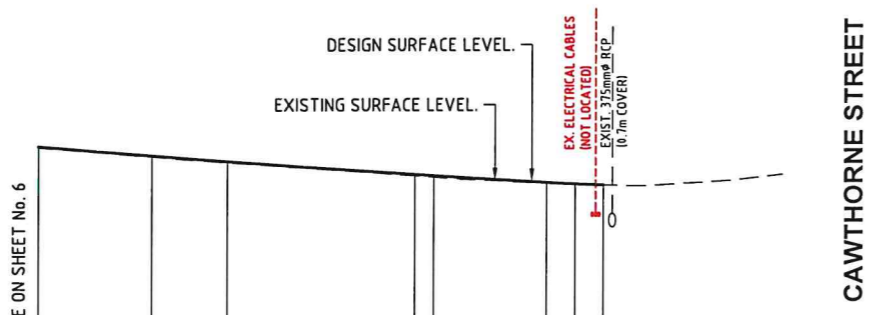
Project Number: 100183
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 Issue: 1
 HSC Drawing Number: 599.2



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REFER TO SHEET No. 4 FOR SETOUT DETAILS.

REFER TO SHEET No. 4 FOR SURVEY STATION DETAILS.



Horizontal Geometry Data
 Vertical Geometry Grade (%)
 Vertical Grade Length (m)
 Vertical Curve Length (m)
 Vertical Curve Radius (m)
 DATUM R.L.171.000

CUT / FILL DEPTH TO EXISTING	CONTROL LINE FINISHED LEVEL	EXISTING SURFACE LEVEL	CONTROL LINE CHAINAGE
0.035	182.384	182.349	230
0.034	182.133	182.099	236
0.034	181.978	181.944	240
0.044	181.628	181.584	250
0.049	181.596	181.547	251
0.026	181.406	181.380	257
0.007	181.365	181.358	258.5
0.000	181.339	181.339	260

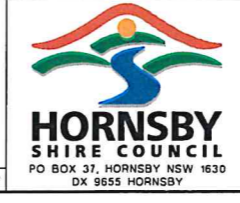
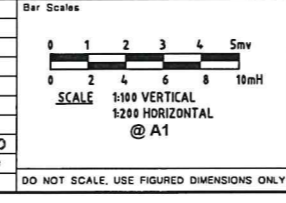
LONGITUDINAL SECTION - CL1
 SCALE 1:200 HOR
 1:100 VERT

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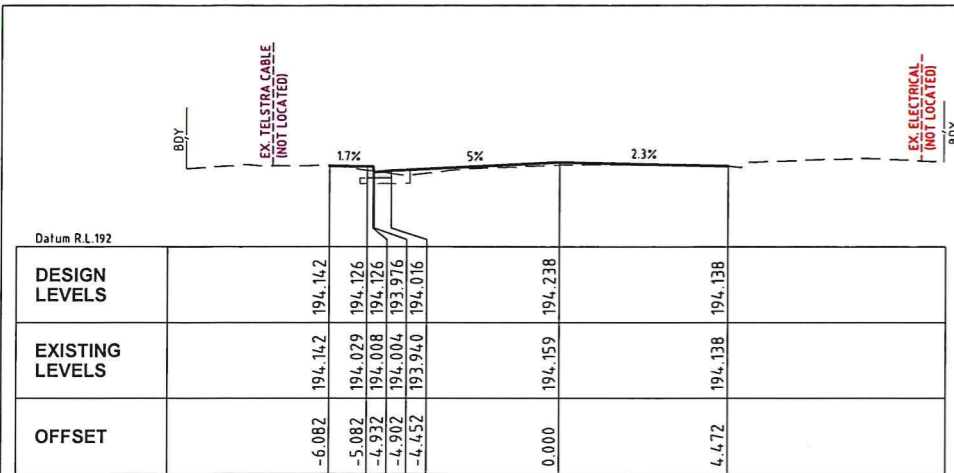
Issue	Description	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	[Initials]	17/10

Design not to be amended without authorisation by Manager Design & Construction

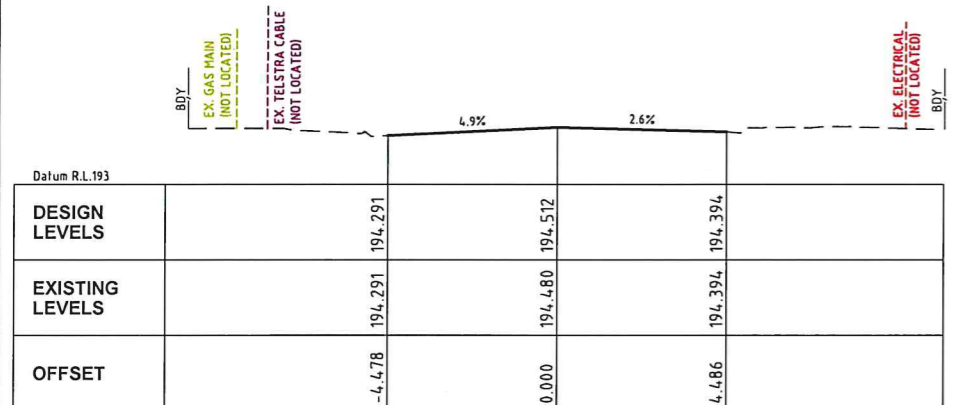


BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH
 GENERAL WORKS & SERVICES PLAN
 SHEET 3 OF 3

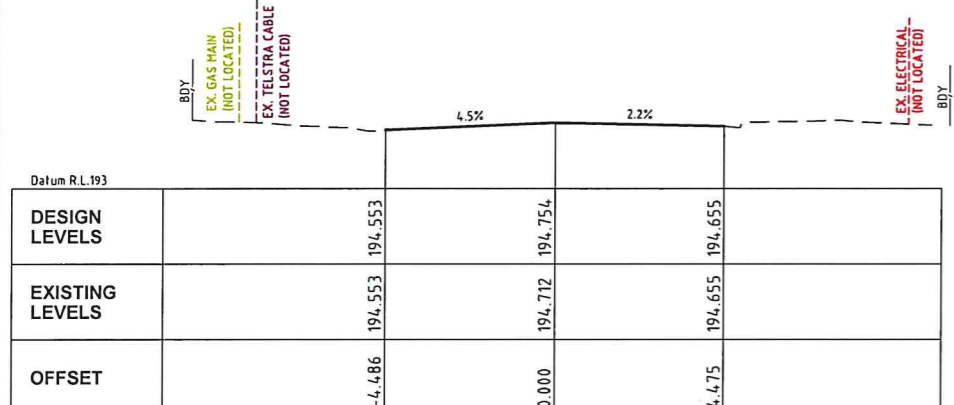
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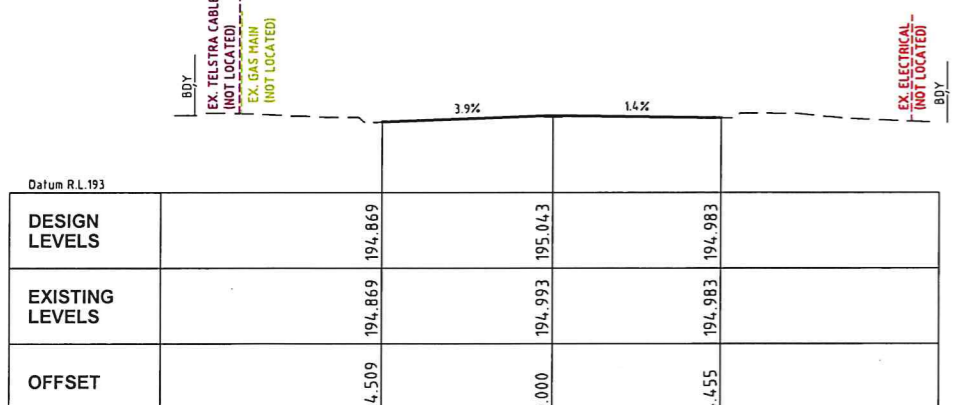
CH 50.000



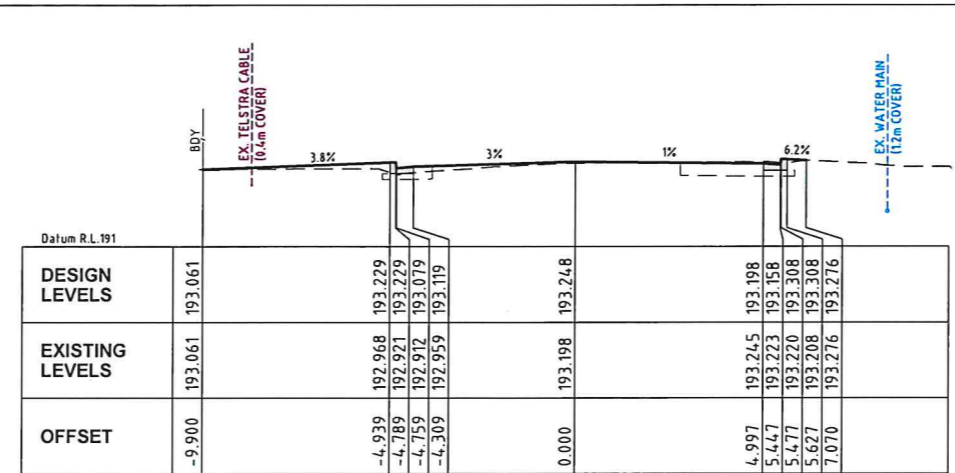
CH 40.000



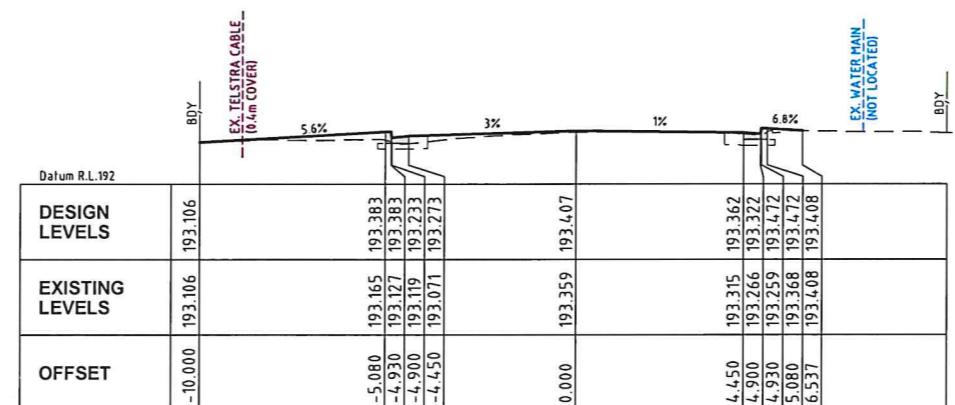
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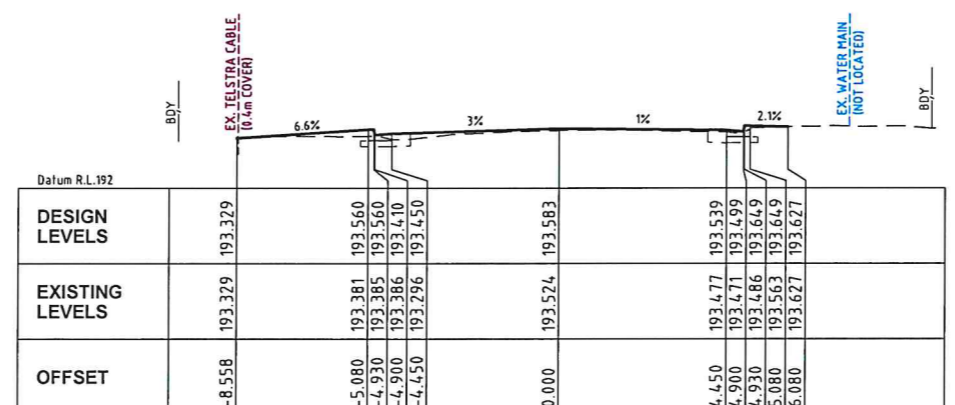
CH 20.000



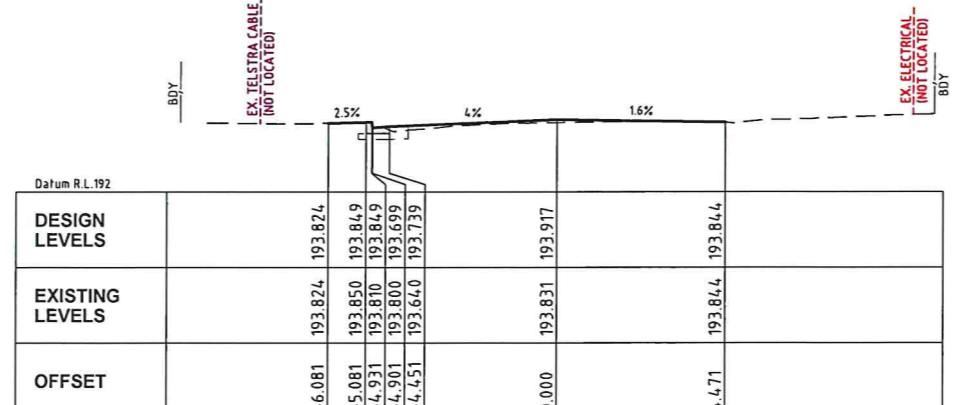
CH 80.000



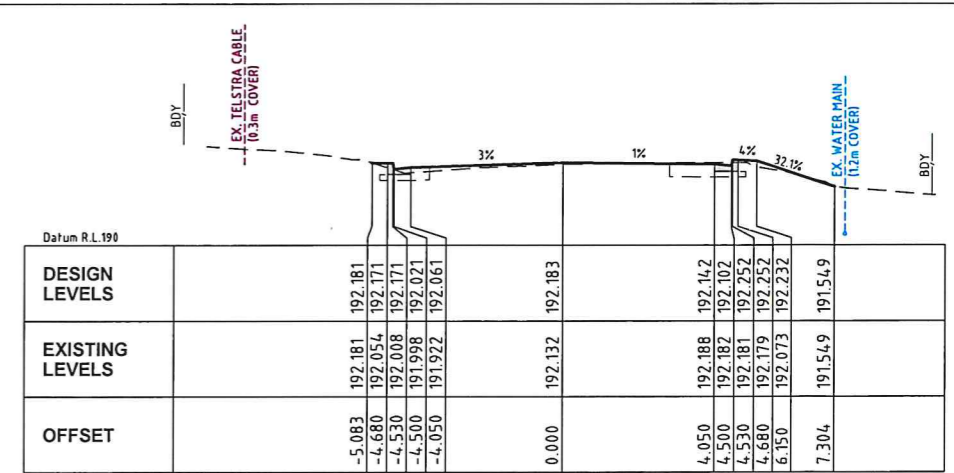
CH 75.261



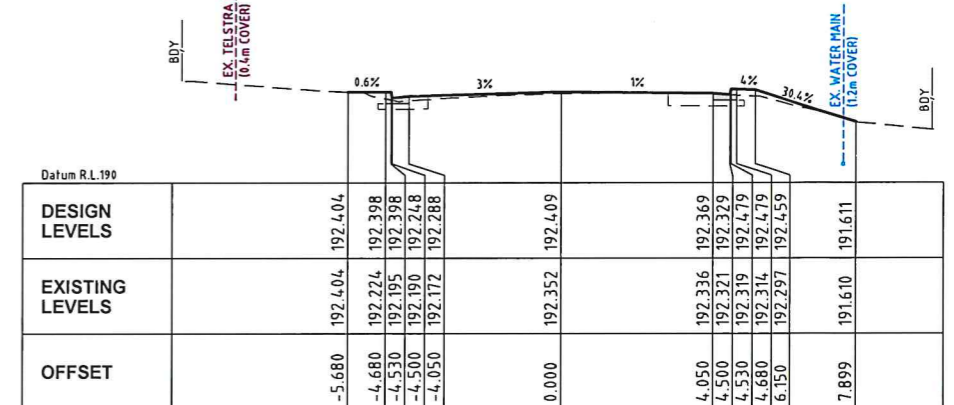
CH 70.000



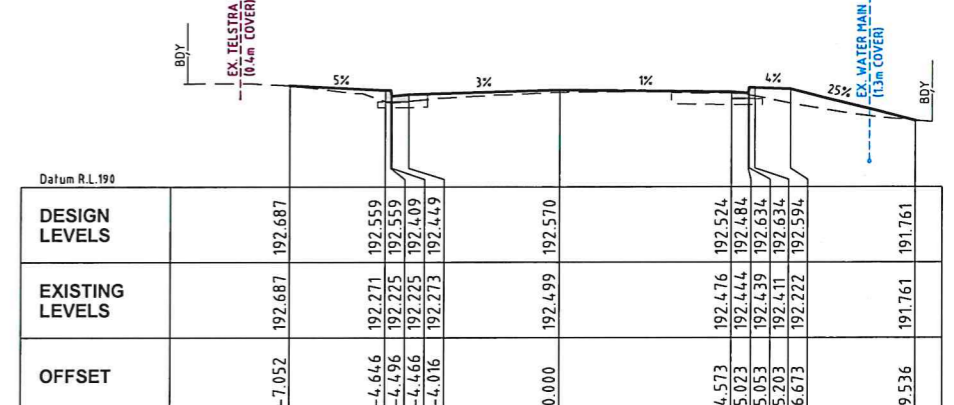
CH 60.000



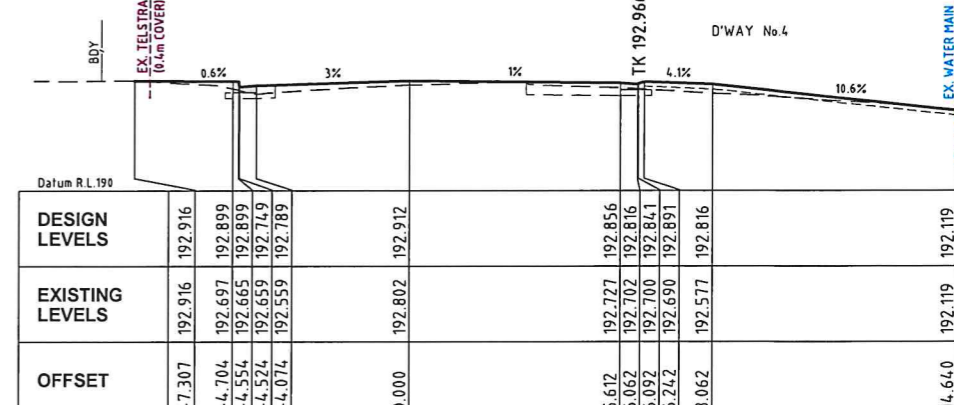
CH 110.000



CH 104.316



CH 100.000



CH 90.000

**Hornsby Shire Council
Design & Construction
Branch**

TELEPHONE: (02) 9847 6866
FACSIMILE: (02) 9847 6999

Authorised for release - Manager Design & Construction
Name: R. RAJCA

Designer: X. ZHENG
Signed: *X. Zheng*

Drawn: X. ZHENG
Signed: *X. Zheng*

Surveyor: R. TERTELI

Project Identifier: \CAD File Name
H:\Bushlands Ave_LR_100183\Design\CAD\Bushlands.dwg

TRIM Document Number
008495515

Design Checked: *M. Drake*
Design Team Leader

Drawing Checked

Field Book: NA
Level Book: NA
AHD Datum: AHD

ISSUED FOR CONSTRUCTION

M. DRAKE
Name: M. DRAKE
Initial: MD
Date: 17/10

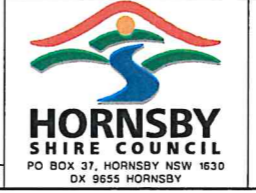
Design not to be amended without authorisation by Manager Design & Construction

Bar Scales

0 1 2 3 4 5m

SCALE 1:100
@ A1

DO NOT SCALE, USE FIGURED DIMENSIONS ONLY



**BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH**

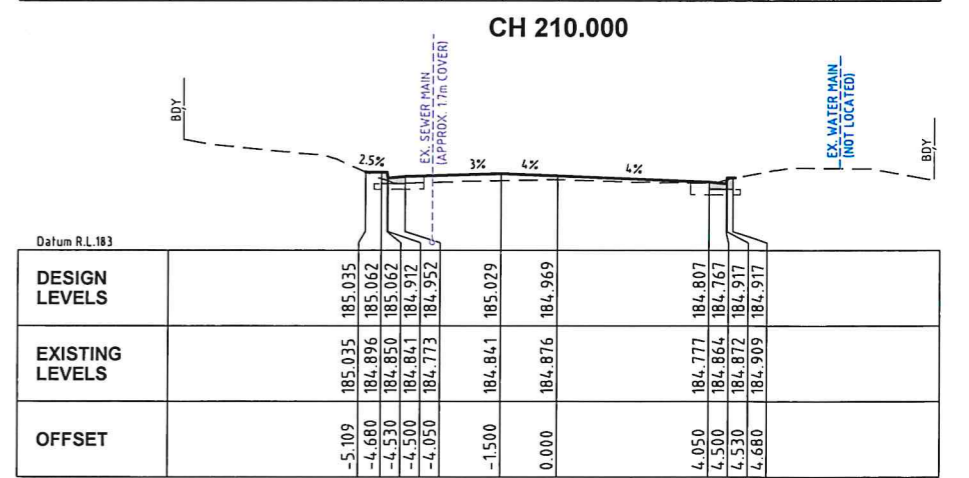
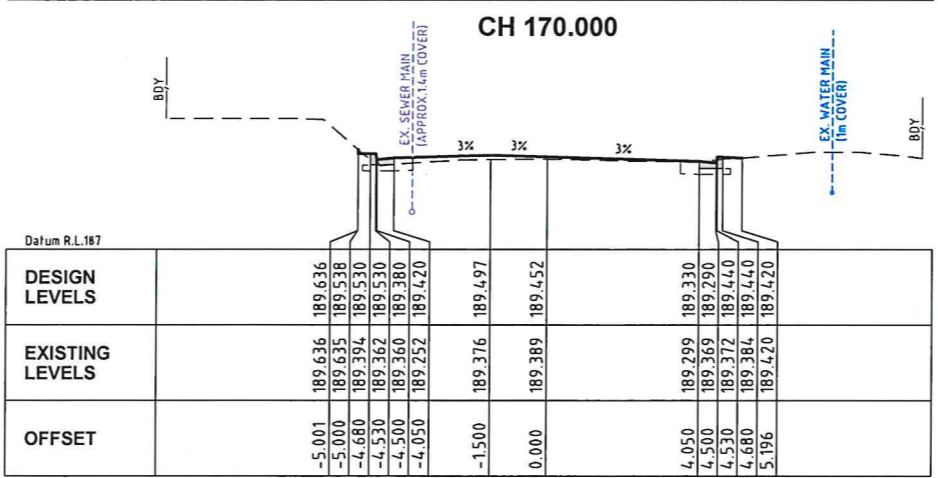
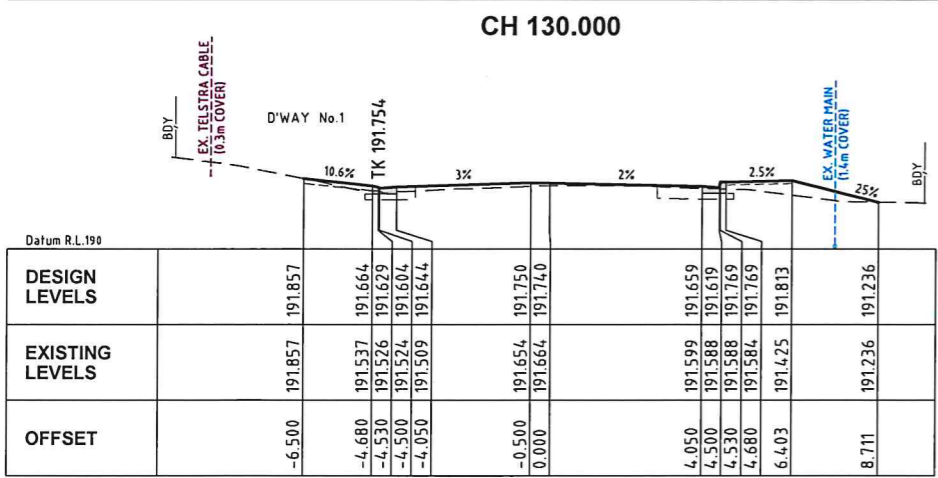
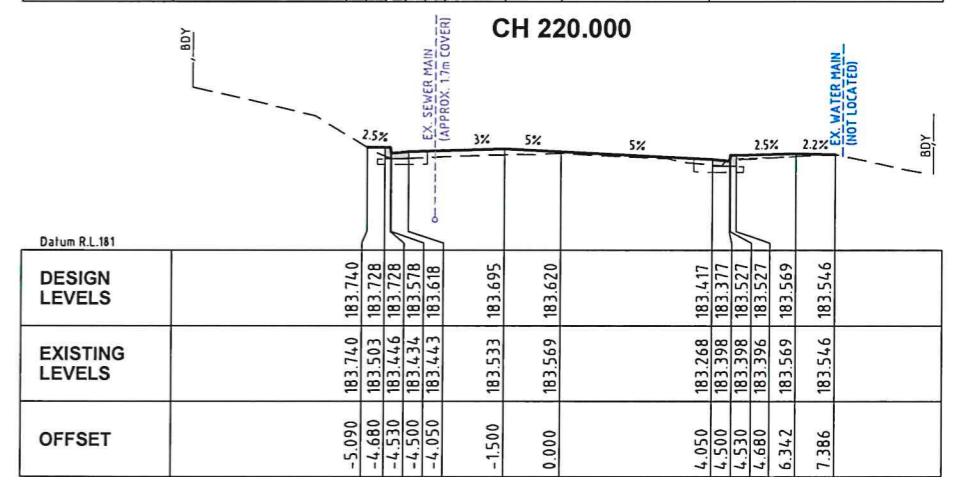
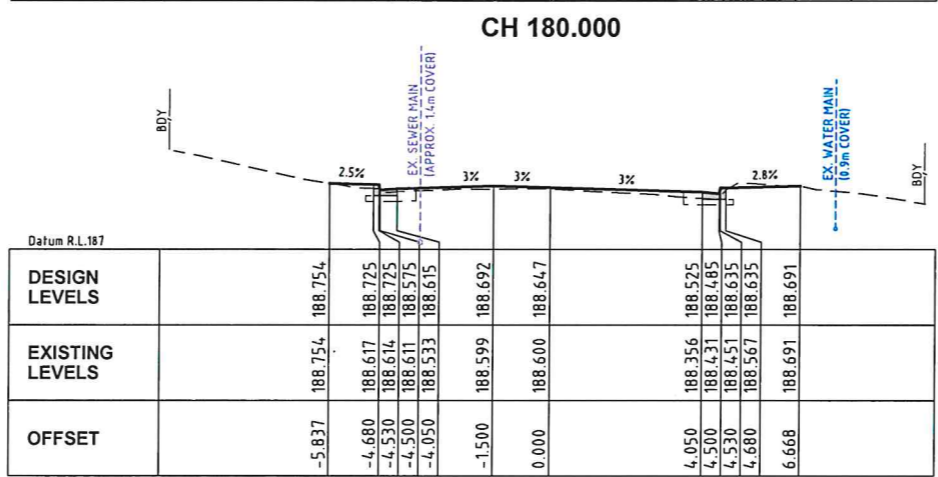
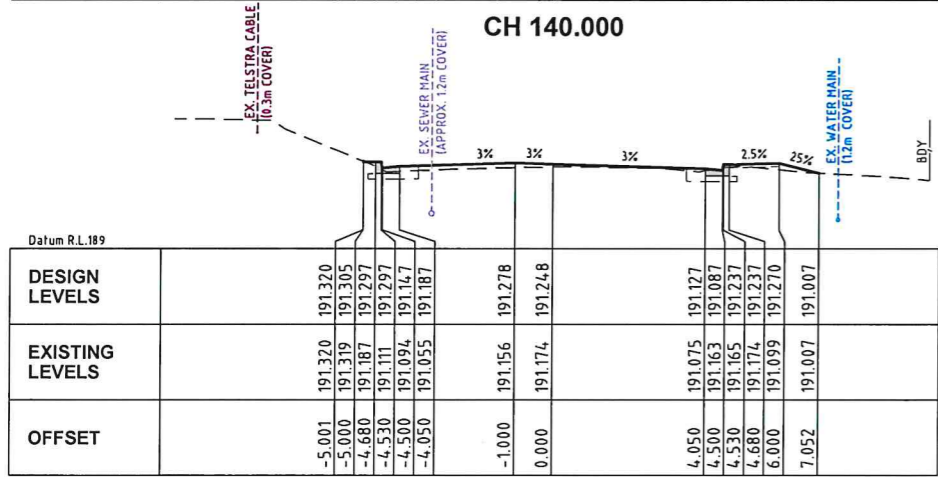
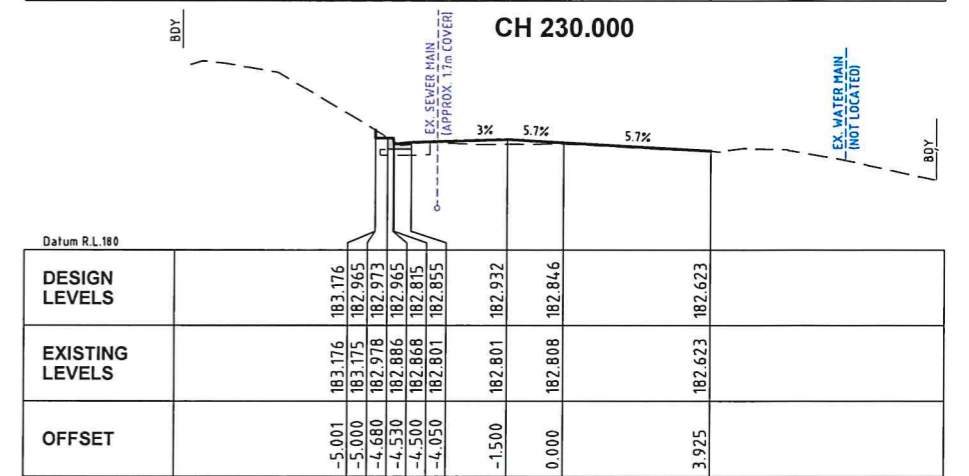
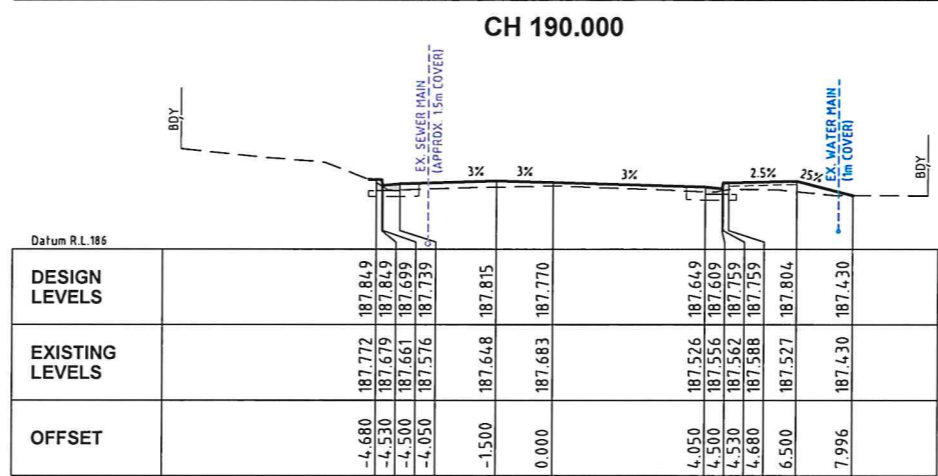
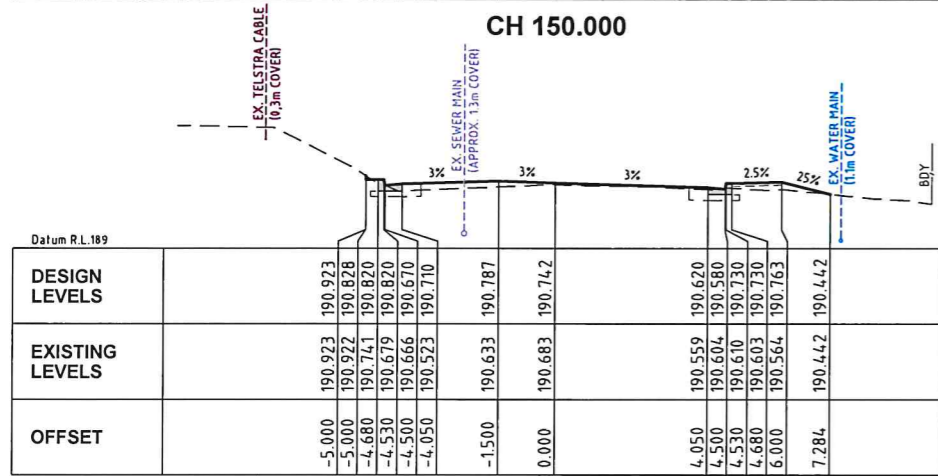
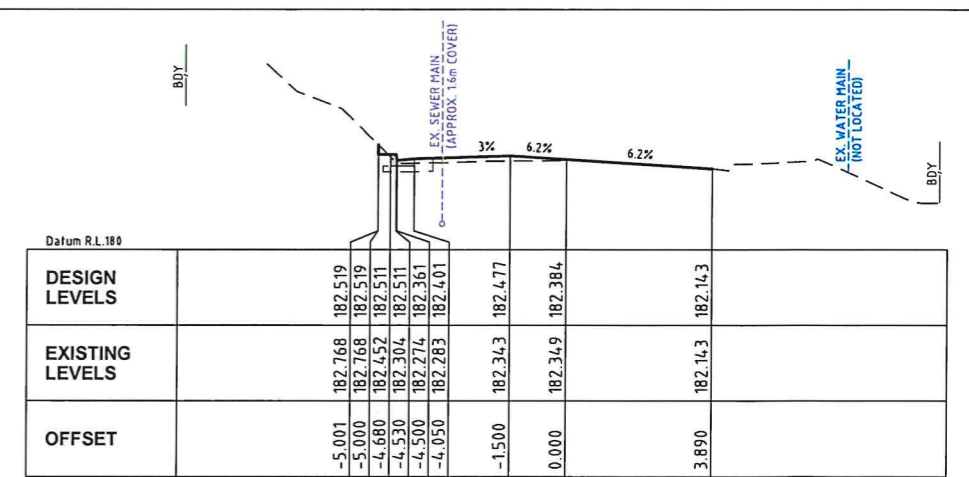
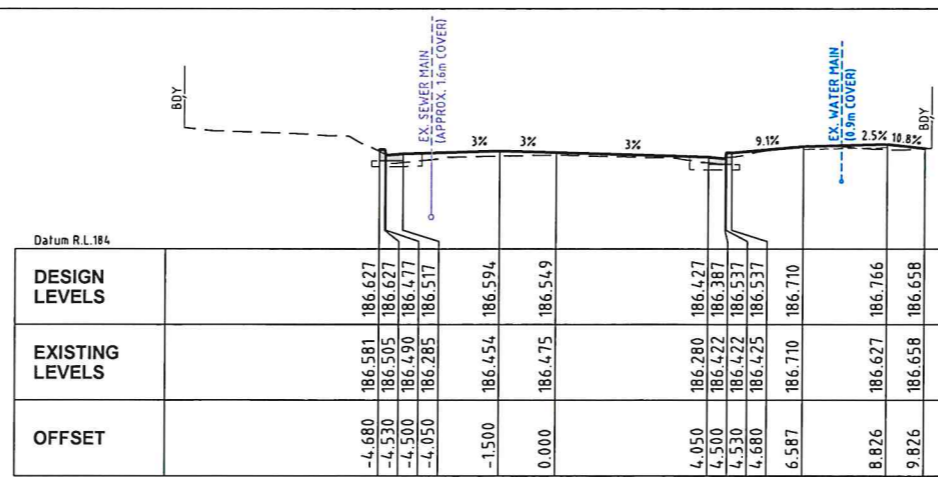
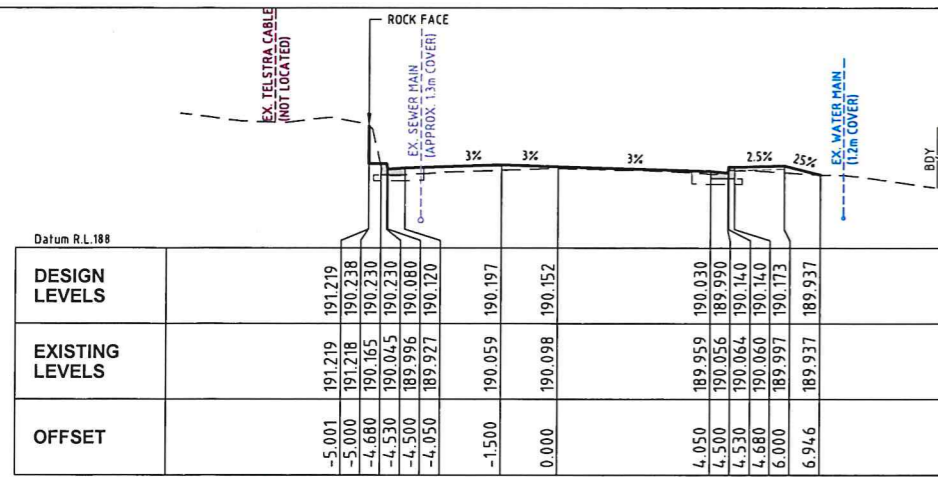
CL1 CROSS SECTIONS - CH20.000 TO CH110.000.

Project Number: 100183

Sheet of: 8 of 15

Issue: 1

HSC Drawing Number: 599.2



**Hornsby Shire Council
Design & Construction
Branch**

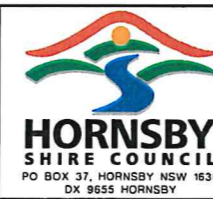
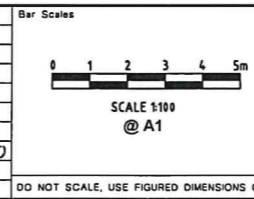
TELEPHONE: (02) 9847 6666
FACSIMILE: (02) 9847 6999
Authorised for release - Manager Design & Construction
Name: R. RAJCA Signed: [Signature] Date: 18/10/20

Designer: X. ZHENG
Drawn: X. ZHENG
Surveyor: R. TERTELI
Project Identifier: \CAD File Name
H:\Bushlands Ave_LR_100183\Design\CAD\Bushlands.dwg
TRIM Document Number
008495515

Design Checked: [Signature]
Drawing Checked:
Signed:
NA Field Book NA Level Book AHD Datum

Issue	ISSUED FOR CONSTRUCTION	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	MD	17/10

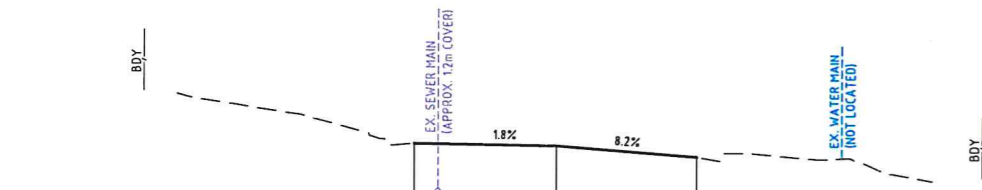
Design not to be amended without authorisation by Manager Design & Construction



**BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH**

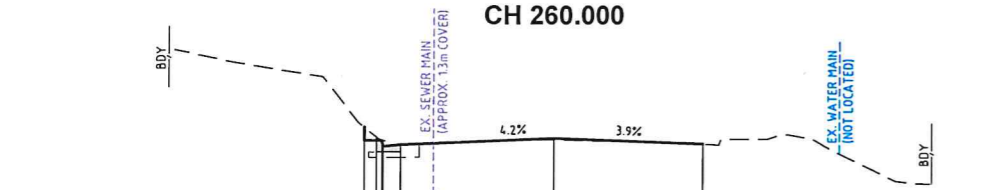
CL1 CROSS SECTIONS - CH120.000 TO CH230.000.

Project Number	100183	
Sheet	9	of 15
Issue	1	
HSC Drawing Number	599.2	



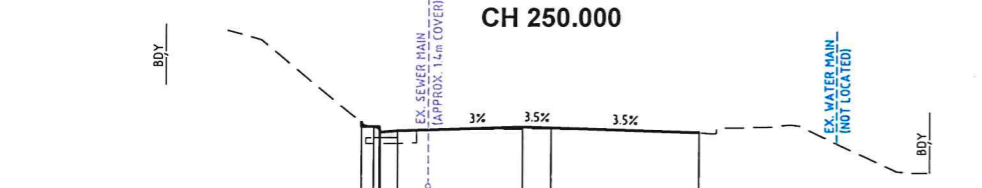
Datum R.L.179			
DESIGN LEVELS		181.405	181.033
EXISTING LEVELS		181.405	181.033
OFFSET		-3.755	3.731

CH 260.000



Datum R.L.179			
DESIGN LEVELS	181.922	181.575	181.474
EXISTING LEVELS	181.921	181.567	181.474
OFFSET	-5.001	-4.680	3.955

CH 250.000



Datum R.L.179			
DESIGN LEVELS	182.122	182.004	181.841
EXISTING LEVELS	182.121	181.944	181.841
OFFSET	-5.001	-0.750	3.933

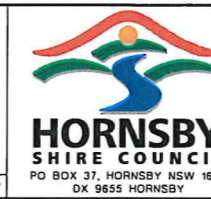
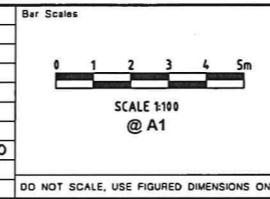
CH 240.000

Hornsby Shire Council
Design & Construction Branch

TELEPHONE: (02) 9847 6666
 FACSIMILE: (02) 9847 6999
 Name: R. RAJCA
 Signed: *[Signature]*
 Date: 12/1/20

Designer: X. ZHENG
 Signed: *[Signature]*
 Drawn: X. ZHENG
 Drawing Checked:
 Surveyor: R. TERTELI
 Project Identifier: \CAD File Name
 H:\Bushlands Ave_LR_100183\Design\ACAD\Bushlands.dwg
 TRIM Document Number
 D08495515

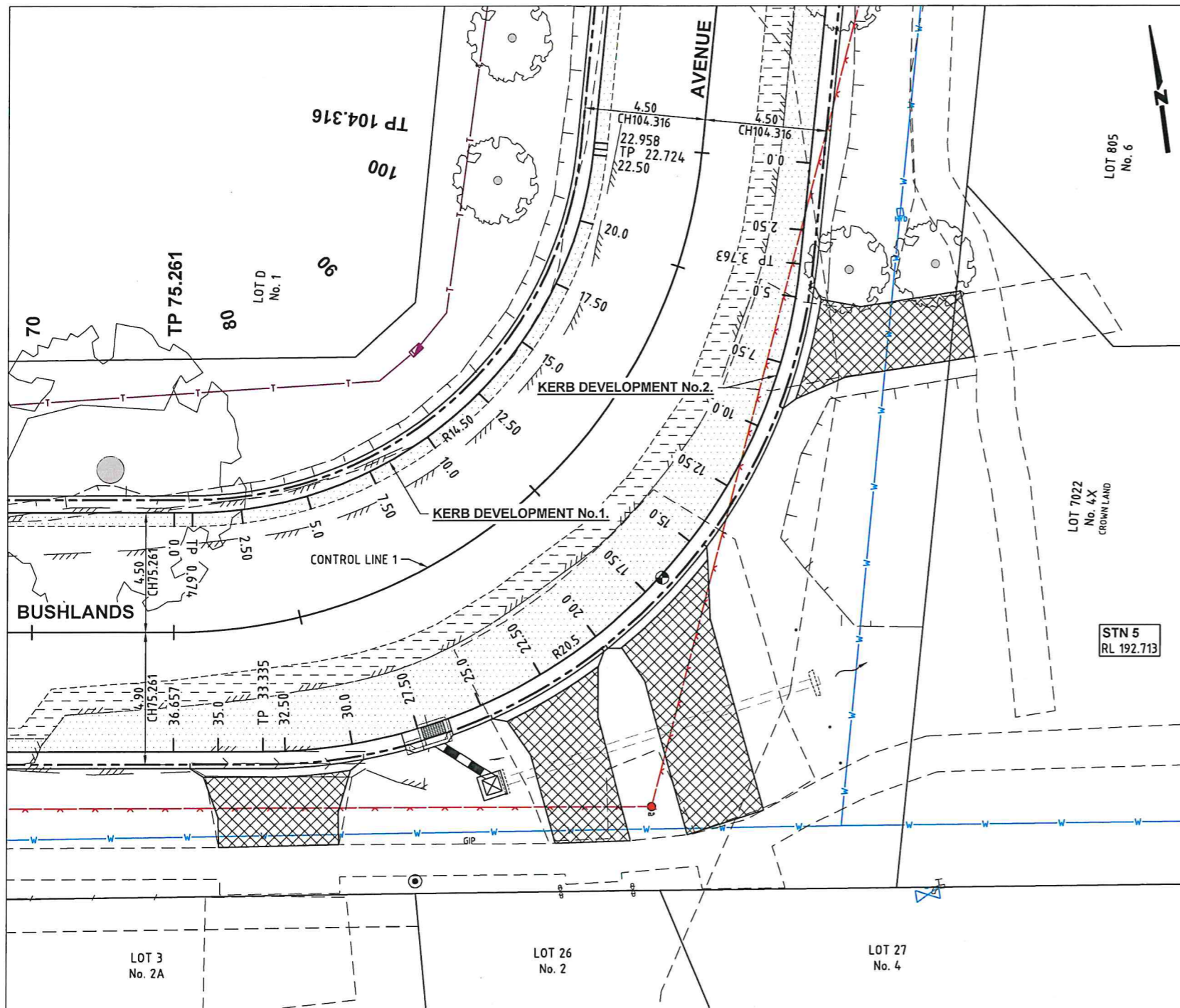
1	ISSUED FOR CONSTRUCTION	M. DRAKE	12/1/20
Issue	Description	Name	Initial Date
Design not to be amended without authorisation by Manager Design & Construction			



BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH

CL1 CROSS SECTIONS - CH240.000 TO CH250.000.

Project Number	100183	
Sheet of	10	15
Issue	1	
HSC Drawing Number	599.2	

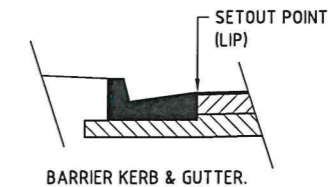


KERB DEVELOPMENT SETOUT PLAN
SCALE 1:100

KERB DEVELOPMENT No.1 SETOUT DETAILS				
CHAINAGE	EASTING	NORTHING	LIP LEVEL	RAD/SPIRAL
0.000	323604.416	6271341.003	193.274	
0.674	323605.082	6271340.894	193.246	-14.950
2.500	323606.897	6271340.711	193.169	-14.950
5.000	323609.392	6271340.821	193.065	-14.950
7.500	323611.833	6271341.346	192.960	-14.950
10.000	323614.153	6271342.269	192.856	-14.950
12.500	323616.287	6271343.565	192.750	-14.950
15.000	323618.176	6271345.199	192.645	-14.950
17.500	323619.766	6271347.124	192.539	-14.950
20.000	323621.014	6271349.287	192.429	-14.950
22.500	323621.884	6271351.627	192.310	-14.950
22.724	323621.943	6271351.844	192.299	
22.958	323622.003	6271352.070	192.288	

REFER TO SHEET No. 4 FOR SURVEY STATION DETAILS.

KERB DEVELOPMENT No.2 SETOUT DETAILS				
CHAINAGE	EASTING	NORTHING	LIP LEVEL	RAD/SPIRAL
0.000	323629.836	6271350.008	192.369	
2.500	323629.199	6271347.590	192.444	
3.763	323628.878	6271346.369	192.481	20.050
5.000	323628.526	6271345.183	192.517	20.050
7.500	323627.596	6271342.864	192.584	20.050
10.000	323626.385	6271340.679	192.649	20.050
12.500	323624.911	6271338.661	192.713	20.050
15.000	323623.198	6271336.843	192.778	20.050
17.500	323621.272	6271335.251	192.842	20.050
20.000	323619.164	6271333.912	192.908	20.050
22.500	323616.904	6271332.845	192.974	20.050
25.000	323614.530	6271332.067	193.041	20.050
27.500	323612.078	6271331.591	193.109	20.050
30.000	323609.585	6271331.423	193.178	20.050
32.500	323607.091	6271331.567	193.247	20.050
33.335	323606.264	6271331.684	193.270	
35.000	323604.621	6271331.952	193.317	
36.657	323602.985	6271332.218	193.363	



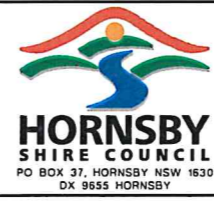
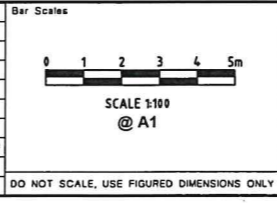
KERB RETURN SETOUT DETAILS
N.T.S

Hornsby Shire Council
Design & Construction
Branch
TELEPHONE: (02) 9847 6666
FACSIMILE: (02) 9847 6999
Name: R. RAJCA

Designer: X. ZHENG
Drawn: X. ZHENG
Surveyor: R. TERTELI
Project Identifier: \\CAD File Name
H:\Bushlands Ave_LR_100183\Design\ACAD\Bushlands.dwg
TRIM Document Number
008495515

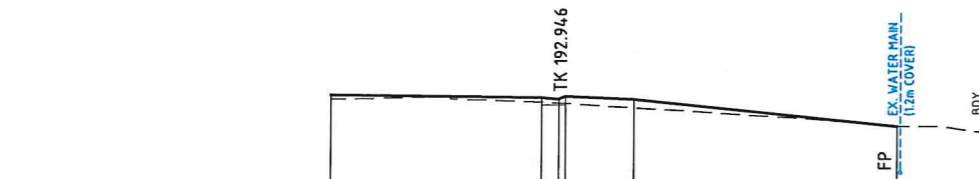
Issue	Description	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	MD	17/10

Design not to be amended without authorisation by Manager Design & Construction



BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH
KERB DEVELOPMENT PLAN & SETOUT DETAILS

Project Number	100183	
Sheet of	11	15
Issue	1	
HSC Drawing Number	599.2	



Vertical Geometry Grade (%)

DATUM R.L.186.000

CONTROL LINE FINISHED LEVEL	192.892		192.836	192.796		192.089
EXISTING SURFACE LEVEL	192.784		192.720	192.693	192.871	192.796
CONTROL LINE CHAINAGE	0	5.586	6.035	6.215	8.035	15.02

DRIVEWAY HOUSE No.4 - CH90.602

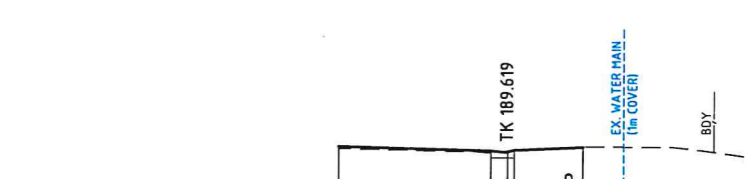


Vertical Geometry Grade (%)

DATUM R.L.186.000

CONTROL LINE FINISHED LEVEL	191.447		191.370	191.330		191.594
EXISTING SURFACE LEVEL	191.367	191.353	191.264	191.272	191.289	191.594
CONTROL LINE CHAINAGE	0	0.802	4.05	4.5	4.68	6.859

DRIVEWAY HOUSE No.3 - 126.036 (SOUTH)



Vertical Geometry Grade (%)

DATUM R.L.184.000

CONTROL LINE FINISHED LEVEL	189.620		189.499	189.459		189.596
EXISTING SURFACE LEVEL	189.559		189.445	189.503	189.519	189.596
CONTROL LINE CHAINAGE	0	4.05	4.5	4.68	6.5	

DRIVEWAY HOUSE No.10 - CH157.744

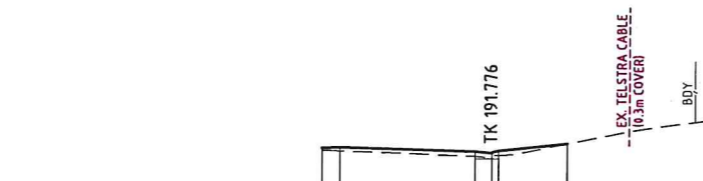


Vertical Geometry Grade (%)

DATUM R.L.187.000

CONTROL LINE FINISHED LEVEL	193.031		192.975	192.935		192.308
EXISTING SURFACE LEVEL	192.939		192.853	192.830	193.010	192.308
CONTROL LINE CHAINAGE	0	5.575	6.025	6.205	8.025	12.133

DRIVEWAY HOUSE No.2 - CH86.465

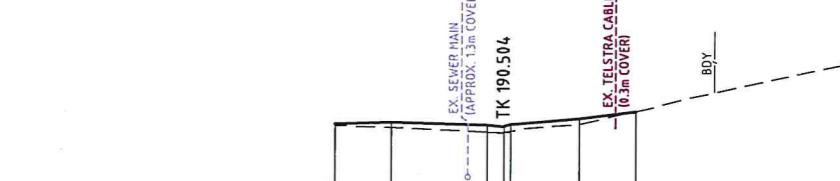


Vertical Geometry Grade (%)

DATUM R.L.187.000

CONTROL LINE FINISHED LEVEL	191.764		191.666	191.626		191.868
EXISTING SURFACE LEVEL	191.689	191.679	191.535	191.548	191.561	191.868
CONTROL LINE CHAINAGE	0	0.475	4.05	4.5	4.68	6.5

DRIVEWAY HOUSE No.1 - CH119.506

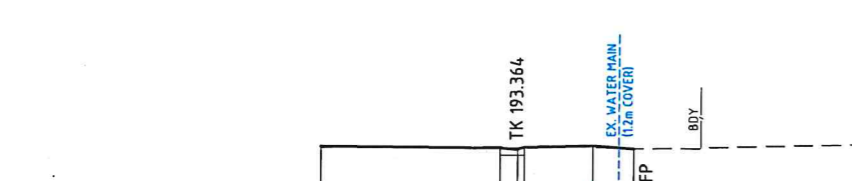


Vertical Geometry Grade (%)

DATUM R.L.185.000

CONTROL LINE FINISHED LEVEL	190.425		190.394	190.354		190.752
EXISTING SURFACE LEVEL	190.368	190.331	190.212	190.200	190.237	190.414
CONTROL LINE CHAINAGE	0	1.5	4.05	4.5	4.68	6.5

DRIVEWAY HOUSE No.3 - CH145.591 (NORTH)

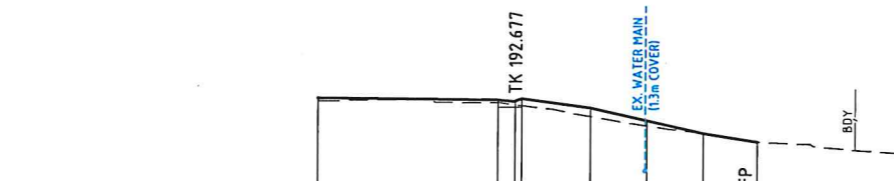


Vertical Geometry Grade (%)

DATUM R.L.188.000

CONTROL LINE FINISHED LEVEL	193.300		193.254	193.214		193.229
EXISTING SURFACE LEVEL	193.253		193.287	193.274	193.314	193.229
CONTROL LINE CHAINAGE	0	4.748	5.198	5.378	7.198	8.286

HOUSE DRIVEWAY No.2A - CH78.470

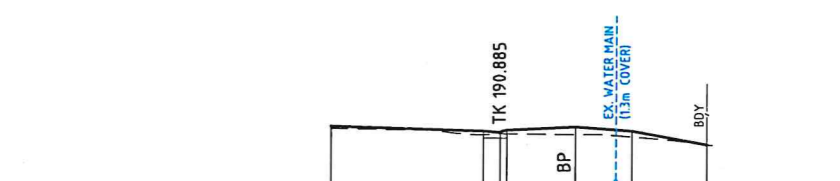


Vertical Geometry Grade (%)

DATUM R.L.186.000

CONTROL LINE FINISHED LEVEL	192.615		192.567	192.527		191.446
EXISTING SURFACE LEVEL	192.537		192.488	192.438	192.602	191.677
CONTROL LINE CHAINAGE	0	4.778	5.228	5.407	7.228	8.728

DRIVEWAY HOUSE No.6 - CH98.731



Vertical Geometry Grade (%)

DATUM R.L.180.000

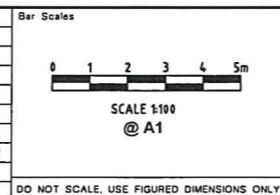
CONTROL LINE FINISHED LEVEL	190.897		190.775	190.735		190.408
EXISTING SURFACE LEVEL	190.836		190.679	190.659	190.795	190.408
CONTROL LINE CHAINAGE	0	4.05	4.5	4.68	6.5	8

DRIVEWAY HOUSE No.8 - CH137.011

**Hornsby Shire Council
Design & Construction
Branch**

Designer X. ZHENG	Design Checked M. Drake		
Drawn X. ZHENG	Drawing Checked		
Surveyor R. TERTELI	NA	NA	AHD
Project Identifier \ CAD File Name	H:\Bushlands Ave_LR_100183\Design\CAD\Bushlands.dwg		
TRIM Document Number	008495515		

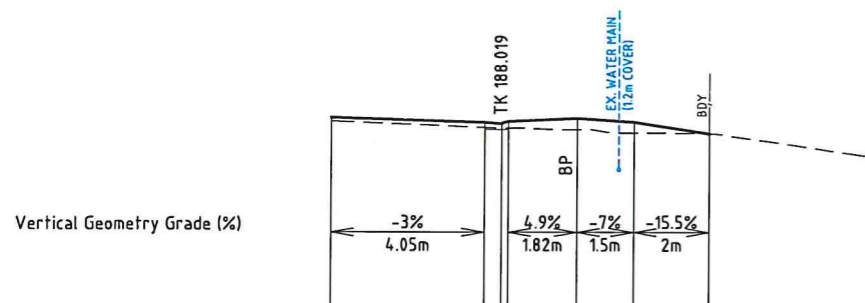
1	ISSUED FOR CONSTRUCTION	M. DRAKE	1/1/0
Issue	Description	Name	Initial Date
Design not to be amended without authorisation by Manager Design & Construction			



BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH
DRIVEWAY PROFILES
SHEET 1 OF 2

Project Number	100183	
Sheet of	12	15
Issue	1	
HSC Drawing Number	599.2	

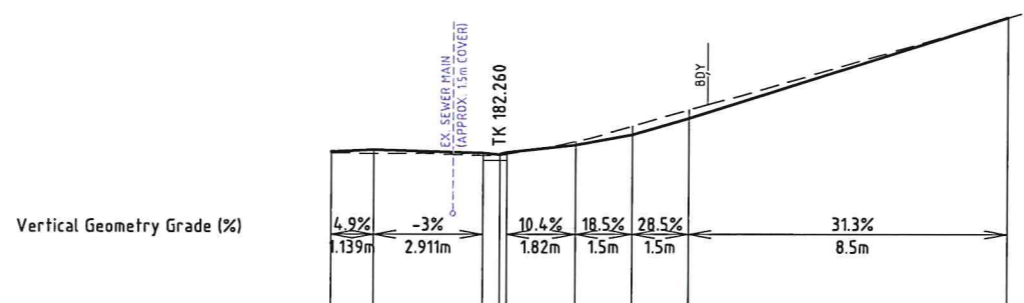
Authorised for release - Manager Design & Construction
Name: R. RAJCA
Signed: [Signature]
Date: 13/10/24



DATUM R.L.182.000

CONTROL LINE FINISHED LEVEL	188.031	187.909	187.869	187.929	188.019	187.914	187.605
EXISTING SURFACE LEVEL	187.936	187.769	187.754	187.758	187.717	187.626	187.605
CONTROL LINE CHAINAGE	0	4.05	4.5	4.68	6.5	8	10

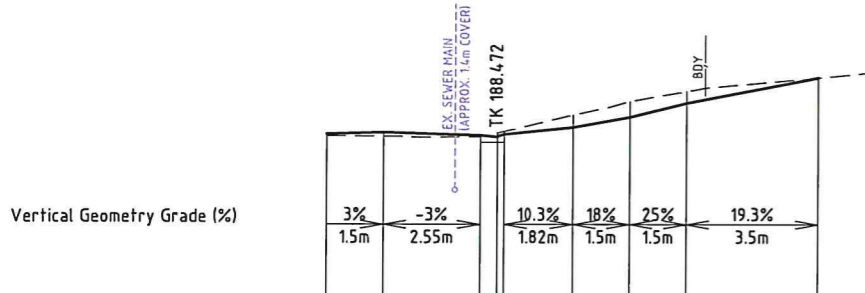
DRIVEWAY HOUSE No.12 - CH177.314



DATUM R.L.177.000

CONTROL LINE FINISHED LEVEL	182.181	182.237	182.150	182.110	182.170	182.360	182.637	183.065	185.729	
EXISTING SURFACE LEVEL	182.149	182.139	182.083	182.080	182.115	182.456	182.863	183.291	185.729	
CONTROL LINE CHAINAGE	0	1.139	2.911	4.05	4.5	4.68	6.5	8	9.5	18

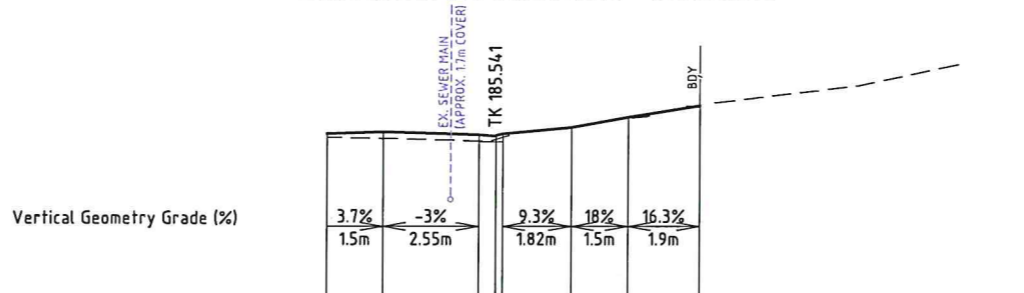
DRIVEWAY HOUSE No.11 - CH234.815



DATUM R.L.183.000

CONTROL LINE FINISHED LEVEL	188.393	188.438	188.362	188.322	188.382	188.570	188.840	189.215	189.889	
EXISTING SURFACE LEVEL	188.331	188.328	188.314	188.420	188.463	188.902	189.261	189.527	189.889	
CONTROL LINE CHAINAGE	0	1.5	2.55	4.05	4.5	4.68	6.5	8	9.5	13

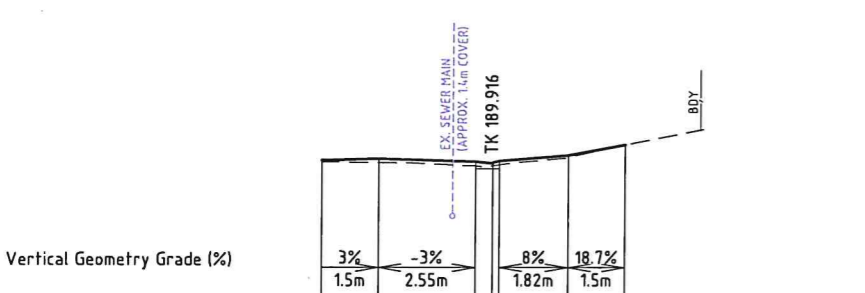
DRIVEWAY HOUSE No.7 - CH173.042



DATUM R.L.180.000

CONTROL LINE FINISHED LEVEL	185.452	185.508	185.431	185.391	185.451	185.621	185.891	186.201	
EXISTING SURFACE LEVEL	185.352	185.331	185.260	185.312	185.365	185.627	185.863	186.201	
CONTROL LINE CHAINAGE	0	1.5	2.55	4.05	4.5	4.68	6.5	8	9.9

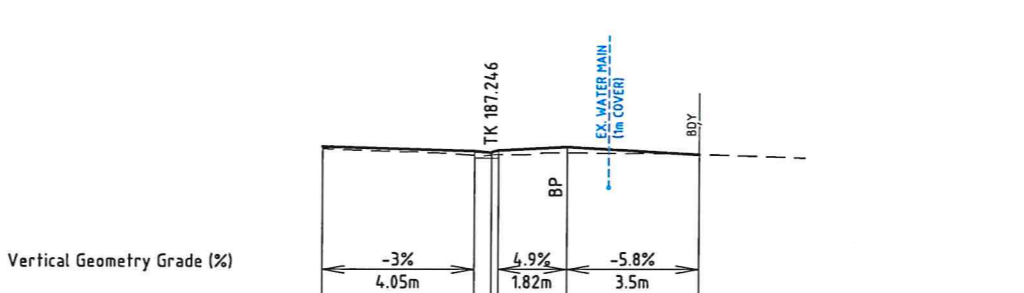
DRIVEWAY HOUSE No.9 - CH197.046



DATUM R.L.183.000

CONTROL LINE FINISHED LEVEL	188.837	188.882	188.806	188.766	188.826	188.971	189.251	
EXISTING SURFACE LEVEL	188.790	188.776	188.690	188.699	188.724	188.915	189.251	
CONTROL LINE CHAINAGE	0	1.5	2.55	4.05	4.5	4.68	6.5	8

DRIVEWAY HOUSE No.5 - CH167.709



DATUM R.L.181.000

CONTROL LINE FINISHED LEVEL	187.258	187.136	187.096	187.156	187.246	187.045
EXISTING SURFACE LEVEL	187.191	187.029	187.033	187.042	187.085	187.045
CONTROL LINE CHAINAGE	0	4.05	4.5	4.68	6.5	10

DRIVEWAY HOUSE No.14 - CH184.617

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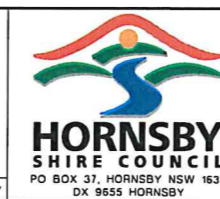
TELEPHONE: (02) 9647 6666
FACSIMILE: (02) 9647 6999
Authorised for release - Manager Design & Construction
Name: R. RAJCA Signed: *[Signature]* Date: 2/12/22

Designer: X. ZHENG
Signed: *[Signature]*
Drawn: X. ZHENG
Signed: *[Signature]*
Surveyor: R. TERTELI
Project Identifier: \CAD File Name
H:\Bushlands Ave_LR_100183\Design\CAD\Bushlands.dwg
TRIM Document Number
D08495515

Design Checked/Design Team Leader	Signed: <i>[Signature]</i>	
Drawing Checked	Signed: <i>[Signature]</i>	
NA Field Book	NA Level Book	AHD Datum
1	ISSUED FOR CONSTRUCTION	M. DRAKE
Issue	Description	Name
		Initial
		Date

Design not to be amended without authorisation by Manager Design & Construction

Bar Scales
0 1 2 3 4 5m
SCALE 1:100
@ A1
DO NOT SCALE, USE FIGURED DIMENSIONS ONLY



BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH
DRIVEWAY PROFILES
SHEET 2 OF 2

Project Number	100183
Sheet of	13 15
Issue	1
HSC Drawing Number	599.2



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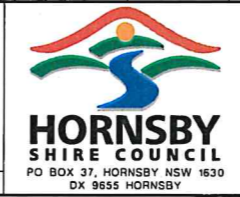
Authorised for release - Manager Design & Construction
Name: R. RAJCA Signed: *[Signature]* Date: 12/14/22

Designer: X. ZHENG
Signed: *[Signature]*
Drawn: X. ZHENG
Signed:
Surveyor: R. TERTELI
Project Identifier \CAD File Name: H:\Bushlands Ave_LR_100183\Design\CAD\Bushlands.dwg
TRIM Document Number: D08495515

NA	NA	AHD
Field Book	Level Book	Datum

Issue	Description	Name	Initial	Date
1	ISSUED FOR CONSTRUCTION	M. DRAKE	<i>[Initials]</i>	<i>[Date]</i>
Design not to be amended without authorisation by Manager Design & Construction				

Bar Scale:
0 7.5 15 22.5 30 37.5m
SCALE 1:750
@ A1
DO NOT SCALE, USE FIGURED DIMENSIONS ONLY



**BUSHLANDS AVENUE, HORNSBY HEIGHTS
PROPOSED ROAD RECONSTRUCTION
FULL LENGTH**

STORMWATER DRAINAGE CATCHMENT PLAN.


Project Number: 100183
Sheet of: 14 15 Issue: 1
HSC Drawing Number: 599.2

1 in 20 Year Hydrology Data and Results																						
Sub Catchment	Catchment Discharge					Gutter Flow Profile						Inlet			Pipe Sizing					Remarks		
	Sub Area Time of Concentration - Tc	Total Area - A	Paved Area	Grassed Area	Max Surface Flow Arriving Q	Bypass from upstream	Total Gutter flow	Road Cross fall	Gutter grade	Width of flow	Depth of gutter flow	Inlet pit No	Inlet pit type	Inflow	Bypass	Bypass to pit No	Critical time of concentration	Rainfall intensity	Pipe Outflow		Grade of Outlet Pipe	Diameter
	mins	ha	%	%	cu.m/s	cu.m/s	cu.m/s	%	%	m	mm			cu.m/s	cu.m/s		mins	mm/hr	cu.m/s		%	mm
Cat 8910	5	0.45	60	40	0.229	0	0.229	3	5.3	1.63	0.075	8910	GP 3.6m KI	0.229	0.057	8912	5	186.60	0.13	4.11	375	
Cat 8911	5	0.22	100	0	0.058	0.015	0.073	3	6.8	0.38	0.033	8911	GP 3.6m KI	0.058	0	8913	5	186.60	0.173	12.3	375	
Cat 8913	5	0.02	95	5	0.012	0	0.012	3	10.9	0.36	0.031	8913	GP 2.4m KI	0.012	0	8914	5	186.60	0.297	10.02	375	
Cat 8914	5	0.02	80	20	0.012	0	0.012	5	14.7	0.32	0.028	8914	GP 2.4m KI	0.012	0	8916	5	186.60	0.306	4.11	375	
Cat 8916	5	0.01	100	0	0.006	0	0.006	5	7	1.48	0.11	8916	GP 1.8m KI	0.006	0.165	8919	5	186.60	0.273	3.93	375	
Cat 8919	5	0.03	100	0	0.672	0.165	0.837	7	3.9	3.47	0.13	8919	GP 1.8m KI	0.672	0.577	8962	5	186.60	0.429	0.87	450	
Cat 8912	5	0.15	70	30	0.183	0.057	0.240	3	10.3	2.06	0.088	8912	GP 3.6m KI	0.183	0	8915	5	186.60	0.12	4.36	375	
Cat 8915	5	0.49	60	40	0.306	0	0.306	3	11.4	2.19	0.092	8915	GP 3.6m KI	0.306	0.08	8917	5	186.60	0.129	4.21	375	
Cat 8917	5	0.13	60	40	0.236	0.08	0.316	3	3.8	2.63	0.105	8917	GP 1.8m KI	0.236	0.106	8918	5	186.60	0.033	2.7	375	
Cat 8918	5	0.16	40	60	0.288	0.106	0.394	3	SAG	10.45	0.038	8918	GP 1.8m KI	0.288	0.34	8919	5	186.60	0.22	2.96	375	
Cat 1\3	6.5	0.13	97	3	0.067	0	0.067	1	4.9	1.16	0.061	1\3	GP 1.2m KI	0.067	0.015	8911	5	186.60	0.041	1	300	
Cat 1\2	5	0.03	100	0	0.016	0	N/A	N/A	N/A	N/A	N/A	1\3	N/A	0.016	0	N/A	5	186.60	0.016	6.4	300	Roof water outlet connects to pit.

1 in 20 Year Hydraulic Data and Results																												
U/S Node Name	D/S Node Name	Subcatchment Number	Return Period	Conduit data										Data at Upstream Manhole														
				Conduit Shape	Number of barrels	Total Length	Colebrook White (K)	Pipe manning's n	Diameter or height	Pipe Class	Upstream Invert	Downstream Invert	Conduit Grade	Results					Manhole Losses			Inlet Information					Overflow	
														Upstream HGL	Downstream HGL	Friction Loss	Flow	Velocity	Manhole Pit	Ku	Method	Inlet Capacity	Inlet Inflow	Ponding Level Limit	Manhole Cover Level	Water Surface Level		Freeboard
				(m)		(m)	(%)	(m)	(m)	(m)	(%)	(m)	(m)	(m)	(cu.m/s)	(m/s)				(cu.m/s)	(cu.m/s)	(m)	(m)	(m)		(cu.m/s)		
8910	8911	8910	20	Cir	1	9.778	0.6	0.013	375	2	188.018	187.616	4.11	188.282	187.773	1.691	0.13	2.96	8910	4	Manual	0.160	0.229	188.870	189.02	188.38	0.64	0.057
8911	8913	8911	20	Cir	1	22.418	0.6	0.013	375	2	187.106	184.349	12.3	187.411	184.939	1.792	0.173	1.79	8911	1.5	Manual	0.120	0.058	188.439	188.589	187.45	1.14	0
8913	8914	8913	20	Cir	1	20.315	0.6	0.013	375	2	184.349	182.314	10.02	184.707	182.849	1.757	0.297	2.73	8913	1.5	Manual	0.120	0.012	185.994	186.144	184.94	1.20	0
8914	8916	8914	20	Cir	1	16.8	0.6	0.013	375	2	181.974	181.283	4.11	182.649	182.129	1.718	0.306	2.77	8914	0.5	Manual	0.130	0.012	183.004	183.154	182.85	0.30	0
8916	8919	8916	20	Cir	1	32.416	0.6	0.013	375	2	181.233	179.96	3.93	181.663	180.879	1.761	0.273	2.47	8916	1.5	Manual	0.103	0.006	181.979	182.129	182.13	0.00	0.165
8919	9353	8919	20	Cir	1	5.662	0.6	0.013	450	2	179.82	179.771	0.87	180.27	180.19	1.484	0.429	2.78	8919	1.5	Manual	0.103	0.672	180.729	180.879	180.88	0.00	0.577
8912	8913	8912	20	Cir	1	8.676	0.6	0.013	375	2	185.427	185.049	4.36	185.681	185.198	1.643	0.12	2.94	8912	4	Manual	0.160	0.183	186.190	186.34	185.78	0.56	0
8915	8916	8915	20	Cir	1	9.722	0.6	0.013	375	2	181.712	181.303	4.21	182.182	182.129	1.634	0.129	1.17	8915	4	Manual	0.160	0.306	182.415	182.565	182.46	0.10	0.08
8917	8918	8917	20	Cir	1	6.86	0.6	0.013	375	2	180.581	180.396	2.7	181.417	181.415	1.550	0.033	0.3	8917	4	Manual	0.105	0.236	181.289	181.439	181.44	0.00	0.106
8918	8919	8918	20	Cir	1	8.658	0.6	0.013	375	2	180.346	180.09	2.96	181.014	180.879	1.601	0.22	1.99	8918	2	Manual	0.105	0.288	181.215	181.365	181.42	-0.05	0.34
1\3	1\2	1\3	20	Cir	1	2.747	0.6	0.013	300	2	192.448	192.42	1.02	192.626	192.619	1.225	0.041	0.94	1\3	4	Manual		0.067	192.893	193.043	192.71	0.33	0.015
1\2	1\1	1\2	20	Cir	1	12.522	0.6	0.013	300	2	192.42	191.617	6.41	192.605	191.716	1.773	0.057	2.82	1\2	1.5	Manual	0.000	0	192.758	192.908	192.62	0.29	0

DRAINS FILE LINK:

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Hornsby Shire Council Design & Construction Branch TELEPHONE: (02) 9847 6666 FACSIMILE: (02) 9847 6999 Authorised for release - Manager Design & Construction Name: R. RAJCA	Designer X. ZHENG Signed: <i>X. Zheng</i>	Design Checked Design Team Leader Signed: <i>M. Drake</i>	Drawn X. ZHENG Drawing Checked	Surveyor R. TERTELI NA Field Book NA Level Book AHD Datum	Project Identifier \ CAD File Name H:\Branch\Design and Construction\PROJECTS\Bushlands Ave_LR_100183\Drainage\Drains\Bushlands Ave.dwg	Bar Scales NOT TO SCALE		BUSHLANDS AVENUE, HORNSBY HEIGHTS PROPOSED ROAD RECONSTRUCTION FULL LENGTH STORMWATER DRAINAGE DATA TABLES	Project Number 100183	Sheet of 15 15	Issue 1
	Issued 1	Description ISSUED FOR CONSTRUCTION	M. DRAKE Name Initial Date <i>M. Drake</i> <i>17/10</i>	Design not to be amended without authorisation by Manager Design & Construction	DO NOT SCALE. USE FIGURED DIMENSIONS ONLY	HSC Drawing Number 599.2					