

HUGH GREEN CONTRACTORS LIMITED

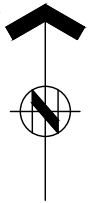
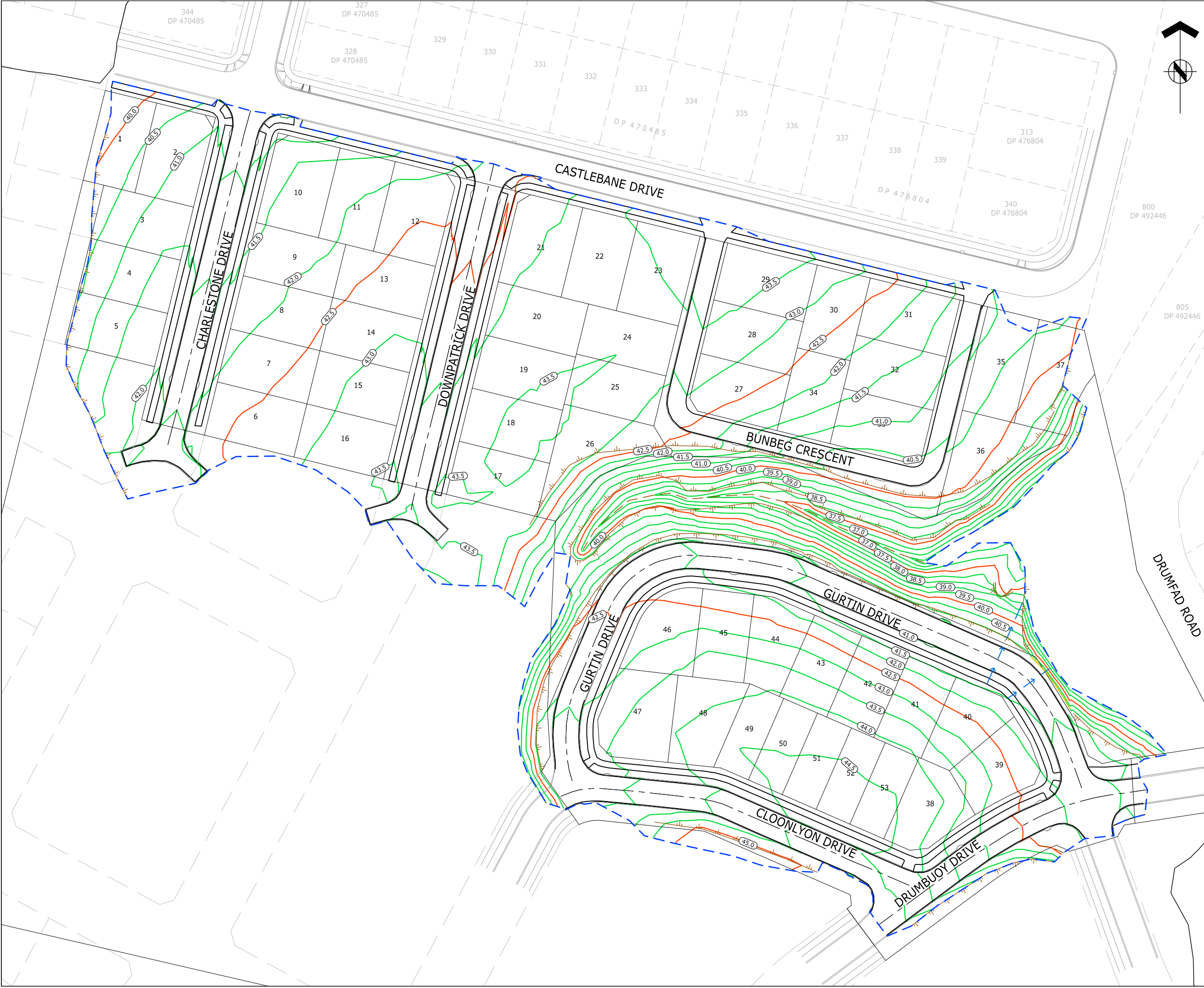
DONEGAL STUD
80 DRUMBUOY DRIVE, FLAT BUSH



LOCALITY PLAN
NTS

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ISO 9001
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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE

LEGEND:

- (42.5) CONTOUR MAJOR
- (43.0) CONTOUR MINOR
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- TOP OF BANK
- BOTTOM OF BANK
- EXTENT OF EARTHWORKS
- ← 100Ø NOVACOIL UNDERFILL DRAIN

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 28.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrisingrierson.com



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W www.harrisingrierson.com

REF	REVISIONS	WJP	BY	DATE
A	AS-BUILT			28.07.17

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

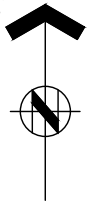
STAGE 9
FINISHED LEVEL CONTOUR
AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
DXK	07.2017		03.08.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	28.07.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	28.07.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	SCALES:	A1
1050-139707-01	1:500-A1 1:1000-A3	
DRAWING No:		REV
139707-AB200		A





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S 66 SO 48643
RL 54.50m
2. ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE

LEGEND:

CUT AREA

FILL AREA

CUT CONTOUR

FILL CONTOUR

EXTENT OF EARTHWORKS

ENGINEERING APPROVAL
ENG 51364

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A	AS-BUILT	WJP	28.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

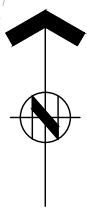
STAGE 9
EARTHWORKS CUT & FILL
AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
DXK	07.2017		31.07.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	28.07.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	28.07.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	SCALES:	A1
1050-139707-01	1:500-A1 1:1000-A3	
DRAWING No:		REV
139707-AB210		A



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- NOTES:**
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 - ORIGIN OF COORDINATES
S 66 SO 48643
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1770941.22mE

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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

**DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH**

TITLE:

**STAGE 9
ROADING AND ROAD MARKING
AS-BUILT PLAN**

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	05.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:			AS-BUILT
PROJECT No:	SCALES:		A1
1050-139707-01	1:500-A1 1:1000-A3		
DRAWING No:			REV
139707-AB300			B





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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE
- ALL PAVEMENT COVERED IN 35mm HOTMIX (MIX 10)

LEGEND:

300mm GAP 65 (UNDERCUT)

200 AP 65 (SUBBASE)

150mm AP 40 (BASE)

200mm AP 65 (SUBBASE)

150mm AP 40 (BASE)

CONCRETE JOAL

175mm (25 MPa) CONCRETE

100mm AP 40 (BASE)

CONCRETE FOOTPATH

100mm (20 MPa) CONCRETE

100mm AP 40 (BASE)

PRAM CROSSING

GRASS BERM

GABION BASKET

MANARC RESIDENTIAL VEHICLE CROSSING

ROADSIDE BARRIER

ENGINEERING APPROVAL
ENG 51364

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B	AS-BUILT	WJP 12.09.17
A	AS-BUILT	WJP 26.07.17
REF	REVISIONS	BY DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

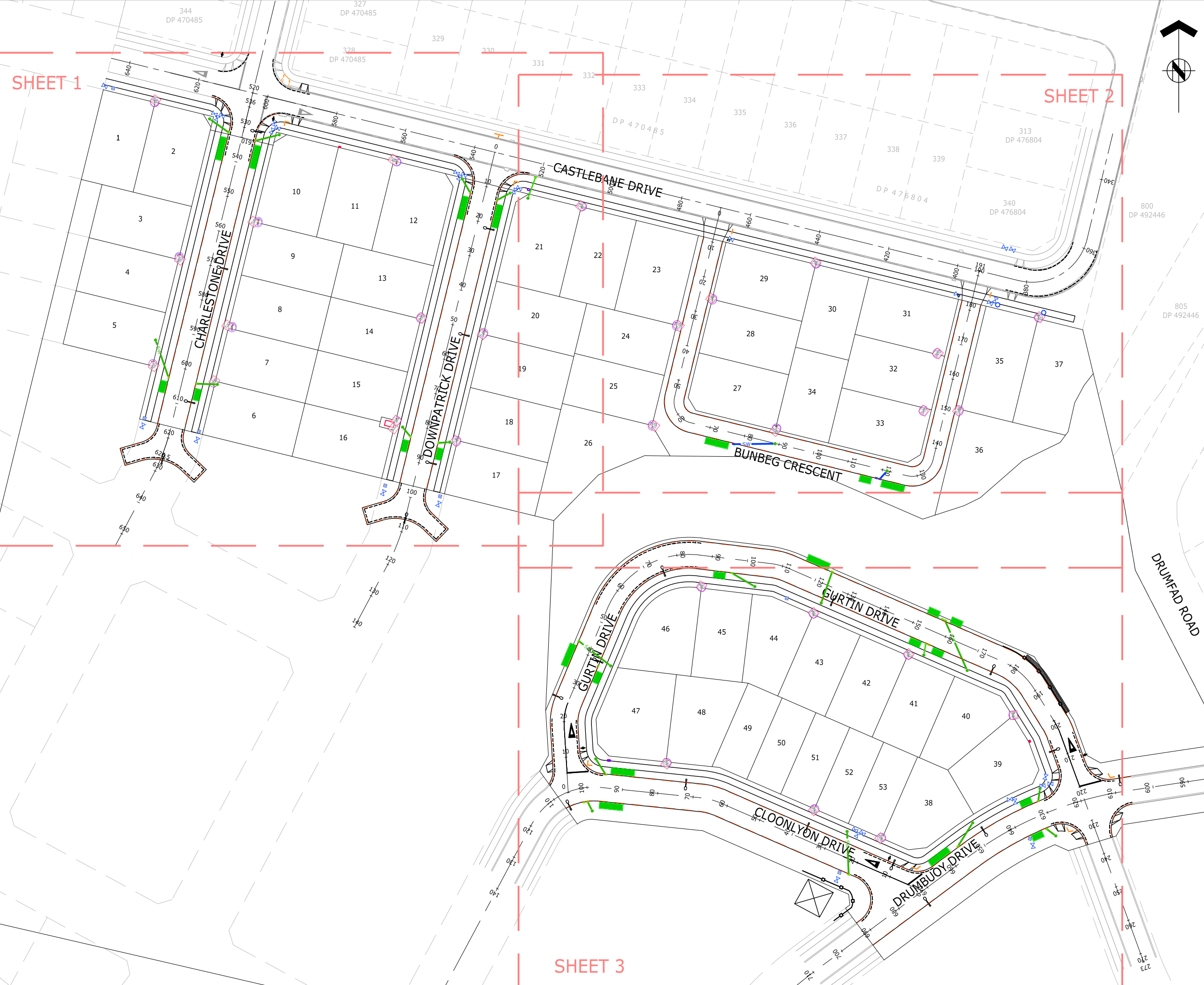
STAGE 9
PAVEMENT (UNDERCUT)
AS-BUILT PLAN


ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	05.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	1050-139707-01	SCALES:	1:500-A1 1:1000-A3	A1
DRAWING No:	139707-AB301			REV B





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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE


LEGEND

- SW NEW PUBLIC CESSPIT LEAD
- SW NEW PRIVATE CESSPIT LEAD
- NEW PUBLIC STORMWATER MANHOLE
- NEW PUBLIC CESSPIT
- NEW PRIVATE CESSPIT
- NEW POWER TUD
- NEW TELECOM PLINTH
- NEW STREETLIGHT
- NEW ROAD NAME SIGN
- NEW SIGNAGE
- NEW FIRE HYDRANT
- NEW SLUICE VALVE
- NEW PEET VALVE
- NEW BANK METER
- NEW RAINGARDEN
- NEW ROAD BARRIER
- NEW UNDERCHANNEL
- SUBSOIL DRAIN

ENGINEERING APPROVAL
ENG 51364

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Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 12.09.2017

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Phone: 09-917-5000

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W www.harrisingrierson.com

B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

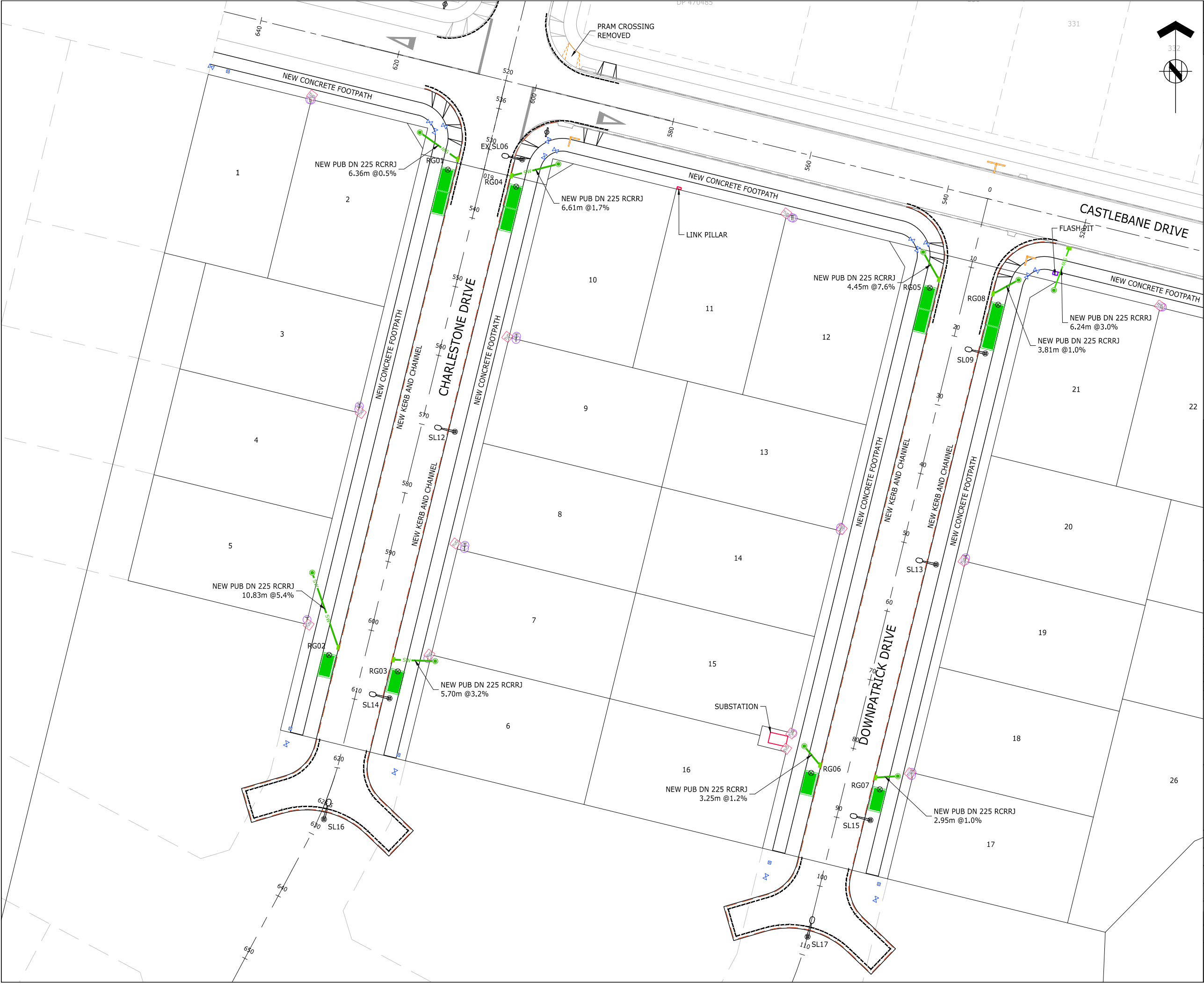
STAGE 9
ROADING AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	1050-139707-01	SCALES:	1:500-A1 1:1000-A3	A1
DRAWING No:	139707-AB302			REV B





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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE

LEGEND

SW	NEW PUBLIC CESSPIT LEAD
SW	NEW PRIVATE CESSPIT LEAD
●	NEW PUBLIC STORMWATER MANHOLE
■	NEW PUBLIC CESSPIT
■	NEW PRIVATE CESSPIT
■	NEW POWER TUD
■	NEW TELECOM PLINTH
■	NEW STREETLIGHT
■	NEW ROAD NAME SIGN
■	NEW SIGNAGE
■	NEW FIRE HYDRANT
■	NEW SLUICE VALVE
■	NEW PEET VALVE
■	NEW BANK METER
■	NEW RAINGARDEN
■	NEW ROAD BARRIER
■	NEW UNDERCHANNEL
■	SUBSOIL DRAIN

ENGINEERING APPROVAL
ENG 51364

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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
ROADING AS-BUILT PLAN
SHEET 1 OF 3

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	1050-139707-01	SCALES:	1:250-A1 1:500-A3	A1
DRAWING No:	139707-AB303			REV B





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LEGEND
SW NEW PUBLIC CESSPIT LEAD
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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

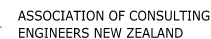
STAGE 9
ROADING AS-BUILT PLAN
SHEET 2 OF 3

ORIGINATOR: EXC	DATE: 07.2016	SIGNED:	PLOT BY: BKB
DRAWN: BB	DATE: 07.2017	SIGNED:	PLOT DATE: 12.09.17
CHECKED: WJP	DATE: 12.09.17	SIGNED:	SURVEY BY:
APPROVED: WJP	DATE: 12.09.17	SIGNED:	SURVEY DATE:

ISSUE STATUS:

AS-BUILT

PROJECT No: 1050-139707-01	SCALES: 1:250-A1 1:500-A3	A1
DRAWING No: 139707-AB304	B	





















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LEGEND

-
-  NEW PUBLIC CESSPIT LEAD
 NEW PRIVATE CESSPIT LEAD
 NEW PUBLIC STORMWATER MANHOLE
 NEW PUBLIC CESSPIT
 NEW PRIVATE CESSPIT
 NEW POWER TUD
 NEW TELECOM PLINTH
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 NEW UNDERCHANNEL
 SUBSOIL DRAIN

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REF	REVISIONS	BY	DATE

REL	REV
PROJECT:	

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
ROADING AS-BUILT PLAN
SHEET 3 OF 3

ORIGINATOR: EXC	DATE: 07.2016	SIGNED:	PLOT BY:
DRAWN: BB	DATE: 07.2017	SIGNED:	PLOT DATE: 12.09.17
CHECKED: WJP	DATE: 12.09.17	SIGNED:	SURVEY BY:
APPROVED: WJP	DATE: 12.09.17	SIGNED:	SURVEY DATE:

ISSUE STATUS:

AS-BUILT

PROJECT No: 1050-139707-01	SCALES: 1:250-A1 1:500-A3	A1
DRAWING No:		REV

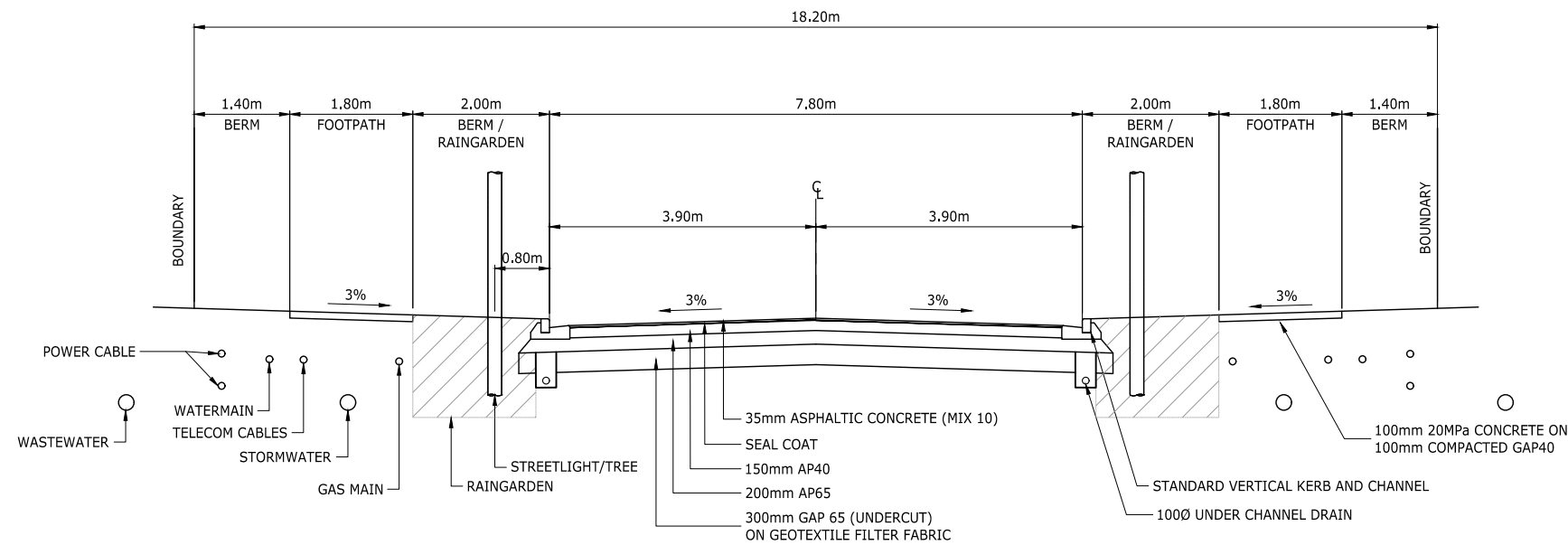
139707-AB305

B

	ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND	ISO 9001 QUALITY ASSURED																																																																												
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<div>ENGINEERING APPROVAL ENG 51364</div> <p>I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:</p> <ul style="list-style-type: none">THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm. <p>Signed: ..... CHARTERED PROFESSIONAL ENGINEER</p> <p>Date: 12.09.2017.....</p> <p>Name: WILLIAM JOHN FREDERICK PLATTS</p> <p>Phone: 09-917-5000</p> <p>Email: w.platts@harrisongrierson.com</p> <div><div>AUCKLAND OFFICE DILWORTH HOUSE 71 GREAT SOUTH ROAD NEWMARKET AUCKLAND 1051 T +64 9 917 5000 W www.harrisongrierson.com</div></div> <table><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td></tr><tr><td>B</td><td>AS-BUILT</td><td>WJP</td><td>12.09.17</td></tr><tr><td>A</td><td>AS-BUILT</td><td>WJP</td><td>26.07.17</td></tr><tr><td>REF</td><td>REVISIONS</td><td>BY</td><td>DATE</td></tr></table> <p>PROJECT:</p> <div>DONEGAL STUD 80 DRUMBUOY DRIVE FLAT BUSH</div> <p>TITLE:</p> <div>STAGE 9 ROADING AS-BUILT STREETLIGHT AND RAINGARDEN TABLES</div> <table><tr><td>ORIGINATOR:</td><td>DATE:</td><td>SIGNED:</td><td>PLOT BY:</td></tr><tr><td>EXC</td><td>07.2016</td><td></td><td>BKB</td></tr><tr><td>DRAWN:</td><td>DATE:</td><td>SIGNED:</td><td>PLOT DATE:</td></tr><tr><td>BB</td><td>07.2017</td><td></td><td>12.09.17</td></tr><tr><td>CHECKED:</td><td>DATE:</td><td>SIGNED:</td><td>SURVEY BY:</td></tr><tr><td>WJP</td><td>12.09.17</td><td></td><td></td></tr><tr><td>APPROVED:</td><td>DATE:</td><td>SIGNED:</td><td>SURVEY DATE:</td></tr><tr><td>WJP</td><td>12.09.17</td><td></td><td></td></tr></table> <p>ISSUE STATUS:</p> <div>AS-BUILT</div> <table><tr><td>PROJECT No:</td><td>SCALES:</td><td>A1</td></tr><tr><td>1050-139707-01</td><td>NOT TO SCALE</td><td></td></tr><tr><td>DRAWING No:</td><td>REV</td><td></td></tr><tr><td>139707-AB306</td><td>B</td><td></td></tr></table>																							B	AS-BUILT	WJP	12.09.17	A	AS-BUILT	WJP	26.07.17	REF	REVISIONS	BY	DATE	ORIGINATOR:	DATE:	SIGNED:	PLOT BY:	EXC	07.2016		BKB	DRAWN:	DATE:	SIGNED:	PLOT DATE:	BB	07.2017		12.09.17	CHECKED:	DATE:	SIGNED:	SURVEY BY:	WJP	12.09.17			APPROVED:	DATE:	SIGNED:	SURVEY DATE:	WJP	12.09.17			PROJECT No:	SCALES:	A1	1050-139707-01	NOT TO SCALE		DRAWING No:	REV		139707-AB306	B	
B	AS-BUILT	WJP	12.09.17																																																																											
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139707-AB306	B																																																																													

COORDINATE SCHEDULE		
POINT	mE	mN
EX SL06	1770249.32	5905755.85
SL09	1770314.81	5905728.43
SL12	1770239.79	5905717.37
SL13	1770307.85	5905698.60
SL14	1770230.55	5905679.69
SL15	1770298.56	5905662.48
SL16	1770221.29	5905662.61
SL17	1770289.67	5905646.00
SL18	1770363.12	5905631.10
SL19	1770409.82	5905622.81
SL20	1770345.46	5905606.66
SL21	1770454.76	5905603.38
SL22	1770331.65	5905597.64
SL25	1770471.49	5905581.50
SL26	1770490.95	5905574.86
SL27	1770369.11	5905573.71
SL28	1770403.63	5905561.44
SL29	1770452.25	5905560.27
SL30	1770336.64	5905565.32
SL32	1770427.79	5905551.00
SL33	1770437.76	5905538.27

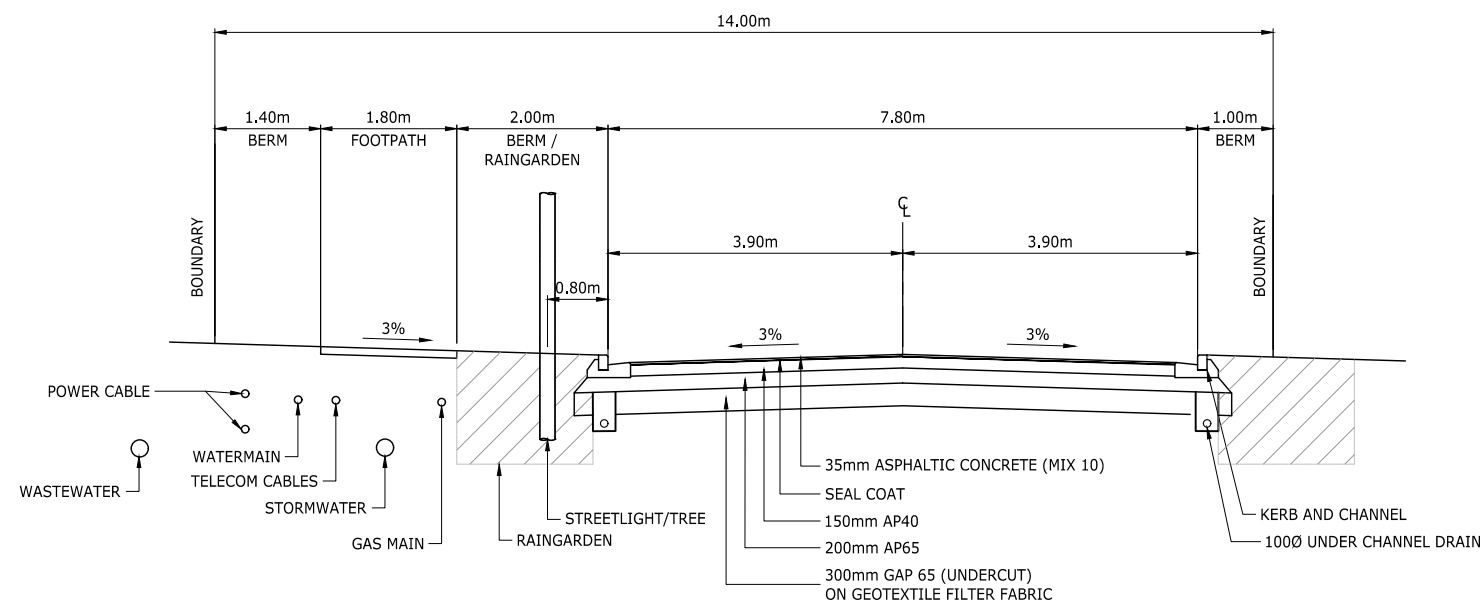
RAINGARDEN ATTRIBUTE TABLE		
POINT	DIMENSIONS	MATERIALS
RG01	1.8m x 6.6m	PRECAST CONCRETE
RG02	1.8m x 3.3m	PRECAST CONCRETE
RG03	1.8m x 3.3m	PRECAST CONCRETE
RG04	1.8m x 6.6m	PRECAST CONCRETE
RG05	1.8m x 6.6m	PRECAST CONCRETE
RG06	1.8m x 3.3m	PRECAST CONCRETE
RG07	1.8m x 3.3m	PRECAST CONCRETE
RG08	1.8m x 6.6m	PRECAST CONCRETE
RG09	1.8m x 6.6m	PRECAST CONCRETE
RG10	1.8m x 3.3m	PRECAST CONCRETE
RG11	1.8m x 6.6m	PRECAST CONCRETE
RG12	1.8m x 3.3m	PRECAST CONCRETE
RG13	1.8m x 3.3m	PRECAST CONCRETE
RG14	1.8m x 6.6m	PRECAST CONCRETE
RG15	1.8m x 6.6m	PRECAST CONCRETE
RG16	1.8m x 6.6m	PRECAST CONCRETE
RG17	1.8m x 3.3m	PRECAST CONCRETE
RG18	1.8m x 6.6m	PRECAST CONCRETE
RG19	1.8m x 3.3m	PRECAST CONCRETE
RG20	1.8m x 6.6m	PRECAST CONCRETE
RG21	1.8m x 3.3m	PRECAST CONCRETE
RG22	1.8m x 3.3m	PRECAST CONCRETE
RG23	1.8m x 3.3m	PRECAST CONCRETE
RG24	1.8m x 3.3m	PRECAST CONCRETE



1 CROSS SECTION (LOCAL ROAD)

AB301 SCALE 1:50-A1
1:100-A3

DOWNPATRICK DRIVE (CH 3.9 -CH 35.2)
DOWNPATRICK DRIVE (CH 75.2 - CH 106.5)
CHARLESTOWN DRIVE (CH 554.1 - CH 524.1)



2 CROSS SECTION (PARK EDGE ROAD)

AB301 SCALE 1:50-A1
1:100-A3

GURTIN DRIVE (CH 0 -CH 182)
GURTIN DRIVE (CH 200 - CH 236.2)

ENGINEERING APPROVAL
ENG 51364

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Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: **12.09.2017**

Name: WILLIAM JOHN FREDERICK PLATTS

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REF	REVISIONS	BY	DATE
B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17

PROJECT:

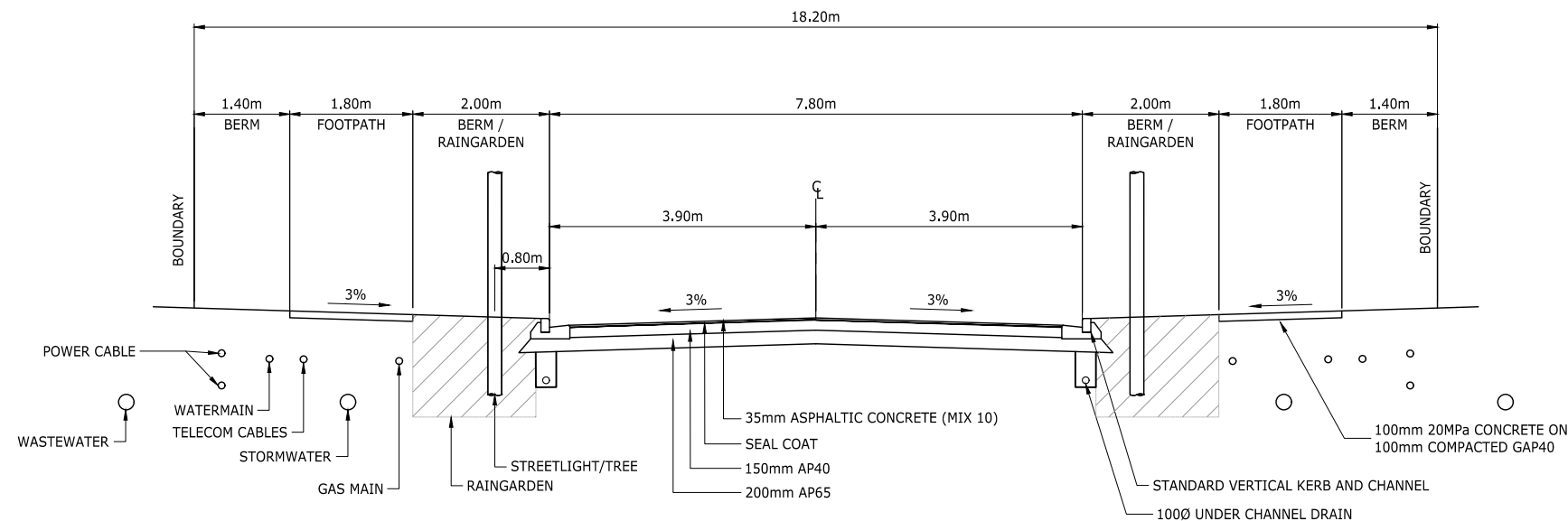
DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

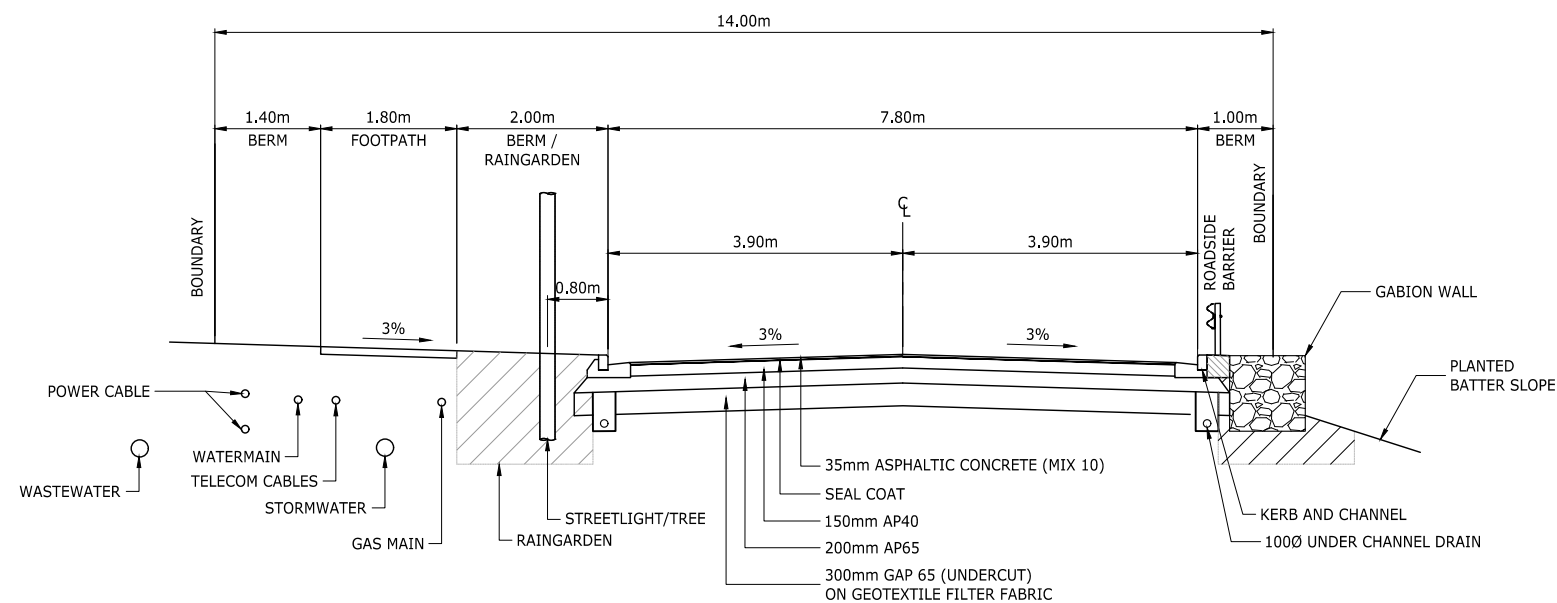
STAGE 9
PAVEMENT AS-BUILT SECTIONS
SHEET 1 OF 4

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:			AS-BUILT
PROJECT No:	1050-139707-01	SCALES:	AS SHOWN
DRAWING No:	139707-AB330		REV
			B



3 CROSS SECTION (LOCAL ROAD)
AB301 SCALE 1:50-A1 DOWNPATRICK DRIVE (CH 35.2 - CH 75.2)
1:100-A3 CHARLESTOWN DRIVE (CH 554.1 - CH 626.5)




4 CROSS SECTION (PARK EDGE ROAD)
AB301 SCALE 1:50-A1 GURTIN DRIVE (CH 182 -CH 200)
1:100-A3

ENGINEERING APPROVAL
ENG 51364

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CHARTERED PROFESSIONAL ENGINEER

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Phone: 09-917-5000

Email: w.platts@harrissongrierson.com

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REF	REVISIONS	BY	DATE
B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17

PROJECT:
**DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH**

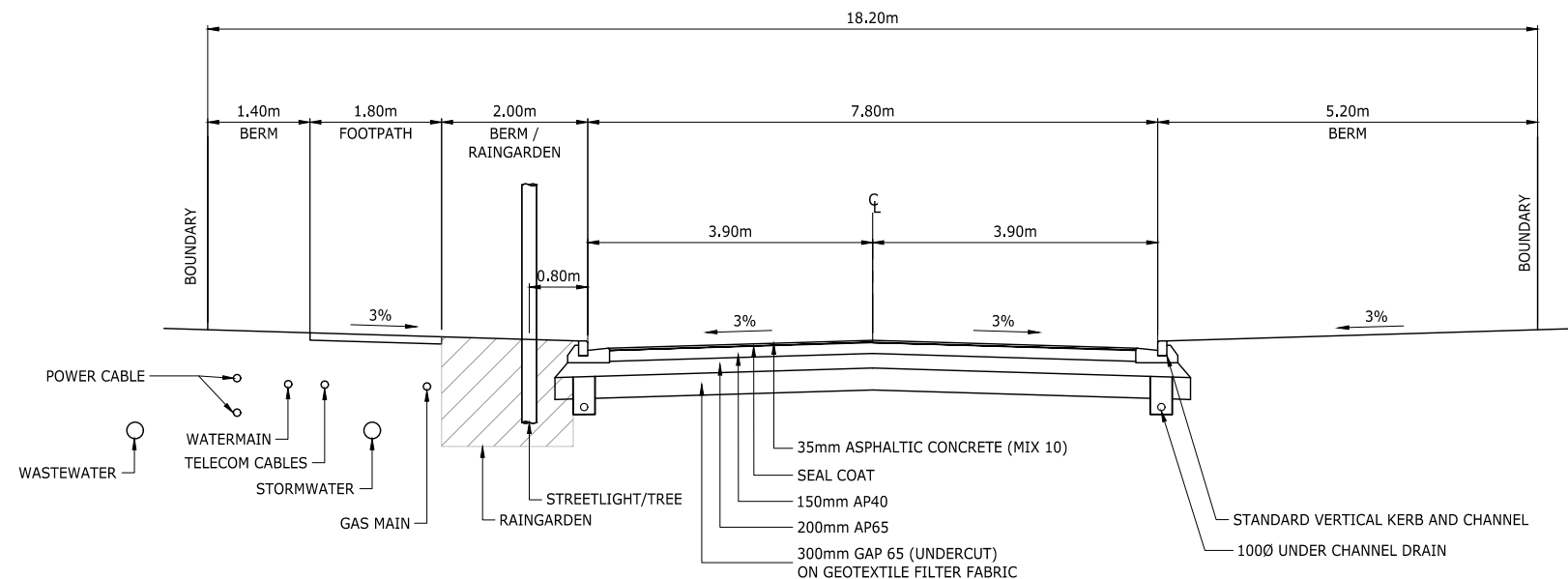
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**STAGE 9
PAVEMENT AS-BUILT SECTIONS
SHEET 2 OF 4**

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

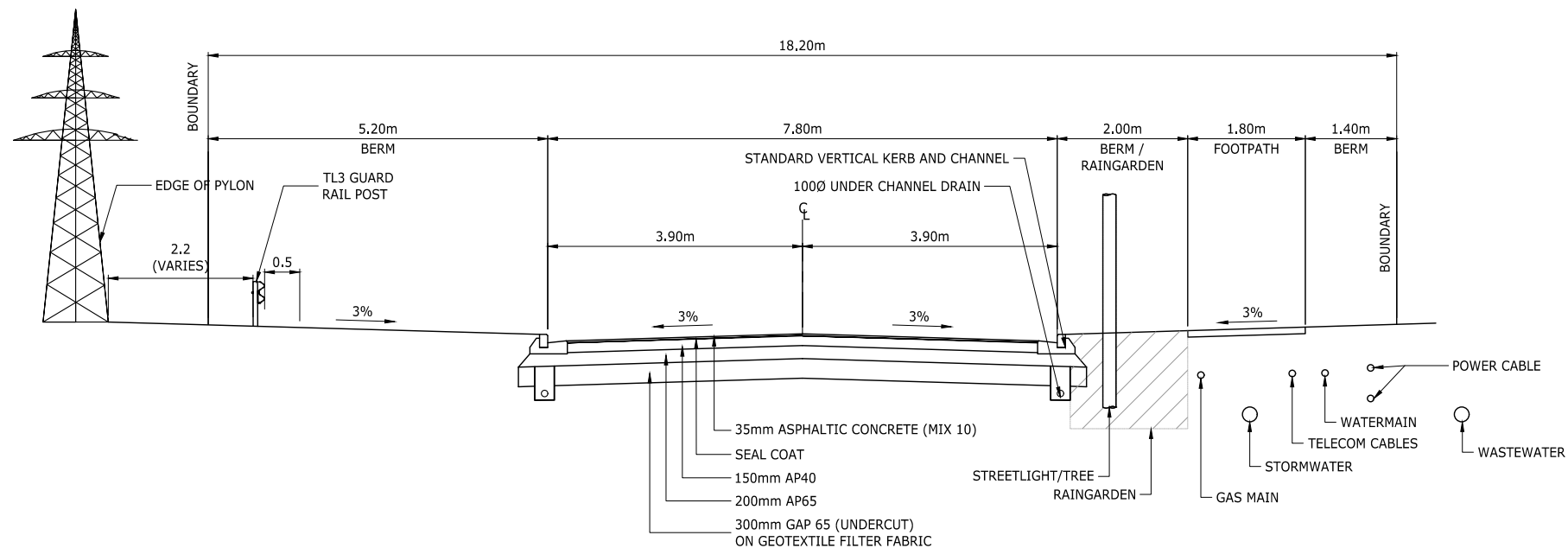
ISSUE STATUS:
AS-BUILT

PROJECT No:	SCALES:	A1
1050-139707-01	AS SHOWN	

DRAWING No:	REV
139707-AB331	B



5 CROSS SECTION (LOCAL ROAD)
AB301 SCALE 1:50-A1 1:100-A3
DRUMBUOY DRIVE (CH 606.1 - CH 671.7)
CLOONLYN DRIVE (CH 33.3 - CH 108.6)




6 CROSS SECTION (LOCAL ROAD)
AB301 SCALE 1:50-A1 1:100-A3
CLOONLYN DRIVE (CH 0 - CH 33.3)
DRUMBUOY DRIVE (CH 671.7 - CH 692.0)

ENGINEERING APPROVAL
ENG 51364

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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17

PROJECT:
**DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH**

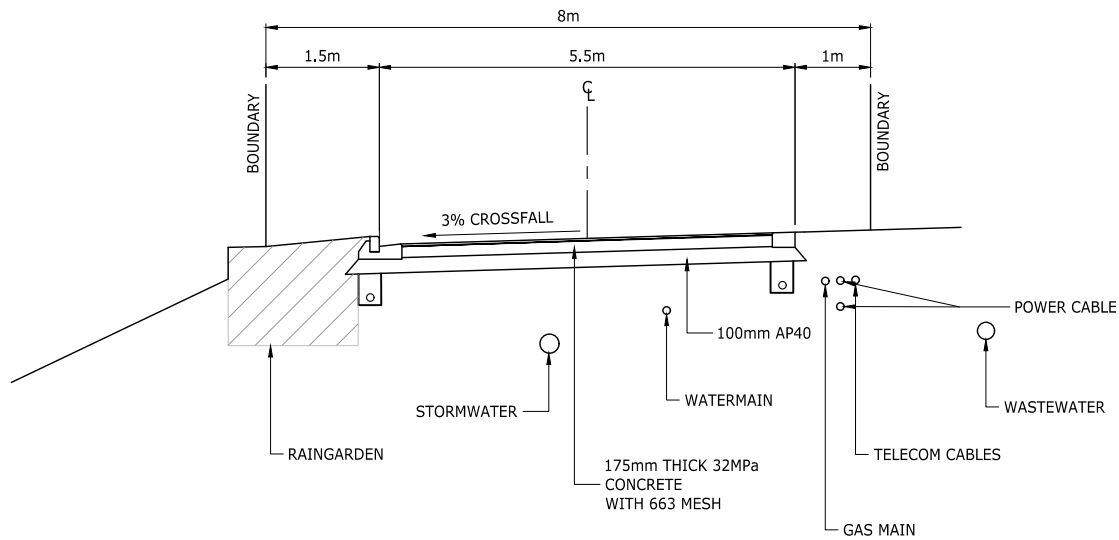
TITLE:
**STAGE 9
PAVEMENT AS-BUILT SECTIONS
SHEET 3 OF 4**

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:
AS-BUILT

PROJECT No:	SCALES:	AS SHOWN	A1
1050-139707-01			

DRAWING No:	REV
139707-AB332	B



7

AB301

CROSS SECTION (JOAL)

SCALE 1:50-A1
1:100-A3


BUNBEG CRESCENT (CH 9.1 -CH 182.3)

ENGINEERING APPROVAL

ENG 51364

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HG

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W www.harrisongrierson.com

REF	REVISIONS	BY	DATE
B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
PAVEMENT AS-BUILT SECTIONS
SHEET 4 OF 4

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:		
AS-BUILT		
PROJECT No:	SCALES:	A1
1050-139707-01	AS SHOWN	
DRAWING No:	REV	B
139707-AB333		



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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE
- ALL CONNECTIONS ARE DN 100 uPVC.
CHAINAGE FOR CONNECTIONS ARE FROM DOWNSTREAM MANHOLE CENTRE.
- ALL NEW PUBLIC MANHOLES ARE DN 1050 RC UNLESS SHOWN OTHERWISE.
- ALL STORMWATER LINES ARE RCRRJ CLASS 2 UNLESS SHOWN OTHERWISE.
- ALL CATCHPIT LEADS ARE RCRRJ CLASS 4.

LEGEND

- SW NEW PUBLIC STORMWATER LINE
- SW NEW PRIVATE STORMWATER LINE
- NEW PUBLIC MANHOLE
- NEW LOT CONNECTION
- NEW PUBLIC CATCHPIT
- NEW PRIVATE CATCHPIT
- FLOW DIRECTION
- NEW OUTLET

ENGINEERING APPROVAL
ENG 51364

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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
STORMWATER AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

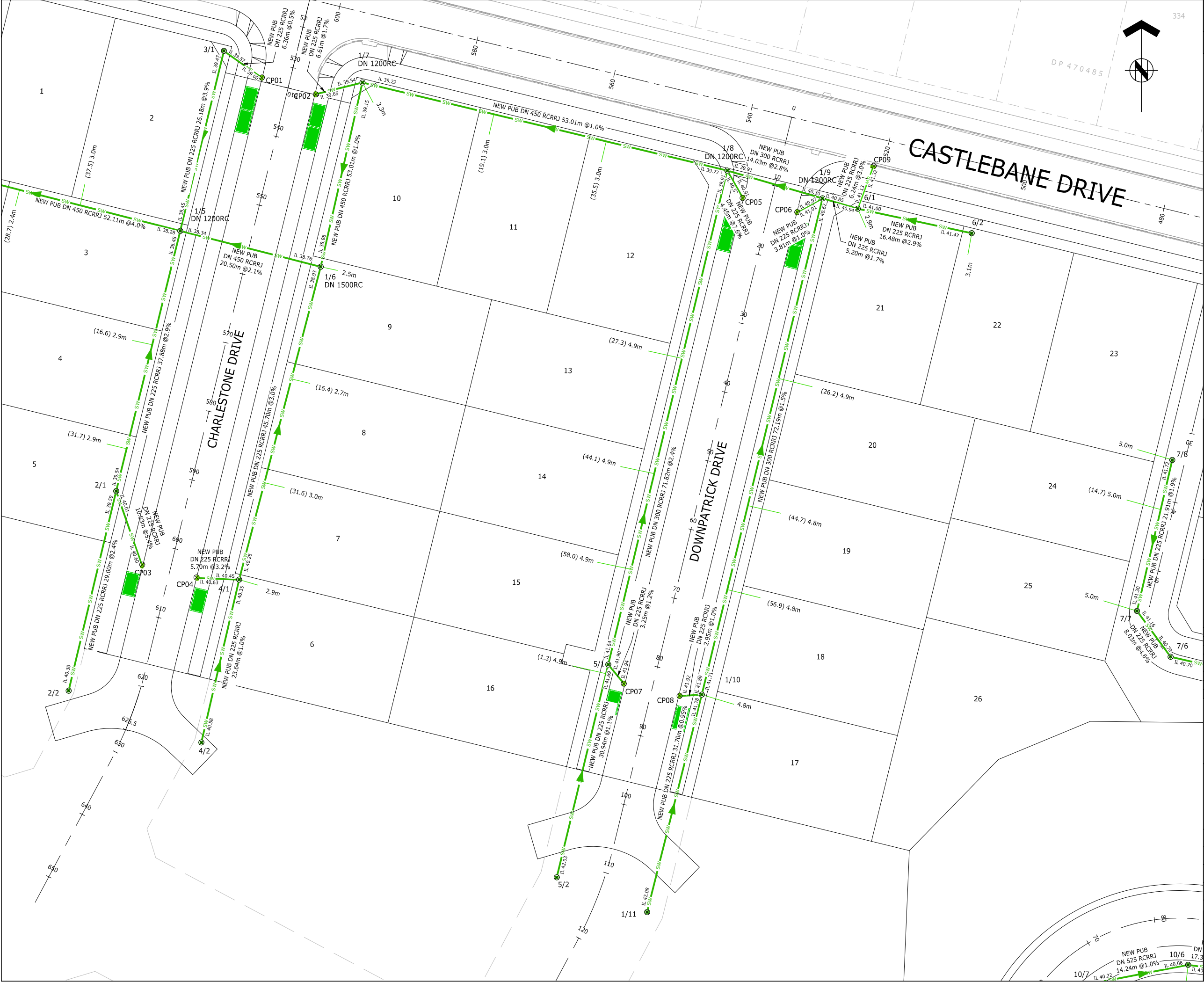
ISSUE STATUS:

AS-BUILT

PROJECT No:	1050-139707-01	SCALES:	1:500-A1 1:1000-A3	A1
DRAWING No:				REV

139707-AB400

B





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RL 54.50m
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5905356.71mN
1770941.22mE
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CHAINAGE FOR CONNECTIONS ARE FROM
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UNLESS SHOWN OTHERWISE.
- ALL STORMWATER LINES ARE RCRRJ CLASS 2
UNLESS SHOWN OTHERWISE.
- ALL CATCHPIT LEADS ARE RCRRJ CLASS 4.

LEGEND

- SW NEW PUBLIC STORMWATER LINE
- SW NEW PRIVATE STORMWATER LINE
- NEW PUBLIC MANHOLE
- NEW LOT CONNECTION
- NEW PUBLIC CATCHPIT
- NEW PRIVATE CATCHPIT
- FLOW DIRECTION
- NEW OUTLET

ENGINEERING APPROVAL
ENG 51364

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W www.harrisingrierson.com

REF	REVISIONS	BY	DATE
B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17

PROJECT:

**DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH**

TITLE:

**STAGE 9
STORMWATER AS-BUILT PLAN
SHEET 1 OF 3**

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB

DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17

CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		

APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

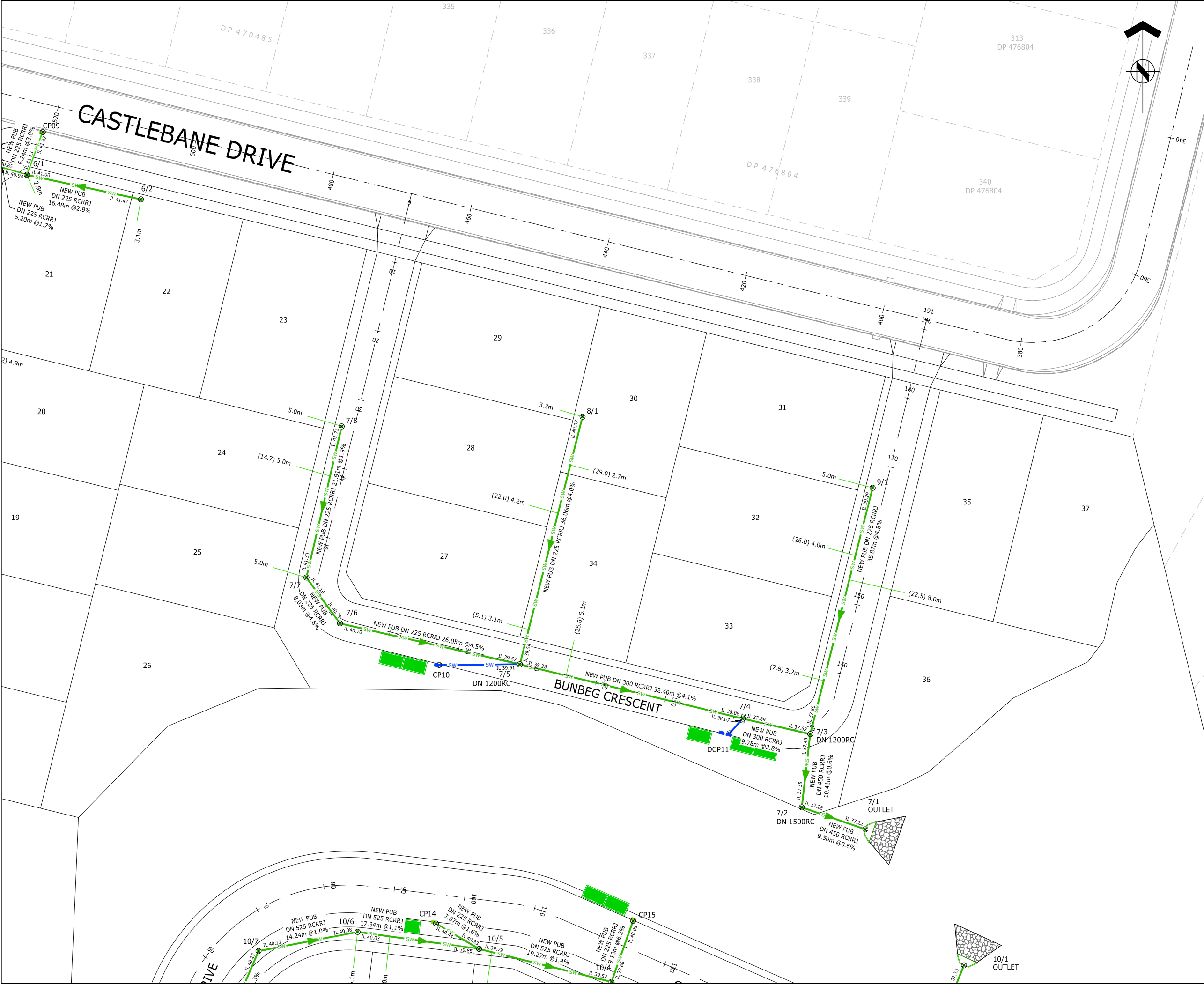
PROJECT No:	SCALES:	A1
1050-139707-01	1:250-A1 1:500-A3	


DRAWING No:

139707-AB401

REV

B





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ENGINEERS NEW ZEALAND

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UNLESS SHOWN OTHERWISE.
- ALL CATCHPIT LEADS ARE RCRRJ CLASS 4.

LEGEND

SW

NEW PUBLIC STORMWATER LINE

SW

NEW PRIVATE STORMWATER LINE

NEW PUBLIC MANHOLE

NEW LOT CONNECTION

NEW PUBLIC CATCHPIT

NEW PRIVATE CATCHPIT


FLOW DIRECTION

NEW OUTLET

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 12.09.2017

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrissongrierson.com



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W www.harrissongrierson.com

B	AS-BUILT	WJP 12.09.17
A	AS-BUILT	WJP 26.07.17
REF	REVISIONS	BY DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
STORMWATER AS-BUILT PLAN
SHEET 2 OF 3

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	SCALES:	A1
1050-139707-01	1:250-A1 1:500-A3	
DRAWING No:		REV
139707-AB402		B

COORDINATE SCHEDULE			
POINT	mE	mN	LL
1/1	1770092.37	5905769.88	-
1/10	1770302.44	5905668.69	43.36
1/11	1770294.70	5905637.95	43.70
1/2	1770096.40	5905766.78	36.32
1/3	1770162.73	5905750.93	36.98
1/4	1770178.20	5905747.13	38.13
1/5	1770228.69	5905734.23	41.47
1/6	1770248.55	5905729.16	41.46
1/7	1770254.44	5905755.21	41.08
1/8	1770306.03	5905742.76	42.33
1/8	1769585.41	5905680.33	42.33
1/9	1770319.50	5905738.83	42.49
1/9	1769598.88	5905676.40	42.49
10/1 OUTLET	1770456.86	5905625.77	N/A
10/10	1770343.59	5905579.59	43.42
10/11	1770342.61	5905564.92	43.43
10/2	1770448.21	5905604.45	41.26
10/3	1770435.98	5905608.80	41.23
10/4	1770407.08	5905623.43	41.41
10/5	1770388.38	5905628.08	41.89
10/6	1770371.21	5905630.49	42.07
10/7	1770357.22	5905627.77	42.35
10/8	1770347.78	5905605.75	42.82
10/9	1770341.35	5905591.29	43.13
11/1	1770459.95	5905598.93	41.38
11/2	1770472.50	5905578.84	41.68

POINT	mE	mN	LL
11/3	1770468.72	5905571.24	42.22
11/4	1770449.74	5905561.58	43.07
12/1	1770473.16	5905557.90	42.22
13/1	1770375.96	5905575.20	44.10
13/2	1770414.38	5905559.11	44.71
14/1	1770327.66	5905573.40	43.11
2/1	1770219.62	5905697.45	41.99
2/2	1770212.90	5905669.24	42.15
3/1	1770234.86	5905759.67	40.96
4/1	1770237.02	5905684.94	42.13
4/2	1770231.67	5905661.92	42.00
5/1	1770289.21	5905672.94	43.34
5/2	1770281.93	5905642.86	43.63
6/1	1770324.50	5905737.37	42.76
6/2	1770340.61	5905733.91	43.19
7/1 OUTLET	1770442.94	5905644.96	N/A
7/2	1770433.96	5905648.07	38.95
7/3	1770435.15	5905658.41	40.30
7/4	1770425.62	5905660.60	40.24
7/5	1770394.13	5905668.26	41.16
7/6	1770368.73	5905674.04	42.56
7/7	1770363.98	5905680.51	42.81
7/8	1770368.96	5905701.85	43.38
8/1	1770402.99	5905703.22	42.89
9/1	1770443.97	5905693.18	41.08

COORDINATE SCHEDULE						
POINT	mE	mN	LL	IL (OUT)	IL (BASE)	SIZE (mm)
CP01	1770240.23	5905755.91	40.79	39.60	39.14	650x450
CP02	1770247.86	5905753.53	40.79	39.65	39.14	650x450
CP03	1770223.30	5905687.05	41.78	40.60	40.13	650x450
CP04	1770230.98	5905685.25	41.78	40.63	40.13	650x450
CP05	1770308.21	5905738.88	42.15	40.91	39.50	650x450
CP06	1770315.93	5905736.87	42.21	41.01	39.36	650x450
CP07	1770291.41	5905670.23	43.10	41.94	41.45	650x450
CP08	1770299.29	5905668.51	43.11	41.92	41.46	650x450
CP09	1770326.75	5905743.41	42.49	41.32	40.84	650x450
CP12	1770338.91	5905612.66	42.54	41.39	40.89	650x450
CP13	1770344.48	5905605.68	42.61	41.38	40.96	650x450
CP14	1770382.28	5905631.66	41.74	40.44	40.09	650x450
CP15	1770410.13	5905632.04	41.28	40.09	39.63	650x450
CP16	1770445.77	5905555.26	43.14	41.94	41.49	650x450
CP19	1770468.25	5905567.97	42.13	40.94	40.48	650x450
CP20	1770470.79	5905559.70	42.16	40.87	40.51	650x450
CP21	1770346.24	5905575.39	43.24	42.10	41.59	650x450
CP23	1770414.82	5905547.21	44.46	43.26	42.81	650x450
DCP17	1770442.00	5905618.39	40.96	39.30	39.31	1350x450
DCP18	1770436.52	5905611.87	40.97	39.67	39.32	1350x450
DCP22	1770341.42	5905567.30	43.25	42.04	41.60	1350x450

ENGINEERING APPROVAL

ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed:
CHARTERED PROFESSIONAL ENGINEER

Date:**12.09.2017**.....

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrisonsgrrierson.com



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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

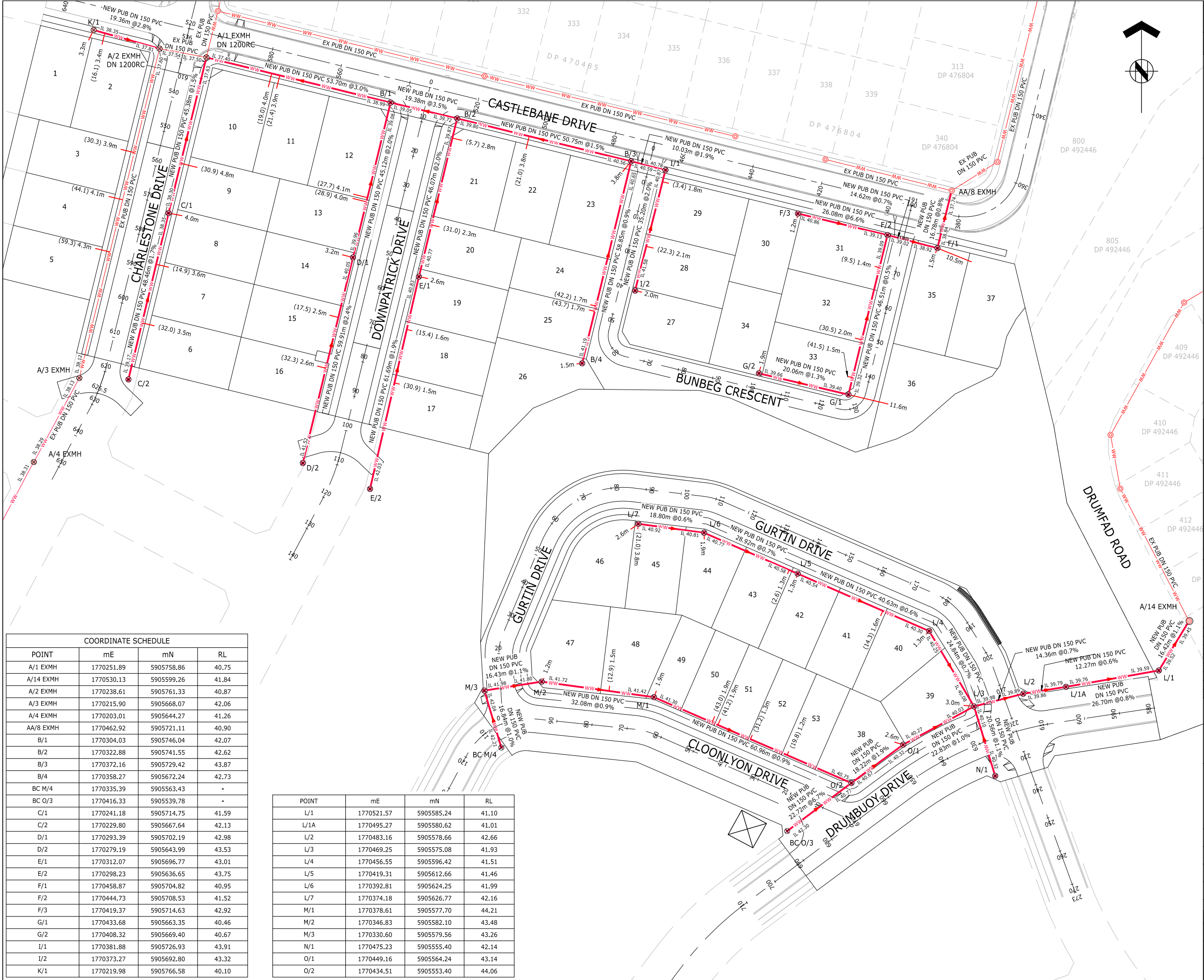
DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
STORMWATER AS-BUILT
SCHEDULE OF COORDINATES

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:			AS-BUILT
PROJECT No:	SCALES:	NOT TO SCALE	A1
DRAWING No:			REV
139707-AB404			B





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ENGINEERS NEW ZEALAND

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QUALITY
ASSURED

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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE
- ALL CONNECTIONS ARE DN 100 uPVC.
CHAINAGE FOR CONNECTIONS ARE FROM
DOWNSTREAM MANHOLE CENTRE.
- ALL NEW PUBLIC MANHOLES ARE DN 1050 RC
UNLESS SHOWN OTHERWISE.
- ALL NEW PUBLIC LINES ARE DN 150 PVC SN 16
UNLESS SHOWN OTHERWISE.
- REFER TO "REDOUBT ROAD-NORTHERN SEWER"
AS-BUILT BY AURECON FOR AS-BUILT
INFORMATION ON 'LINE A' (A/14-A/8).

LEGEND

- NEW PUBLIC WASTEWATER LINE
- EXISTING PUBLIC WASTEWATER LINE
- NEW LOT CONNECTION
- NEW PUBLIC MANHOLE
- EXISTING PUBLIC MANHOLE
- FLOW DIRECTION
- NEW BLANK CAP

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±25mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: **12.09.2017**

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W www.harrissongrierson.com

B	AS-BUILT	WJP 12.09.17
A	AS-BUILT	WJP 26.07.17
REF	REVISIONS	BY DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

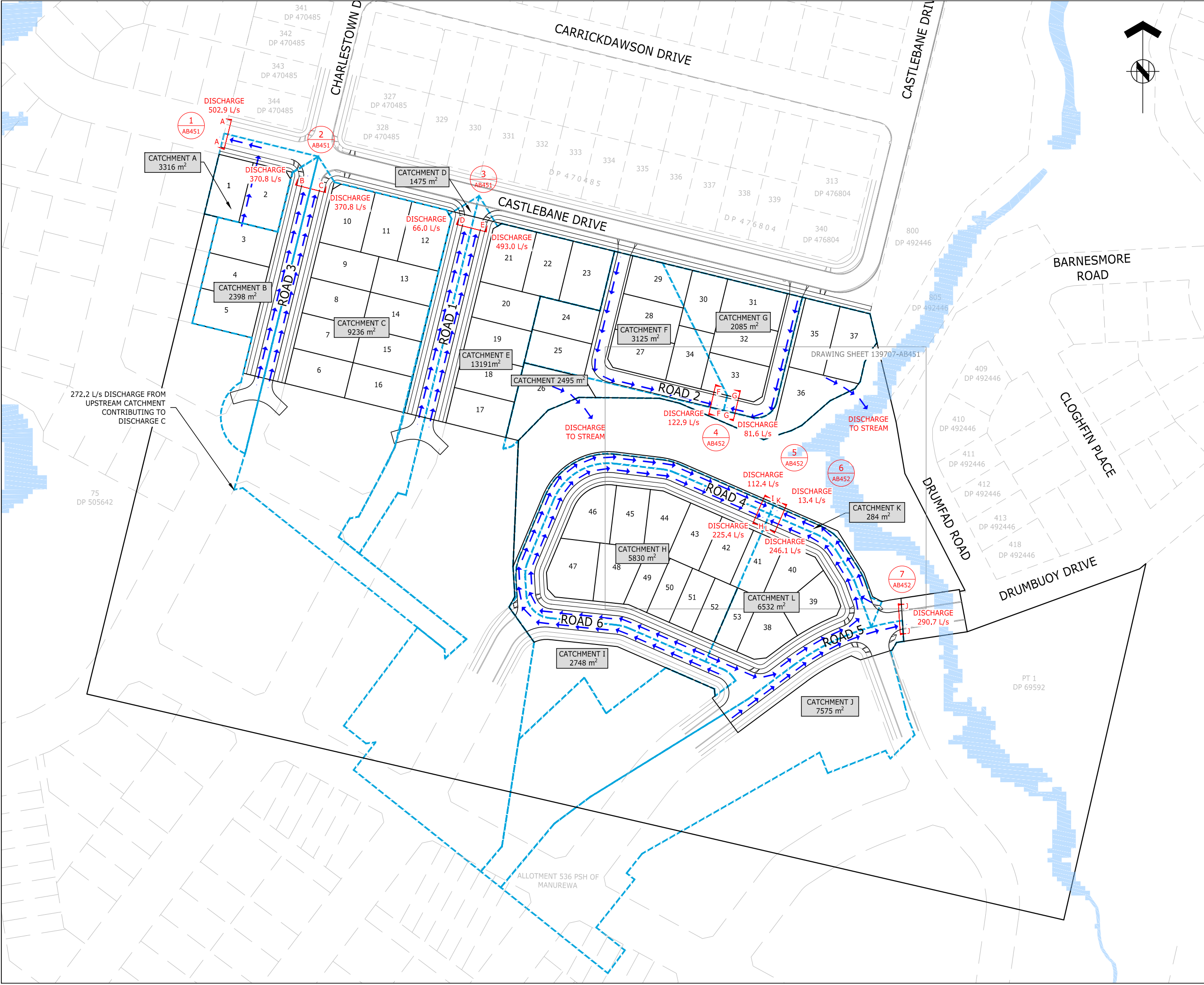
STAGE 9
WASTEWATER AS-BUILT PLAN


ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	1050-139707-01	SCALES:	1:500-A1 1:1000-A3	A1
DRAWING No:	139707-AB405			B





ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

ISO 9001
QUALITY
ASSURED

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NOTES:

- LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946

ORIGIN OF LEVELS
SS 66 SO 48643
RL 54.50
- COORDINATES ARE IN TERMS OF NZTM.
- CATCHMENT AREAS AND DISCHARGE FLOWS INCORPORATE FUTURE OVERLAND FLOWPATH GENERATION FROM UPSTREAM DEVELOPMENT.

LEGEND

100-YEAR OVERLAND FLOW
EXTENT FROM TONKIN AND
TAYLOR FLOOD MODEL


CATCHMENT BOUNDARIES

OVERLAND FLOWPATHS

ENGINEERING APPROVAL
EPA 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.


Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 3.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrisingrierson.com



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A	AS BUILT	WJP	3.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

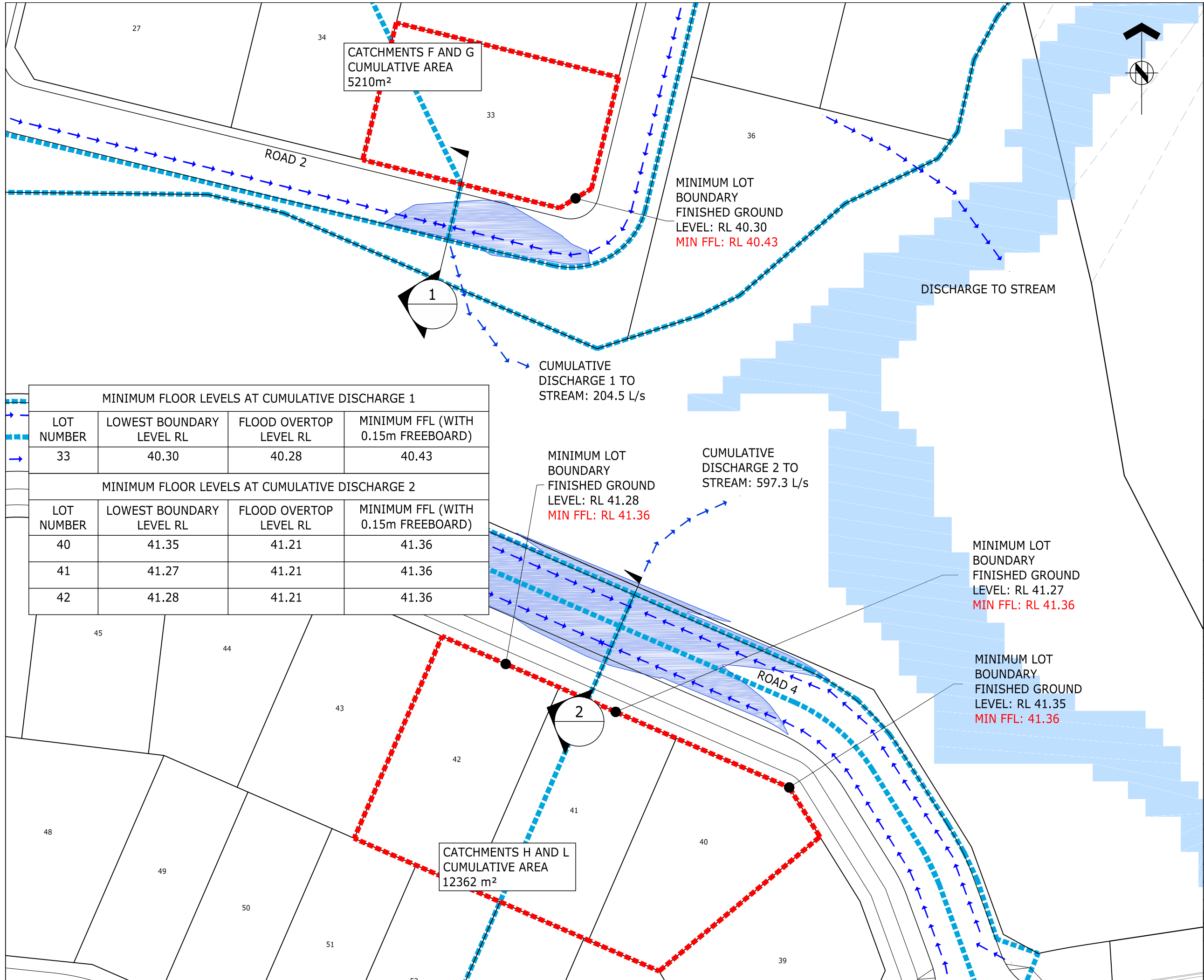
STAGE 9
100 YEAR OVERLAND FLOWPATH
AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SXK	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
EXC	05.2017		26.07.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	3.07.17		MJS
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	3.07.17		

ISSUE STATUS:


AS-BUILT

PROJECT No:	SCALES:	
1050-139707-01	1:750 - A1 1:1500 - A3	A1
DRAWING No:		REV
139707-AB450		A



MINIMUM FLOOR LEVELS AT CUMULATIVE DISCHARGE 1			
LOT NUMBER	LOWEST BOUNDARY LEVEL RL	FLOOD OVERTOP LEVEL RL	MINIMUM FFL (WITH 0.15m FREEBOARD)
33	40.30	40.28	40.43

MINIMUM FLOOR LEVELS AT CUMULATIVE DISCHARGE 2			
LOT NUMBER	LOWEST BOUNDARY LEVEL RL	FLOOD OVERTOP LEVEL RL	MINIMUM FFL (WITH 0.15m FREEBOARD)
40	41.35	41.21	41.36
41	41.27	41.21	41.36
42	41.28	41.21	41.36



ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND

ISO 9001 QUALITY ASSURED

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NOTES:


1. LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946

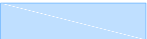
ORIGIN OF LEVELS
SS 66 SO 48643
RL 54.50


2. COORDINATES ARE IN TERMS OF NZTM.


3. CATCHMENT AREAS AND DISCHARGE FLOWS INCORPORATE FUTURE OVERLAND FLOWPATH GENERATION FROM UPSTREAM DEVELOPMENT.


LEGEND

EXTENT OF 1% AEP (24 HR) FOOD BEFORE OVERTOPPING KERB

100-YEAR OVERLAND FLOW EXTENT FROM TONKIN AND TAYLOR FLOOD MODEL

PRIVATE LOTS WITH MINIMUM FLOOR LEVEL REQUIREMENTS

CATCHMENT BOUNDARIES


OVERLAND FLOWPATHS

ENGINEERING APPROVAL

EPA 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed: 


CHARTERED PROFESSIONAL ENGINEER

Date: 3.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrissongrierson.com



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A	AS BUILT	WJP	3.07.17
REF	REVISIONS	BY	DATE

PROJECT: DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
MINIMUM FLOOR LEVEL
AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SXK	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
EXC	05.2017		26.07.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	3.07.17		MJS
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	3.07.17		

ISSUE STATUS: AS-BUILT

PROJECT No:	1:200 - A1	A1
1050-139707-01	1:400 - A3	
DRAWING No:		REV
139707-AB451		A

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1. LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946

ORIGIN OF LEVELS
SS 66 SO 48643
RL 54.50

2. COORDINATES ARE IN TERMS OF NZTM.
3. CATCHMENT AREAS AND DISCHARGE FLOWS INCORPORATE FUTURE OVERLAND FLOWPATH GENERATION FROM UPSTREAM DEVELOPMENT.
4. ALL FLOWPATHS ARE WITHIN THE LEGAL ROAD WIDTH.
5. ROADING LONGITUDINAL SECTIONS ON DRAWINGS 139707-AB454-AB456 RELATE TO THE ROAD CENTRELINE.

OVERLAND FLOWPATH
LEVEL IN 1% AEP
STORM EVENT

ENGINEERING APPROVAL
EPA 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN $\pm 50\text{mm}$.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN $\pm 10\text{mm}$.

Signed:
 CHARTERED PROFESSIONAL ENGINEER

Date: **3.07.2017**

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrisingrierson.com



A	AS BUILT			WJP	3.07.1
REF	REVISIONS			RY	DATE

REF	REV
PROJECT:	

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9 OVERLAND FLOWPATH
AS-BUILT CROSS SECTIONS
SHEET 1 OF 2

ORIGINATOR: SXX	DATE: 07.2016	SIGNED:	PLOT BY:
DRAWN: EXC	DATE: 05.2017	SIGNED:	PLOT DATE: 26.07.17
CHECKED: WJP	DATE: 3.07.17	SIGNED:	SURVEY BY: M.
APPROVED: WJP	DATE: 3.07.17	SIGNED:	SURVEY DATE:

ISSUE STATUS:

AS-BUILT

PROJECT No: 1050-139707-01	SCALES: AS SHOWN	A1
DRAWING No: 139707-AB452		REV A

NOTES:

1. LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946
- ORIGIN OF LEVELS
SS 66 SO 48643
RL 54.50
2. COORDINATES ARE IN TERMS OF NZTM.
3. CATCHMENT AREAS AND DISCHARGE FLOWS INCORPORATE FUTURE OVERLAND FLOWPATH GENERATION FROM UPSTREAM DEVELOPMENT.
4. ALL FLOWPATHS ARE WITHIN THE LEGAL ROAD WIDTH.
5. ROADING LONGITUDINAL SECTIONS ON DRAWINGS 139707-AB454-AB456 RELATE TO THE ROAD CENTRELINE.


LEGEND

OVERLAND FLOWPATH
LEVEL IN 1% AEP
STORM EVENT

ENGINEERING APPROVAL
EPA 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 3.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

Email: w.platts@harrisongrierson.com

HG

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T +64 9 917 5000
W www.harrisongrierson.com

A	AS BUILT	WJP	3.07.17
REF	REVISIONS	BY	DATE

PROJECT:

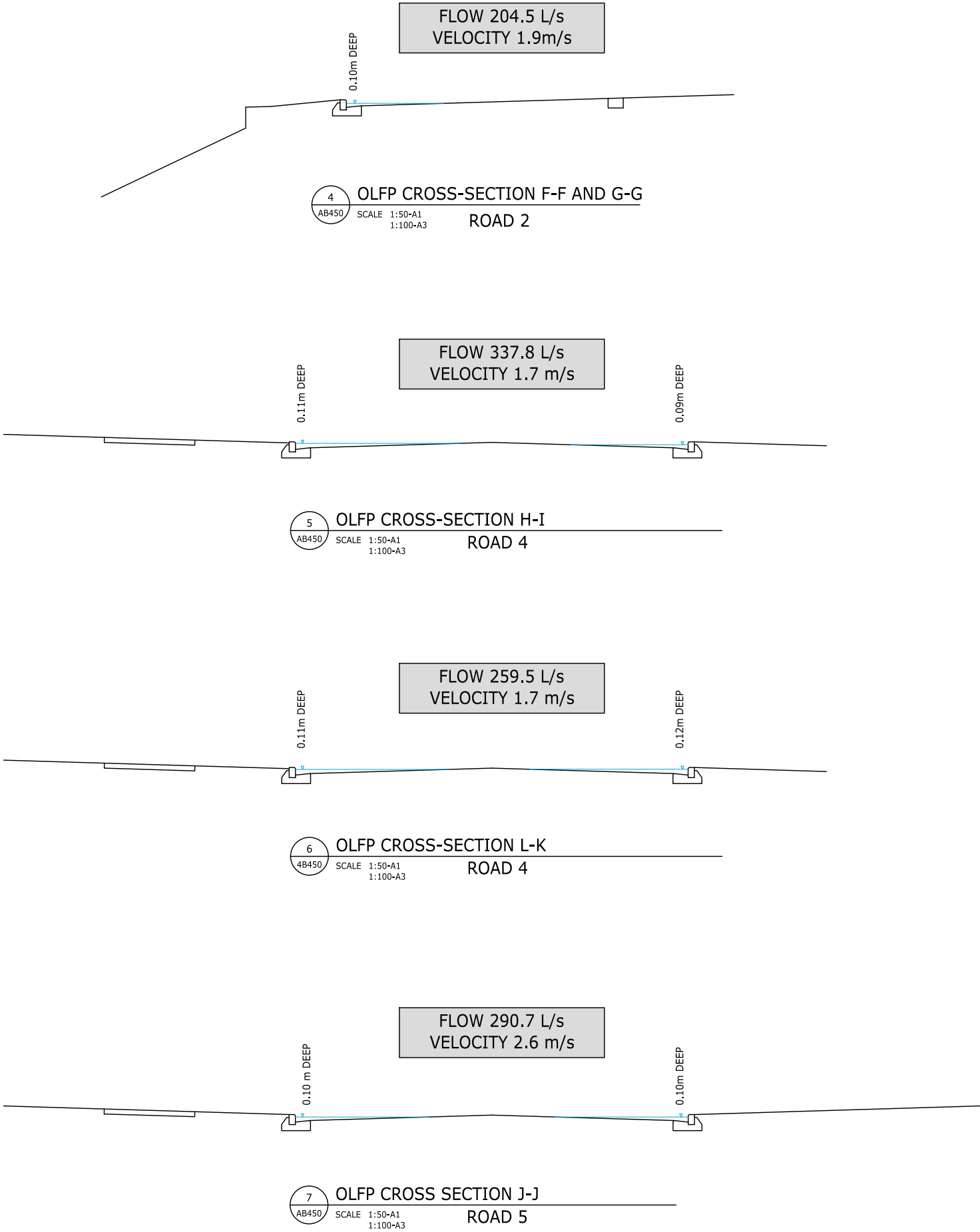
DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9 OVERLAND FLOWPATH
AS-BUILT CROSS SECTIONS
SHEET 2 OF 2

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
SXK	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
EXC	05.2017		26.07.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	3.07.17		MJS
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	3.07.17		

ISSUE STATUS:			AS-BUILT
PROJECT No:	SCALES:	AS SHOWN	A1
1050-139707-01			
DRAWING No:			REV
139707-AB453			A



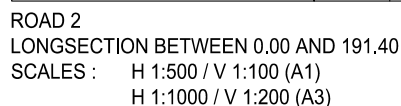
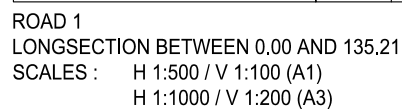
AS-BUILT SURFACE

Email: w.platts@harrisingrierson.com



PROJECT:	
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139707-AB454	A
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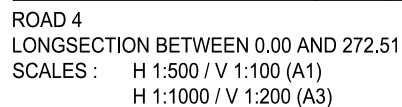


———— AS-BUILT SURFACE

Email: w.platts@harrisingrierson.com

PROJECT:

DRAWING No:	REV
139707-AB455	A



1. LEVELS ARE IN TERMS OF AUCKLAND VERTICAL DATUM 1946

2. COORDINATES ARE IN TERMS OF NZTM.

3. CATCHMENT AREAS AND DISCHARGE FLOWS INCORPORATE FUTURE OVERLAND FLOWPATH GENERATION FROM UPSTREAM DEVELOPMENT.

4. ALL FLOWPATHS ARE WITHIN THE LEGAL ROAD WIDTH.

5. ROADING LONGITUDINAL SECTIONS ON DRAWINGS 139707-AB453-AB455 RELATE TO THE ROAD CENTRELINE.

———— AS-BUILT SURFACE

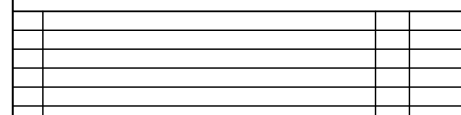
I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN $\pm 50\text{mm}$.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN $\pm 10\text{mm}$.

Date: **3.07.2017**

Phone: 09-917-5000

ALLOY AND SETTING



A	AS BUILT	WJP	3.07.17
REF	REVISIONS	BY	DATE

REV	REVISIONS	BY	DATE
PROJECT:			

TITLE: _____

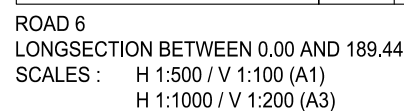
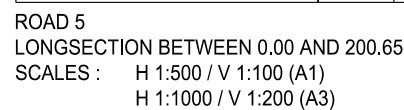
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DRAWN: EXC	DATE: 05.2017	SIGNED:	PLOT DATE: 26.07.17
CHECKED: WJP	DATE: 3.07.17	SIGNED:	SURVEY BY: MJS
APPROVED: WJP	DATE: 3.07.17	SIGNED:	SURVEY DATE:

ISSUE STATUS: AS-BUILT

PROJECT No: 1050-139707-01	SCALES: AS SHOWN	A1
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DRAWING No:	REV
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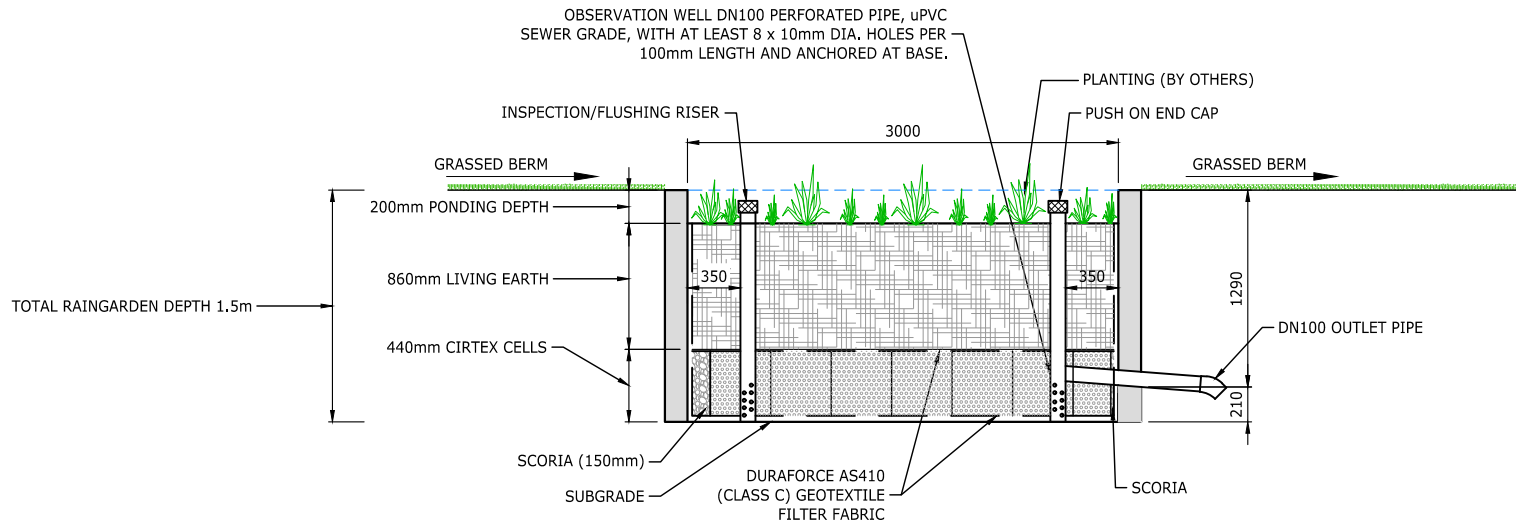
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SCALE: 1:25-A1
1:50-A3

SCALE: 1:25-A1
1:50-A3

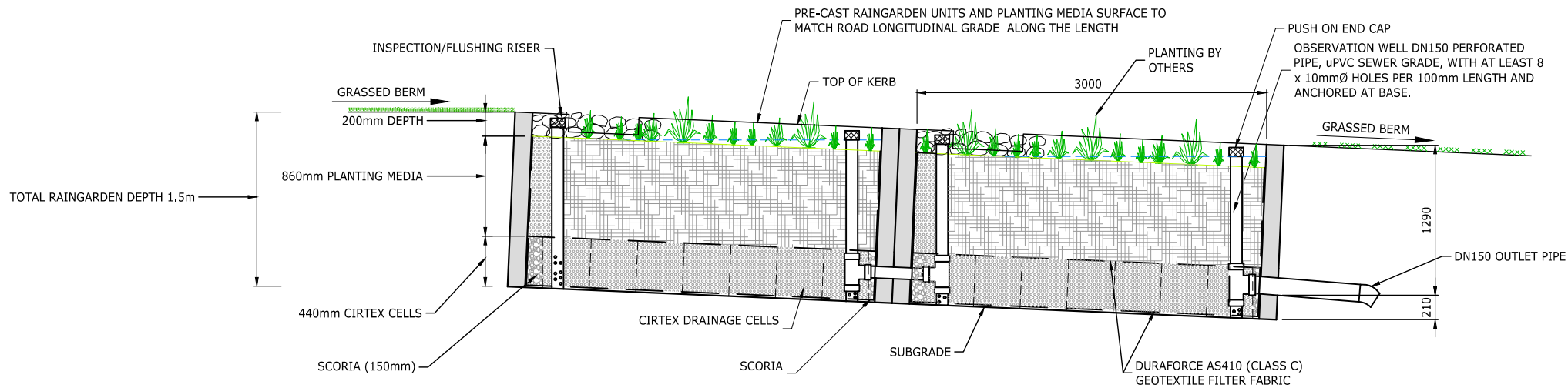
139707-AB480	A
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LONGITUDINAL SECTION
SINGLE RAINGARDEN DETAIL FOR ROADS

A
AB480

SCALE 1:25-A1
1:50-A3



LONGITUDINAL SECTION
DOUBLE RAINGARDEN DETAIL FOR ROADS


A
AB481

SCALE 1:25-A1
1:50-A3

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN $\pm 50\text{mm}$.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN $\pm 10\text{mm}$.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 26.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

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A		AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE	

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
RAINGARDEN AS-BUILT
TYPICAL SECTION DETAILS

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		26.07.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	26.07.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	26.07.17		

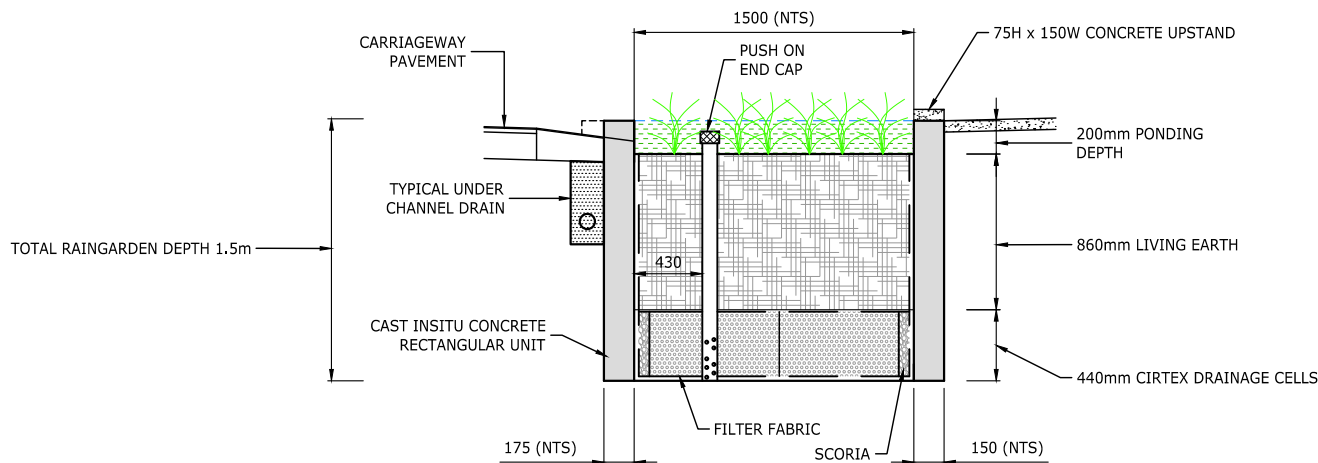
ISSUE STATUS:

AS-BUILT

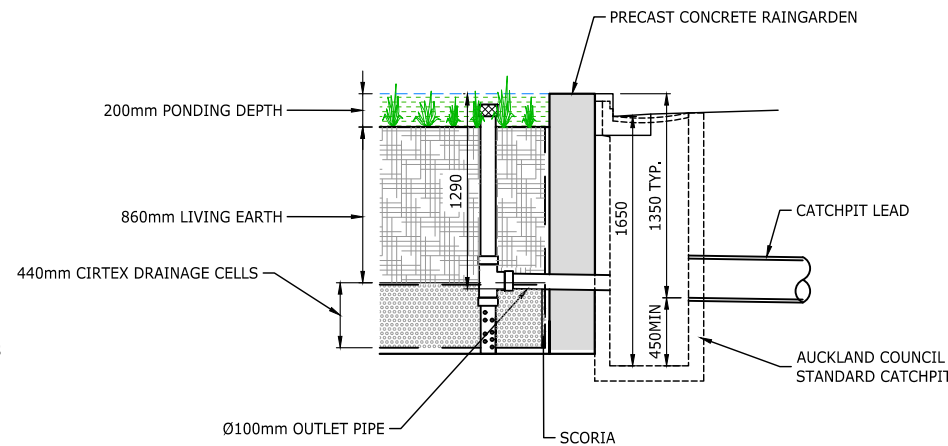
PROJECT No:	SCALES:	AS SHOWN	A1
DRAWING No:			REV

139707-AB481

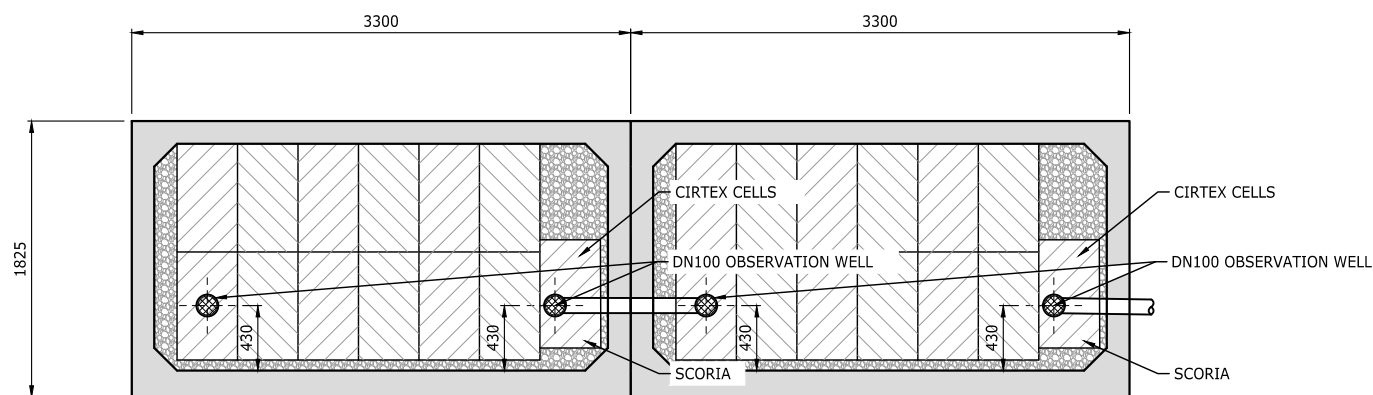
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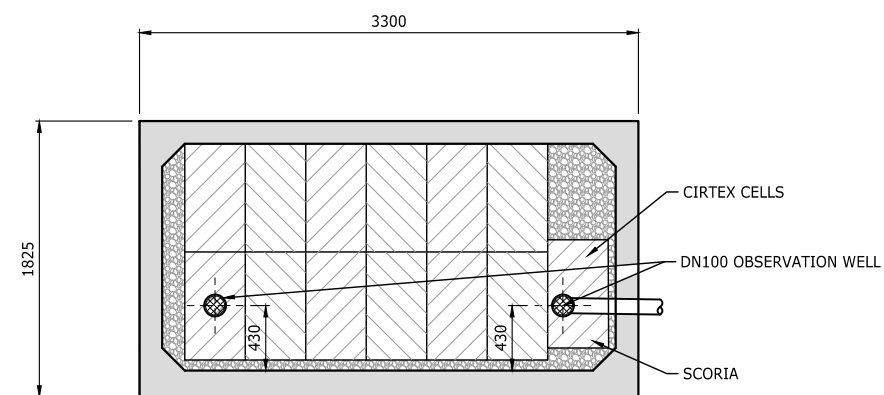
TYPICAL RAINGARDEN DETAIL
SCALE: 1:25-A1
1:50-A3



RAINGARDEN OUTLET TYPICAL SECTION
SCALE: 1:25-A1
1:50-A3



PLAN DOUBLE RAINGARDEN
SCALE: 1:25-A1
1:50-A3




PLAN SINGLE RAINGARDEN
SCALE: 1:25-A1
1:50-A3

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN 10mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: **26.07.2017**

Name: WILLIAM JOHN FREDERICK PLATTS

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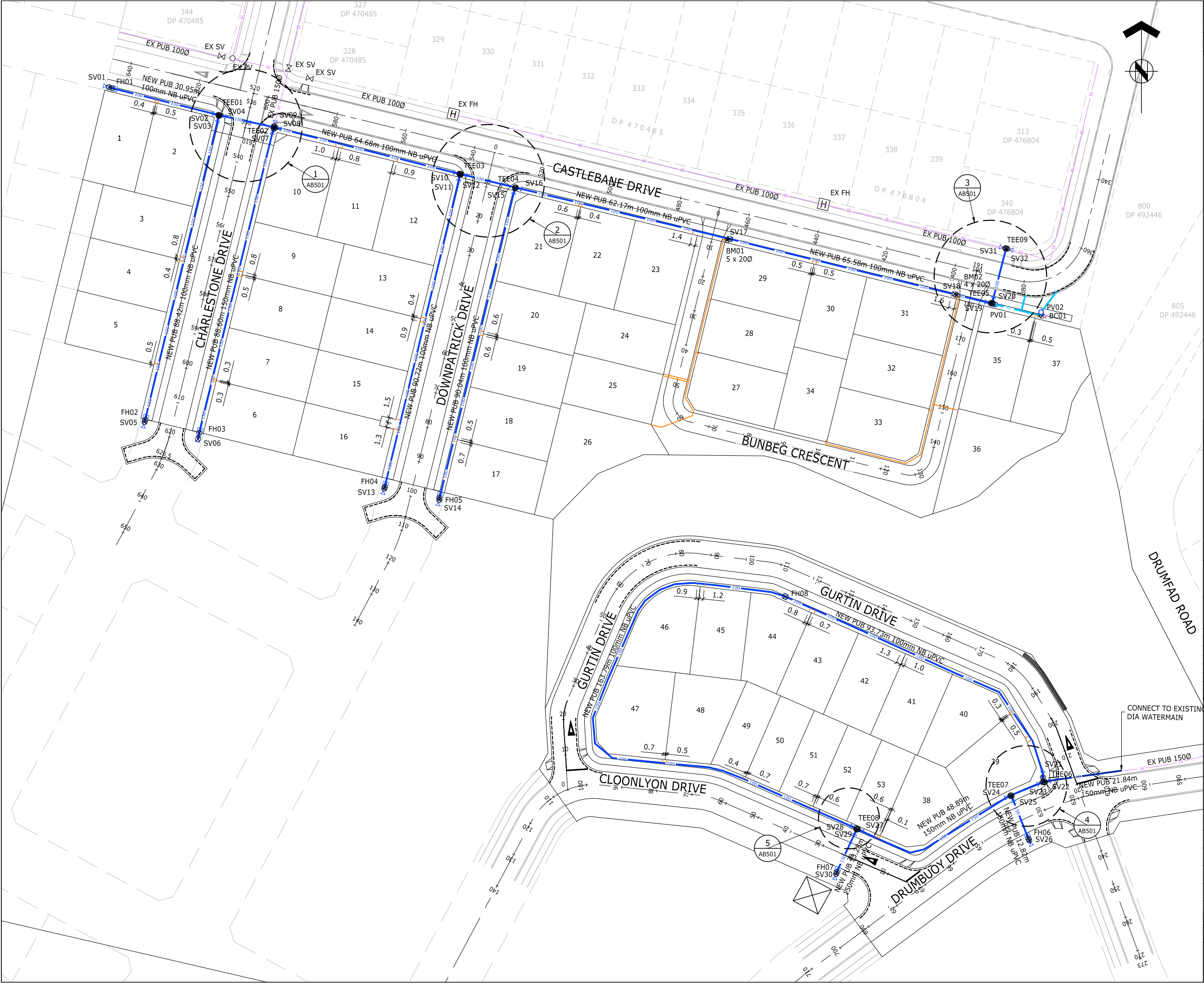
REF	REVISIONS	BY	DATE
A	AS-BUILT	WJP	26.07.17

PROJECT:
DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:
STAGE 9
RAINGARDEN AS-BUILT
TYPICAL SECTION DETAILS

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
EXC	07.2016		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		26.07.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	26.07.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	26.07.17		

ISSUE STATUS:			AS-BUILT
PROJECT No: 1050-139707-01	SCALES: AS SHOWN		A1
DRAWING No: 139707-AB482			REV A





ASSOCIATION OF CONSULTING
ENGINEERS NEW ZEALAND

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QUALITY
ASSURED

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NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE
- ALL CONNECTIONS ARE 25mm.

LEGEND

- 150 NEW 150 NB uPVC WATER MAIN LINE
- 100 NEW 100 NB uPVC WATER MAIN LINE
- 50 NEW 50 NB PE WATER MAIN LINE
- NEW WATER CONNECTION
- EXISTING WATER MAIN LINE
- NEW SLUICE VALVE
- NEW FIRE HYDRANT
- NEW PEET VALVE
- NEW BLANK CAP

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±25mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 12.09.2017

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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
WATERMAIN AS-BUILT PLAN

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		12.09.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	12.09.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	12.09.17		

ISSUE STATUS:

AS-BUILT

PROJECT No:	SCALES:	A1
1050-139707-01	1:500-A1 1:1000-A3	
DRAWING No:		REV
139707-AB500		B

NOTES:

- ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
- ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE
- ALL CONNECTIONS ARE 25mm.


LEGEND

- 150 NEW 150 NB uPVC WATER MAIN LINE
- 100 NEW 100 NB uPVC WATER MAIN LINE
- 50 NEW 50 NB PE WATER MAIN LINE
- NEW WATER CONNECTION
- W EXISTING WATER MAIN LINE
- NEW SLUICE VALVE
- NEW FIRE HYDRANT
- NEW PEET VALVE
- NEW BLANK CAP
- ALL-FLANGED TEE
- WATER BANK METER

ENGINEERING APPROVAL
ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

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Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 26.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

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A		AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE	

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
WATERMAIN AS-BUILT DETAILS

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		07.08.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	26.07.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	26.07.17		

ISSUE STATUS:

AS-BUILT

PROJECT No: 1050-139707-01

SCALES: NOT TO SCALE

A1

DRAWING No:

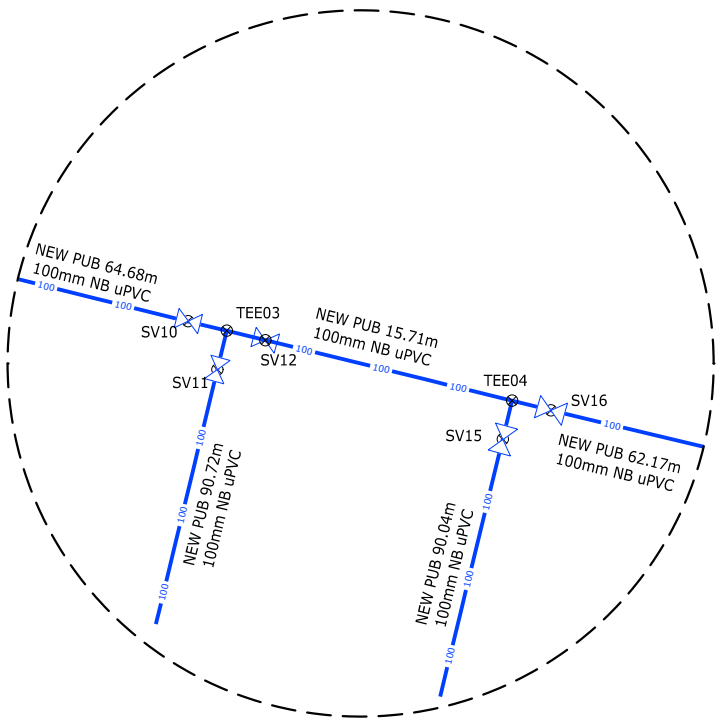
REV

139707-AB501

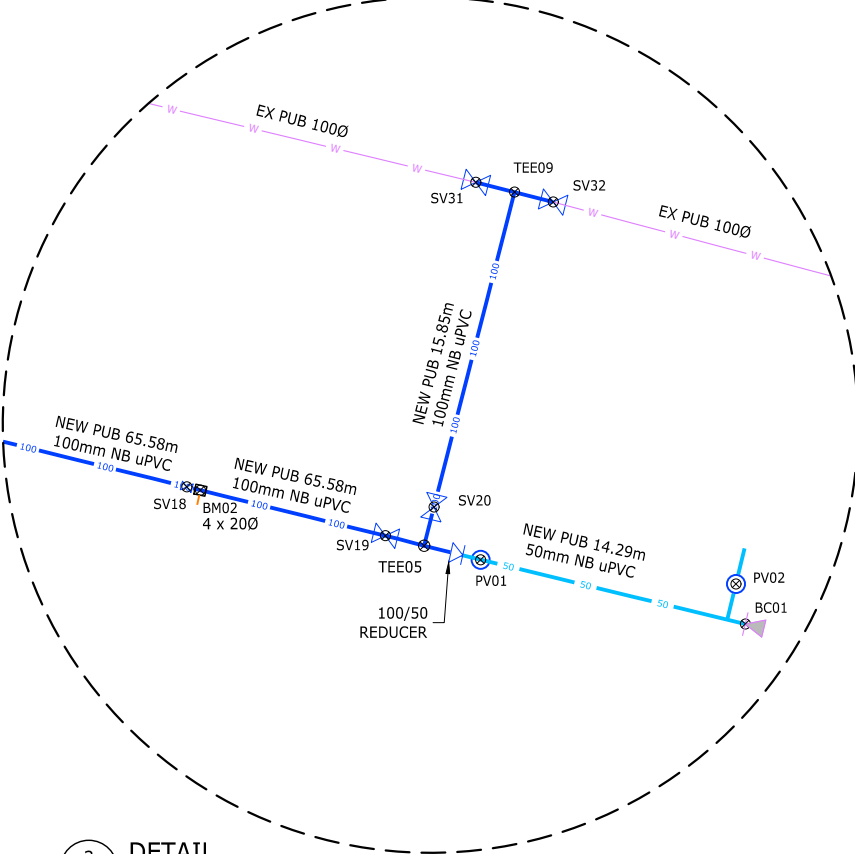
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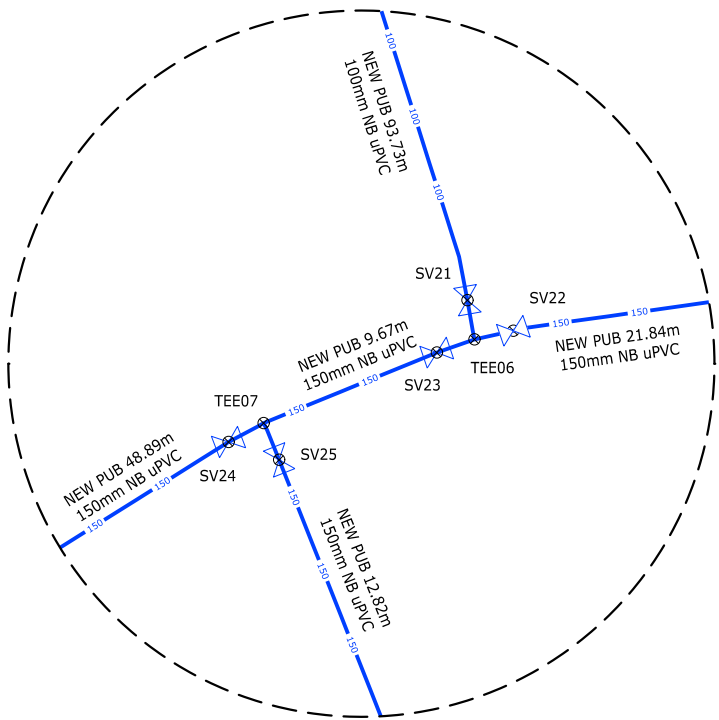
1 DETAIL
AB500 NOT TO SCCALE



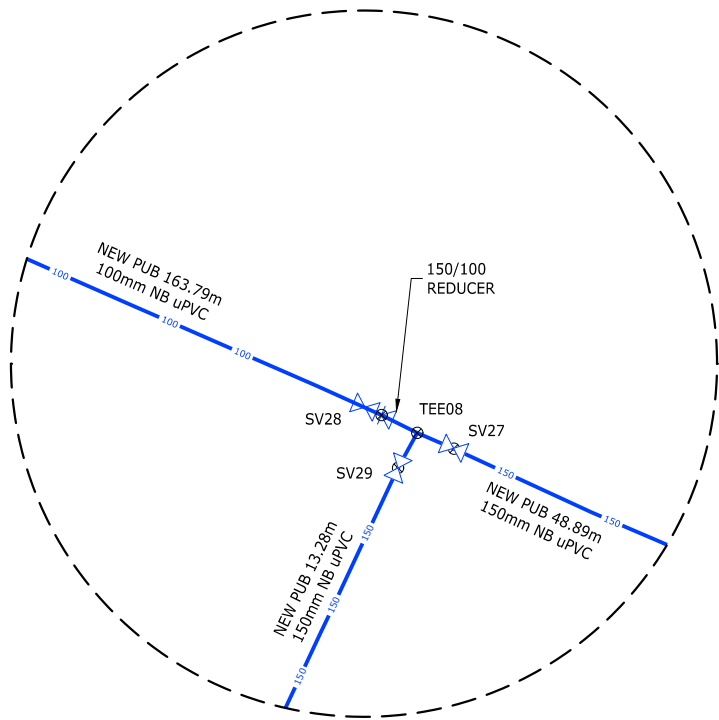
2 DETAIL
AB500 NOT TO SCCALE



3 DETAIL
AB500 NOT TO SCCALE



4 DETAIL
AB500 NOT TO SCCALE



5 DETAIL
AB500 NOT TO SCCALE

COORDINATE SCHEDULE				
POINT	SIZE	mE	mN	RL
BC01	50	1770470.01	5905704.13	----
BM01	5 X 20	1770381.03	5905725.55	43.90
BM02	4 X 20	1770445.83	5905710.00	41.44
FH01	100	1770206.99	5905768.48	39.58
FH02	100	1770216.34	5905674.69	42.25
FH03	150	1770231.65	5905670.99	42.22
FH04	100	1770284.12	5905655.75	43.59
FH05	100	1770299.57	5905652.71	43.55
FH06	150	1770466.15	5905556.42	42.50
FH07	150	1770411.94	5905546.89	44.63
FH08	100	1770397.40	5905624.77	41.72
PV02	40	1770469.59	5905704.53	40.75
PV01	50	1770456.13	5905707.51	41.05
SV01	100	1770206.12	5905768.75	39.59
SV02	100	1770237.00	5905760.89	40.87
SV03	100	1770237.17	5905760.59	40.91
SV04	100	1770237.53	5905760.79	40.91
SV05	100	1770216.17	5905674.07	42.26
SV06	150	1770231.30	5905669.31	42.29
SV07	150	1770252.64	5905757.07	40.85
SV08	100	1770253.25	5905757.35	40.81
SV09	100	1770252.80	5905757.76	40.81
SV10	100	1770305.20	5905744.30	42.21
SV11	100	1770305.40	5905743.95	42.25
SV12	100	1770305.74	5905744.17	42.23
SV13	100	1770283.96	5905655.27	43.56
SV14	100	1770299.51	5905652.08	43.51
SV15	100	1770320.94	5905740.18	42.54
SV16	100	1770321.25	5905740.37	42.56
SV17	100	1770381.71	5905725.87	43.91
SV18	100	1770445.39	5905710.22	41.47
SV19	100	1770455.47	5905707.69	41.05
SV20	100	1770455.92	5905707.89	41.04

POINT	SIZE	mE	mN	RL
SV21	100	1770470.24	5905573.69	41.99
SV22	150	1770470.86	5905572.38	42.05
SV23	150	1770470.22	5905572.28	42.08
SV24	150	1770460.98	5905568.47	42.58
SV25	150	1770461.41	5905568.33	42.55
SV26	150	1770466.39	5905555.86	42.49
SV27	150	1770417.94	5905558.98	44.66
SV28	100	1770417.34	5905559.28	44.70
SV29	150	1770417.58	5905558.91	44.68
SV30	150	1770411.75	5905546.37	44.59
SV31	100	1770459.61	5905723.23	41.11
SV32	100	1770460.17	5905723.08	41.11
TEE01	100/100	1770237.23	5905760.86	----
TEE02	100/150	1770252.73	5905757.46	----
TEE03	100/100	1770305.47	5905744.23	----
TEE04	100/100	1770321.00	5905740.43	----
TEE05	100/100	1770455.85	5905707.58	----
TEE06	150/100	1770470.56	5905572.32	----
TEE07	150/150	1770461.26	5905568.63	----
TEE08	150/150	1770417.75	5905559.02	----
TEE09	100/100	1770459.84	5905723.17	----

ENGINEERING APPROVAL

ENG 51364

I CERTIFY THAT THESE ASBUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X,Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN ±50mm.
- THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL) LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±25mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 26.07.2017

Name: WILLIAM JOHN FREDERICK PLATTS

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A	AS-BUILT	WJP	26.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
WATERMAIN AS-BUILT
SCHEDULE OF COORDINATES

ORIGINATOR:	DATE:	SIGNED:	PLOT BY:
WJP	07.2017		BKB
DRAWN:	DATE:	SIGNED:	PLOT DATE:
BB	07.2017		07.08.17
CHECKED:	DATE:	SIGNED:	SURVEY BY:
WJP	26.07.17		
APPROVED:	DATE:	SIGNED:	SURVEY DATE:
WJP	26.07.17		

ISSUE STATUS:			AS-BUILT
PROJECT No:	SCALES:		A1
1050-139707-01	NOT TO SCALE		
DRAWING No:			REV
139707-AB502			A





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NOTES:
1. ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m

2. ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE

LEGEND:

G

NEW GAS PIPE

P

NEW POWER

T

NEW TELECOM

TUD

NEW POWER TUD

T

NEW TELECOM PLINTH

Key

NEW STREETLIGHT

ENGINEERING APPROVAL
ENG 51364

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THE WORKS UNDERTAKEN AND THAT:
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LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed: 
CHARTERED PROFESSIONAL ENGINEER

Date: 12.09.2017

Name: WILLIAM JOHN FREDERICK PLATTS

Phone: 09-917-5000

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HG

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B	AS-BUILT	WJP	12.09.17
A	AS-BUILT	WJP	19.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

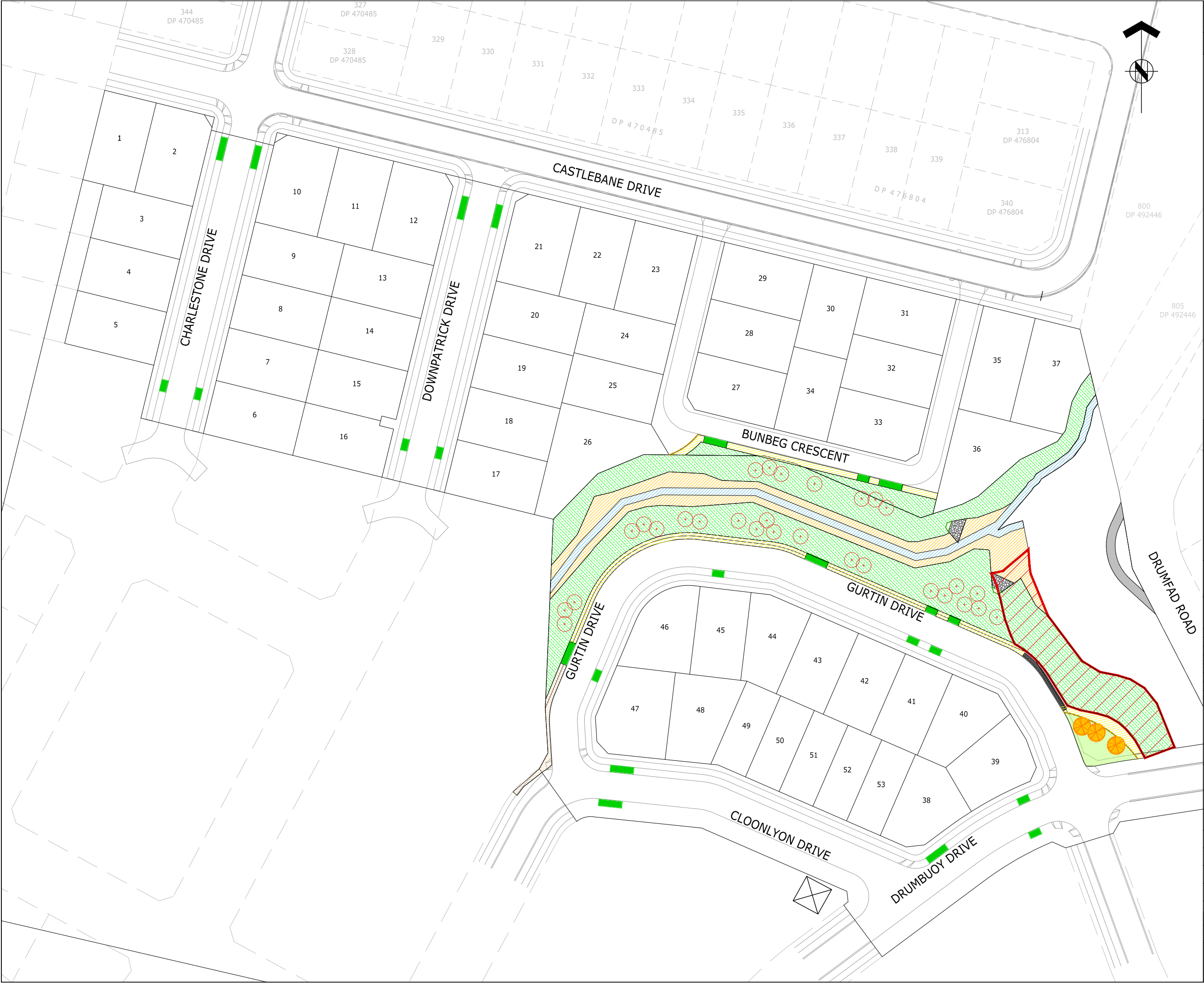
STAGE 9
SERVICES AS-BUILT

ORIGINATOR: EXC	DATE: 07.2017	SIGNED:	PLOT BY: BKB
DRAWN: BB	DATE: 07.2017	SIGNED:	PLOT DATE: 12.09.17
CHECKED: WJP	DATE: 12.09.17	SIGNED:	SURVEY BY:
APPROVED: WJP	DATE: 12.09.17	SIGNED:	SURVEY DATE:

ISSUE STATUS:

AS-BUILT

PROJECT No: 1050-139707-01	SCALES: 1:500-A1 1:1000-A3	A1
DRAWING No: 139707-AB550	REV B	





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NOTES:
1. ORIGIN OF LEVELS
S 66 SO 48643
RL 54.50m
2. ORIGIN OF COORDINATES
S 66 SO 48643
5905356.71mN
1770941.22mE

LEGEND:

FOOTPATH - EXISTING

STREAM EDGE PLANTING

FLOOD PLAIN PLANTING

HIGH REVEG PLANTING
(with Bark mulch)

SPECIMEN TREE CLUSTERS
(with Bark mulch)

ROAD EDGE PLANTING
(with Bark mulch)

LOW ROAD EDGE
(with Bark mulch)

REPLANTED AREA

RAINGARDENS

NEW STORMWATER OUTLET

TIMBER EDGING

ENGINEERING APPROVAL
ENG 51364

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THE WORKS UNDERTAKEN AND THAT:
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• THE LEVELS (Z) ARE IN TERMS OF THE AUCKLAND 1946 (MSL)
LINZ DATUM (DOSLI DATUM), AND ARE WITHIN ±10mm.

Signed: 
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Date: 19.07.2017
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A	AS-BUILT	WJP	19.07.17
REF	REVISIONS	BY	DATE

PROJECT:

DONEGAL STUD
80 DRUMBUOY DRIVE
FLAT BUSH

TITLE:

STAGE 9
LANDSCAPE AS-BUILT

ORIGINATOR: EXC	DATE: 07.2017	SIGNED:	PLOT BY: BKB
DRAWN: BB	DATE: 07.2017	SIGNED:	PLOT DATE: 10.08.17
CHECKED: WJP	DATE: 19.07.17	SIGNED:	SURVEY BY:
APPROVED: WJP	DATE: 19.07.17	SIGNED:	SURVEY DATE:

ISSUE STATUS:

AS-BUILT

PROJECT No: 1050-139707-01	SCALES: 1:500-A1 1:1000-A3	A1
DRAWING No: 139707-AB600		REV A