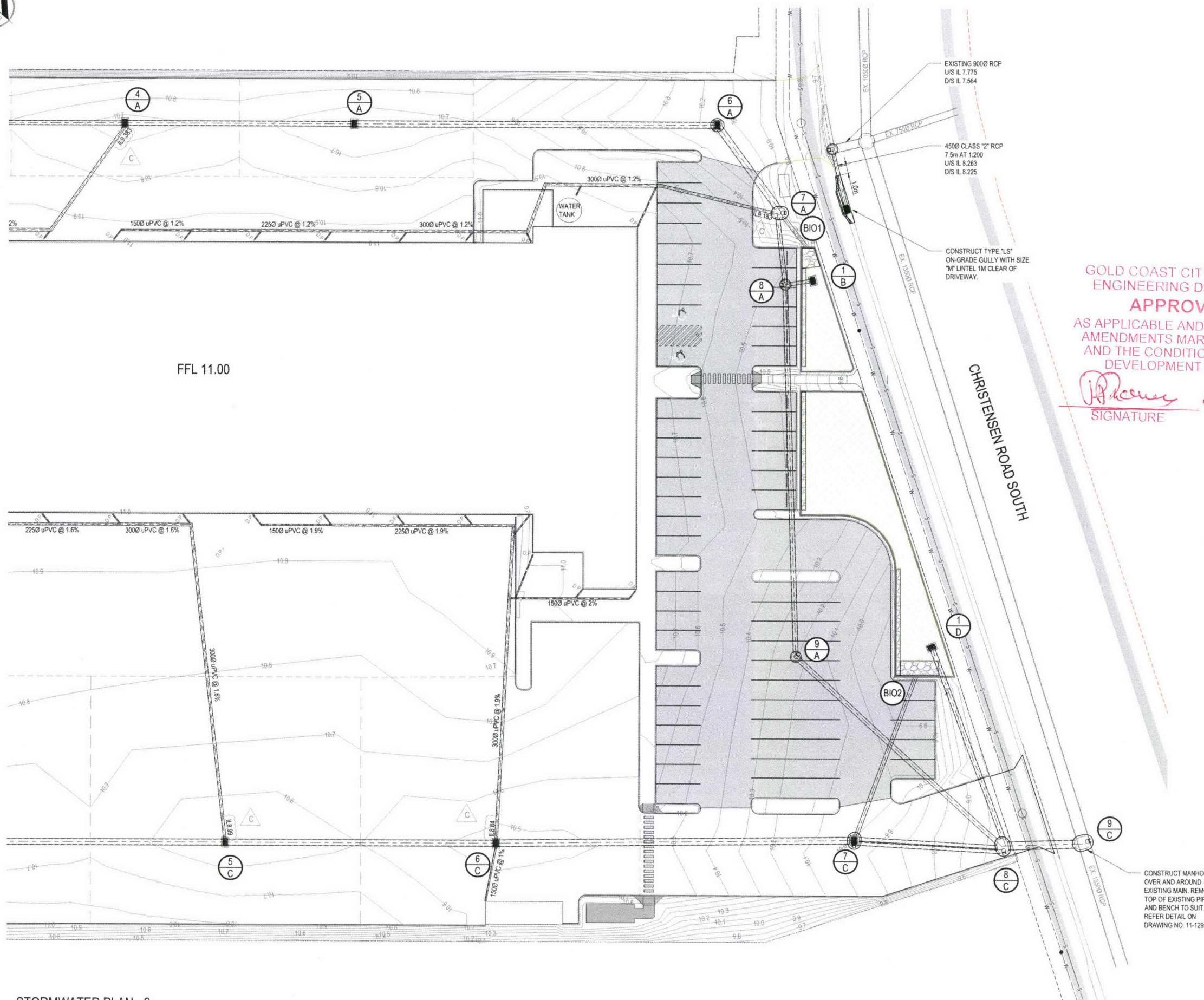


A circular stamp with a clock-like border. The border is marked with numbers from 01 to 24. In the center, there is a triangle above the word "RECEIVED", followed by the date "- 6 DEC 2011", and then "GCCC" above "Records Services".

_____ / _____ / _____



STORMWATER PLAN - 2

1:250

PROJECT TEAM

Consulting Engineer:

i³ consulting pty ltd
engineering consultants
innovation, ingenuity, inspiration
3/636 Moggill Road PO Box 909
Chapel Hill, Qld 4069 Kenmore, Qld 4069
www.icubed.com.au mail@icubed.com.au
ABN 89 106 675 156 ACN 106 675 156
p 07 3878 9100 f 07 3878 9144

Engineers Certification:

Nicola Canto MIE Aust. CPEng.
NPER Civil & Structural
CAES 3355 RPEQ 6750

Signature:

Date: 28/11/2011

LEGEND

- EXISTING STORMWATER
- PROPOSED STORMWATER
- FINISHED SURFACE CONTOUR
- BIORETENTION
- SEDIMENT FOREBAY / SCOUR PROTECTION
- STORMWATER STRUCTURE NUMBER

- NOTES:
- ALL STORMWATER DRAINAGE SHALL BE IN ACCORDANCE WITH AS/NZS 3500.3
 - ALL NON-PRESSURE PIPE SHALL BE HD PVC PIPE UNLESS NOTED OTHERWISE.

C	INVERT LEVELS AMENDED	28/11/2011	BP
B	EX. GULLY REMOVED NEW ADDED	11/11/2011	BP
A	FOR APPROVAL	11/10/2011	BP
REV	DESCRIPTION	DATE	BY

FOR APPROVAL

Project
**BUILDING 8 ON LOT 334/SP193431
CHRISTENSEN ROAD SOUTH
YATALA**
for
MULTISPAN AUSTRALIA

STORMWATER PLAN - 2

Drawn	Date	Chkd	Date
B. PARGE	9/9/11	T. SMITH	10/10/11
Design	Date	Apprd	Date
B. PARGE	7/9/11	N. CANTO	11/10/11
Scale	A1	Certif	Date
AS SHOWN		N. CANTO	11/10/11
Project No.	Dwg. No.	Rev	
11-129	C07	C	

© These drawings remain the property of i³ consulting pty. ltd. and must not be copied in any format without the written permission of the owners of the copyright.

i consulting pty Ltd
 engineering consultants
 innovation, ingenuity, inspiration

3/636 Moggill Road
 Chapel Hill, Qld 4069
www.icubed.com.au
 ABN 98 106 675 156
 f 07 3878 9144

PO Box 909
 Kenmore, Qld 4069
mail@icubed.com.au
 ACN 106 675 156
 f 07 3878 9144

Nicola Canto MIE Aust. CPEng
NPER Civil & Structural
CAES 3355 RPEQ 6750

Signature: 

Date: 28 / 11 / 2011

GOLD COAST CITY COUNCIL
ENGINEERING DRAWINGS
APPROVED

APPROVED
S APPLICABLE AND SUBJECT TO
AMENDMENTS MARKED IN RED
AND THE CONDITIONS OF THE
DEVELOPMENT PERMIT

SIGNATURE 05/12/11
DATE

B	INVERT LEVELS AMENDED	28/10/2011	BP
A	FOR APPROVAL	11/10/2011	BP
REV	DESCRIPTION	DATE	BY

FOR APPROVAL

Project
BUILDING 8 ON LOT 334/SP19343
CHRISTENSEN ROAD SOUTH
YATALA
for
MULTISPAN AUSTRALIA

Title

STORMWATER
LONGITUDINAL SECTIONS
SHEET 1

Drawn	Date	Chkd	Date
B. PARGE	9/9/11	T. SMITH	10/10/11
Design	Date	Apprd	Date
B. PARGE	7/9/11	N. CANTO	11/10/11
Scale	A1	Certif	Date
AS SHOWN		N. CANTO	11/10/11
Project No.	Dwg. No.	Rev	
11-129	C09	B	

© These drawings remain the property of i³ consulting Pty. Ltd. and must not be copied in any format without the written permission of the owners of the copyright.

STRUCTURE NAME

STRUCTURE DESCRIPTION

1/A

2/A

3/A

4/A

5/A

6/A

7/A

8/A

9/A

8/C

900x600 Field Inlet

900x600 Field Inlet

900x600 Field Inlet

900x600 Field Inlet

900x600 Field Inlet

815x815 Grated Inlet
CPO 1200mm DIAMETER

STD MANHOLE
1200mm DIAMETER MH EXT 450mm

PCO 1050mm DIAMETER

PCO 1050mm DIAMETER

STD MANHOLE

15.710m

450mm DIAMETER DRAIN

PIPE SIZEmm (Class)

375(2)

375(2)

450(2)

525(2)

675(2)

750(2)

450(2)

525(2)

525(2)

PIPE GRADE %

0.40%

0.45%

0.40%

0.40%

0.40%

0.40%

3.53%

0.39%

0.41%

PIPE SLOPE 1 in X

249.48

223.84

250.00

250.00

250.00

250.00

28.32

253.82

243.46

FULL PIPE FLOW VELOCITY (m/s)

0.90

1.06

0.85

1.12

0.72

0.61

1.51

1.55

1.55

PART FULL FLOW VELOCITY (m/s)

3.28

WATER LEVEL
IN STRUCTURE

10.881

10.881

10.881

10.881

10.881

10.881

9.874

9.874

8.348

HYDRAULIC
GRADE LEVEL

10.402

10.294

10.231

10.106

10.089

10.026

9.981

9.874

8.344

PIPE FLOW
(Cumecs)

0.099

0.117

0.135

0.251

0.266

0.278

0.241

0.348

0.348

PIPE CAPACITY
AT GRADE (Cumecs)

0.111

0.117

0.180

0.284

0.553

0.734

0.535

0.282

0.288

DEPTH TO INVERT

0.835

0.880

0.955

1.092

1.167

1.229

1.379

2.691

2.147

INVERT LEVEL
OF DRAIN

9.905

9.770

9.770

9.645

9.570

9.383

9.121

7.425

7.285

DESIGN SURFACE
LEVEL

10.740

10.660

10.600

10.550

10.500

10.461

10.418

10.116

9.432

SETOUT
EASTING/NORTHING

N907.458

E4041.906

N934.637

E4063.130

N952.899

E4084.355

N971.162

E4105.579

E4223.033

RUNNING CHAINAGE

0.000

33.680

33.680

27.999

61.679

28.001

89.680

27.999

117.679

44.222

161.901

13.167

175.088

8.809

183.877

45.688

229.565

34.084

263.649

1/B

8/A

1350mm DIAMETER EXT 600mm
900x600 Field Inlet/RSF 100

BIO RETENTION OUTLET
PCO 1050mm DIAMETER

375(2)

0.85%

117.43

1.14

DATUM RL 0.0

8.283

9.368

9.196

9.175

8.960

10.650

10.494

10.401

10.226

10.037

9.979

9.867

9.819

9.748

9.627

9.499

9.419

9.260

9.174

8.348

8.283

8.220

0.088

0.206

0.262

0.404

0.545

0.701

0.452

0.992

1.043

0.111

0.180

0.284

0.553

0.553

0.734

0.896

1.294

4.729

0.987

9.539

9.364

9.220

9.145

9.013

8.863

8.731

8.599

8.524

8.349

8.199

8.062

7.925

7.700

7.063

6.870

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.680

10.570

10.580

10.480

10.401

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

10.340

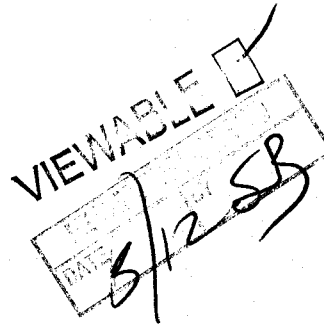
10.340

STORMWATER LONGITUDINAL SECTIONS - 1

HORIZONTAL 1:1000
VERTICAL 1:100

05 December 2011
Ranji De Silva
Implementation & Assessment Branch, Nerang
(07) 5582 8866
11-129-LE Cover
PN307555/03/DA4
Application No: OPW201101727

Icubed Consulting Pty Ltd
C/- Bridget Parge
PO BOX 909
KENMORE QLD 4069



Dear Sir/Madam

REQUEST TO CHANGE AN EXISTING APPROVAL - NOTICE TO APPLICANT

Application type:	OPEARATIONAL WORKS
Property situated at:	84 - 160 Christensen Road South, Stapylton
Property description:	Lot 334 on SP193431
Date request for change was made:	30 November 2011
Details of original development:	OPW
Original development application number:	OPW201101504
Date of originating development application approval:	11 November 2011

I wish to advise that on 05 December 2011, the request to change an existing approval was **approved** as outlined in the enclosed document.

Extracts from the *Sustainable Planning Act 2009*, which detail your appeal rights, are enclosed for your information.

Contacting us

Should you wish to clarify any issues contained in this letter, please do not hesitate to contact Planning Assessment area on telephone (07) 5582 8866.

Yours faithfully


Dr Shahadat Hossain
EXECUTIVE COORDINATOR ENGINEERING & ENVIRONMENTAL ASSESSMENT
For the Chief Executive Officer
rd

APPROVED PLANS/DRAWINGS

1 Development to be generally in accordance with specified plans/drawings as amended in red

The development must be carried out generally in accordance with the approved plans/drawings listed below, as amended in red, stamped and returned to the applicant with this decision notice and notified previously.

Plan No.	Rev.	Title	Date	Prepared by	Certified by
11-129-N00	B	Cover Sheet Notes & Locality Plan	11/10/11	i ³ Consulting Pty Ltd	RPEQ6750
11-129-C05	B	Finished Surface Level Plan 2	11/11/11	i ³ Consulting Pty Ltd	RPEQ6750
11-129-C07	C	Stormwater Plan 2	28/11/11	i ³ Consulting Pty Ltd	RPEQ6750
11-129-C09	B	Stormwater Long Sections Sheet 1	28/10/11	i ³ Consulting Pty Ltd	RPEQ6750
11-129-C10	B	Stormwater Long Sections Sheet 2 & Structure Details	28/10/11	i ³ Consulting Pty Ltd	RPEQ6750

A Attachment 1 – Acceptable Tolerances

During the construction phase any works that are not in accordance with the development approval requires amended drawings to be submitted unless within the following specified construction tolerances.

1 Roadwork – Council's Record Tolerance

Deviation from the approved Engineering Drawings shall not exceed:

Kerb and Channel

Vertical Alignment	Refer to the specified tolerances
Horizontal Alignment	Refer to the specified tolerances
The Constructed Minimum Kerb Grading	Is not less than 0.5%
No Ponding occurs	Refer to Council's current Standard Specification SS5

Pavement

Vertical Alignment	Refer to the specified tolerances
Horizontal Alignment	Refer to the specified tolerances
The Constructed Minimum Crossfall	Shall be as set out in the Land Development Guidelines

2 Stormwater Drainage – Council's Record Tolerance

Deviation from the approved Engineering Drawings shall not exceed:

Manholes

Location	±1000mm (Refer Note 1)
Surface Level	±50mm (Refer Note 2)

Gullies

Longitudinal	±1000mm (Refer Note 1)
Lateral	Refer Note 3
Invert Level	±50mm (Refer Note 3, 4)

Pipework

Invert Level	±50mm (Refer Note 4)
Alignment	±1000mm (Refer Note 1)
Grade	Refer Note 4

Property Pits (Inter-allotment), Field Inlets, Headwalls

Location	±1000mm (Refer Note 1)
Surface Level	±50mm (Refer Note 2)

Notes:

- 1 Deviation should not result in conflict of interference with any other service or structure. All services should remain within the approved service corridor.
- 2 Should match the adjacent finished surface level.
- 3 Deviation should not affect the levels of existing kerb and channel and adjacent roadwork.
- 4 Not less than minimum and not more than maximum grade and/or depth. Council's design criteria shall be achieved.

4

Sustainable Planning Act 2009

APPEAL RIGHTS FOR APPROVAL OR REFUSAL OF DEVELOPMENT APPLICATIONS FOR MATERIAL CHANGE OF USE, RECONFIGURATION OF A LOT OR OPERATIONAL WORKS APPLICATIONS.

461 Appeals by applicants

- (1) An applicant for a development application may appeal to the court against any of the following:
 - (a) the refusal, or the refusal in part, of the development application;
 - (b) any condition of a development approval, another matter stated in a development approval and the identification or inclusion of a code under section 242;
 - (c) the decision to give a preliminary approval when a development permit was applied for;
 - (d) the length of a period mentioned in section 341;
 - (e) a deemed refusal of the development application;
- (2) An appeal under subsection (1)(a), (b), (c) or (d) must be started within 20 business days (the applicant's appeal period) after:
 - (a) if a decision notice or negotiated decision notice is given - the day the decision notice or negotiated decision notice is given to the applicant;
 - (b) otherwise, the day a decision notice was required to be given to the applicant.
- (3) An appeal under subsection (1)(e) may be started at any time after the last day of a decision on the matter should have been made.