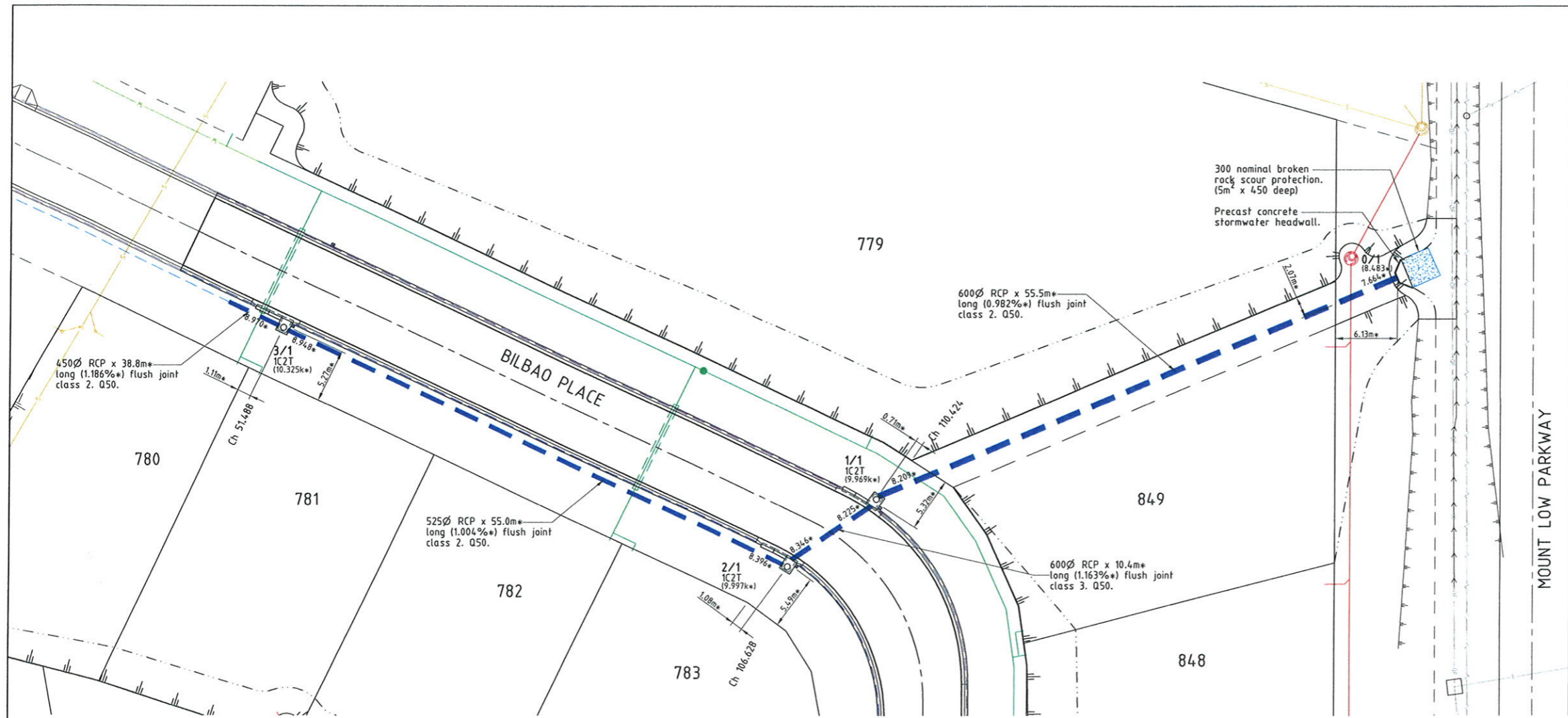


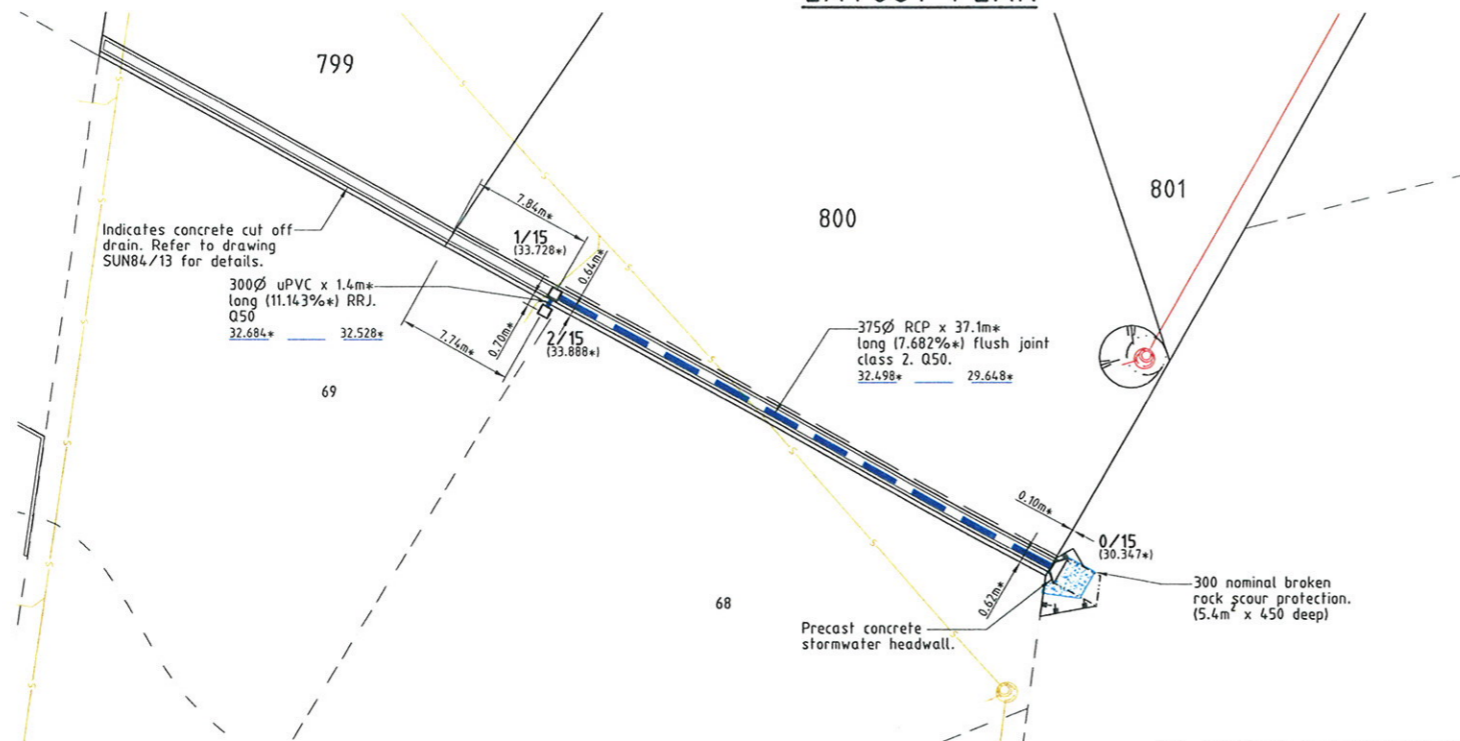
LEGEND

- 2/1 (12.000*) - Pit No. 2/Drainline No. 1
- 12.000* - As constructed top of structure levels.
- Top of batter.
- Toe of batter.
- Invert of creek/drain.
- Stormwater drain line.
- Subsoil drainage.
- Sewer main.
- Sewer manhole.
- Water main.
- Stormwater drain line.
- Subsoil drainage.
- Sewer main.
- Sewer manhole.
- Water main.



LAYOUT PLAN

APPROVED



LAYOUT PLAN

STORMWATER STRUCTURE SETOUT TABLE

PIT No.	EASTING	NORTHING	STRUCTURE TYPE	TOP LEVEL
3/1	5545.750*	76826.560*	Side Inlet Pit - 1 chamber, 2 troughs	10.325k*
2/1	5584.640*	76787.630*	Side Inlet Pit - 1 chamber, 2 troughs	9.997k*
1/1	5594.610*	76790.650*	Side Inlet Pit - 1 chamber, 2 troughs	9.969k*
0/1	5650.000*	76794.490*	Outlet Headwall	8.483*
2/15	5244.090*	76590.140*	600x600 Poly Field Inlet Pit	33.888*
1/15	5245.140*	76590.980*	600x600 Poly Field Inlet Pit	33.728*
0/15	5269.700*	76563.140*	Outlet Headwall	30.347*

- All dimensions are to centre of chamber.
 - Setout of structures 0/1 & 0/15 is to end of pipe.
 - Refer to drawing SUN84/13 for field inlet pit details.

RECORDED - 3 MAR 2010
 AMENDED PLANS

AS CONSTRUCTED
 John James Rowlands of ROWLANDS SURVEYS Pty. Ltd. hereby certify that this drawing accurately describes and records the nature and the location of the works depicted hereon as they have been constructed for the purposes of the development.
 Director/Registered Surveyor
 Date: 13/3/10

REAL PROPERTY DESCRIPTION

Lot 501 & 502 on SP 162413
 Parish of BOHLE
 County of ELPHINSTONE
 Bilbao Place - Bushland Beach

In Association with:-
ROWLANDS SURVEYS PTY LTD
 22 GORDEN STREET
 GARBUTT. 4814
 Ph. (07)47755077

SUNLAND GROUP
 LEVEL DATUM A.H.D.
 Horizontal Datum GDA' 94 Zone 55
 Refer P.M. 1384.03 RL. 8.545
 Bolt & washer in manhole top.
 LYNWOOD AVENUE

Scale
 0 2.5 5 7.5 10m
 THE ORIGINAL OF THIS DOCUMENT IS COMPLETED TO THE SCALE NOTED.
 AS REPRODUCTION CAN DISTORT SIZE & SHAPE USE ONLY THE DIMENSIONS PROVIDED ON ARCHITECTURAL &/OR ENGINEERING DRAWINGS.
 VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION.

* - Indicates As Constructed information.
 All work is carried out in accordance with the former THURINGOWA CITY COUNCIL standard details.

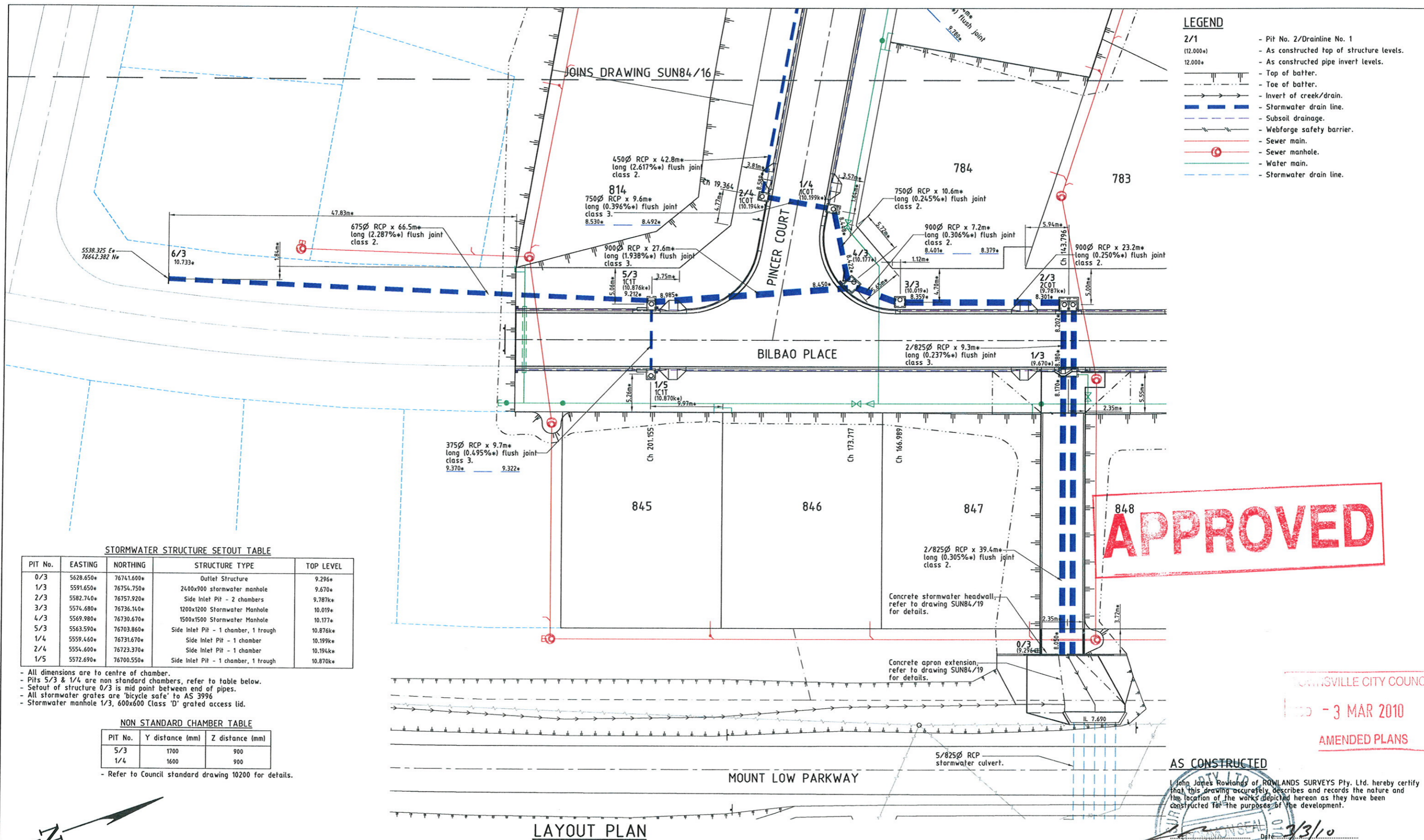
NORTHERN CONSULTING engineers
 Civil & Structural Engineers
 50 Punari Street, Currajong 4812
 Phone: 07 4725 5550 Fax: 07 4725 5850
 Email: mail@nceng.com.au
 Milton Messer & Associates Pty. Ltd.
 ACN 100 817 356

Issue	Description	Date
D	AS CONSTRUCTED AMENDED TO COUNCIL REQUIREMENTS.	03/03/2010
C	AMENDED TO AS CONSTRUCTED.	11/01/2010
B	STORMWATER DRAIN LINE IS AMENDED.	11/11/2009
A	ISSUED FOR CONSTRUCTION.	16/07/2008
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.	12/10/2007

Drawn: CN
 Date: 12/10/2007
 Checked: [Signature]
 Approved: [Signature]
 COPYRIGHT ©

In Association with:
SUNLAND GROUP LIMITED
 STAGE 84, 41 TRADITIONAL
 RESIDENTIAL LOT SUBDIVISION
 BILBAO PLACE
 BUSHLAND BEACH

STORMWATER DRAIN LINE PLAN
 Drawing Number: SUN84/14
 Issue: D



- LEGEND**
- 2/1 (12.000*) - Pit No. 2/Drainline No. 1
 - 12.000* - As constructed top of structure levels.
 - As constructed pipe invert levels.
 - Top of batter.
 - Toe of batter.
 - Invert of creek/drain.
 - Stormwater drain line.
 - Subsoil drainage.
 - Webforge safety barrier.
 - Sewer main.
 - Sewer manhole.
 - Water main.
 - Stormwater drain line.

STORMWATER STRUCTURE SETOUT TABLE

PIT No.	EASTING	NORTHING	STRUCTURE TYPE	TOP LEVEL
0/3	5628.650*	76741.600*	Outlet Structure	9.296*
1/3	5591.650*	76754.750*	2400x900 stormwater manhole	9.670*
2/3	5582.740*	76757.920*	Side Inlet Pit - 2 chambers	9.787*
3/3	5574.680*	76736.140*	1200x1200 Stormwater Manhole	10.019*
4/3	5569.980*	76730.670*	1500x1500 Stormwater Manhole	10.177*
5/3	5563.590*	76703.860*	Side Inlet Pit - 1 chamber, 1 trough	10.876*
1/4	5559.460*	76731.670*	Side Inlet Pit - 1 chamber	10.199*
2/4	5554.600*	76723.370*	Side Inlet Pit - 1 chamber	10.194*
1/5	5572.690*	76700.550*	Side Inlet Pit - 1 chamber, 1 trough	10.870*

- All dimensions are to centre of chamber.
- Pits 5/3 & 1/4 are non standard chambers, refer to table below.
- Setout of structure 0/3 is mid point between end of pipes.
- All stormwater grates are 'bicycle safe' to AS 3996
- Stormwater manhole 1/3, 600x600 Class 'D' grated access lid.

NON STANDARD CHAMBER TABLE

PIT No.	Y distance (mm)	Z distance (mm)
5/3	1700	900
1/4	1600	900

- Refer to Council standard drawing 10200 for details.

LAYOUT PLAN

APPROVED

ROUNDSVILLE CITY COUNCIL
 3 MAR 2010
 AMENDED PLANS

AS CONSTRUCTED

I, John James Rowlands of ROWLANDS SURVEYS Pty. Ltd. hereby certify that this drawing accurately describes and records the nature and the location of the works depicted hereon as they have been constructed for the purposes of the development.

Laurence John Nolan
 Director/Registered Surveyor
 3/3/10

REAL PROPERTY DESCRIPTION

Lot 501 & 502 on SP 162413
 Parish of BOHLE
 County of ELPHINSTONE
 Bilbao Place - Bushland Beach

In Association with:-



ROWLANDS SURVEYS PTY LTD

22 GORDEN STREET
 GARBUTT. 4814
 Ph. (07)47755077



SUNLAND GROUP

LEVEL DATUM A.H.D.
 Horizontal Datum GDA' 94 Zone 55
 Refer P.M. 138403 RL. 8.545
 Bolt & washer in manhole top.
 LYNWOOD AVENUE



THE ORIGINAL OF THIS DOCUMENT IS COMPLETED TO THE SCALE NOTED.
 AS REPRODUCTION CAN DISTORT SIZE & SHAPE USE ONLY THE DIMENSIONS PROVIDED ON ARCHITECTURAL &/OR ENGINEERING DRAWINGS.
 VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION.

"*" - Indicates As Constructed information.

All work is carried out in accordance with the former THURINGOWA CITY COUNCIL standard details.



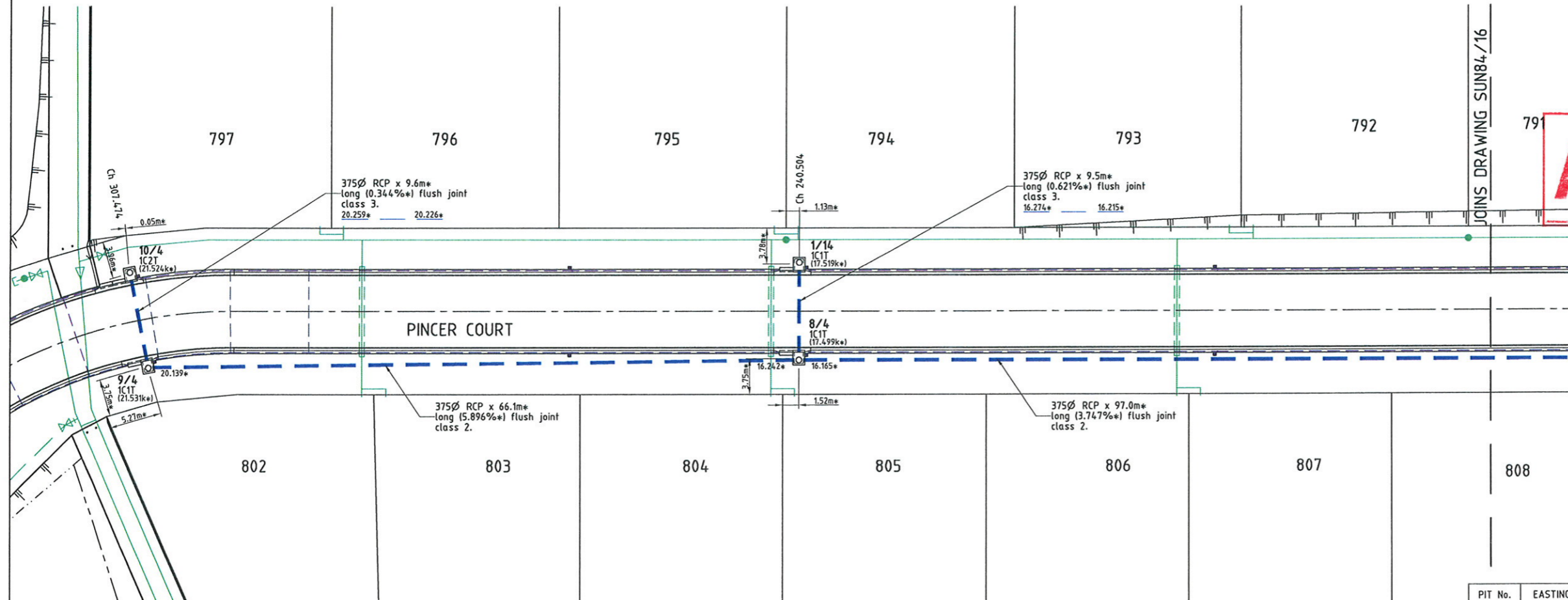
Civil & Structural Engineers
 50 Punari Street, Currabung 4812
 Phone: 07 4725 5550 Fax: 07 4725 5850
 Email: mail@nceng.com.au
 Milton Messer & Associates Pty. Ltd.
 ACN 100 817 356

Issue	Description	Date
C	AS CONSTRUCTED AMENDED TO COUNCIL REQUIREMENTS.	03/03/2010
B	AMENDED TO AS CONSTRUCTED.	11/01/2010
A	ISSUED FOR CONSTRUCTION.	16/07/2008
P2	PRELIMINARY - NOT FOR CONSTRUCTION - AMENDED TO COUNCIL REQUIREMENTS.	13/12/2007
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.	12/10/2007

Drawn	In Association with	STORMWATER DRAIN LINE PLAN
CN	SUNLAND GROUP LIMITED	
Date		
12/10/2007		
Checked	STAGE 84, 41 TRADITIONAL RESIDENTIAL LOT SUBDIVISION	
Approved	BILBAO PLACE BUSHLAND BEACH	
COPYRIGHT ©		
	Drawing Number	Issue
	SUN84/15	C

LEGEND

- 2/1 (12.000*) - Pit No. 2/Drainline No. 1
- 12.000* - As constructed top of structure levels.
- As constructed pipe invert levels.
- Top of batter.
- Toe of batter.
- Invert of creek/drain.
- Stormwater drain line.
- Subsoil drainage.
- Sewer main.
- Sewer manhole.
- Water main.
- Poly water main.



APPROVED

TOWNSVILLE CITY COUNCIL
RECD - 3 MAR 2010
AMENDED PLANS

LAYOUT PLAN

STORMWATER STRUCTURE SETOUT TABLE

PIT No.	EASTING	NORTHING	STRUCTURE TYPE	TOP LEVEL
8/4	5365.910*	76675.610*	Side Inlet Pit - 1 chamber, 1 trough	17.499k*
9/4	5306.140*	76647.330*	Side Inlet Pit - 1 chamber, 1 trough	21.531k*
10/4	5300.700*	76655.200*	Side Inlet Pit - 1 chamber, 2 troughs	21.524k*
1/14	5361.880*	76684.180*	Side Inlet Pit - 1 chamber, 1 trough	17.519k*

- All dimensions are to centre of chamber.

AS CONSTRUCTED

I, John James Rowlands of ROWLANDS SURVEYS Pty. Ltd. hereby certify that this drawing accurately describes and records the nature and location of the works depicted hereon as they have been constructed for the purposes of the development.

Date: 3/3/10
Laurence John Nolan
Director/Registered Surveyor

REAL PROPERTY DESCRIPTION

Lot 501 & 502 on SP 162413
Parish of BOHLE
County of ELPHINSTONE
Bilbao Place - Bushland Beach

In Association with:-

ROWLANDS SURVEYS PTY LTD
22 GORDEN STREET
CARBUTT, 4814
Ph. (07)47755077

SUNLAND GROUP

LEVEL DATUM A.H.D.
Horizontal Datum GDA' 94 Zone 55
Refer P.M. 138403 RL. 8.545
Bolt & washer in manhole top.
LYNWOOD AVENUE

Scale
0 2.5 5 7.5 10m

THE ORIGINAL OF THIS DOCUMENT IS COMPLETED TO THE SCALE NOTED. AS REPRODUCTION CAN DISTORT SIZE & SHAPE USE ONLY THE DIMENSIONS PROVIDED ON ARCHITECTURAL &/OR ENGINEERING DRAWINGS. VERIFY DIMENSIONS ON SITE BEFORE CONSTRUCTION.

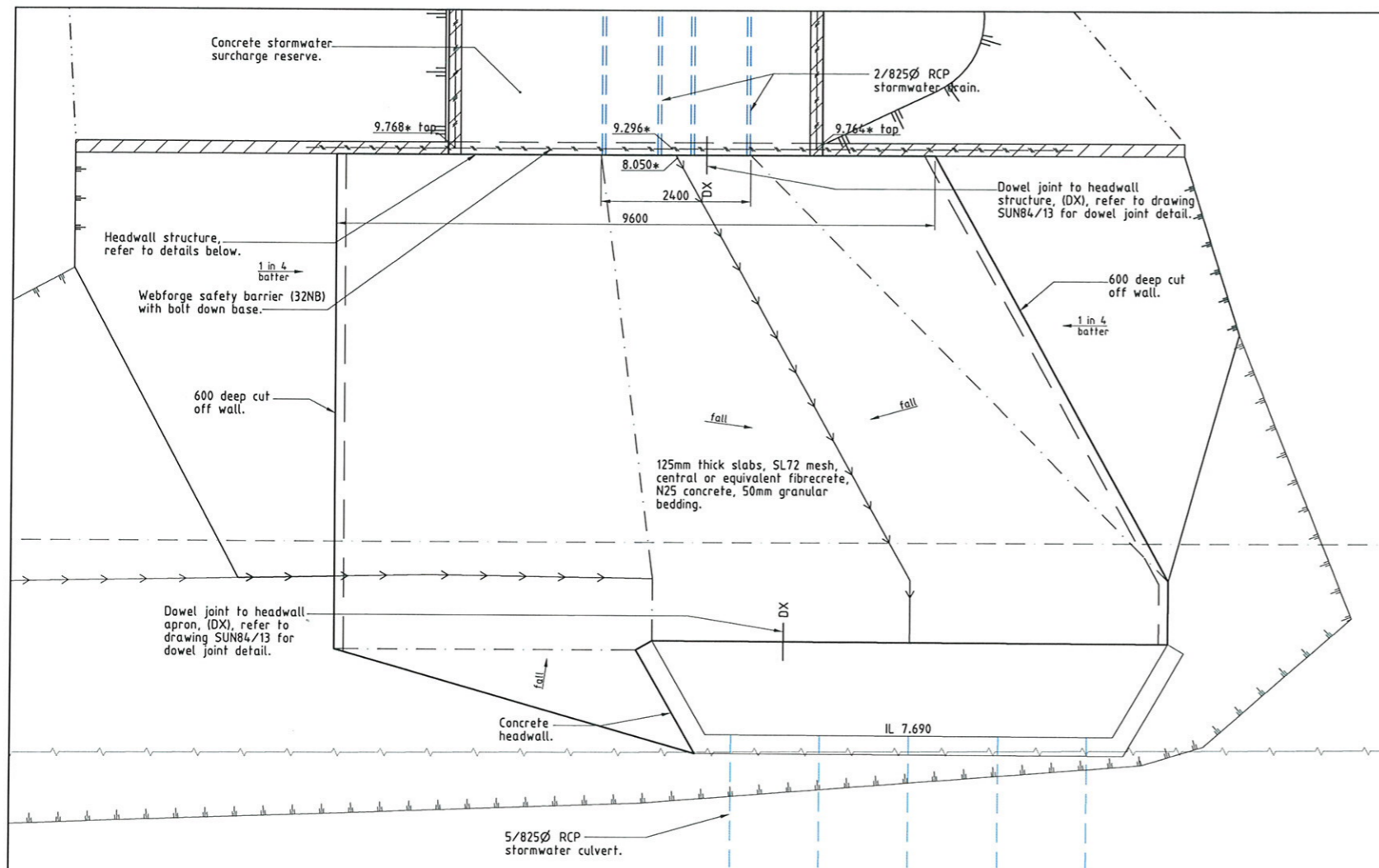
* - Indicates As Constructed information.

All work is carried out in accordance with the former THURINGOWA CITY COUNCIL standard details.

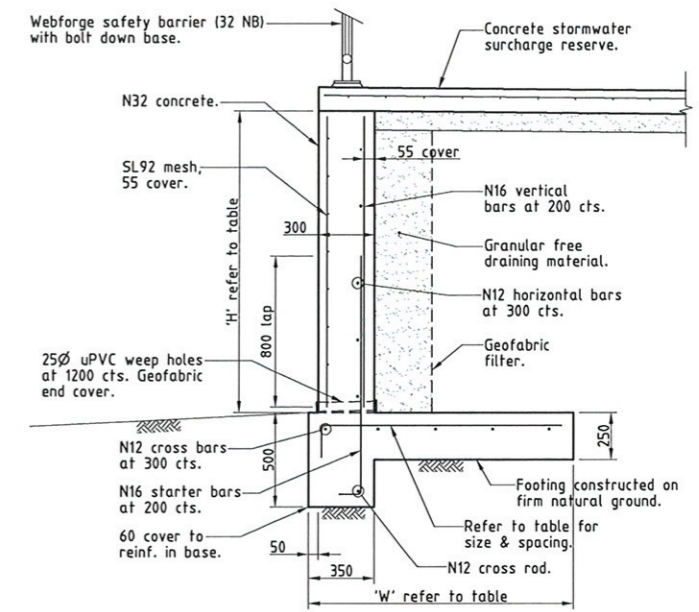
NORTHERN CONSULTING
engineers

Civil & Structural Engineers
50 Punari Street, Currerajong 4812
Phone: 07 4725 5550 Fax: 07 4725 5850
Email: mail@nceng.com.au
Milton Messer & Associates Pty. Ltd.
ACN 100 817 356

C	AS CONSTRUCTED AMENDED TO COUNCIL REQUIREMENTS.	03/03/2010
B	AMENDED TO AS CONSTRUCTED.	11/01/2010
A	ISSUED FOR CONSTRUCTION.	16/07/2008
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.	12/10/2007
Issue	Description	Date
Drawn CN	In Association with SUNLAND GROUP LIMITED	
Date 12/10/2007	STAGE 84, 41 TRADITIONAL RESIDENTIAL LOT SUBDIVISION	
Checked	BILBAO PLACE	
Approved	BUSHLAND BEACH	
COPYRIGHT ©		
Drawing Number SUN84/17		Issue C



STORMWATER STRUCTURE 0/3 PLAN
Scale 'A'



RETAINING WALL
Scale 'B'

'H'	'Reinf.'	'W'
0-1000	N12 at 600 cts.	750
1001-1400	N12 at 400 cts.	1100
1401-1800	N16 at 400 cts.	1400

APPROVED

TOWNSVILLE CITY COUNCIL
REC'D - 3 FEB 2010
TOWN PLANNING

AS CONSTRUCTED

Northern Consulting Engineers hereby certify that the works detailed on this drawing have been constructed to the dimensions and levels detailed.

[Signature]
Derek Robert Conley Saw Date: 10-1-10

AS CONSTRUCTED

I John James Rowlands of ROWLANDS SURVEYS Pty. Ltd. hereby certify that this drawing accurately describes and records the nature and the location of the works depicted hereon as they have been constructed for the purposes of the development.

[Signature] Date: 12-01-10
John James Rowlands
Director/Registered Surveyor

REAL PROPERTY DESCRIPTION

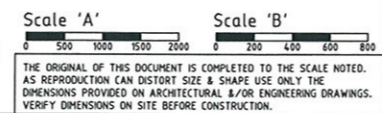
Lot 501 & 502 on SP 162413
Parish of BOHLE
County of ELPHINSTONE
Bilbao Place - Bushland Beach

In Association with:-

ROWLANDS SURVEYS PTY LTD
22 GORDEN STREET
GARbutt. 4814
Ph. (07)47755077

SUNLAND GROUP

LEVEL DATUM A.H.D.
Horizontal Datum GDA' 94 Zone 55
Refer P.M. 138403 RL. 8.545
Bolt & washer in manhole top.
LYNWOOD AVENUE



"*" - Indicates As Constructed information.

All work is carried out in accordance with the former THURINGOWA CITY COUNCIL standard details.

NORTHERN CONSULTING
engineers
Civil & Structural Engineers
50 Punari Street, Currajong 4812
Phone: 07 4725 5550 Fax: 07 4725 5850
Email: m811@nceng.com.au
Milton Messer & Associates Pty. Ltd.
ACN 100 817 356

Issue	Description	Date
C	AMENDED TO AS CONSTRUCTED.	11/01/2010
B	ISSUED FOR CONSTRUCTION - ALTERNATE RETAINING WALL SOLUTION ADDED.	15/10/2009
A	ISSUED FOR CONSTRUCTION.	16/07/2008
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATIONAL WORKS APPROVAL.	12/10/2007

Drawn	In Association with	STORMWATER CONSTRUCTION DETAILS
DC	SUNLAND GROUP LIMITED	
Date		
12/10/2007		
Checked	STAGE 84, 41 TRADITIONAL RESIDENTIAL LOT SUBDIVISION	
Approved	BILBAO PLACE	
	BUSHLAND BEACH	
		Drawing Number
		SUN84/19
		Issue
		C