

**LAYOUT PLAN**

**LEGEND**  
GENERAL:-

- Top of batter.
- Toe of batter.
- Stormwater drain line.
- Sewer main.
- Sewer manhole.
- Water main.
- Poly water main.
- Stormwater drain line.
- Sewer main.
- Sewer manhole.
- Water main.

**WATER RETICULATION:-**

- FH Fire Hydrant.
- SV Stop Valve.
- GV Gate Valve.

\* - Indicates as constructed information.

All work is carried out in accordance with LOCAL AUTHORITY standard details.

**NOTES:**

**AS CONSTRUCTED WATER RETICULATION:**

- All water supply fixtures (FH, SV etc.) have been installed in accordance with Townsville City Council standards. ie. adjacent to boundary intersection, U.N.O.
- All uPVC water mains & fittings are to be Class 16 cast iron outside diameter compatible unless shown otherwise.

**APPROVED  
AS CONSTRUCTED**

**AS CONSTRUCTED**

I Laurence John Nolan 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  
Date: 7/9/11



**REAL PROPERTY DESCRIPTION**

Lot 902 on SP 218628, Lot 901 on SP 226447 & Lot 4 on RP 743005  
Parish of BOHLE  
County of ELPHINSTONE  
Glendower Street - Bushland Beach

In Association with:-



**ROWLANDS SURVEYS PTY LTD**

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



LEVEL DATUM A.H.D.  
Horizontal Datum GDA' 94 Zone 55  
Refer P.M. 174438 RL. 4,820  
Bolt & washer in kerb.  
Cnr HILLOCK CR. & GLENDOWER ST.



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.

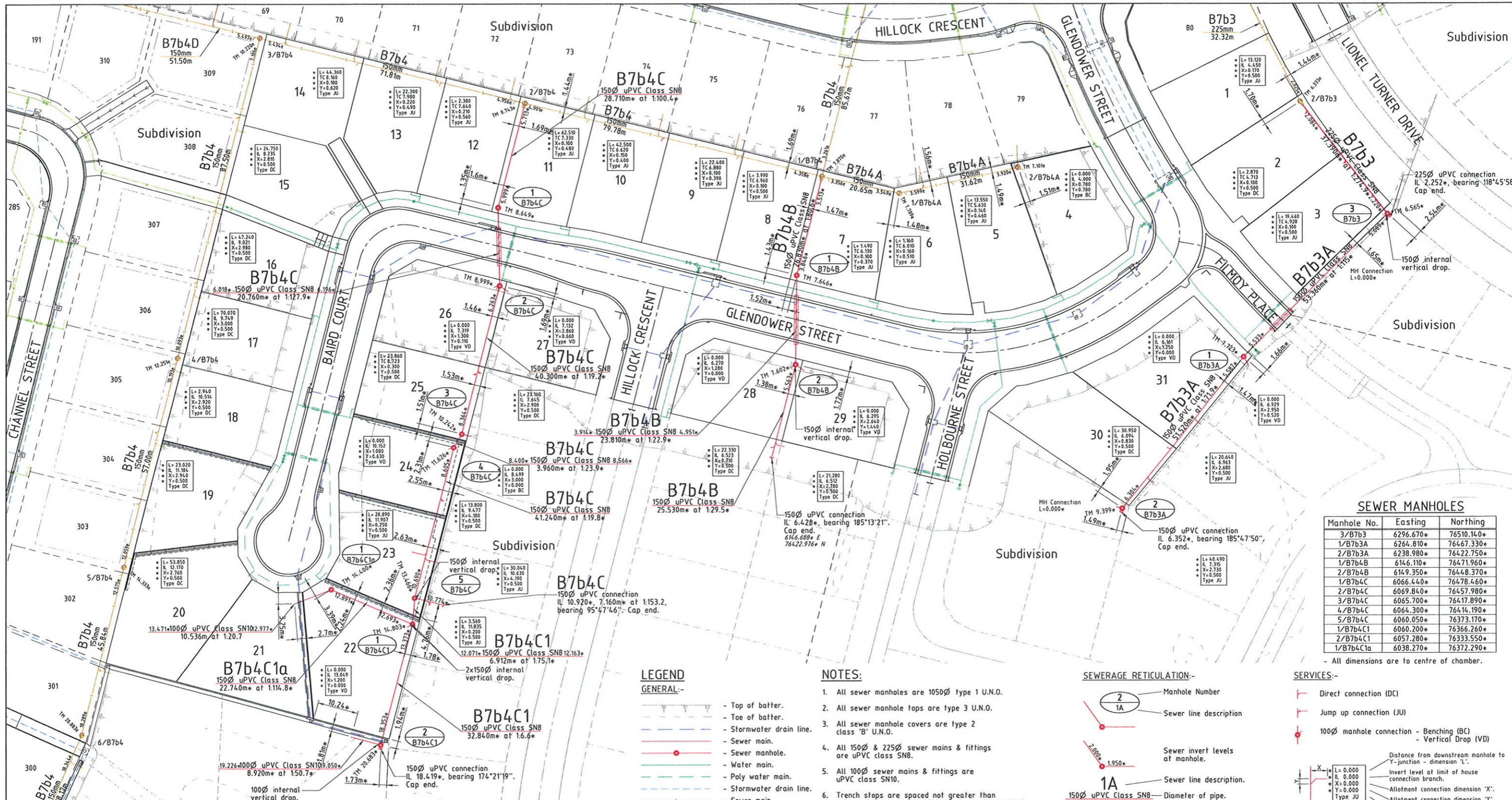


Civil & Structural Engineers  
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Milton Messer & Associates Pty. Ltd.  
ACN 100 817 356

**TOWNSVILLE CITY COUNCIL**  
REC'D - 8 SEP 2011  
TOWN PLANNING

G	AMENDED TO AS CONSTRUCTED.	07/09/2011
F	MODIFICATION TO RETAINING WALLS AND SERVICES.	23/06/2011
E	SERVICES & LOT LAYOUT DESIGN AMENDED - ISSUED FOR CONSTRUCTION.	30/03/2011
D	SERVICES & LOT LAYOUT DESIGN AMENDED - ISSUED FOR APPROVAL.	24/03/2011
C	WATER LAYOUT AMENDED.	26/11/2010
B	WATER LAYOUT AMENDED.	22/11/2010
A	ISSUED FOR CONSTRUCTION.	27/10/2010
P2	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR OPERATION WORKS APPROVAL.	17/08/2010
P1	PRELIMINARY - NOT FOR CONSTRUCTION - ISSUED FOR CLIENT APPROVAL.	06/08/2010

Issue	Description	Date
Drawn JHS	In Association With <b>SUNLAND GROUP LIMITED</b>	
Date 06/08/2010	<b>STAGE 1, 31 TRADITIONAL RESIDENTIAL LOT SUBDIVISION GLENDOWER STREET BUSHLAND BEACH</b>	
Checked IR		
Approved [Signature]		
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WATER RETICULATION PLAN		Issue
Drawing Number <b>SUNJ0001/21</b>		G



**SEWER MANHOLES**

Manhole No.	Easting	Northing
3/B7b3	6296.670*	76510.140*
1/B7b3A	6264.810*	76467.330*
2/B7b3A	6238.980*	76422.750*
1/B7b4	6146.110*	76471.960*
2/B7b4B	6149.350*	76448.370*
1/B7b4C	6066.440*	76478.460*
2/B7b4C	6069.840*	76457.980*
3/B7b4C	6065.700*	76417.890*
4/B7b4C	6064.300*	76414.190*
5/B7b4C	6060.050*	76373.170*
1/B7b4C1	6060.200*	76366.260*
2/B7b4C1	6057.280*	76333.550*
1/B7b4C1a	6038.270*	76372.290*

- All dimensions are to centre of chamber.

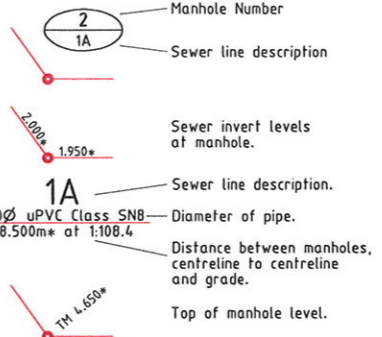
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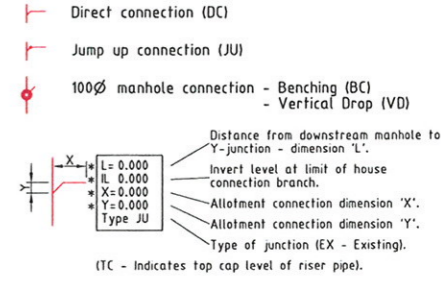
**NOTES:**

1. All sewer manholes are 1050Ø type 1 U.N.O.
  2. All sewer manhole tops are type 3 U.N.O.
  3. All sewer manhole covers are type 2 class 'B' U.N.O.
  4. All 150Ø & 225Ø sewer mains & fittings are uPVC class SN8.
  5. All 100Ø sewer mains & fittings are uPVC class SN10.
  6. Trench stops are spaced not greater than 6.0m and located within 300mm of pipe joints U.N.O.
- Where pipe grade exceeds:
- 1 in 6 (16.7%) provide concrete scour stops,
  - 1 in 10 (10.0%) provide cement stabilised sand bags (3% cement content).
- Spacing of stops is that top of stop is not less than 100mm above the top of pipe at the next uphill stop, subject to a minimum cover of 300mm.

**SEWERAGE RETICULATION:-**



**SERVICES:-**



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Laurence John Nolan  
Director/Registered Surveyor  
Date: 7/3/11

**APPROVED AS CONSTRUCTED**

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**SUNLAND GROUP**  
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Parish of BOHLE  
County of ELPHINSTONE  
Glendower Street - Bushland Beach

In Association with:  
**ROWLANDS SURVEYS PTY LTD**  
22 GORDEN STREET  
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LEVEL DATUM A.H.D.  
Horizontal Datum GDA '94 Zone 55  
Refer P.M. 174438 RL. 4.820  
Bolt & washer in kerb.  
Cnr HILLOCK CR. & GLENDOWER ST.

Scale  
0 5 10 15 20m  
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**NORTHERN CONSULTING**  
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ACV 100 617 956

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Drawn: JHS  
Date: 06/08/2010  
Checked: [Signature]  
Approved: [Signature]  
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In Association With:  
**SUNLAND GROUP LIMITED**  
STAGE 1, 31 TRADITIONAL RESIDENTIAL LOT SUBDIVISION  
GLENDOWER STREET  
BUSHLAND BEACH

**SEWERAGE RETICULATION PLAN**  
Drawing Number: SUNJ0001/22  
Issue: E

**TOWNSVILLE CITY COUNCIL**  
REC'D - 8 SEP 2011  
TOWN PLANNING