

IDAS form 1—Application details

(Sustainable Planning Act 2009 version 4.1 effective 4 July 2014)

This form must be used for **ALL** development applications.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete this form (*IDAS form 1—Application details*)
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form and any other IDAS form relevant to your application must be used for development applications relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994* and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

PLEASE NOTE: This form is not required to accompany requests for compliance assessment.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

Applicant details (Note: the applicant is the person responsible for making the application and need not be the owner of the land. The applicant is responsible for ensuring the information provided on all IDAS application forms is correct. Any development permit or preliminary approval that may be issued as a consequence of this application will be issued to the applicant.)

Name/s (individual or company name in full)

For companies, contact name

Mango Beach Port Douglas P/L

Postal address

PO Box 487

| | | | |
|---------|------------|----------|------|
| | | | |
| Suburb | Smithfield | | |
| State | Qld | Postcode | 4878 |
| Country | Australia | | |

Contact phone number

0407674909

Mobile number (non-mandatory requirement)

Fax number (non-mandatory requirement)

Email address (non-mandatory requirement)

vdc3

@bigpond.com

Applicant's reference number (non-mandatory requirement)

1. What is the nature of the development proposed and what type of approval is being sought?

Table A—Aspect 1 of the application (If there are additional aspects to the application please list in Table B—Aspect 2.)

- a) What is the nature of the development? (Please only tick one box.)
- ☐ Material change of use ☐ Reconfiguring a lot ☐ Building work ☒ Operational work
- b) What is the approval type? (Please only tick one box.)
- ☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☒ Development permit
- c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)
- Construction of 7 lot community title subdivision and infrastructure at Sagiba Avenue Port Douglas
- d) What is the level of assessment? (Please only tick one box.)
- ☐ Impact assessment ☒ Code assessment

Table B—Aspect 2 of the application (If there are additional aspects to the application please list in Table C—Additional aspects of the application.)

- a) What is the nature of development? (Please only tick one box.)
- ☐ Material change of use ☐ Reconfiguring a lot ☐ Building work ☐ Operational work
- b) What is the approval type? (Please only tick one box.)
- ☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☐ Development permit
- c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)
-
- d) What is the level of assessment?
- ☐ Impact assessment ☐ Code assessment

Table C—Additional aspects of the application (If there are additional aspects to the application please list in a separate table on an extra page and attach to this form.)

- ☐ Refer attached schedule ☐ Not required

2. Location of the premises (Complete Table D and/or Table E as applicable. Identify each lot in a separate row.)

Table D—Street address and lot on plan for the premises or street address and lot on plan for the land adjoining or adjacent to the premises (Note: this table is to be used for applications involving taking or interfering with water). (Attach a separate schedule if there is insufficient space in this table.)

☒ Street address **and** lot on plan (All lots must be listed.)

☐ Street address **and** lot on plan for the land adjoining or adjacent to the premises (Appropriate for development in water but adjoining or adjacent to land, e.g. jetty, pontoon. All lots must be listed.)

| Street address | | | | | Lot on plan description | | Local government area (e.g. Logan, Cairns) |
|----------------|----------|------------|--|-----------|-------------------------|------------------------|---|
| Lot | Unit no. | Street no. | Street name and official suburb/ locality name | Post-code | Lot no. | Plan type and plan no. | |
| i) | | 40-52 | Mitre Street | 4873 | 1,2 & 6 | C2253 | Douglas |
| ii) | | | | | | | |
| iii) | | | | | | | |

Planning scheme details (If the premises involves multiple zones, clearly identify the relevant zone/s for each lot in a separate row in the below table. Non-mandatory)

| Lot | Applicable zone / precinct | Applicable local plan / precinct | Applicable overlay/s |
|------|----------------------------|----------------------------------|----------------------|
| i) | | | |
| ii) | | | |
| iii) | | | |

Table E—Premises coordinates (Appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay.) (Attach a separate schedule if there is insufficient space in this table.)

| Coordinates (Note: place each set of coordinates in a separate row) | | | | Zone reference | Datum | Local government area (if applicable) |
|--|----------|----------|-----------|----------------|--|---------------------------------------|
| Easting | Northing | Latitude | Longitude | | | |
| | | | | | <input type="checkbox"/> GDA94 <input type="checkbox"/> WGS84 <input type="checkbox"/> other | |

3. Total area of the premises on which the development is proposed (indicate square metres)

4. Current use/s of the premises (e.g. vacant land, house, apartment building, cane farm etc.)

House

5. Are there any current approvals (e.g. a preliminary approval) associated with this application? (Non-mandatory requirement)

☐ No ☒ Yes—provide details below

| List of approval reference/s | Date approved (dd/mm/yy) | Date approval lapses (dd/mm/yy) |
|------------------------------|--------------------------|---------------------------------|
| 8/7/1815 | 12/7/2010 | 12/7/2018 |

6. Is owner's consent required for this application? (Refer to notes at the end of this form for more information.)

☒ No

☐ Yes—complete either Table F, Table G or Table H as applicable

Table F

| | |
|---|--|
| Name of owner/s of the land | |
| I/We, the above-mentioned owner/s of the land, consent to the making of this application. | |
| Signature of owner/s of the land | |
| Date | |

Table G

| | |
|--|--|
| Name of owner/s of the land | |
| <input type="checkbox"/> The owner's written consent is attached or will be provided separately to the assessment manager. | |

Table H

| | |
|---|--|
| Name of owner/s of the land | |
| <input type="checkbox"/> By making this application, I, the applicant, declare that the owner has given written consent to the making of the application. | |

7. Identify if any of the following apply to the premises (Tick applicable box/es.)

- ☐ Adjacent to a water body, watercourse or aquifer (e.g. creek, river, lake, canal)—complete Table I
- ☐ On strategic port land under the *Transport Infrastructure Act 1994*—complete Table J
- ☐ In a tidal water area—complete Table K
- ☐ On Brisbane core port land under the *Transport Infrastructure Act 1994* (No table requires completion.)
- ☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008* (no table requires completion)
- ☐ Listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* (no table requires completion)

Table I

| |
|--|
| Name of water body, watercourse or aquifer |
| |

| Table J | |
|---|----------------------------|
| Lot on plan description for strategic port land | Port authority for the lot |
| | |

| Table K | |
|---|---|
| Name of local government for the tidal area (if applicable) | Port authority for the tidal area (if applicable) |
| | |

8. Are there any existing easements on the premises? (e.g. for vehicular access, electricity, overland flow, water etc)

☒ No ☐ Yes—ensure the type, location and dimension of each easement is included in the plans submitted

9. Does the proposal include new building work or operational work on the premises? (Including any services)

☐ No ☒ Yes—ensure the nature, location and dimension of proposed works are included in plans submitted

10. Is the payment of a portable long service leave levy applicable to this application? (Refer to notes at the end of this form for more information.)

☐ No—go to question 12 ☒ Yes

11. Has the portable long service leave levy been paid? (Refer to notes at the end of this form for more information.)

☒ No
☐ Yes—complete Table L and submit with this application the yellow local government/private certifier's copy of the receipted QLeave form

| Table L | | |
|-------------|----------------------|--|
| Amount paid | Date paid (dd/mm/yy) | QLeave project number (6 digit number starting with A, B, E, L or P) |
| | | |

12. Has the local government agreed to apply a superseded planning scheme to this application under section 96 of the Sustainable Planning Act 2009?

☒ No
☐ Yes—please provide details below

| | | |
|--------------------------|---|--|
| Name of local government | Date of written notice given by local government (dd/mm/yy) | Reference number of written notice given by local government (if applicable) |
| | | |

13. List below all of the forms and supporting information that accompany this application (Include all IDAS forms, checklists, mandatory supporting information etc. that will be submitted as part of this application. Note: this question does not apply for applications made online using MyDAS)

| Description of attachment or title of attachment | Method of lodgement to assessment manager |
|--|---|
| Cover Letter | electronic |
| IDAS form 1 | electronic |
| IDAS form 6 | electronic |
| Moodie and Associates plan no 1503LUCAS C1 TO C9 | electronic |
| Moodie and Associates Stormwater Drainage report | electronic |
| Cost estimate | electronic |
| Compliance certificate | electronic |

14. Applicant's declaration

X By making this application, I declare that all information in this application is true and correct (Note: it is unlawful to provide false or misleading information)

Notes for completing this form

- Section 261 of the *Sustainable Planning Act 2009* prescribes when an application is a properly-made application. Note, the assessment manager has discretion to accept an application as properly made despite any non-compliance with the requirement to provide mandatory supporting information under section 260(1)(c) of the *Sustainable Planning Act 2009*

Applicant details

- Where the applicant is not a natural person, ensure the applicant entity is a real legal entity.

Question 1

- Schedule 3 of the Sustainable Planning Regulation 2009 identifies assessable development and the type of assessment. Where schedule 3 identifies assessable development as "various aspects of development" the applicant must identify each aspect of the development on Tables A, B and C respectively and as required.

Question 6

- Section 263 of the *Sustainable Planning Act 2009* sets out when the consent of the owner of the land is required for an application. Section 260(1)(e) of the *Sustainable Planning Act 2009* provides that if the owner's consent is required under section 263, then an application must contain, or be accompanied by, the written consent of the owner, or include a declaration by the applicant that the owner has given written consent to the making of the application. If a development application relates to a state resource, the application is not required to be supported by evidence of an allocation or entitlement to a state resource. However, where the state is the owner of the subject land, the written consent of the state, as landowner, may be required. Allocation or entitlement to the state resource is a separate process and will need to be obtained before development commences.

Question 7

- If the premises is listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* it may be necessary to seek compliance assessment. Schedule 18 of the Sustainable Planning Regulation 2009 identifies where compliance assessment is required.

Question 11

- The *Building and Construction Industry (Portable Long Service Leave) Act 1991* prescribes when the portable long service leave levy is payable.

-
- The portable long service leave levy amount and other prescribed percentages and rates for calculating the levy are prescribed in the Building and Construction Industry (Portable Long Service Leave) Regulation 2002.

Question 12

- The portable long service leave levy need not be paid when the application is made, but the *Building and Construction Industry (Portable Long Service Leave) Act 1991* requires the levy to be paid before a development permit is issued.
- Building and construction industry notification and payment forms are available from any Queensland post office or agency, on request from QLeave, or can be completed on the QLeave website at www.qleave.qld.gov.au. For further information contact QLeave on 1800 803 481 or visit www.qleave.qld.gov.au.

Privacy—The information collected in this form will be used by the Department of State Development, Infrastructure and Planning (DSDIP), assessment manager, referral agency and/or building certifier in accordance with the processing and assessment of your application. Your personal details should not be disclosed for a purpose outside of the IDAS process or the provisions about public access to planning and development information in the *Sustainable Planning Act 2009*, except where required by legislation (including the *Right to Information Act 2009*) or as required by Parliament. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

OFFICE USE ONLY

Date received

Reference numbers

NOTIFICATION OF ENGAGEMENT OF A PRIVATE CERTIFIER

To

Council. I have been engaged as the private certifier for the building work referred to in this application

| Date of engagement | Name | BSA Certification license number | Building classification/s |
|--------------------|------|----------------------------------|---------------------------|
| | | | |

QLEAVE NOTIFICATION AND PAYMENT (For completion by assessment manager or private certifier if applicable.)

| Description of the work | QLeave project number | Amount paid (\$) | Date paid | Date receipted form sighted by assessment manager | Name of officer who sighted the form |
|-------------------------|-----------------------|------------------|-----------|---|--------------------------------------|
| | | | | | |

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

IDAS form 6—Building or operational work assessable against a planning scheme

(Sustainable Planning Act 2009 version 3.0 effective 1 July 2013)

This form must be used for development applications for building work or operational work assessable against a planning scheme.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form must be used for building work or operational work relating on strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994* and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008* that requires assessment against the land use plan for that land. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

1. **What is the nature of the work that requires assessment against a planning scheme?** (Tick all applicable boxes.)

- ☐ Building work—complete Table A ☒ Operational work—complete Table B

Table A

a) What is the nature of the building work (e.g. building, repairing, altering, underpinning, moving or demolishing a building)?

b) Are there any current approvals associated with this application? (e.g. material change of use.)

- ☐ No ☐ Yes— provide details below

| List of approval reference/s | Date approved (dd/mm/yy) | Date approval lapses (dd/mm/yy) |
|------------------------------|--------------------------|---------------------------------|
| | | |
| | | |

Table B

a) What is the nature of the operational work? (Tick all applicable boxes.)

- ☒ Road works ☒ Stormwater ☒ Water infrastructure
☐ Drainage works ☒ Earthworks ☒ Sewerage infrastructure
☐ Landscaping ☐ Signage ☐ Clearing vegetation under the planning scheme
☐ Other—provide details

b) Is the operational work necessary to facilitate the creation of new lots? (E.g. subdivision.)

- ☐ No ☒ Yes—specify the number of lots being created

c) Are there any current approvals associated with this application? (E.g. material change of use.)

- ☐ No ☒ Yes—provide details below

| List of approval reference/s | Date approved (dd/mm/yy) | Date approval lapses (dd/mm/yy) |
|------------------------------|--------------------------|---------------------------------|
| 8/7/1815 | 12/7/2010 | 12/7/2018 |
| | | |

2. What is the dollar value of the proposed building work?
(Inc GST, materials and labour.)

\$

3. What is the dollar value of the proposed operational work?
(Inc GST, materials and labour.)

\$493,844

Mandatory supporting information

4. Confirm that the following mandatory supporting information accompanies this application

| Mandatory supporting information | Confirmation of lodgement | Method of lodgement |
|--|---|---------------------|
| All applications involving building work or operational work | | |
| A site plan drawn to an appropriate scale (1:100, 1:200 or 1:500 are recommended scales) which shows the following: <ul style="list-style-type: none"> the location and site area of the land to which the application relates (<i>relevant land</i>) the north point the boundaries of the relevant land the allotment layout showing existing lots, any proposed lots (including the dimensions of those lots), existing or proposed road reserves, building envelopes and existing or proposed open space (note: numbering is required for all lots) any existing or proposed easements on the relevant land and their function any access limitation strips all existing and proposed roads and access points on the relevant land. | <input checked="" type="checkbox"/> Confirmed | electronic |
| A statement about how the proposed development addresses the local | <input type="checkbox"/> Confirmed | |

| | | |
|---|--|--|
| government's planning schemes and any other planning documents relevant to the application. | | |
| A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP). | <input type="checkbox"/> Confirmed | |
| Applications for building work (including extensions and demolition that is assessable development) | | |
| <p>Floor plans drawn to an appropriate scale (1:50, 1:100 or 1:200 are recommended scales) which show the following:</p> <ul style="list-style-type: none"> the north point the intended use of each area on the floor plan (for commercial, industrial or mixed use developments only) the room layout (for residential development only) with all rooms clearly labelled the existing and the proposed built form (for extensions only) the gross floor area of each proposed floor area. | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Elevations drawn to an appropriate scale (1:100, 1:200 or 1:500 are recommended scales) which show plans of all building elevations and facades, clearly labelled to identify orientation (e.g. north elevation). | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Plans showing the size, location, proposed site cover, proposed maximum number of storeys, and proposed maximum height above natural ground level of the proposed new building work. | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Plans showing the extent of any demolition that is assessable development. | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Applications for operational work involving earthworks (filling and excavating) | | |
| <p>Drawings showing:</p> <ul style="list-style-type: none"> existing and proposed contours areas to be cut and filled the location and level of any permanent survey marks or reference stations used as datum for the works the location of any proposed retaining walls on the relevant land and their height the defined flood level (if applicable) the fill level (if applicable). | <input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Applications for operational work involving roadworks | | |
| <p>Drawings showing:</p> <ul style="list-style-type: none"> existing and proposed contours the centreline or construction line showing chainages, bearings, offsets if the construction line is not the centreline of the road and all intersection points information for each curve including tangent point chainages and offsets, curve radii, arc length, tangent length, superelevation (if applicable) and curve widening (if applicable) kerb lines including kerb radii (where not parallel to centreline) and tangent point changes (where not parallel to centreline) edge of pavement where kerb is not constructed position and extent of channelisation location and details of all traffic signs, guideposts, guardrail and other street furniture pavement markings including details on raised pavement markers catchpit, manhole and pipeline locations drainage details (if applicable) | <input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |

| | | |
|---|--|--|
| <ul style="list-style-type: none"> • cross road drainage culverts (if applicable) • concrete footpaths and cycle paths • location and details for access points, ramps and invert crossings • changes in surfacing material. | | |
| Applications for operational work involving stormwater drainage | | |
| <p>Drawings showing:</p> <ul style="list-style-type: none"> • existing and proposed contours • drainage locations, diameters and class of pipe, open drains and easements • manhole location, chainage and offset or coordinates and inlet and outlet invert levels • inlet pit locations, chainage and offset or coordinates and invert and kerb levels. | <input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Applications for operational work involving water reticulation | | |
| <p>Drawings showing:</p> <ul style="list-style-type: none"> • kerb lines or edge of pavement where kerb is not constructed • location and levels of other utility services where affected by water reticulation works • pipe diameter, type of pipe and pipe alignment • water main alignments • water supply pump station details (if applicable) • minor reservoir details (if applicable) • conduits • location of valves and fire hydrants • location of house connections (if applicable) • location of bench marks and reference pegs. | <input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Applications for operational work involving sewerage reticulation | | |
| <p>Drawings showing:</p> <ul style="list-style-type: none"> • location of all existing and proposed services • location of all existing and proposed sewer lines and manhole locations • location of all house connection branches • kerb lines or edge of pavement where kerb is not constructed • chainages • design sewer invert levels • design top of manhole levels • type of manhole and manhole cover • pipe diameter, type of pipe and pipe alignment • location of house connections (if applicable) • sewer pump station details (if applicable). | <input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Applications for operational work involving street lighting | | |
| <p>Drawings showing:</p> <ul style="list-style-type: none"> • location of all light poles and service conduits • location of all other cross road conduits • type of wattage and lighting • any traffic calming devices • additional plans for roundabouts and major roads (if applicable) • details of any variations to normal alignment • details of lighting levels. | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |

| | | |
|---|---|--|
| Applications for operational work involving public utility services | | |
| Drawings showing: <ul style="list-style-type: none"> any existing light poles and power poles any existing underground services details of proposed services alteration to existing services. | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |
| Applications for operational work involving landscaping works | | |
| Drawings showing: <ul style="list-style-type: none"> the location of proposed plant species a plant schedule indicating common and botanical names, pot sizes and numbers of plants planting bed preparation details including topsoil depth, subgrade preparation, mulch type and depth, type of turf, pebble, paving and garden edge the location and type of any existing trees to be retained construction details of planter boxes, retaining walls and fences the proposed maintenance period irrigation system details. | <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable | |

Privacy—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

OFFICE USE ONLY

Date received

Reference numbers

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Moodie & Associates
Engineers, Planners & Project Managers

Victoria
97 Greythorn Road,
North Balwyn, 3104
Victoria, Australia
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F: +61 3 9816 4602
E: moodie@labyrinth.net.au

Queensland
16-18 Lake Placid Road
Caravonica, 4878
Queensland, Australia
T: +61 7 4039 2550
F: +61 7 4039 2554
E: vdc3@bigpond.com

23rd March 2015

Douglas Shire Council
PO Box 723
MOSSMAN 4873

Att: Town Planning

Dear Sir/Madam

Re: MANGO BEACH PORT DOUGLAS P/L
COUNCIL REF: 8/7/1815
7 LOT SUBDIVISION AT SAGIBA AVENUE, PORT DOUGLAS
OPERATIONAL WORKS DESIGN REPORT

Attachments Checklist

| | |
|--|---|
| I. Compliance Statement | ✓ |
| II. DA conditions | ✓ |
| III. Records of pre-submission discussions - none | X |
| IV. Letters from adjoining property owners for works or discharge on their properties – none required, stormwater from development discharges to easement and roadway. | X |
| V. Service Authority applications | X |
| VI. Stormwater drainage calculations | ✓ |
| VII. Stormwater drainage catchment plan | ✓ |
| VIII. Design details of alternatives – no alternatives | X |
| IX. Design calculations for open channel | ✓ |
| X. SQID design details – no SQIDs required | X |
| XI. ESCS – included with Engineering plan set | ✓ |
| XII. Water reticulation network | X |
| XIII. Pavement design | ✓ |
| XIV. Geotechnical reports | X |
| XV. Structural and Geotech certification | X |
| XVI. Design parameters for pump stations | ✓ |
| XVII. Street tree plan | X |
| XVIII. Staged development plan | X |
| XIX. Materials and components comply to Councils service standards | ✓ |
| XX. Fully priced construction cost estimate attached | ✓ |
| XXI. A3 drawing set | ✓ |
| XXII. Operational Works application IDAS Form 1 and 6 | ✓ |
| XXIII. Prescribed application fee for \$6696.8 (\$3455.10+7 lots x \$463.10) | ✓ |
| XXIV. Receipt for payment of Portable Long Service, Health and Safety fee – to be paid once contractor tender is determined | X |

As required by the application procedure in the FNQROC development manual, each of Councils subdivision approval conditions are addressed as follows.



Moodie Infrastructure Pty Ltd
ABN 21 124 870 211
Director:
A. R. Moodie B.E. (Civil), M.Eng.Sc.,
B.A.(Econ.), M.I.E. Aust. C.P.Eng., R.P.E. Qld.
Senior Associate:
M. C. Masina. Assoc. Dip. (Civil Eng.)
B. B. (Marketing)

Principal Consulting Engineer:
M. Valmadre B.Eng.

Principal Project Manager:
J. Frost Assoc. Dip. (Civil Eng.)





B. Reconfiguration of a Lot (3 Lots into 9 Lots)

1. The approved reconfiguration and the carrying out of any works on the premises associated with the reconfiguration must be in accordance with Plan of Reconfiguration Drawing No: 1.1 dated 16 November 2009 attached to this approval, subject to:

- (i) modifications required by any condition of this approval and any minor alterations found necessary by Council at the time of examination of engineering plans.

The lots to have a minimum level within the building footprints to be determined at the Operational Works stage as described in Council's development manual.

The attached engineering plans are based on amended ROL plan approved by Council.

2. The applicant shall make contribution for parkland for five (5) additional allotments in accordance with Council's requirements for parkland contribution valid at time of payment.

This condition has no relevance to the content of the Engineering Plans.

3. The Applicant shall pay to the Council headworks contributions for water supply and sewerage in accordance with Council's Contributions Policy in force at the time of payment ~~Local Planning Policy: "Determination of Contributions for Water Supply and Sewerage Headworks and External Works" ("the Policy")~~.

The contribution shall be calculated at the rate per Equivalent Domestic Connection ("EDC") applicable at the time of payment in accordance with the Policy.

~~For information purposes only:~~

~~The current number of EDCs for the approved use are:~~

~~Water Supply: 6~~

~~Sewerage: 6~~

This condition has no relevance to the content of the Engineering Plans.

4. This development approval lapses ~~four (4)~~ eight (8) years after the day that the development approval takes effect, ~~ie the approval lapses 13 October 2014 unless the Plan of Survey has been lodged with Council for endorsement or this period is extended under Section 3.5.22 of the Integrated Planning Act 1997.~~

All works required pursuant to the above conditions shall be undertaken and completed in accordance with Council's requirements contained in the Planning Scheme Provisions/Codes and Engineering Standards.

Unless otherwise specified in this development permit, the conditions of this permit must be complied with prior to Council endorsement of the Plan of Survey

This condition has no relevance to the content of the Engineering Plans.



Earthworks

5. Details of the proposed filling and excavation for the development including a detailed acid sulfate soils assessment including management program must be submitted for Operational Works approval. All proposed residential lots are to be provided with Q100 immunity and be drained to a Lawful Point of Discharge in accordance with the FNQROC Development Manual and CairnsPlan.

Acid sulphate report previously lodged with DA approval. Finished lot level is 3.4m AHD which is the Q100 flood level. Refer to attached stormwater report for Q100 calculations

External Works

6. Undertake the following works external to the land at no cost to Council:
 - a. Construct a two (2) metre wide concrete footpath to Mitre Street and Sagiba Drive frontage in accordance with FNQROC Development Manual Standard Drawing 1035;
 - b. Provision of a concrete crossovers and aprons in accordance with FNQROC Development Manual Standard Drawing 1015;
 - i. Make good the kerb(s) at redundant crossover(s);
 - c. Upgrade the street lighting to comply with requirements of the FNQROC Development Manual;
 - d. Repair any damage to existing kerb and channel, footway or roadway (including removal of concrete slurry from footways, roads, kerb and channel and stormwater gullies and drain lines) that may occur during and works carried out in association with the construction of the approved development.
 - i. Construct kerb and channel to Mitre Street and Sagiba Drive;

All works in the road reserve need to be properly separated from pedestrians and vehicles, with any diversions adequately signed and guarded.

The external works outlined above require approval from Council in accordance with the FNQROC Development Manual for an Operational Works Application for the subject site. Three (3) copies of a plan of the works at A1 size and one (1) copy at A3 size must be endorsed by the Chief Executive Officer prior to commencement of such works. Such work must be constructed in accordance with the endorsed plan to the satisfaction of the Chief Executive Officer prior to sealing of the Survey Plan.

- a. The Mitre Street and Sagiba footpaths are to be constructed when the balance area is developed as currently there is no suitable location to for the footpath due to existing table drains and extensive landscaping within the road reserves.
- b. Refer to Plan no 1503LUCAS.C2 for proposed roadworks.
- c. By electrical engineer
- d. Contractor to inspect prior to taking possession of the site and any existing damage will be documented.
- i. This condition will have to be met when the balance area is developed, refer to 6a for reasoning.



Maintenance

7. The Applicant shall maintain in accordance with the requirements of the Operational Works Development Permit and the Far North Queensland Regional Organisation of Councils Development Manual, all works of any nature whatsoever works carried out under the provisions of the subdivision of the land by-laws for a period of twenty-four (24) months. The Applicant shall make good within such period any defects arising from faulty workmanship or materials in respect to such works carried out as part of the works associated with the development.

This condition has no relevance to the content of the Engineering Plans.

Drainage Study of Site

8. Undertake a local drainage study of the site to determine the drainage impacts on upstream and downstream properties and the mitigation measures required to minimise such impacts. In particular, the study must address the following:
- a. The contributing catchment boundaries and conditions for a fully developed catchment;
 - b. The extent of the 100 year ARI flood event in relation to the site both pre and post development;
 - c. Primary and secondary flow paths for the 2 and 100 year ARI flood events;
 - d. Identify any requirement for drainage easements;
 - e. Identify the need and tenure for flood detention areas to ensure a no worsening impact on downstream properties for the entire development;
 - f. Information on the proposed works and any impacts proposed at the drainage outlet from the proposed development.
 - g. The study is to include any impacts that the downstream tail water level will have on any proposed drainage infrastructure on secondary flowpaths for a major event.
 - h. Lawful point of discharge.

The study must be endorsed by the Chief Executive Officer prior to the issue of a Development Permit for Operational Works.

Refer attached drainage report.

- a. Sheet 1 shows road widening with layback kerb and channel in accordance with Access Street standard.
- b. As kerb and channel is layback type, there is no need for concrete crossovers and aprons as these are required for upright kerb and channel type.
- c. Not added to sheet 1
- d. Electrical and Lighting consultants SPA Consultants are investigating the street Light requirements.
- e. The street light pole does not need to be relocated.

9. Drainage easements and/or reserves as reasonably required following review of Operational Works drawings are to be registered in Council's favour, at no cost to Council.



There are no Council easements required.

Plan of Drainage Works

10. The subject land must be drained to the satisfaction of the Chief Executive Officer. In particular,

- a. Drainage infrastructure in accordance with the FNQROC Development Manual
- b. The drainage system from the development must incorporate a gross pollutant trap(s) or equivalent measure(s), meeting the following Council specifications for stormwater quality improvement devices (SQID), namely:
 - i. End-of line stormwater quality improvement devices (SQID) shall be of a proprietary design and construction and shall carry manufacturer's performance guarantees as to removal of foreign matter from stormwater and structural adequacy of the unit.
 - ii. SQIDs shall remove at least 95% of all foreign matter with a minimum dimension of three (3) mm and shall be configured to prevent re-injection of captured contaminants. The SQID treat all first flush runoff, which shall be defined as that volume of water equivalent to the runoff from the three (3) month ARI storm event. The location of SQIDs within the drainage system shall be planned to ensure that the first flush waters from all parts of the (developed) catchment are treated.
 - iii. The design of the SQID shall not compromise the hydraulic performance of the overall drainage system.
 - iv. SQIDs shall be positioned so as to provide appropriate access for maintenance equipment.
- c. All new allotments shall have immunity from flooding associated with an ARI 100 year rainfall event; and
- d. Where practical, all new allotments must be drained to the road frontages, drainage easements or drainage reserves and discharged to the existing drainage system via storm water quality device(s).

- a. Refer to drainage report for drainage infrastructure
- b. There is no underground stormwater system designed for the development with all stormwater flows being discharge to the legal point of discharge via an open grass lined drain. Hence there is no ability to install a SQID.
- c. All allotment building envelopes are being filled to a minimum of 3.4m AHD which is the Q100 flood level.
- d. The allotments are filled so that the stormwater to maintain the pre developed direction of stormwater flow from the land. I.e. toward the esplanade.



Existing Creek and Drainage Systems

11. All existing creek systems and drainage areas must be left in their current state, including no channel alterations and no removal of vegetation unless consented to in writing by the Chief Executive Officer.

The applicant/owner must obtain any necessary approvals from the Department of Environment and Resource Management for carrying out works in a watercourse.

There are no existing creek systems within the proposed development. Only vegetation which is within the earthworks and roadworks area will be cleared.

Operational Works Development Permit

12. Full engineering drawings, prepared and/or checked by a Registered Professional Engineer, shall be submitted for all road works, stormwater drainage, water supply, sewerage and lot improvement at Operational Works Application stage. Drawings should, in general, include the following and be designed in accordance with the requirements of the FNQROC Development Manual:

- a. locality plan;
- b. layout and staging plan, where applicable;
- c. earthworks plan;
- d. layout plan for each driveway;
- e. longitudinal section of each driveway;
- f. cross sections for each driveway, including standard cross sections;
- g. layout plan for each stormwater drainage;
- h. longitudinal sections for each stormwater drain line;
- i. details for non-standard drainage structures;
- j. Sewerage Reticulation Plan;
- k. Water Reticulation Plan;
- l. Erosion and Sediment Control Strategy;
- m. Service providers conduit plan, including street lighting; and
- n. Such other details for the proper construction of the works i.e. retaining walls etc.

- a. Sheet 1503LUCAS.C1
- b. Sheet 1503LUCAS.C1
- c. Sheet 1503LUCAS.C2
- d. Driveways are not being constructed as part of the Operational works. A common roadway is being constructed refer Sheet 1503LUCAS.C2
- e. Driveways are not being constructed as part of the Operational works. A common roadway is being constructed refer Sheet 1503LUCAS.C3 for long section.
- f. Driveways are not being constructed as part of the Operational works. A common roadway is being constructed refer Sheet 1503LUCAS.C4,C5 and C6 for cross sections.
- g. There is no underground stormwater system. There is an open drain in Lot 1, refer Sheet 1503LUCAS.C2 for details.
- h. There are no underground stormwater lines, hence there are no stormwater long sections.
- i. No non standard drainage structures
- j. Sheet 1503LUCAS.C7
- k. Sheet 1503LUCAS.C8
- l. Sheet 1503LUCAS.C9
- m. By electrical engineer
- n. Retaining wall is less than 1m high and is non structural so no details are required.



| |
|--|
| <p>Access to proposed residential lots</p> <p>13. Construct the proposed common road in accordance with the standard for an Access Place in accordance with the FNQROC Development Manual otherwise demonstrate how the proposed design will be able to service the proposed lots with regards to, but not limited to, drainage, water, sewer, power, telecommunications and provision of a turnaround for vehicles at road end.</p> <p>All works must be carried out to the requirements and satisfaction of the Chief Executive Officer prior to approval and dating of the Plan of Survey.</p> <p>o. Refer sheets Sheet 1503LUCAS.C2 for access road. Turnaround complies with requirements of Queensland Streets manual and will be able to accommodate Councils garbage truck.</p> |
| <p>Service Conduits</p> <p>14. Provide service conduits to new proposed lots adjacent the proposed common road together with associated access pits if necessary, to end of the proposed access.</p> <p>All works must be carried out to the requirements and satisfaction of the Chief Executive Officer prior to approval and dating of the Plan of Survey.</p> |
| <p>By Electrical engineer</p> <p>Existing Services</p> <p>15. Written confirmation of the location of existing services for the land must be provided. In any instance where existing services are contained within another lot, the following applies, either:</p> <ul style="list-style-type: none">a. Relocate the services to comply with this requirement; orb. Arrange registration of necessary easements over services located within another lot prior to or in conjunction with submission of the Plan of Survey creating the lot. |
| <p>Contractor to complete their own survey of site to determine existing services prior to commencement of works.</p> |
| <p>Electricity Supply</p> <p>16. Written evidence from Ergon Energy advising if distribution substation/s are required within the development must be provided. If required, details regarding the location of these facilities must be submitted to the Chief Executive Officer accompanied by written confirmation from Ergon Energy. Details regarding electricity supply must be provided prior to the issue of a Development Permit for Operational Works.</p> |
| <p>By Electrical engineer</p> <p>Electricity and Telecommunications</p> <p>17. Written evidence of negotiations with Ergon Energy and the telecommunication authority must be submitted to Council stating that both an underground electricity supply and telecommunications service will be provided to the development prior to approval and dating of the Plan of Survey.</p> |
| <p>By Electrical engineer</p> |



Street and Internal Lighting

18. The following arrangements for the installation of street lighting for the proposed subdivision must be provided prior to the approval and dating of the Plan of Survey:
- Prior to the approval and dating of the Plan of Survey, both a street and internal lighting design is to be prepared by an approved consultant generally in accordance with the FNQROC Development guidelines and submitted to the Chief Executive Officer for approval.
 - Prior to approval and dating of the Survey Plan, written confirmation that the relevant capital contribution required by Ergon Energy has been paid must be submitted, to ensure that the street lighting will be constructed.
 - Category V5 street lighting is to be provided at the new intersection off Mitre Street and the intersection approaches along Mitre Street for a distance equivalent to at least two (2) spans either side of the intersection.
 - Internal roads and associated pathways are to be lit to at least AS/NZS 1158 Lighting Category P4.
 - Internal car parks are to be lit to at least AS/NZS 1158 Lighting Category 11B.
 - All internal lighting is to be connected to a private metered supply.

By Electrical engineer

Access Easement/s

19. Create an Access Easement to allow vehicle access and on-site manoeuvring to proposed lots 2 – 9 over proposed lot 1, to the requirements and satisfaction of the Chief Executive Officer. A copy of the easement documents must be submitted to Council for the approval of Council's solicitors at no cost to Council. The approved easement documents must be submitted at the same time as seeking approval and dating of the Plan of Survey and must be lodged and registered with the Department of Environment and Resource Management in conjunction with the Plan of Survey.

Now not required as development is to be Community Title.

Water Supply and Sewerage Works

20. Undertake the following water supply and sewerage works to the subject land:
- Provide water and sewer connections to each lot (including proposed lots 2 to 9) in accordance with the FNQROC Development Manual;
- All the above works must be designed and constructed in accordance with the *FNQROC Development Manual*.
- All works must be carried out in accordance with the approved plans, to the requirements and satisfaction of the Chief Executive Officer prior to approval and dating of the Plan of Survey.



Refer Sheet 1503LUCAS.C7 and C8

Services Easements

21. Create a Service Easement over proposed Lot 1 for the benefit of Lots 2 to 9 to the requirements and satisfaction of the Chief Executive Officer. A copy of the easement documents must be submitted to Council for the approval of Council's solicitors at no cost to Council. The approved easement documents must be submitted at the same time as seeking approval and dating of the Plan of Survey and must be lodged and registered with the Department of Environment and Resource Management in conjunction with the Plan of Survey.

Now not required as development is to be Community Title.

Parkland Contribution

22. Pay a monetary contribution equivalent to ten (10) per cent of the Unimproved Capital Value of the created allotment/s in accordance with the Planning Scheme Policy.

At the time of seeking approval and dating of the Plan of Survey, a security equivalent to the amount payable must be submitted to Council. This security can take the form of a cash bond or bank guarantee. The amount payable must be determined by an appropriately qualified property valuer and must be submitted to Council as supporting information when seeking endorsement of the Survey Plan.

The contribution payable must be made within three (3) months of the registration of the allotment/s.

This condition has no relevance to the content of the Engineering Plans.

Yours Faithfully

Mark Valmadre
BEng

FNQROC DEVELOPMENT MANUAL

Douglas Shire Council

STATEMENT OF COMPLIANCE OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorised agent of the Designer shall be submitted with the Operational Works Application for Council Approval.

Name of Development: 7 lot community title subdivision at Sagiba Ave, Port Douglas

| Compliance with the requirements of the Operational Works Design Guidelines | Non-Compliance refer to non-compliance report / drawing number |
|--|---|
| Plan Presentation | YES |
| Geotechnical requirements | NA |
| Geometric Road Design | NA |
| Pavements | YES |
| Structures / Bridges | NA |
| Subsurface Drainage | NA |
| Stormwater Drainage | YES |
| Site Re-grading | YES |
| Erosion Control and Stormwater Management | YES |
| Pest Plant Management | NA |
| Cycleway / Pathways | NA |
| Landscaping | NA |
| Water Source and Disinfection/Treatment Infrastructure (if applicable) | NA |
| Water Reticulation and Pump Stations | YES |
| Sewer Reticulation and Pump Stations | YES |
| Electrical Reticulation and Street Lighting | BY OTHERS |
| Public Transport | NA |
| Associated Documentation/ Specification | REFER FNQROC |
| Priced Schedule of Quantities | YES |
| Referral Agency Conditions | NONE |
| Other | |

APPLICATION PROCEDURES

Location of Development Sagiba Ave, Port Douglas

Applicant Mango Beach Port Douglas P/L

Designer Moodie Engineering P/L t/a Anthony Moodie and Associates

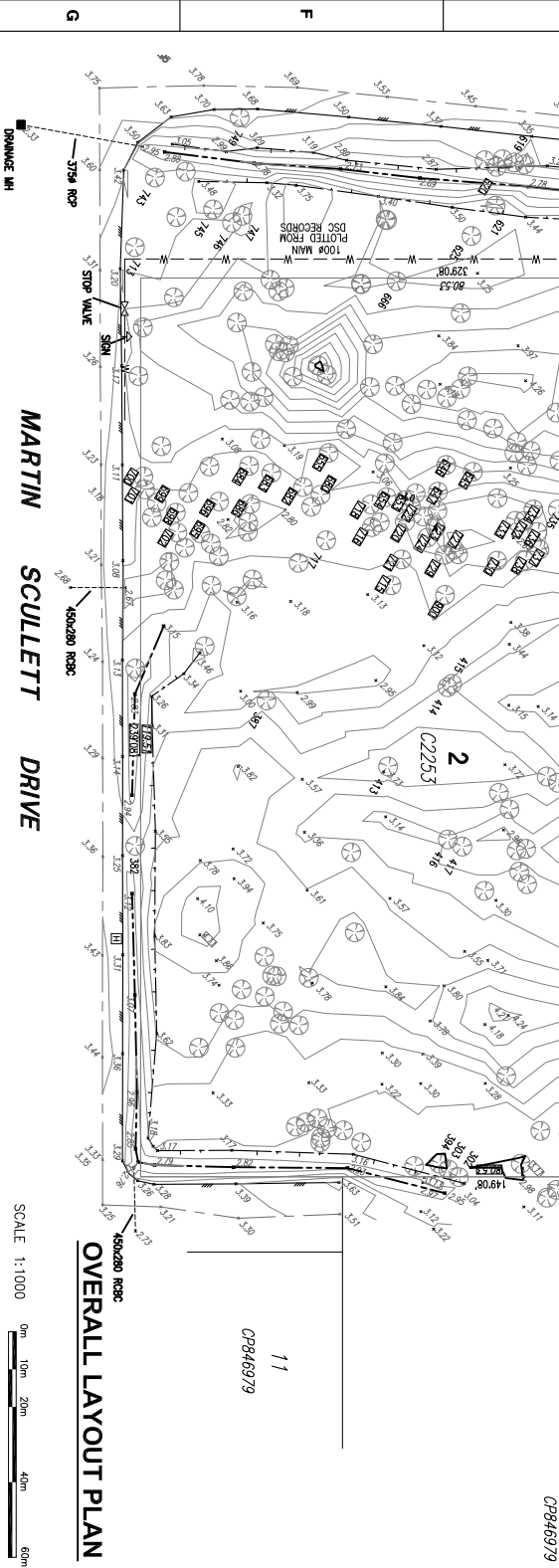
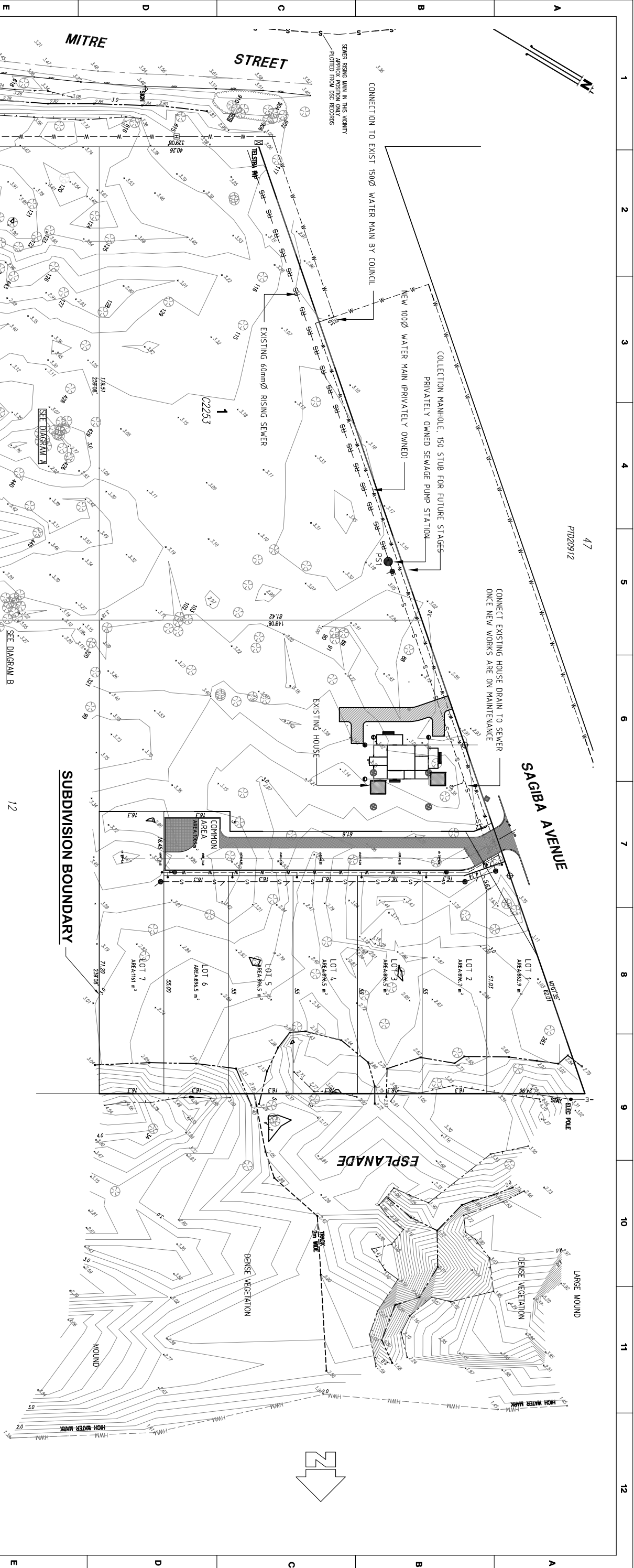
It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the completed works comply with the requirements therein, **except** as noted below. Conscientiously believing the above statements to be true and correct, signed on behalf of:

Designer MOODIE ENGINEERING P/L RPEQ No 7450

Name in Full ANTHONY R MOODIE

A handwritten signature in black ink that reads "Anthony R Moodie". The signature is written in a cursive, flowing style.

Signature..... **Date** 17/3/2015



- LEGEND**
- Road Crown
 - Edge of Bitumen
 - - - Track
 - ▲ Sign
 - Box Culvert – Drainage Manhole
 - S — Sewer Main
 - W — Water Main
 - Hydrant
 - ⊠ Stop Valve
 - ⊠ Telstra Pit
 - E — Electricity Cable A/S – Pole
 - Toe of Bank
 - Top of Bank
 - Survey Control Station
 - ⊙ Tree – Number (refer to table)

DRAWING INDEX

| DWG No | REV No | DRAWING TITLE |
|--------|--------|----------------------------------|
| C-1 | A | PROPOSED LAYOUT |
| C-2 | A | EARTHWORKS AND ROADWORKS PLAN |
| C-3 | A | ROAD LONGITUDINAL SECTION |
| C-4 | A | ROAD AND LOT CROSS SECTIONS |
| C-5 | A | ROAD AND LOT CROSS SECTIONS |
| C-6 | A | ROAD AND LOT CROSS SECTIONS |
| C-7 | A | SEWERAGE AND WATER SUPPLY PLAN |
| C-8 | A | SEWERAGE LONG SECTION |
| C-9 | A | EROSION AND SEIMENT CONTROL PLAN |

LEGEND

- Stormwater drainage pipe 542
- Gross swide
- Existing edge of bitumen
- Ex E
- Existing u/ground electrical

| MOODIE REF | 1409LUCAS |
|------------|-----------|
| DESIGNED | MV JAN 15 |
| DRAWN | MV JAN 15 |
| CHECKED | A.M. |
| REVISION | |

Anthony Moodie & Associates
Engineers, Planners & Project Managers
ABN 80 682 448 313
PO Box 487 Smithfield 4876
Tel: Mobile 0407 674805, Fax (07) 40392554
Email: vdc2@bvspond.com

MANGOE BEACH PORT DOUGLAS P/L
7 LOT COMMUNITY TITLE SUBDIVISION
SAGIBA STREET, PORT DOUGLAS
LAYOUT PLAN AND EXTERNAL WORKS

| SCALE | AS SHOWN |
|-------------|----------------|
| SHEET | 1 |
| DRAWING NO. | 1503LUCAS - C1 |

12111042

DESIGNLINE SETOUT DETAILS

| Point Type | Chainage | EASTING | Coordinates NORTHING | RL |
|--------------------|----------|----------|-------------------------|------|
| Intersection Point | 0.000 | 3180.23 | 8167.532 | 3.00 |
| Straight | 10.000 | 3185.23 | 8158.871 | 3.05 |
| Tangent Point | 12.292 | 3186.376 | 8156.886 | |
| Straight | 14.799 | 3187.013 | 8154.511 | |
| Straight | 20.000 | 3187.013 | 8149.290 | 3.10 |
| Straight | 30.000 | 3187.013 | 8139.290 | 3.15 |
| Straight | 40.000 | 3187.013 | 8129.290 | 3.20 |
| Straight | 50.000 | 3187.013 | 8119.290 | 3.25 |
| Straight | 60.000 | 3187.013 | 8109.290 | 3.30 |
| Straight | 70.000 | 3187.013 | 8099.290 | 3.35 |
| Straight | 80.000 | 3187.013 | 8089.290 | 3.40 |
| Straight | 90.000 | 3187.013 | 8079.290 | |
| Straight | 100.000 | 3187.013 | 8069.290 | |

NOTES

- ALL EARTHWORKS AREAS TO BE STRIPPED OF 150mm MIN TOPSOIL & STOCKPILED IN BALANCE AREA AND TO BE RESPREAD OVER EARTHWORKS AREAS.
- FILL AREAS TO HAVE ALL VEGETABLE MATERIAL REMOVED PRIOR TO PLACEMENT OF FILL. FILLING TO BE COMPACTED IN 250mm MAX. LAYERS TO 95% MODUMI
- ALL FOOTPATHS & OPEN DRAIN TO BE TURFED WITH AN APPROVED GRASS SPECIES.
- REFER TO SPECIFICATION FOR WATERING PROGRAM FOR REGRASSSED AREAS.
- ALLOTMENTS TO BE SEEDD AFTER TOPSOILING.
- NO TREES TO REMOVED UNLESS IN THE ROAD AND ARTHWORKS AREAS.



ASPHALT PAVEMENT DETAILS

- SUBGRADE COMPACT TO 95% M.D.D. (STD)
- SUB BASE COURSE 150mm TYPE 2, 3 ROAD GRAVEL C.B.R 40 (MIN) COMPACT TO 98% M.D.D. (STD)
- BASE COURSE 100mm TYPE 2, 2 ROAD GRAVEL C.B.R 60 (MIN) COMPACT TO 100% M.D.D. (STD)
- SEAL 30MM ASPHALT
- Denotes Proposed Asphalt
- Denotes Proposed Cobblestone

COBBLESTONE PAVEMENT DETAILS

- SUBGRADE COMPACT TO 95% M.D.D. (STD)
- REINFORCED CONCRETE BASE 125mm 25MPA CONCRETE, SL 82 MESH, 40 COVER
- FINISH GRANITE COBBLESTONE 18MM ON WET MORTAR BED

TYPICAL ROAD CROSS SECTION



LEGEND

| REVISIONS | MOODIE REF | 1409LUCAS |
|-----------|------------|-----------|
| | DESIGNED | MV JAN 15 |
| | DRAWN | MV JAN 15 |
| | CHECKED | A.M. |
| | REVISION | |

Stormwater drainage pipe $\frac{542}{542}$ Existing surface contours $\frac{542}{542}$

Gross swale $\frac{542}{542}$ Existing drain $\frac{542}{542}$

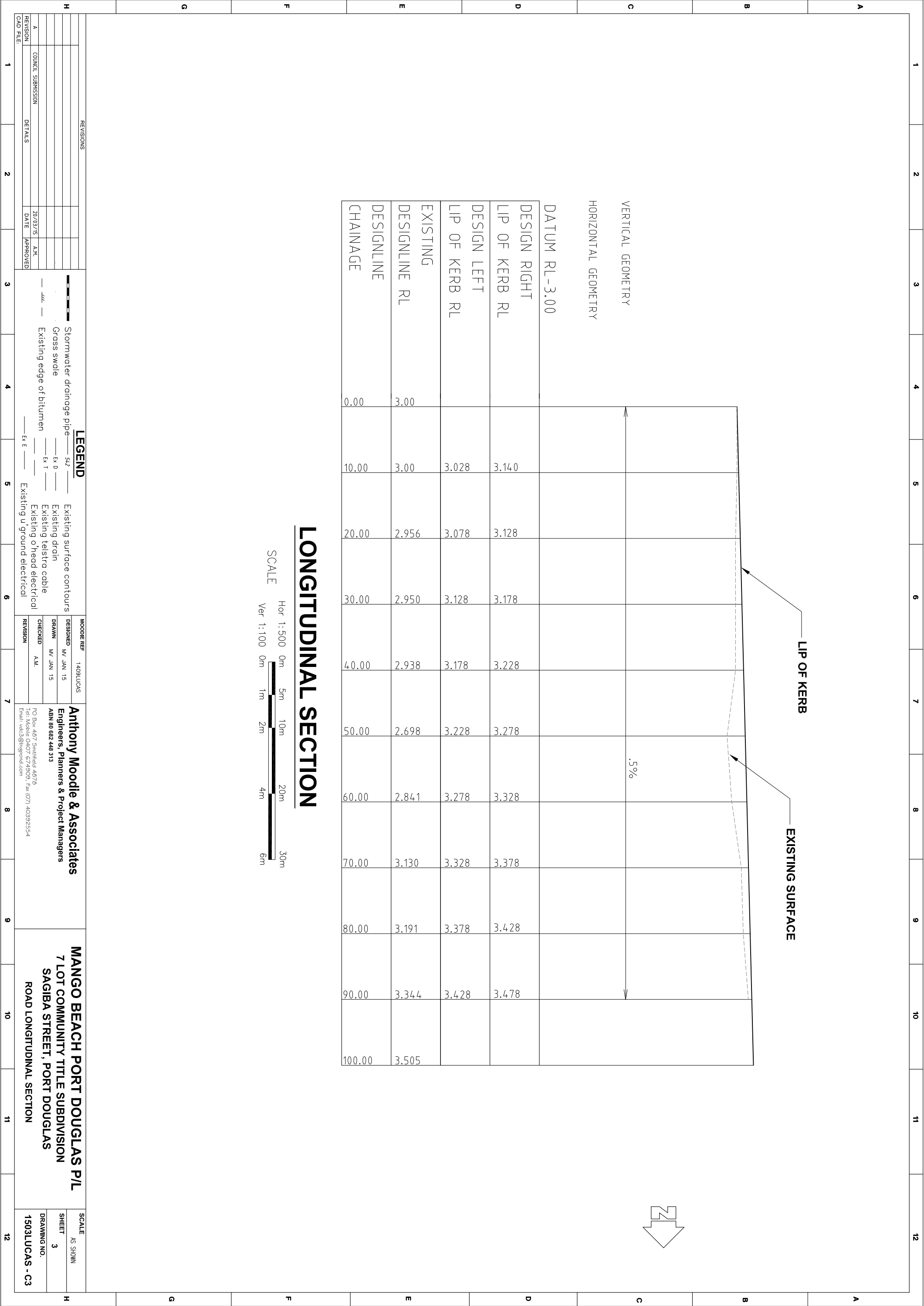
Existing edge of bitumen $\frac{542}{542}$ Existing telstra cable $\frac{542}{542}$

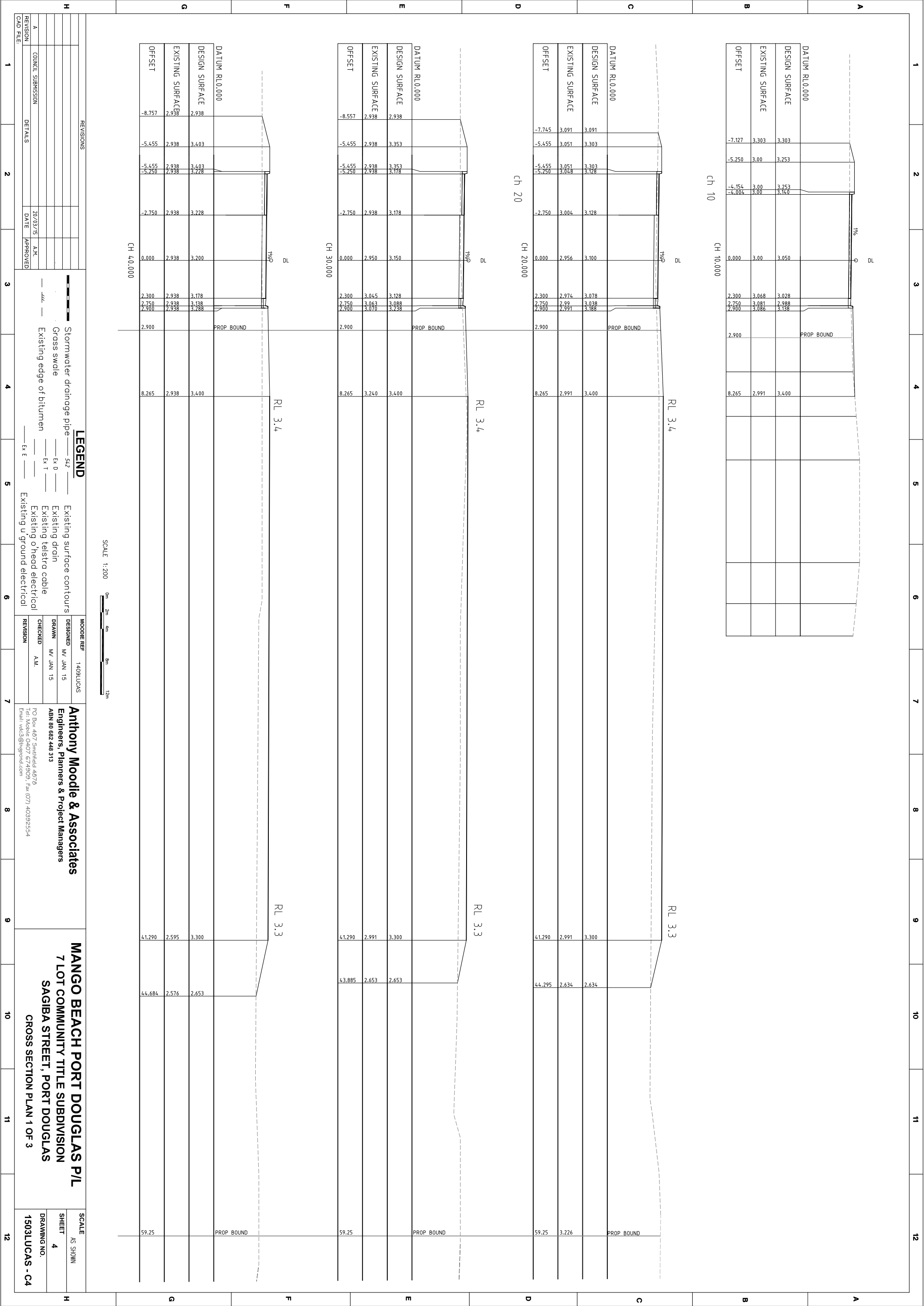
Existing o head electrical $\frac{542}{542}$ Existing u'ground electrical $\frac{542}{542}$

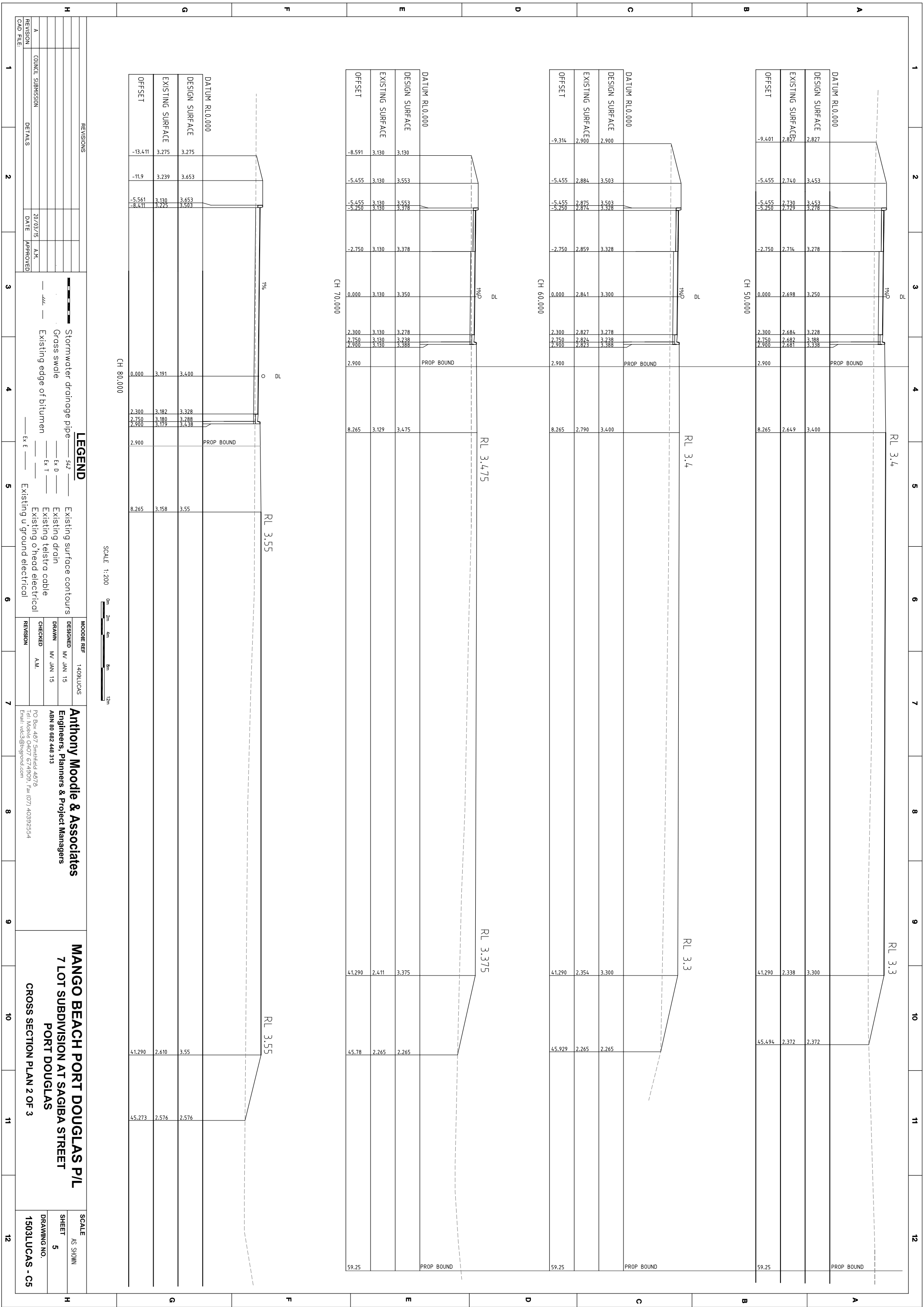
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Tel: Mobile 0407 674809, Fax (07) 403992554
Email: ydc23@bypground.com

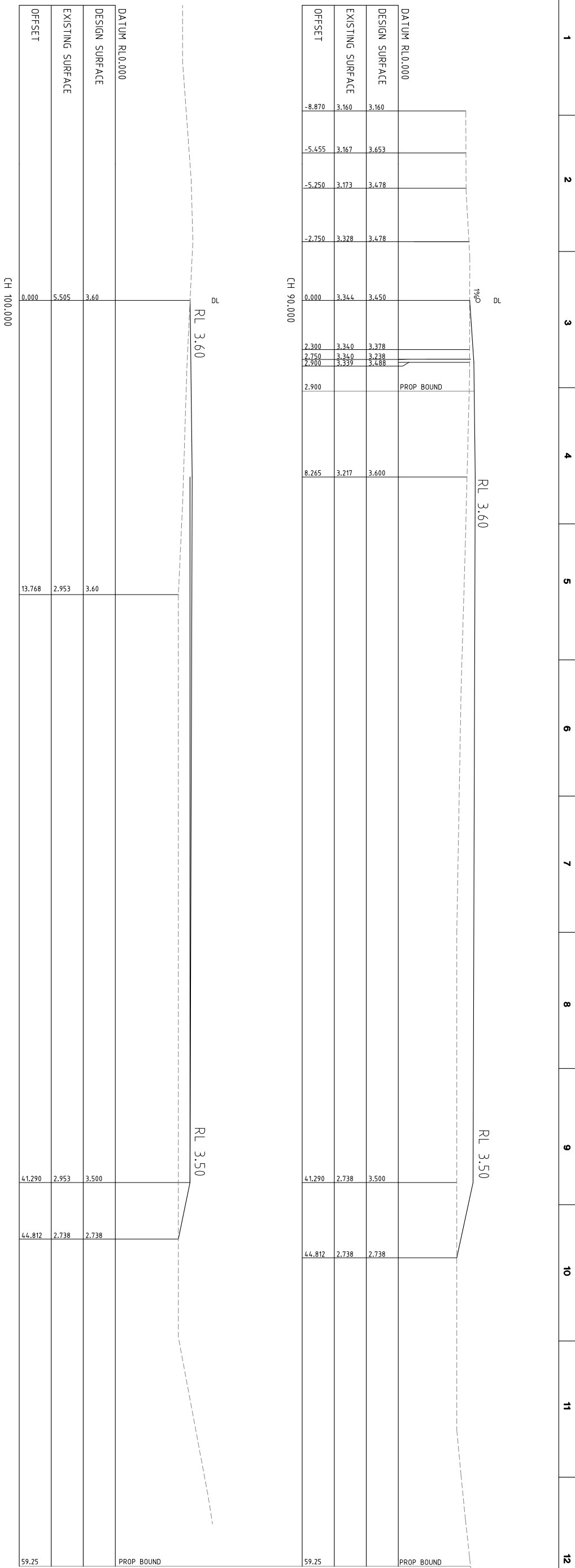
MANGO BEACH PORT DOUGLAS P/L
7 LOT COMMUNITY TITLE SUBDIVISION
SAGIBA STREET, PORT DOUGLAS
EARTHWORKS & ROADWORKS PLAN

| SCALE | AS SHOWN |
|-------------|----------------|
| SHEET | 2 |
| DRAWING NO. | 1503LUCAS - C2 |







[illegible]

SCALE 1:200

0m 2m 4m 8m 12m

SEWERAGE LEGEND

- 2/1 MANHOLE NO
- FS 5.033 FINISHED SURFACE LEVEL
- UPVC SEWER MAIN (Ø150 U.N.O.)
- MANHOLE
- HOUSE CONNECTION BRANCH
- EXISTING SEWER LINE AND MANHOLE
- PROPOSED STORMWATER

SEWERAGE NOTES

1. ALL SEWER PIPES SHALL BE Ø150 UPVC CLASS 'SN8' (U.N.O.).
2. ALL SEWER WORKS TO BE TO FNORC REQUIREMENTS
3. MANHOLES OFFSETS TO BOUNDARIES SHALL BE 0.8m FROM SIDE OR REAR BOUNDARIES AND 1.5m FROM FRONT BOUNDARIES U.N.O.
4. SEWER MANHOLES SHALL BE FINISHED 50mm ABOVE FINISHED SURFACE LEVEL, FLUSH IN PRIVATE PROPERTIES. SURFACE LEVELS SHOWN ARE FINISHED SURFACE ADJACENT TO MANHOLE.
5. RECTANGULAR LIDS TO BE USED FOR MANHOLES LESS THAN 1.425M
6. ALL LEVELS TO EXISTING SERVICES TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION.

WATER SUPPLY LEGEND

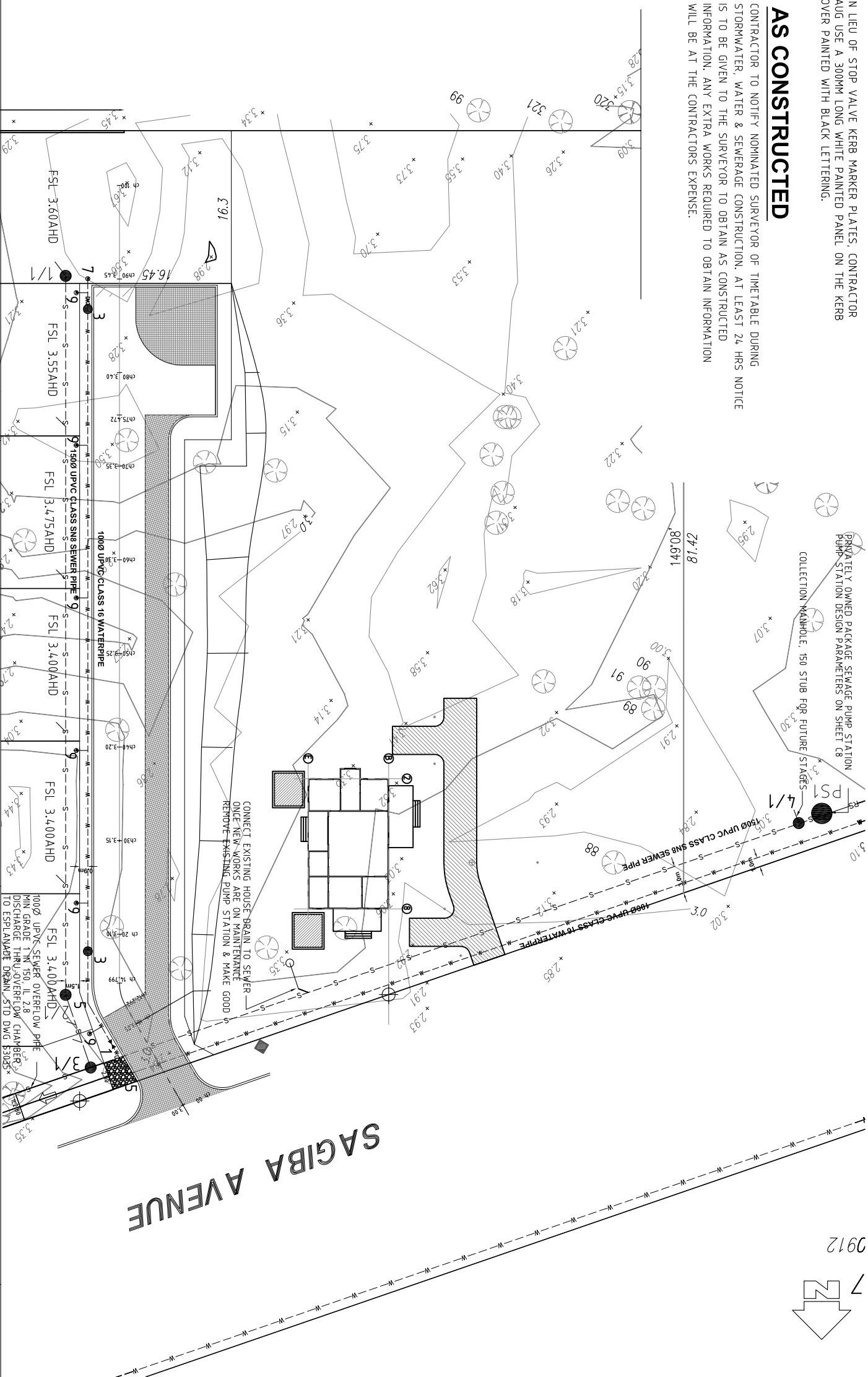
- EXISTING WATER MAIN
- EXISTING SLUICE/GATE VALVE
- EXISTING HYDRANT
- 150 UPVC WATER MAIN CLASS '16'
- RUBBER RING JOINTED
- 100 UPVC WATER MAIN CLASS '16'
- RUBBER RING JOINTED
- 50 UPVC WATER MAIN CLASS '12'
- SOLVENT WELD JOINTED
- SLUICE VALVE CLASS '14' COMPLETE WITH C.I. COVER BOX, CONCRETE MARGIN AND MARKER
- 50 BRONZE GATE VALVE COMPLETE WITH C.I. COVER BOX, CONCRETE MARGIN AND MARKER
- 80 SPRING HYDRANT COMPLETE WITH RISER, TEE, C.I. COVER BOX, CONCRETE MARGIN AND MARKER
- TEE WITH CONCRETE THRUST BLOCK
- BEND WITH CONCRETE THRUST BLOCK
- SINGLE OR DOUBLE CONNECTION TO 'LOOP MAIN'
- DEAD END CAP WITH CONCRETE THRUST BLOCK
- GRIPITTE DOUBLE SOCKETED CONNECTOR TAPPED TO 2" BSP
- HPOUSE CONNECTION & WATER METER

WATER SUPPLY NOTES

1. ALL WATER MAINS ARE ON 2.8m ALIGNMENTS UNLESS NOTED OTHERWISE.
2. FOR STANDARD CONSTRUCTION DETAILS REFER TO FNORC DEVELOPMENT MANUAL CCC SPECIFIC STANDARD DRAWINGS.
3. THE CONTRACTOR IS TO SUPPLY ALL ASSOCIATED FITTINGS.
4. THE CONTRACTOR IS TO LOCATE ALL EXISTING SERVICES IN THE WORKS AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION INCLUDING IDENTIFYING & MARKING ALL EXISTING THRUST BLOCKS AND FITTINGS PRIOR TO COMMENCEMENT OF EARTHWORKS
5. IN LIEU OF HYDRANT KERB MARKER PLATES, GARDNS WATER WILL ACCEPT A 300mm LONG YELLOW PAINTED PANEL ON THE KERB OVER PAINTED WITH BLACK LETTERING
6. IN LIEU OF STOP VALVE KERB MARKER PLATES, CONTRACTOR AUG USE A 300mm LONG WHITE PAINTER PANEL ON THE KERB OVER PAINTED WITH BLACK LETTERING.

AS CONSTRUCTED

CONTRACTOR TO NOTIFY NOMINATED SURVEYOR OF TIMETABLE DURING STORMWATER, WATER & SEWERAGE CONSTRUCTION. AT LEAST 24 HRS NOTICE IS TO BE GIVEN TO THE SURVEYOR TO OBTAIN AS CONSTRUCTED INFORMATION. ANY EXTRA WORKS REQUIRED TO OBTAIN INFORMATION WILL BE AT THE CONTRACTORS EXPENSE.



REVISIONS

| REVISION | DETAILS | DATE | APPROVED |
|----------|--------------------|----------|----------|
| A | COUNCIL SUBMISSION | 17/03/75 | A.M. |
| 1 | 1 | 2 | 3 |

LEGEND

- Stormwater drainage pipe
- Gross swale
- Existing edge of bitumen
- Existing surface contours
- Existing drain
- Existing testra coble
- Existing overhead electrical
- Existing u'ground electrical

| DESIGNED | DRAWN | CHECKED | REVISION |
|-----------|-----------|---------|----------|
| MV JAN 15 | MV JAN 15 | A.M. | |
| 1 | 2 | 3 | 4 |

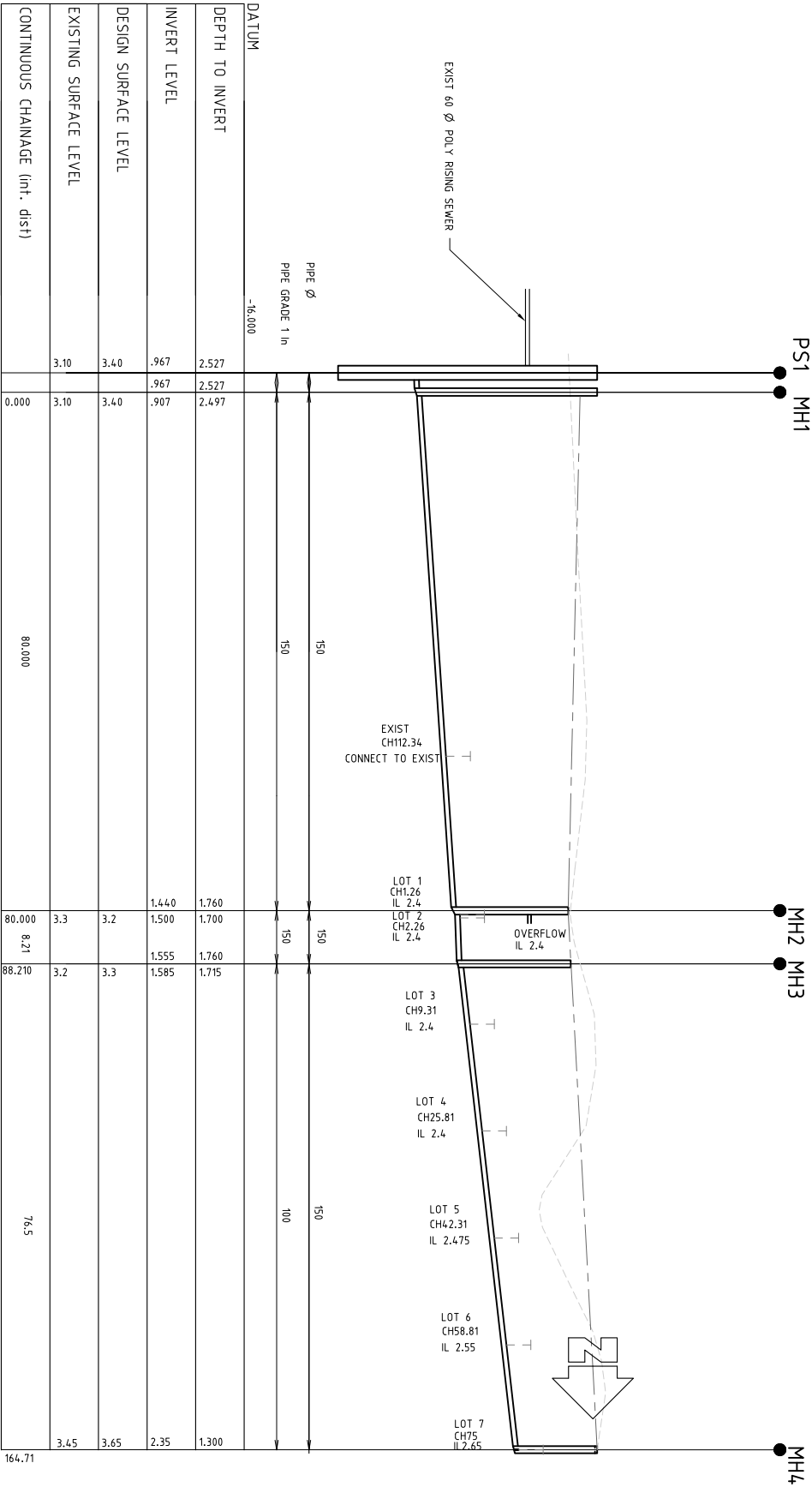
Anthony Moodie & Associates
Engineers, Planners & Project Managers

MANGO BEACH PORT DOUGLAS P/L
7 LOT COMMUNITY TITLE SUBDIVISION
SAGIBA STREET, PORT DOUGLAS
SEWERAGE AND WATER SUPPLY PLAN

| SCALE | SHEET | DRAWING NO. |
|----------|-------|----------------|
| AS SHOWN | 7 | 1503LUCAS - C7 |

PACKAGE SEWAGE PUMP STATION DESIGN

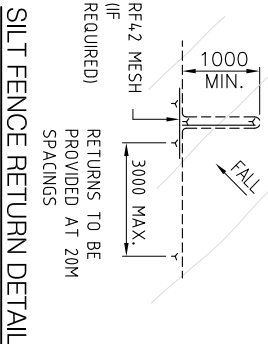
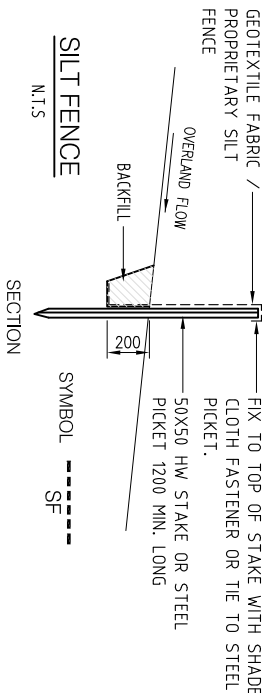
| | | | |
|---|---------------------------------------|----------------|--|
| Job: | Mango Beach Subdivision, Port Douglas | | |
| Demand: | | | |
| Average Dry Weather Flow (ADWF) per person | 270 | litres | |
| Equivalent Tenements (ET) | 8 | | |
| Persons per ET (EP) | 2.8 | | |
| Average Dry Weather Flow (ADWF) per day | 6,048 | litres | |
| Peaking factor = 5 x ADWF (PDWF) | 30,240 | litres | |
| Pump Station design: | | | |
| Single pump capacity = C ₁ x ADWF | | | |
| C ₁ = 15x (EP) ^{-0.1587} (Min value of C ₁ to be 3.5) | 9.16 | | |
| so therefor use FNQROC peaking factor = 9 | | | |
| Pump Flow rate: | | | |
| Pump rate per day | 54,432 | litres | |
| Pump rate per hour | 2,268 | litres | |
| Pump rate per second | 0.63 | litres | |
| Total Pump capacity = 5 x ADWF or C ₁ x ADWF | 54,432 | | |
| Installed total pump capacity = | 108,864 | | |
| Pump Station Wet Well Storage: | | | |
| Note : Pump station well is designed for full site | | | |
| Equivalent Tenements (ET) | 63.4 | | |
| Persons per ET (EP) | 2.8 | | |
| Average Dry Weather Flow (ADWF) per day | 47,930 | litres | |
| storage = (0.9 x single pump capcity Ls)/N xL | 0.90 | KL | |
| Internal diameter | 2.2 | m | |
| depth of storage = | 0.2 | m | |
| unusable storage = | 0.3 | m | |
| depth of lowest incoming sewer = | 2.5 | m | |
| depth to invert of pump station = | 3.1 | m | |
| N = no of pump starts per hour | 5 | | |
| Emergency storage = 4 hours x ADWF(8 LOTS) | 9,072.00 | litres | |
| duty pump start in wet well. Can include system storage below wet well overflow level | | | |
| Rising Main: | | | |
| Length | 108 | m | |
| Pipe diameter | 63 | mm | |
| Pipe Type | Poly | | |
| Volume of Rising main | 0 | m ³ | |
| Iplex Flow calculator Results: | | | |
| Static Lift 4.0 (m) | | | |
| Friction Losses .23 (m) | | | |
| Back Pressure 60(m) | | | |
| Total Head at Pump 64.23 (m) | | | |
| Flow Velocity .28 (m/s) | | | |
| Min Velocity = .75m/sec | | | |
| Prefered min velocity = 1.5m/sec | | | |
| Max velocity = 2.5m/sec (single pump) | | | |
| Pump size: | | | |
| .63l/sec @ 64.23m head | | | |



| | | | | | | | | | | | |
|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|
| REVISIONS | | | | | | | | | | | |
| LEGEND | | | | | | | | | | | |
| Stormwater drainage pipe 5/42 | | | | | | Existing surface contours | | | | | |
| Gross swale | | | | | | Existing drain | | | | | |
| Existing edge of bitumen | | | | | | Existing restra coble | | | | | |
| Existing u'ground electrical | | | | | | Existing o'head electrical | | | | | |
| MOODIE REF | | | | | | DESIGNED | | | | | |
| 1409LUCAS | | | | | | DRAWN | | | | | |
| MW JAN 15 | | | | | | MW JAN 15 | | | | | |
| CHECKED | | | | | | A.M. | | | | | |
| REVISION | | | | | | REVISION | | | | | |
| CAD FILE: | | | | | | P.O. Box 487 Smithfield 4876 Tel: Mobile 0407 674805, Fax (07) 40392554 Email: vdc2@bajapond.com | | | | | |
| 1 | | | | | | 2 | | | | | |
| 3 | | | | | | 4 | | | | | |
| 5 | | | | | | 6 | | | | | |
| 7 | | | | | | 8 | | | | | |
| 9 | | | | | | 10 | | | | | |
| 11 | | | | | | 12 | | | | | |

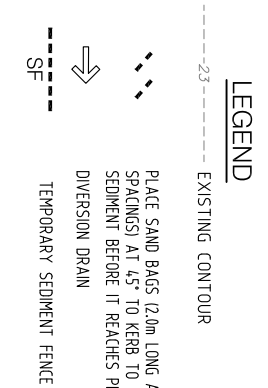
SOIL AND WATER
MANAGEMENT NOTES

1. VERGES TO HAVE KERBLINE TURF STRIPS LAID AFTER FINAL TRIM. TURF STRIP TO EXTEND AT LEAST 1m BEHIND KERB. VERGES ARE TO BE REGASSSED BY DRILLSEEDING
2. CUT/FILL AREAS TO BE DRILL SEEDD WITH SUITABLE GRASS SPECIES AND SUITABLY IRRIGATED WITHIN 2 WEEKS OF FINAL TRIM.
3. CONTRACTOR TO ADVISE OF METHOD TO PREVENT SOIL, MUD, CLOUDS, DUST & DEBRIS BEING DEPOSITED ON COUNCIL ROADS BY VEHICLES LEAVING THE SITE eg. WASH RACK, VIBRATION GRID. METHOD IS TO BE APPROVED BY SUPERVISING ENGINEER & FULLY IMPLEMENTED PRIOR TO COMMENCEMENT OF SITE CONSTRUCTION.
4. REFER TO SPECIFICATION FOR CONSTRUCTION & DAY TO DAY SEDIMENT CONTROL MAINTENANCE.
5. CONTRACTOR MAY PROVIDE ALTERNATIVE MEASURES, HOWEVER, THESE MUST BE APPROVED BY SUPERVISING ENGINEER PRIOR TO COMMENCEMENT OF ANY SITE WORKS.
6. SITE OFFICE & CONSTRUCTION WORKERS PRIVATE VEHICLE PARKING AREA TO BE LOCATED ON SITE. CONSTRUCTION VEHICLE PARKING & MATERIAL STORAGE AREA IF LOCATED ON SITE TO HAVE STORMWATER DIVERSION DRAIN/BUND UPHILL & SEDIMENT FENCES DOWNHILL.
7. ON SITE TRACKS TO BE KEPT TO EARTHWORKS AREAS.
8. REFER ALSO TO SPECIFICATION, SECTION 9, 'EROSION & SEDIMENT CONTROL.'
9. FINISHED EARTHWORKS AREAS (OTHER THAN BATTERS) TO BE FINISHED BY DRIVING A TRACKED VEHICLE OVER THE AREA AT RIGHT ANGLES TO THE FINISHED CONTOURS OR OTHER MEANS USED TO PRODUCE SMALL CONTOUR GROOVES APPROXIMATELY 250mm APART AND 30mm DEEP.



SCALE 1:500

0m 2.5m 5m 10m 15m



REVISIONS

| REVISION | DETAILS | DATE | APPROVED |
|-----------|--------------------|----------|----------|
| A | COUNCIL SUBMISSION | 17/03/75 | A.M. |
| REVISION | DETAILS | DATE | APPROVED |
| CAD FILE: | 1 | 2 | 3 |

LEGEND

| | | | |
|----------------------------|------|------------------------------|------|
| Stormwater drainage pipe | 542 | Existing surface contours | 542 |
| Gross swale | Ex D | Existing drain | Ex D |
| Existing edge of bitumen | Ex T | Existing telstra cable | Ex T |
| Existing o'head electrical | Ex E | Existing u'ground electrical | Ex E |

MOODIE REF 1409LUCAS

| | |
|----------|-----------|
| DESIGNED | MV JAN 15 |
| DRAWN | MV JAN 15 |
| CHECKED | A.M. |
| REVISION | |

Anthony Moodie & Associates
Engineers, Planners & Project Managers

ABN 80 682 448 313
PO Box 487 Smithfield 4876
Tel: Mobile 0407 674805, Fax (07) 40392554
Email: vdc2@bwpjpond.com

MANGO BEACH PORT DOUGLAS P/L
7 LOT COMMUNITY TITLE SUBDIVISION
SAGIBA STREET, PORT DOUGLAS
EROSION AND SEDIMENT CONTROL PLAN

SCALE

| |
|----------------------------|
| AS SHOWN |
| SHEET 9 |
| DRAWING NO. 1503LUCAS - C9 |



LOCAL DRAINAGE STUDY

Site: 40-52 Mitre Street, Craiglie
Applicant: D and J Lucas
Application: Reconfiguration of the 3 lots into 9 lots
Council Application No: CRC 8/7/1815 (2649639)
Date: 12/9/2014

1.0 Introduction

The applicant has received approval to reconfigure 3 lots into 10 lots as per the subdivision plan Figure 1 over page. The Council has requested a local drainage study for the developed site as per the following condition.

8. Undertake a local drainage study of the site to determine the drainage impacts on upstream and downstream properties and the mitigation measures required to minimise such impacts. In particular, the study must address the following:

- a. The contributing catchment boundaries and conditions for a fully developed catchment;*
- b. The extent of the 100 year ARI flood event in relation to the site both pre and post development;*
- c. Primary and secondary flow paths for the 2 and 100 year ARI flood events;*
- d. Identify any requirement for drainage easements;*
- e. Identify the need and tenure for flood detention areas to ensure a no worsening impact on downstream properties for the entire development;*
- f. Information on the proposed works and any impacts proposed at the drainage outlet from the proposed development.*
- g. The study is to include any impacts that the downstream tail water level will have on any proposed drainage infrastructure on secondary flow paths for a major event.*
- h. Lawful point of discharge.*

The study must be endorsed by the Chief Executive Officer prior to the issue of a Development Permit for Operational Works.

Note that the MCU approval for the whole site also requires a separate local drainage study.

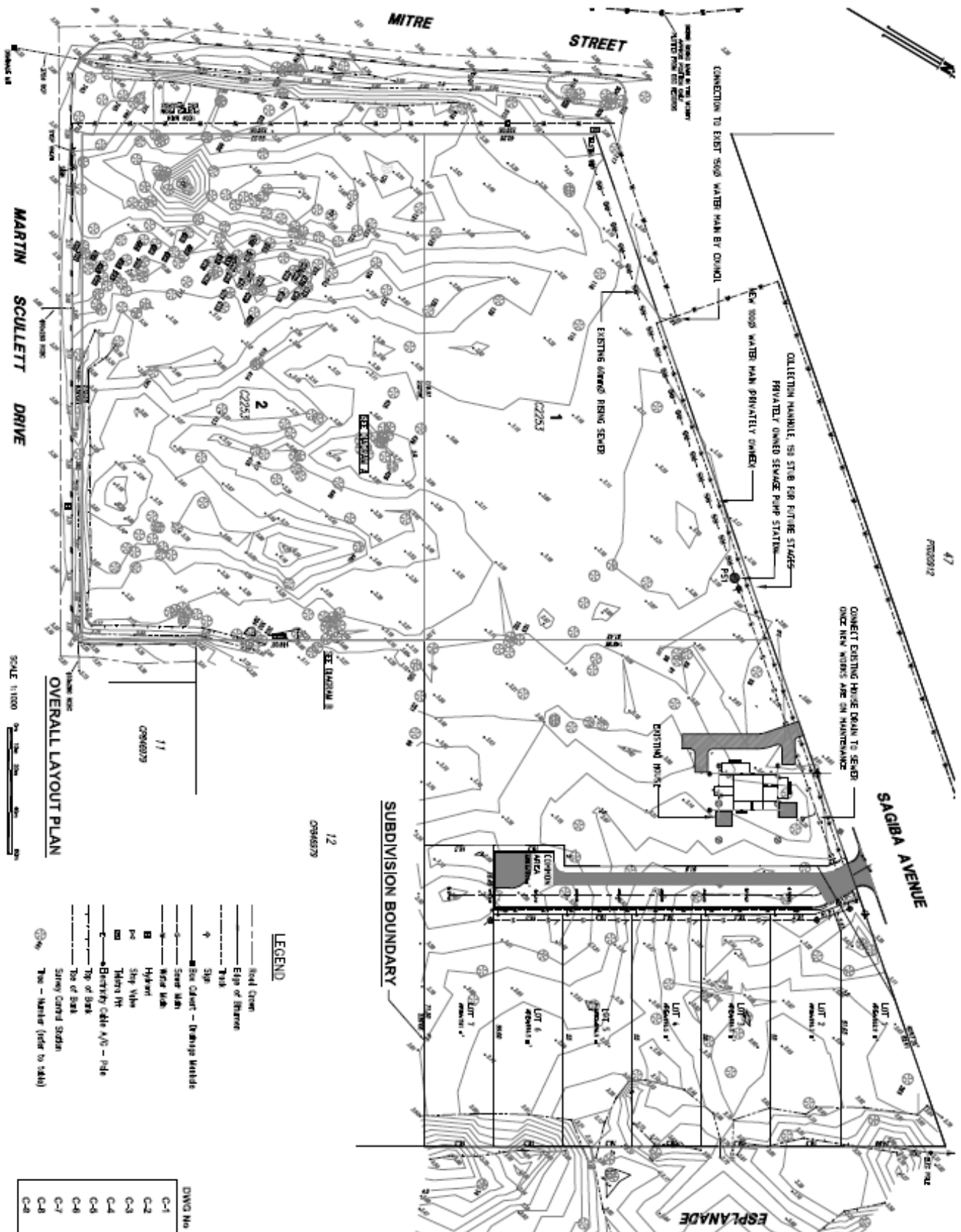
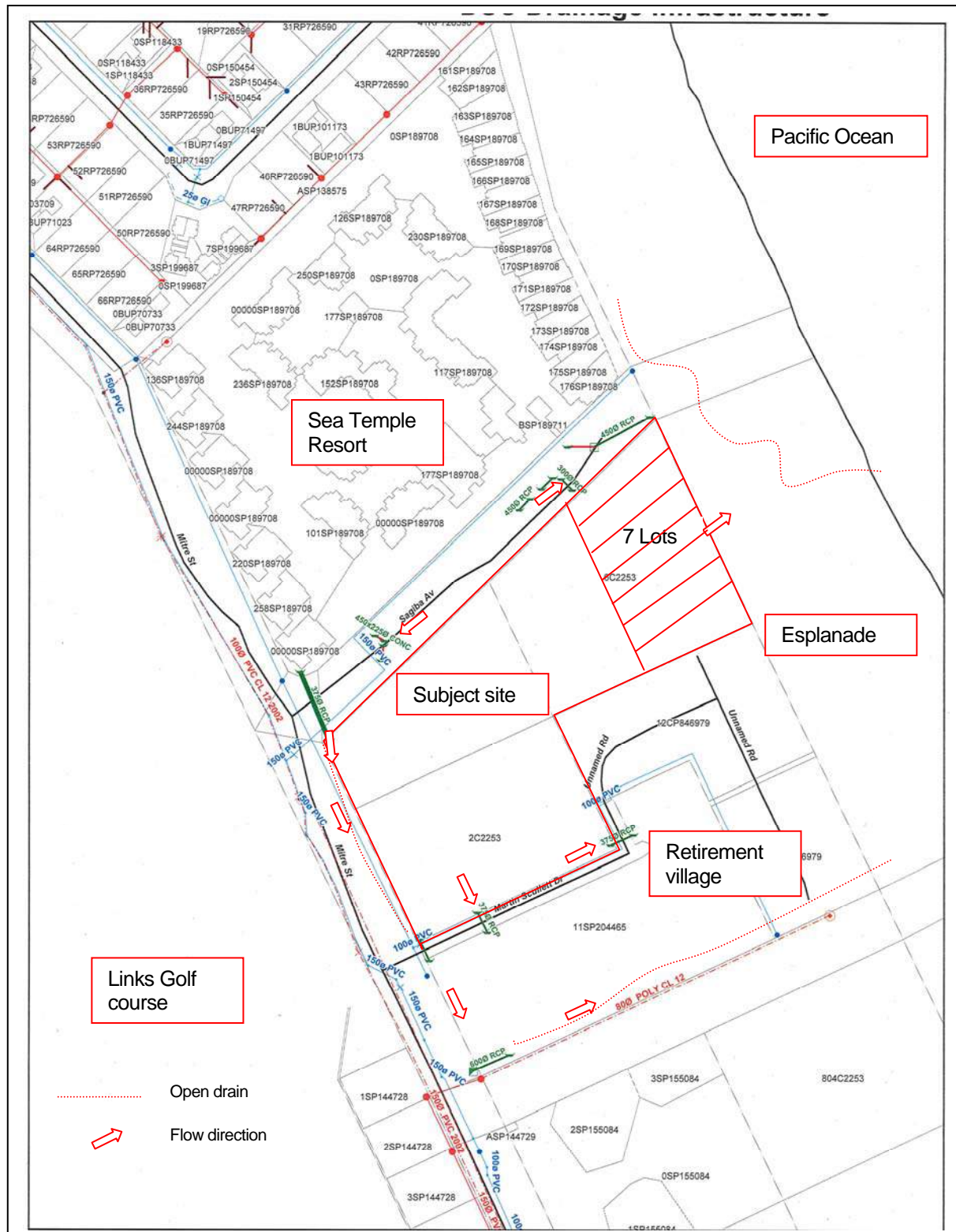


Figure 1 – Proposed reconfiguration of Lot Plan



2.0 Identification of Upstream and Downstream Properties and Legal Point of Discharge

Figure 2 below shows the drainage infrastructure in the surrounding roads and the surrounding properties.





There are no upstream properties of the site as no external catchments drain through or across the site. The subject site discharges stormwater to the following properties.

1. Martin Scullett Drive to the south via 2 x 375 dia pipe culverts (legal point of discharge).
2. Mitre Street table drain to the west via overland flow (legal point of discharge).
3. Sagiba Avenue to the north via overland flow (legal point of discharge).
4. Esplanade to the east via concentrated flow point to existing gully (legal point of discharge).

The proposed 7 residential lots are located over the land that discharges to the Esplanade which is the only downstream property effected by this development. There is no downstream private property.

3.0 Q100 Flood Level

Council DA condition no 42 for the ROL requires as follows

c. All new allotments shall have immunity from flooding associated with an ARI 100 year rainfall event; and

d. Where practical, all new allotments must be drained to the road frontages, drainage easements or drainage reserves and discharged to the existing drainage system via storm water quality device(s).

Council DA condition No 47 for the MCU states

Minimum Fill and Floor Levels

47. All floor levels in all buildings must be located 150 mm above the Q100 flood immunity level of 3.4 metres AHD, plus any hydraulic grade effect (whichever is the greater), in accordance with FNQROC Development Manual and Planning Scheme requirements.

Previous stormwater report complete by Arup Engineers in 2005 identified the Q100 level to be 3.2 m.

As the catchment discharges direct to the Pacific Ocean there will be no hydraulic grade effects.

Hence the adopted Q100 flood level is 3.4m as advised by Council DA approval.



4.0 Pre and Post development Conditions

4.1 Catchment Boundaries

Figure 3 below shows the internal catchment boundaries for the subject site.

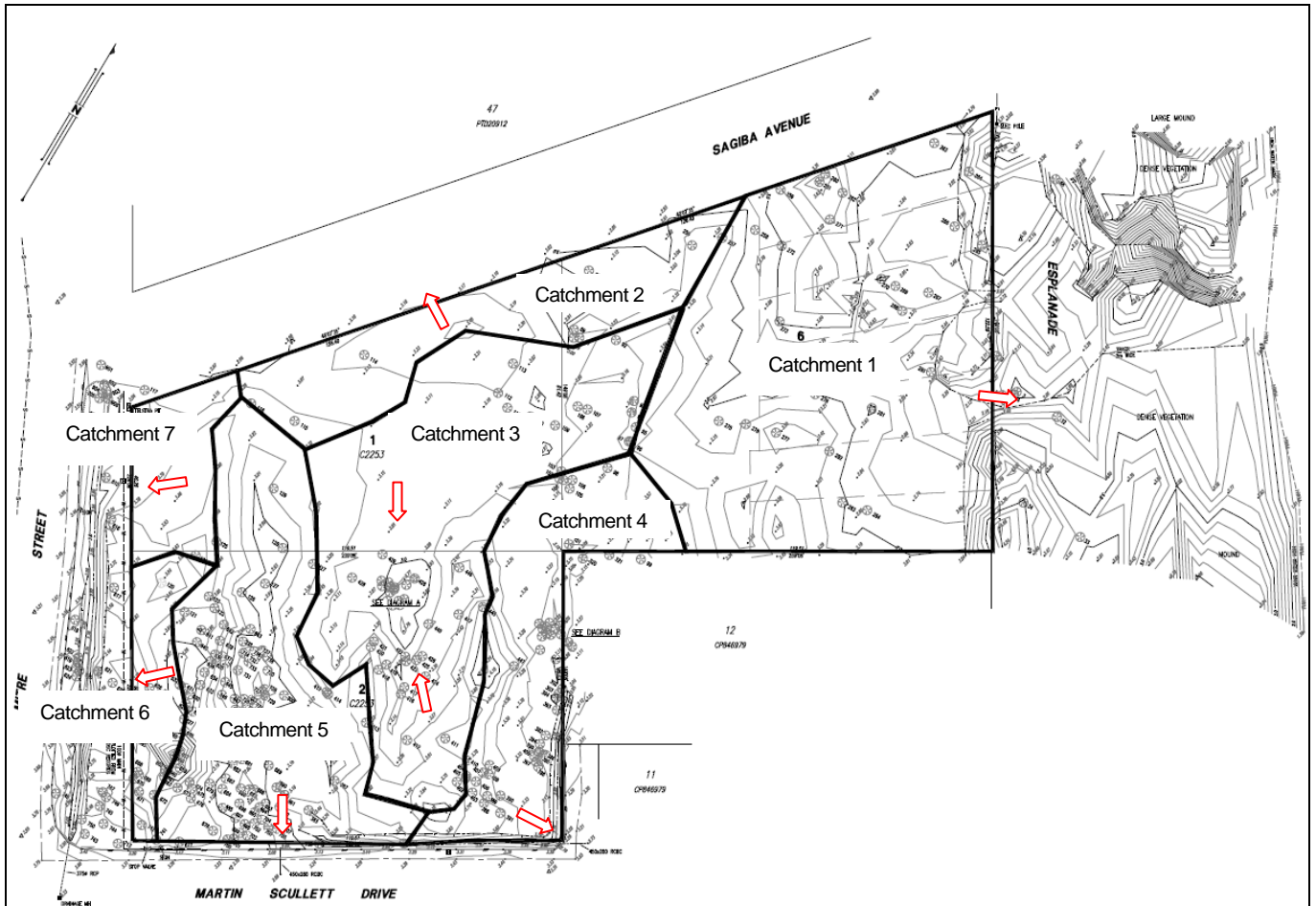


Figure 3 – Internal Stormwater catchments for the whole site

Catchment 1 is the only catchment relative to this drainage study as it fully covers the 7 lots to be subdivided.

Figure 4 over page shows the amended catchment 1 after development of the 7 lots.



Figure 4 – Post-development Catchment Boundaries

The building footprints will need to be filled to 3.4m AHD and condition 42 requires where practical, all new allotments must be drained to the road frontages, drainage easements or drainage reserves and discharged to the existing drainage system via storm water quality device(s). After filling of the part of the lots to RL 3.4, approximately 70% of catchment 1 will be diverted away from the esplanade discharge point and toward the stormwater system in Sagiba Avenue.



4.2 Stormwater drainage flows

The pre development stormwater flow from catchment 1A has been calculated using the “Rational Method” and are summarised in table 1 and 2 below.

Table 1 - Pre-development Stormwater Flows

| Storm event | Runoff coefficient | Time of concentration minutes | Rainfall Intensity mm/hr | Catchment area m2 | Stormwater flow m3/sec |
|-------------|--------------------|-------------------------------|--------------------------|-------------------|------------------------|
| Q1 | 40% | 15 | 86 | 7220 | 0.07 |
| Q2 | 40% | 15 | 110 | 7220 | 0.09 |
| Q5 | 40% | 15 | 140 | 7220 | 0.11 |
| Q10 | 40% | 15 | 157 | 7220 | 0.13 |
| Q20 | 45% | 15 | 180 | 7220 | 0.16 |
| Q50 | 50% | 15 | 212 | 7220 | 0.21 |
| Q100 | 53% | 15 | 236 | 7220 | 0.25 |

Table 2 - Post-development Stormwater Flows

| Storm event | Fraction Impervious | Runoff coefficient | Time of concentration minutes | Rainfall Intensity mm/hr | Catchment area m2 | Stormwater flow m3/sec |
|-------------|---------------------|--------------------|-------------------------------|--------------------------|-------------------|------------------------|
| Q1 | 0.35 | 61% | 10 | 100 | 7220 | 0.12 |
| Q2 | 0.35 | 65% | 10 | 128 | 7220 | 0.17 |
| Q5 | 0.35 | 72% | 10 | 163 | 7220 | 0.24 |
| Q10 | 0.35 | 76% | 10 | 183 | 7220 | 0.28 |
| Q20 | 0.35 | 80% | 10 | 211 | 7220 | 0.34 |
| Q50 | 0.35 | 87% | 10 | 247 | 7220 | 0.43 |
| Q100 | 0.35 | 95% | 10 | 276 | 7220 | 0.53 |

The development will increase stormwater run off flows from the site by about 90%. Also stormwater flows will be directed to Sagiba Avenue road reserve, which discharges to the esplanade gully, where as previously, all stormwater run off drained direct to the esplanade gully. Sagiba Avenue has to be checked for its capacity to convey stormwater to the esplanade gully.

4.3 Capacity of Sagiba Road Reserve for Stormwater Flow

The eastern end of Sagiba Avenue discharges stormwater to an existing gully in the esplanade. The western end of Sagiba Avenue drains to Mitre Street table drain and is not affected by this development. The existing eastern drainage system in Sagiba Avenue is shown in Figure 6 over page.



Figure 6 – Sagiba Avenue Drainage

The minor flows (up to Q2) from the development will discharge to the existing 300 dia RCP under Sagiba Avenue. The major flows (over Q2) will flow as surface drainage over Sagiba Avenue and discharge to the esplanade gully. Sagiba Avenue was constructed as part of the Sea Temple Resort and is not the conventional road design being more designed with landscaping in mind. The road design has flush kerb which limits the surface stormwater drainage capacity of the road reserve. It is recommended that an open drain as shown in figure 6 over page, be constructed in proposed lot 1 to convey major stormwater flows direct to the esplanade gully and avoid directing any major stormwater flows to the Sagiba Avenue. There would need to be some excavation on the esplanade land so as to connect to open drain to the existing gully. The length of excavation within the esplanade will be approximately 10m.

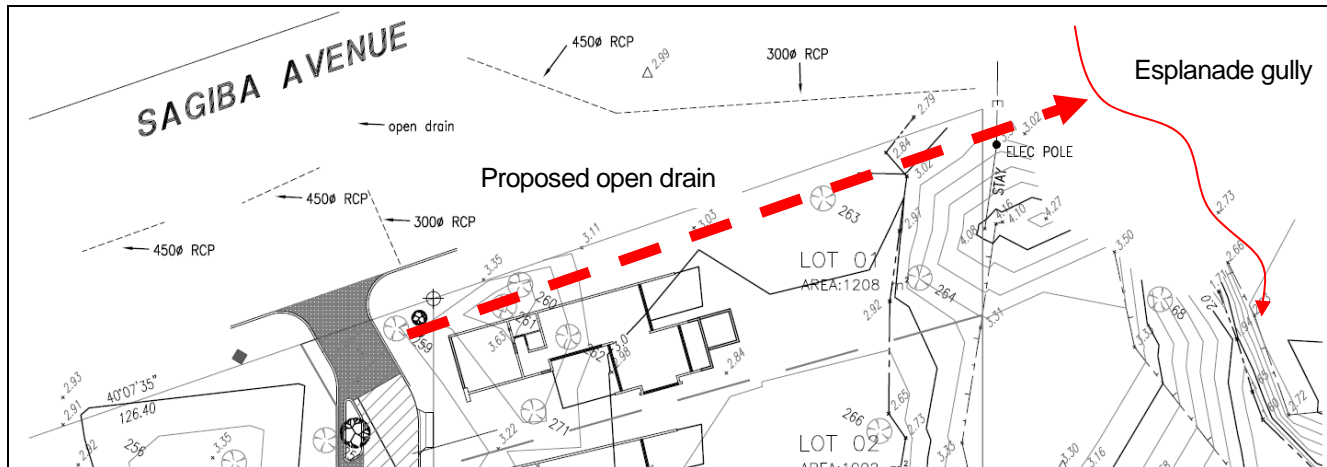


Figure 7 – Proposed Open Drain in Lot 1

4.4 Proposed Drain Capacity

The open drain will need to be sized for the Q100 flow minus the 300 dia pipe flow. There is 3.5m of width between the side boundary and the house on lot 1. For maintenance, the drain will be grassed and have 1 in 4 sides which are mowable. Using “Manning’s Equation” the drain capacity is summarised in Table 3 below.

Table 3 – Open Drain Capacity

| Depth | Side slope | Drain slope | Base width m | Capacity m ³ /s | Capacity 300 RCP in Sagiba Ave m ³ /s | Total capacity |
|-----------|------------|-------------|--------------|----------------------------|--|----------------|
| .2 | 1 in 4 | .3m in 65m | 0 | .06 | .14 | .2 |
| .3 | 1 in 4 | .3m in 65m | 0 | .17 | .14 | .31 |
| .44 (max) | 1 in 4 | .3m in 65m | 0 | .47 | .14 | .61 > Q100 |

4.5 Need for drainage easements

As the development is a community title scheme there is no need for a drainage easement over the proposed drain.

4.6 Effect on downstream properties and need for flood detention

The stormwater flows are increased due to the additional impervious areas and reduced time of concentration. The Increased stormwater flows will discharge direct to the existing gully in the esplanade. There are no private properties which are affected by the increased stormwater discharge. The pre existing flows from the subject site discharged to the same esplanade gully. The gully discharges direct to the Pacific Ocean. There is no need for specialised flood detention as the additional flows can pond in the natural depressions and gullies in the esplanade frontage



5.0 Summary

- There are no upstream properties affected by this development.
- The only downstream property is the public esplanade. There is no private property downstream of the development.
- The subdivision works and subsequent development of housing will increase the impermeable surface area and reduce the time of concentration. As a result, it is estimated that the volume of runoff stormwater from the site will increase by 90%.
- The subdivision works will direct stormwater flow away from the esplanade and toward Sagiba Avenue. Sagiba Avenue is not designed to convey stormwater drainage as sheet flow as it has only minor capacity due to the use of flush concrete kerbs.
- The Q2 (minor flow) stormwater from the subdivision works can be discharged to the existing 300 RCP under Sagiba Avenue.
- Stormwater flows exceeding Q2 (major flow) are to be contained within a grassed open drain along the proposed Lot 1 boundary with Sagiba Avenue and discharging to the existing esplanade gully.
- The legal point of discharge is the Esplanade gully.
- The Q100 flood level is 3.4m AHD.
- There will be no downstream tail water level rise as the esplanade gully discharges to the Pacific Ocean.
- The Council removes the sand bar that builds up at the mouth of the esplanade gully prior to the commencement of the wet season.

Yours Faithfully

Mark Valmadre BEng
Report Author

Anthony R Moodie BEng RPEQ



Appendix 1

Site Photographs



Golf links



Golf links



Golf links



Golf Links



Mitre Street Frontage



Mitre Street table drain discharge culvert under Martin Scullett Drive





Drainage outlet from Mitre street to Golf links



Mitre Street frontage



Mitre Street inlet pit



Mitre Street outlet to open drain in Retirement village



Martin Scullett Drive



Mitre Street table drain



Mitre Street table drain



Mitre Street table drain



Drain in Links Golf Course

Drain in Links Golf Course



Box culvert under Sea Temple roundabout



Mitre Street table drain downstream of box culvert



Links Golf Course opposite roundabout



Sea Temple roundabout



West end of Sagiba Drive



West end of Sagiba Drive



Sagiba Avenue drainage



RCBC under Sagiba Avenue west end



Sagiba Avenue drainage



Intersection with ne road and Sagiba Avenue



Inlet to 450 RCP under Sagiba Avenue



Outlet to 450 RCP under Sagiba Avenue



Inlet to 300 RCP under Sagiba Avenue



Major flow path from Sagiba Ave to esplanade gully



Esplanade Gully





Gully outfall at beach



Gully outfall at beach



Existing 450 RCP headwall discharging to gully



Proposed open drain would be located inside timber fence



Existing stormwater inlet pit in Sagiba Ave cul-de-sac



Sagiba Avenue has little capacity for surface flow

MANGO BEACH PORT DOUGLAS P/L - 7 LOT PORT DOUGLAS SUBDIVISION - DEVELOPMENT COST ESTIMATE

| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
|---|---|------|------|--------------|---------------------|
| SECTION A - Preliminaries | | | | | |
| A01 | Construction Safety Fees | 1 | Item | 0.30% | \$ 1,175.68 |
| A02 | Long Service Leave Levy | 1 | Item | 0.225% | \$ 881.76 |
| A03 | Alteration to Existing services | 1 | Item | \$ 10,000.00 | \$ 10,000.00 |
| A04 | Provision for Traffic Control | 1 | Item | \$ 5,000.00 | \$ 5,000.00 |
| A05 | Prevention of nuisance, public safety, temporary safety fence | 1 | Item | \$ 5,000.00 | \$ 5,000.00 |
| A06 | Preservation of Private Property | 1 | Item | \$ 2,000.00 | \$ 2,000.00 |
| A07 | Site Establishment | 1 | Item | \$ 15,000.00 | \$ 15,000.00 |
| A08 | As-Constructed Plans | 1 | Item | \$ 10,000.00 | \$ 10,000.00 |
| A09 | Soil Testing | 1 | PS | \$ 8,000.00 | \$ 8,000.00 |
| SUB-TOTAL SECTION A: PRELIMINARIES | | | | | \$ 57,057.43 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| SECTION B - EARTHWORKS | | | | | |
| B01 | Clearing and Grubbing (all vegetation to be mulched) | 7700 | m2 | \$ 0.50 | \$ 3,850.00 |
| B02 | Strip topsoil | | | | |
| | Earthwork area to a nominal depth of 150mm to stockpile | 1155 | m3 | \$ 7.50 | \$ 8,662.50 |
| B03 | Earthworks on leads. Cut to Fill, compacted on site. | 300 | m3 | \$ 15.00 | \$ 4,500.00 |
| B04 | Import , place and compact select fill(solid measure) | 1200 | m3 | \$ 30.00 | \$ 36,000.00 |
| B05 | Spread stripped topsoil evenly to an approximate depth of 100mm over filled lots and footpaths upon completion of bulk earthworks | 1155 | m3 | \$ 6.00 | \$ 6,930.00 |
| B06 | Subgrade replacement material. (Provisional Quantity). | 50 | m3 | \$ 20.00 | \$ 1,000.00 |
| B07 | Trim and compact road subgrade | 800 | m2 | \$ 2.30 | \$ 1,840.00 |
| B08 | Final trimming of footpaths and verges. | 200 | m2 | \$ 3.00 | \$ 600.00 |
| SUB-TOTAL B EARTHWORKS | | | | | \$ 63,382.50 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| Section C - Erosion and Sediment Control | | | | | |
| C01 | Erosion and Sedimentation Plan C07 | | | | |
| | (a) Construct Entry/Exit 6m wide x 6m long on 75mm ballast, 150mm thick with geotextile filter. | 1 | Item | \$ 2,650.00 | \$ 2,650.00 |
| | (b) Rock filter dam (RFD) | 1 | No | \$ 650.00 | \$ 650.00 |
| | (c) Silt Fencing about stockpile area | 50 | lm | \$ 35.00 | \$ 1,750.00 |
| | (d) Silt Fencing about site as detailed. | 160 | lm | \$ 35.00 | \$ 5,600.00 |
| | (e) Check Dam | 0 | item | \$ 250.00 | \$ - |
| | (f) Overland Flow Drain | 0 | lm | \$ 11.50 | \$ - |
| | (g) Stormwater Wet Sediment Basin | 0 | No | \$ 10,000.00 | \$ - |
| | (h) Construct and maintain soil and water management measures during the defects liability period. | 1 | Item | \$ 3,000.00 | \$ 3,000.00 |
| TOTAL C EROSION & SEDIMENT CONTROL | | | | | \$ 13,650.00 |

| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
|--|--|-------|----------------|--------------|----------------------|
| SECTION D : ROADWORK'S | | | | | |
| D01 | Kerb and Channel | | | | |
| | Construction to be in accordance with specified Cairns City Council standards. | | | | |
| | i) 600 mm wide Layback Kerb and Channel | 211 | Lm | \$ 75.00 | \$ 15,825.00 |
| | ii) vehicle cross overs | 7 | no | \$ 2,000.00 | \$ 14,000.00 |
| D02 | Asphalt | | | | |
| | i) 30mm compacted depth asphalt with 10mm nom size stone aggregate. | 473.4 | m2 | \$ 45.00 | \$ 21,303.00 |
| D03 | | | | | |
| | i) In laid cobblestone finish including concrete | 200 | m2 | \$ 140.00 | \$ 28,000.00 |
| D04 | Pavement material as specified including supply, spreading, watering and compaction | | | | |
| | (a) Subbase course (150mm Thick CBR 45) | 120 | m3 | \$ 140.00 | \$ 16,800.00 |
| | (b) Base course (100m Thick CBR 60) | 101 | m3 | \$ 150.00 | \$ 15,151.50 |
| D05 | Sub-Soil Drains | | | | |
| | (a) Provide and place 100 mm dia corrugated slotted polyethylene pipe, wrapped in A12 bidum filter fabric or approved equivalent. 300mm minimum overlap. Provide 20mm aggregate filter medium. Provide 50mm deep additional base course. | 0 | lm | \$ 35.00 | \$ - |
| | (b) Subsurface drainage flushing points shall be provided at head lines and not less than 50m spacing in accordance with STD S1095. | 0 | No | \$ 145.00 | \$ - |
| | TOTAL D ROADWORK'S | | | | \$ 111,079.50 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| SECTION E: DRAINAGE | | | | | |
| E05 | Stone Pitching to open drain | 80 | m ² | \$ 120.00 | \$ 9,600.00 |
| | TOTAL E DRAINAGE | | | | \$ 9,600.00 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| SECTION DF WATER RETICULATION | | | | | |
| F01 | Excavation, sand surround, supply, lay, joint, test, sterilize backfill and compact water mains including. special pipes, fittings and anchor blocks for the following: | | | | |
| | (a) 100mm dia uPVC (Class 16) | 235 | m | \$ 150.00 | \$ 35,250.00 |
| | (b) House connections including water meter | 7 | no | \$ 1,500.00 | \$ 10,500.00 |
| | (c) Council connection fee to existing infrastructure | 1 | item | \$ 2,500.00 | \$ 2,500.00 |
| | TOTAL F WATER RETICULATION | | | | \$ 35,250.00 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| SECTION G : UNDERGROUND CONDUITS & LIGHT POLE BASES | | | | | |
| G01 | Electricity and Telstra conduits and pits | 110 | m | \$ 200.00 | \$ 22,000.00 |
| G02 | Street lights and bases | 4 | no | \$ 850.00 | \$ 3,400.00 |
| | TOTAL G UNDERGROUND CONDUITS | | | | \$ 25,400.00 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| SECTION H: SEWERAGE RETICULATION | | | | | |
| H01 | Excavation, sand, surround, supply, lay, joint, test backfill and compact 150mm uPVC Class SN8 | 169 | m | \$ 170.00 | \$ 28,730.00 |
| H03 | Construction of 1050mm Dia. Manhole complete including excavation, backfilling, benching, supply and installation of manhole cover and frame | 4 | No. | \$ 4,500.00 | \$ 18,000.00 |
| H05 | Supply and install package sewerage pump station with 2 pumps and connect to existing rising main | 1 | Item | \$ 75,000.00 | \$ 75,000.00 |
| H06 | Construction of house drain connections: | | | | |
| | 100 Dia type E1 | 7 | No. | \$ 850.00 | \$ 5,950.00 |
| | TOTAL H SEWERAGE RETICULATION | | | | \$ 127,680.00 |
| ITEM | DESCRIPTION | Qty | UNIT | RATE | Amount in \$ |
| SECTION I: SEEDING | | | | | |
| I01 | Turf to back of kerb | 200 | m2 | \$ 12.00 | \$ 2,400.00 |
| I02 | Grass Seeding of Allotment surfaces and all Verges (Provisional Quantity) | 6900 | m2 | \$ 0.50 | \$ 3,450.00 |
| I03 | Hydromulching of all batters | 0 | m2 | \$ 3.45 | \$ - |
| I04 | Street Trees as per engineer supplied landscape Drawing TBA | 0 | No. | \$ 500.00 | \$ - |
| | TOTAL I SEEDING | | | | \$ 5,850.00 |
| | TOTAL CONSTRUCTION EXCLUDING GST | | | | \$ 448,949.43 |
| | GST | | | | \$ 44,894.94 |
| | TOTAL CONSTRUCTION INCLUDING GST | | | | \$ 493,844.38 |