

|                              |  |
|------------------------------|--|
| <b>JRPP No:</b>              | 2010NTH004   |
| <b>DA No:</b>                | 2010/DA-013  |
| <b>PROPOSED DEVELOPMENT:</b> | Consolidation & subdivision to create five additional lots in 2 stages, Lot 4 DP524351; Lot 5 DP536925; Lot 10 DP1126745, 108 & 112 Old Pacific Highway, Raleigh |
| <b>APPLICANT:</b>            | Denis Atkinson Planning Pty Ltd  |
| <b>REPORT BY:</b>            | Melanie Green, Senior Development Planner, Bellingen Shire Council   |

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## Assessment Report and Recommendation

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### **EXECUTIVE SUMMARY**

The application has been referred to the Joint Regional Planning Panel pursuant to Clause 13C(c) of the State Environmental Planning Policy (Major Development) 2005 as "Regional Development". The development classes as "Regional Development" as it involves the creation of more than 5 lots which will not be connected to an approved sewerage treatment work or system.

The development application seeks approval for the consolidation and re-subdivision of 3 lots into 8 large residential allotments at the Old Pacific Highway, Raleigh. The application has been notified to adjoining property owners and referred to the RTA for comment.

It was intended to bring this report to the JRPP meeting in April, however a preliminary assessment of the proposal and a site inspection identified shortfalls in the application information and a request for additional information was issued to require an acoustic assessment which would assess the impact of existing Pacific Highway noise on the future residents of the subdivision, and a revised and more detailed on-site effluent disposal report which clearly identified the constraints of the site (such as the gully).

This information was received in May and is attached for the panel's information. The information provided regarding on-site effluent disposal has satisfied Council's Environmental Health Officer that effluent can be treated and disposed of on site in accordance with Council standards provided that AWTS are required to serve all future residences within the subdivision.

However, the acoustic assessment revealed that noise levels experienced at all lots within the subdivision would not meet RTA external noise criteria – with exceedances of up to 5.7dBA. Due to the lay of the land, noise barriers along the western property boundary of the property would not be effective in reducing noise levels. The acoustic consultant therefore recommended design mitigation measures for future dwellings on the site including positioning of sleeping areas away from the western boundary, installation of thick laminated glazing on southern and western windows and a recommendation for windows to remain closed - which would require the installation of other ventilation measures.

It is considered that the mitigation measures recommended by the consultant and those recommended by Council's Senior Environmental Health Officer (ie. Individual noise mounds around each dwelling site) are not satisfactory and would significantly impinge on the residential amenity for future residents and would also significantly reduce the visual amenity of the site as viewed from adjoining residences and the proposed on-off ramp.

Further, it is expected that the construction of the on-off ramp proposed as part of the Warrell Creek to Urunga Pacific Highway would further increase noise disturbance experienced by future residents of this development to unacceptable levels.

It is therefore recommended that the application be refused.

## **THE PROPOSAL**

The proposal is for the consolidation and subdivision of three (3) lots into a total of residential eight (8) lots in two stages. The proposal involves the retention of the two existing dwellings that front the old Pacific Highway and consolidation and subdivision of the remainder of the site into large residential allotments with areas of 2020m<sup>2</sup> to 4575m<sup>2</sup>.

Vehicular access into the site is gained through a 15.5 metre wide access handle to the Pacific Highway, which would be dedicated to Council as a road reserve. A new 5 metre wide road with a cul-de-sac head is proposed to be constructed from this point.

## **THE SITE**

The subject land comprises Lots 4 DP524351, Lot 5 DP536935 and Lot 10 DP1126745, Old Pacific Highway, Raleigh. The subject land is sited within the village of Raleigh and is zoned 2(b) Village under the Bellingen Local Environmental Plan 2003. This part of Raleigh is developed with a mix of dwellings, mainly located along the Old Pacific Highway frontage and some commercial uses including a second hand barn, an old service station (now a dwelling) and a hardware outlet.

The subject land is sited between the Old Pacific Highway on the eastern side and the current Pacific Highway on the western side. It directly adjoins residential allotments to the east that have frontage to the Old Pacific Highway, commercial land (containing the Building Supplies Warehouse) to the south, a residential property to the north and land recently acquired by the RTA from the property owner of this site for the purposes of the Pacific Highway Upgrade to the west of the site.

The land is undulating and includes a dry gully which slopes towards the west. The southern section of the site slopes generally towards the north-west. The northern section of the site is located on a crest, which then falls steeply to the north and gently to the west. The site is clear of vegetation with the exception of 3 mature trees which are not proposed to be removed. Previous uses are likely to have been beef cattle or dairy grazing. There is no evidence of old infrastructure on the site which would indicate previous contaminating uses.

The site aspect, with the exception of the very northern end of the site, is towards the current Pacific Highway, which despite the vegetation buffers is visible from the site.

## SECTION 79C(1) MATTERS FOR CONSIDERATION

### SECTION 79C(1)(A)(I) – ANY ENVIRONMENTAL PLANNING INSTRUMENT

#### Bellingen Local Environmental Plan 2003

##### **Clause 11 – Zoning Controls; Definition of development & Permissibility**

The subject land is zoned 2(b) Village under the provisions of Bellingen Local Environmental Plan 2003 (BLEP 2003). The proposed development is defined as subdivision which is permissible with consent in the subject zone.

The objectives of the zone are reprinted below. The proposed development is considered to be consistent with the zone objectives as follows.

##### **Zone No 2 (b) (Village Area Zone)**

- (a) *to make provision for certain suitable lands to be used for urban purposes, and*  
**Comment:** N/A
  
- (b) *to encourage a range of housing types in appropriate locations, and*  
**Comment:** The subdivision would enable the development of the allotments for single dwellings. The low density residential development is an appropriate housing type in this area given the fact that the land is unsewered.
  
- (c) *to enable development for retail, commercial and service purposes for the local and nearby rural community in appropriate locations where the scale and type of development is compatible with living areas, and*  
**Comment:** N/A
  
- (d) *to recognise existing villages and to enable future development appropriate to their function, and*  
**Comment:** Residential development in this area reinforces the existing village.
  
- (e) *to preserve and enhance the local character and identity of villages within the Bellingen local government area, and*  
**Comment:**
  
- (f) *to provide for a range of development appropriate to the needs of a village community.*  
**Comment:** N/A

##### **Clause 22 Coastal Lands**

The subject site is located within the coastal zone. The provisions of this clause and the *NSW Coastal Policy* therefore apply.

It is considered that the development as proposed could comply with the relevant objectives, including the water quality objectives of the policy if waste water treatment leaving the site is treated using an aerated system (ATWS) and stormwater discharge leaving the site meets the water quality objectives of the Urunga Urban Stormwater Management Plan, 2000.

The development as proposed generally meets the subdivision guidelines contained within the *North Coast Design Guidelines* which specifies that the subdivision layout should be site responsive.

Response:

- The road generally follows the contours of the site – cutting and filling is not expected to be extensive.
- The street layout does result in a dead end but this is unavoidable as the site cannot link into any other roads.
- The road width is the minimum required to provide for 2 passing cars. Rolled top kerbing will allow for visitor vehicles to park over the kerb.
- The lots are suitable in size and shape for dwelling construction and installation of effluent disposal areas.

However the visual amenity of the site as viewed from the Pacific Highway and adjoining properties would be severely compromised if the noise reduction measures proposed by the applicants acoustic consultant or those recommended by Council's Senior Environmental Health Officer were implemented (see discussion under Section 79(b)(i) later in this report).

### **Clause 37 Development on main road and highway frontages**

While the development does not front the Pacific Highway, it is located within the referral area for the Warrell Creek to Urunga Pacific Highway upgrade and directly adjoins land acquired by the RTA for that purpose.

The application was referred to the RTA for comment to ensure that the development would not prejudice future improvements or realignments to the highway. The RTA raised no objections to the proposal despite the fact that the subdivision is located on land adjoining the proposed on-off ramp linking south bound traffic from Waterfall Way to the new highway alignment and traffic on Waterfall Way to the existing Pacific Highway. It was anticipated that objections would be raised due to the additional impact of the ramp on the volume and type of noise experienced by future residents of this subdivision. At the time of writing, this was not the case.

## **North Coast Regional Environmental Plan**

### **Clause 43 Development control—residential development**

*(1) The council shall not grant consent to development for residential purposes unless:*

*(a) it is satisfied that the density of the dwellings have been maximised without adversely affecting the environmental features of the land,*

Comment: The density of the development has been maximised given the fact that the land is not able to be connected to a reticulated sewerage system.

*(b) it is satisfied that the proposed road widths are not excessive for the function of the road,*

Comment: The sealed road width is approximately 5 metres. This is not excessive for the function of the road.

*(c) it is satisfied that, where development involves the long term residential use of caravan parks, the normal criteria for the location of dwellings such as access to services and physical suitability of land have been met,*

Comment: N/A

*(d) it is satisfied that the road network has been designed so as to encourage the use of public transport and minimise the use of private motor vehicles, and*

Comment: Not possible given the scale of this development.

*(e) it is satisfied that site erosion will be minimised in accordance with sedimentation and erosion management plans.*

Comment: This would be required by condition of consent if approved.

#### **Clause 66 Development control—adequacy of community and welfare services**

Complies as the site is located within a short driving distance to community and welfare services in Urunga.

#### **State Environmental Planning Policy No. 71**

##### **Clause 8 Matters for consideration**

The listed matters have been taken into consideration in the assessment of this development application. For the reasons discussed later in this report, it is considered that:

- The development is not suitable given its proximity and aspect to the Pacific Highway and the on-off ramp proposed as part of the Pacific Highway Upgrade.
- Implementation of noise control measures proposed by the acoustic consultant and/or Council's Environmental Health Officer would have an adverse effect on the scenic qualities of the New South Wales coast – as viewed from adjoining properties, the proposed on-off ramp and parts of the highway overpass.

##### **Clause 15 Effluent disposal**

Provided Aerated Waste Water Treatment Systems with drip irrigation are installed to serve future residences on this site, it is considered that water quality of nearby coastal creeks and rivers would not be adversely affected by the proposed development.

##### **Clause 16 Stormwater**

The submitted plans and documentation for this development did not include details of any stormwater treatment for road stormwater or any proposal for the discharge of this stormwater.

Despite the fact that Council's Urunga Urban Stormwater Management (UUSM) Plan does not technically apply to this area (applicable to urban land within Urunga only), it is considered reasonable to require treatment of road water in this case given the requirements of this clause, the potential for untreated stormwater to enter coastal creeks and rivers downstream (including Priority Oyster Aquaculture Areas in the Kalang) and to ensure best practice measures are implemented.

It would therefore be recommended that the development be conditioned (if approved) to require treatment of all road water in accordance with the water quality objectives of the UUSM Plan and the submission of stormwater modelling demonstrating compliance with this criteria prior to issue of the Construction Certificate.

## **SECTION 79C(1)(A)(II) – ANY DRAFT ENVIRONMENTAL PLANNING INSTRUMENT**

### **Draft Bellingen Local Environmental Plan 2009**

The subject land will be zoned R1 and will have a minimum lot size of 1ha under the draft LEP 2009. The proposed use of the land for residential purposes would be consistent with the proposed zoning of the land. Despite the fact that the lots would not comply with the minimum lot size under the draft LEP, it is considered that approval of the lot sizes as proposed could be granted as Council is satisfied that all lots would be able to dispose of effluent in accordance with Council standards.

## **SECTION 79C(1)(A)(III) – ANY DEVELOPMENT CONTROL PLAN**

### ***Development Control Plan No. 6 - On-Site Effluent Disposal Strategy***

Council's Environmental Health Officer is satisfied that effluent disposed on site will be able to meet the requirements of this DCP.

### ***Development Control Plan No. 16 – Advertising & Notification***

The application was notified to adjoining owners from the 12<sup>th</sup> February to 5<sup>th</sup> March 2010, as required by this DCP. No submissions were received by Council.

## **SECTION 79C(1)(A)(IV) – ANY MATTERS PRESCRIBED BY THE REGULATIONS**

### ***Section 92(1)(a) – NSW Coastal Policy***

Refer to discussion under Clause 22 of the BLEP 2003.

## **SECTION 79C(1)(B) – THE LIKELY IMPACTS OF THAT DEVELOPMENT**

### ***Noise & Vibration***

The impact of traffic from the Pacific Highway on the health, wellbeing and general amenity enjoyed by the future residents of the development is considered to be the major issue for this development. In the assessment of this issue, the acoustic report, recommendations of Council's Senior Environmental Health Officer and the Planning Principle for noise attenuation have been taken into account.

It is noted here that the planning principle for noise attenuation is that where there is a conflict between a noise source and a sensitive receptor, preference should be given to the attenuation of any noise from the source rather than the sensitive receptor.

The noise measurements taken by H.K Clarke & Associates in 2007 and the noise modelling undertaken by Wilkinson Murray both demonstrate that noise levels currently experienced at the site and predicted for the future will not meet the EPA external noise criteria. None of the proposed allotments meet the criteria at both day and night – even with noise barriers up to 4 metres in height along the western property boundary.

The ineffectiveness of noise mounds or walls to mitigate noise from the noise source means that the only other option is to examine mitigation at the receptor – future dwellings.

However, the proposed acoustic measures for residential buildings on the site are considered unacceptable by virtue of the impact of such measures on the level of amenity for future residents for the following reasons:

- The site aspect is towards the north-west and therefore the valley and the highway. Implementation of the recommended acoustic measures would eliminate the option of orientating the dwellings towards the view and aspect from this site.
- The necessity to keep windows in each house closed to buffer against the noise outside is not satisfactory. This would impact on the energy efficiency of the dwelling, reduce the amount of fresh air available to residents and would adversely impact on their wellbeing.

Further, it is considered that noise mounds around each dwelling site as suggested by Council's Senior Environmental Health Officer would result in an unsatisfactory level of amenity for future residents by virtue of the impact of such a mound on the outlook from the house, air circulation within the dwelling. Further, the visual amenity of the site as viewed from adjoining properties and the overpass and proposed on-off ramp would be compromised.

The assessing officer concurs with Council's Senior Environmental Health Officer who advised that "in its current configuration, this would not be a proposal with suitable and appropriate outcomes for any future occupant".

This is consistent with the findings in the case of Stocklands Developments vs Wollongong Council and others (2004), where proposed mitigation measures at the receptor such as the requirement for future residents to keep their windows closed and receive unacceptable noise levels outdoors was considered to have an "unacceptable amenity impact on the future occupants of a new residential development".

### ***Context & setting***

The site is visible from adjoining properties and the Pacific Highway overpass. Construction of the new road and dwellings on the site would affect the rural appearance and character of the site. However this is to be expected on land zoned for urban purposes. Impacts of the work and new buildings on the amenity of the area could be mitigated by use of appropriate external materials and colours on the new buildings, street planting and landscaping.

The proposed new road access from the Old Pacific Highway will be located between two existing dwellings - 104 and 108 Old Pacific Highway. The sealed road will be located approximately 6 metres from the southern wall of no. 104 (which has a number of windows) and approximately 10 metres from the northern wall of no. 108 (which has no windows and is shielded by a high brick wall). It is considered unlikely that the use of the new road would have a significant impact on the amenity (noise disturbance) of those residents as it will serve a small number of lots and will generate a relatively low amount of traffic. Further, mitigation measures such as fencing would not shield the windows of no. 104 as this boundary is already fenced and the windows are located above it (being an elevated house).

### ***Access, transport & traffic***

The development would have vehicular access from the Old Pacific Highway. Provided the intersection is upgraded incorporating a right turn-treatment as recommended by Council's development engineer, the development should not have an adverse impact on the safety or efficiency of the Old Pacific Highway. Further, as the sight distances available at the intersection meet the recommendations contained in AUSROAD specification for 50kph roads, drivers using vehicles leaving the site should be able to leave the site in a safe manner.

As the development would increase traffic on the Old Pacific Highway and local roads connecting the development to Urunga, S94 road contributions would be recommended to be levied as a condition of consent (if approved).

### ***Public Domain***

No adverse impact expected on the existing public domain.

To provide an attractive residential amenity for future residents of the site, planting of street trees would be recommended as a condition of consent, if granted.

### ***Utilities***

Reticulated water is available to the site and will continue to serve the existing two dwellings. However, the new vacant lots created by this subdivision would not be permitted to connect into this supply as they would be served by on-site effluent disposal.

Electricity and telecommunication services are presently available to the site and could be augmented to the new development.

### ***Water***



Provided adequate soil erosion control measures are employed during construction, construction works would not have a significant adverse impact on the quality of water within downstream watercourses or the Kalang River.

As the storm-water quality controls would be required to meet the Urunga Urban Stormwater Management Plan (2000) stormwater pollutant post-construction objectives (as demonstrated by the use of MUSIC modelling), impacts on water quality from the future use of the site is expected to be minimal.

### ***Flora & Fauna***

As no tree or vegetation removal is proposed, the likelihood of any impact on threatened species or their habitat is considered to be minimal.

### ***Social impact in the locality***

No adverse impact anticipated.

### ***Economic impact in the locality***

Expected to be positive, creating increased employment opportunities generated during construction and building phase and increasing the availability of additional residential land in the Bellingen Shire.

### ***Site design & internal design***

The site is constrained for effluent disposal by virtue of its soil type, slope and the location of the gully through proposed Lots 5-8. The constraint map provided by the applicant has satisfied Council's Environmental Health Officer that sufficient area is available for this purpose. Despite this, it is considered desirable to amalgamate proposed Lots 5-6 to provide a more adequate area for effluent disposal and a back up area if required in the future.

### ***Construction impacts***

Impacts from noise and vibration from the construction works on the amenity of adjoining and nearby residents will be mitigated by the imposition of a condition limiting construction hours. In addition, erosion and sediment control measures will be required to be implemented during and after construction works to ensure that sedimentation of the watercourse does not occur.

## **SECTION 79C(1)(C) – THE SUITABILITY OF THE SITE FOR THE DEVELOPMENT**

The site is not considered suitable for residential development as the noise from traffic on the Pacific Highway would have an unacceptable impact on the health & wellbeing of future residents of this site as would the implementation of the recommended noise mitigation measures.

## **SECTION 79C(1)(D) – ANY SUBMISSIONS MADE IN ACCORDANCE WITH THIS ACT OR THE REGULATIONS**

### Public submissions

There were no submissions made in response to notification of the development.

### Submissions from public authorities

A submission was received from the RTA, who raised no objections to the proposal subject to Council taking a number of matters into consideration in the assessment of the application. This is attached at Attachment B.

## **SECTION 79C(1)(E) – THE PUBLIC INTEREST**

Approval of the application is considered to be contrary to the public interest as it would result in the creation of residential allotments in an unsuitable location.

## **ANY OTHER RELEVANT LEGISLATION/MATTER**

### **Internal Referrals**

#### Senior Environmental Health Officer

Council's Senior Environmental Health Officer commented on the noise issues associated with the development. His comments are reproduced as follows:

*I have carefully considered the elements contained within the DA and the additional advice from the Noise Consultant*

#### Assessment

*The Consultant advises that all lots will be affected at night beyond the tolerances of the RTA Noise Exceedance Guideline.*

*Daytime levels are at best at upper tolerances*

*I concur with the Consultant that a barrier located at the western boundary will serve little purpose in noise attenuation terms.*

*In terms of building design to each allotment there will be attenuation available according to the design components as the Consultant has suggested. An additional design element may be the restriction of dwellings to single storey only.*

*However these elements are very restrictive in design terms and would be open to challenge at the time of Application.*

*A most restrictive element of design suggested is that windows are to remain closed. This has severe effect of health, amenity and repose of occupants and should not be considered in its own right as a means of attenuation.*

*MY suggestion is the incorporation of an earth mound arrangement configured to the southern and western sides of each declared and approved building envelope and placed at the time of conduct of the earthworks. The uppermost point of the mound must align to the further most point of the highway or ramp at 3 metres vertical rise; so that the eave of the residence is in direct line to that point and the uppermost portion of the earth mound. Certification by Survey on the alignment of these points would be required prior to building occupation and final Approval.*

*This option or a suitable design alternative has to be considered by the Consultant and a design proposed for assessment with Approval prior to any Subdivision Consent being issued.*

*I am inclined at this stage to state that in its current configuration this would not be a proposal with suitable and appropriate outcomes for any future occupant.*

*It is important to note that the varied on/off ramp arrangement for the Pacific Highway which will affect the northern side and proximity elements to this proposal were outside the consultants brief. My assessment is that this variation is minor in consequence when considered in adjunct to conditions on the Highway both now and as forecast.*

### **Environmental Health Officer**

Councils Environmental Health Officer commented on the on-site effluent disposal aspects of the proposal. After receipt of the constraints map provided by Ian Evison and consideration of the Waste Water Treatment Report, he advised that the areas available for effluent disposal should be sufficient as at least 700m<sup>2</sup> is available on each site and only 400m<sup>2</sup> should be required for drip irrigation from an ATWS (which would be required as a condition of consent). He considered a backup area of 300m<sup>2</sup> should be ample.

He recommended approval of the proposal provided the following is conditioned:

- *That a building envelope is identified for both building works and the effluent disposal area. That the system design and layout complies with AS 1547-2000.*
- *That the wastewater treatment system is designed to achieve an expected wastewater quality equal to or better than:*
  - 1 *BOD <20 mg/L*
  - 2 *Suspended solids <30 mg/L*
  - 3 *Total nitrogen 25-30 mg/L*
  - 4 *Total phosphorous 10-15 mg/L*
  - 5 *Faecal coliforms (non-disinfected effluent) up to 10<sup>4</sup> cfu/100 mL*
  - 6 *Faecal coliforms (disinfected effluent) up <30 cfu/100 mg/L*
  - 7 *Dissolved oxygen > 2 mg/L*
- *That the disposal is via drip irrigation and such area is of minimum area of 400 m<sup>2</sup>. The design is to comply with AS 1547 – 2000.*
- *That such details are to be submitted with the application for the construction of a building*

### **Development Engineer**

Council's development engineer has assessed the proposal and has raised no objections to the proposal subject to the imposition of conditions, including requirements for:

- Rolled top kerb and gutter on both sides of the new road and for concrete pavement seal for those parts of the road exceeding a grade of 16%
- An upgrade of the Old Pacific Highway to provide right-turn treatment,
- Road stormwater to be treated to achieve the objectives of the Urunga Urban Stormwater management Plan 2000 and submission of stormwater quality modelling to demonstrate that this can be achieved,
- Easements for stormwater and overland flow paths
- Construction of access driveways to Lots 5-7 as part of the development.

#### **CONSULTATION:**

Council has liaised with the applicant/owners, relevant Council staff and Government Departments.

#### **CONCLUSION**

All matters under Section 79C (1) of the Environmental Planning and Assessment Act 1979 have been carefully considered and the matters I consider relevant have been discussed in the foregoing report.

#### **RECOMMENDATION**

That the Consent be refused pursuant to the provisions of Section 80(1) of the Environmental Planning and Assessment Act, 1979 for the reasons specified....

1. Pursuant to Section 79C(1)(a)(i) of the Environmental Planning and Assessment Act, 1979, the proposal fails to comply with objective 2(j) of the Bellingen Local Environmental Plan 2003 or Section 79C(1)(c), in that the subject site is not an appropriate location or a suitable site for the proposed development. The site is affected by an unacceptable level of noise from the Pacific Highway which cannot be mitigated at the source.
2. Pursuant to Section 79C(1)(e) of the Environmental Planning and Assessment Act, 1979, the proposal would not be in the public interest as the residential lots created by this proposal would be exposed to levels of highway noise which would have an unacceptable impact on the health & wellbeing of future residents.
3. Pursuant to Section 79C(1)(e) of the Environmental Planning and Assessment Act, 1979, the proposal would not be in the public interest if the noise mitigation measures proposed by the acoustic consultant were incorporated into the design of future dwellings on the site as this would have adverse impacts on the health & wellbeing of future residents including restriction on access to fresh air, natural cooling mechanisms within and outlook from those dwellings.

**ATTACHMENTS:**

- A Application documents and plans
- B Submissions from Public Authorities
- C Additional information provided by applicant on the 6<sup>th</sup> May 2010 (Noise Impact Assessment and On-Site Effluent Disposal Constraint map)

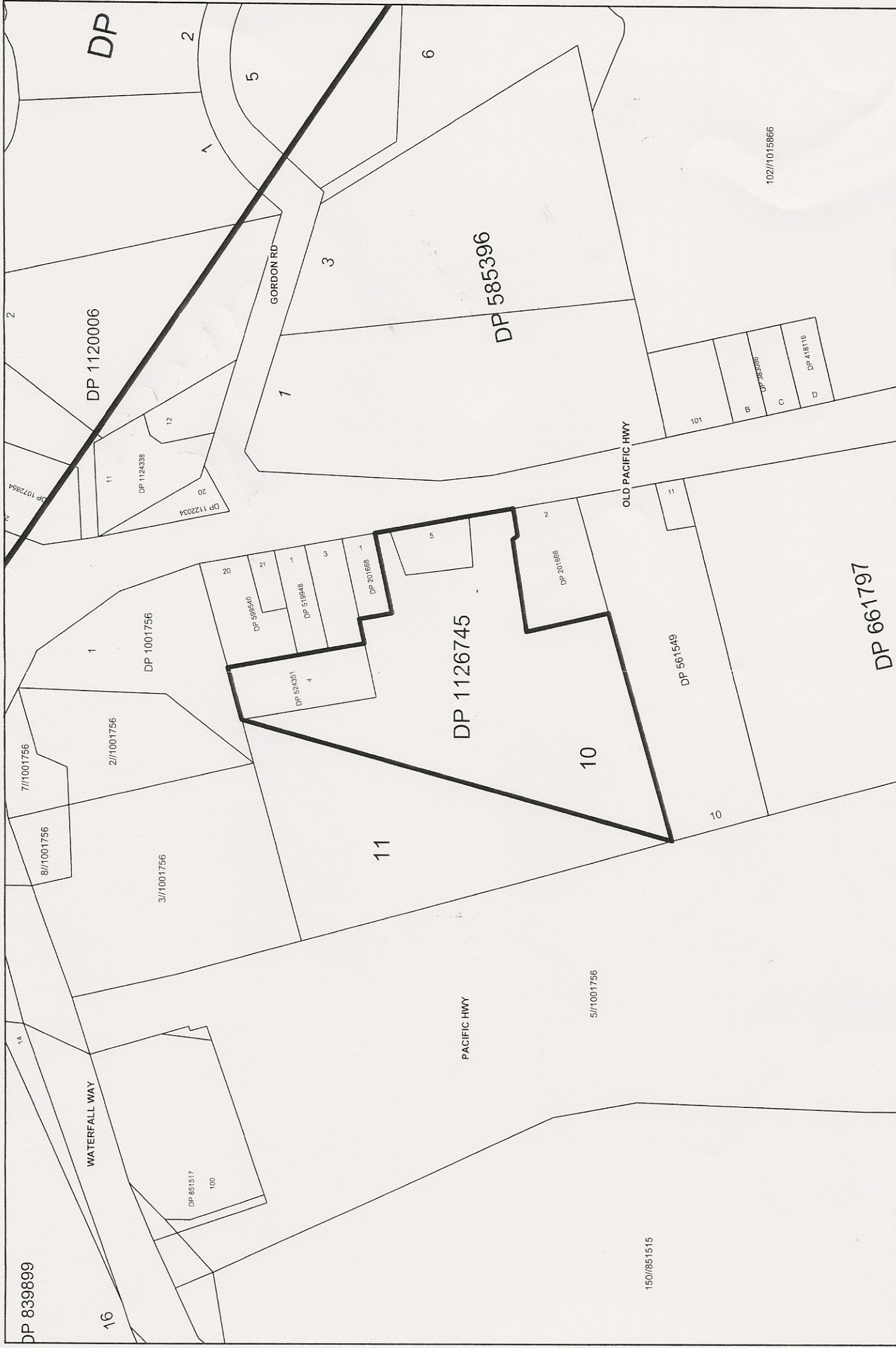


EXCLUSION (BUFFER ZONES)  
SHOWN AS RED HATCHING

11  
D.P. 1126745

PLAN  
1:500 (A1)

|  |      |         |             |                         |             |  |         |   |                 |            |           |
|--|------|---------|-------------|-------------------------|-------------|--|---------|---|-----------------|------------|-----------|
| A  |      | 18.8.09 | h           | Preliminary layout only |             |  |         |   |                 |            |           |
| AMENDMENT                                    | DATE | BY      | DESCRIPTION |                         |             |  |         |   |                 |            |           |
| <b>STAGE 2 LOT LAYOUT (lots 5,6,7&amp;8)</b> |      |         |             | DATE                    | SCALE       |  | PROJECT | 8 Lot Residential Subdivision   | 2005/AF-358     | DRWG/AMNDT | 09.0842/A |
|  |      | JWH     | AHD         | 18.8.09                 | Shown DATUM |  | FOR     | Lot 4 DP 524351 & Lots 5&6 DP 536925 108-112 Old Pacific Hwy, Raleigh | Col & Rae Jones | SHEET      | 1 of 1    |



DP

DP 1120006

DP 585396

DP 1126745

DP 661797

WATERFALL WAY

GORDON RD

PACIFIC HWY

OLD PACIFIC HWY

DP 839899

16

DP 851517  
100

7//1001756

8//1001756

2//1001756

3//1001756

DP 1001756

DP 598540  
20

DP 519848  
3

DP 524351  
4

11

DP 201688  
1

5

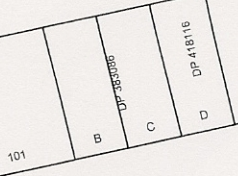
DP 201688  
2

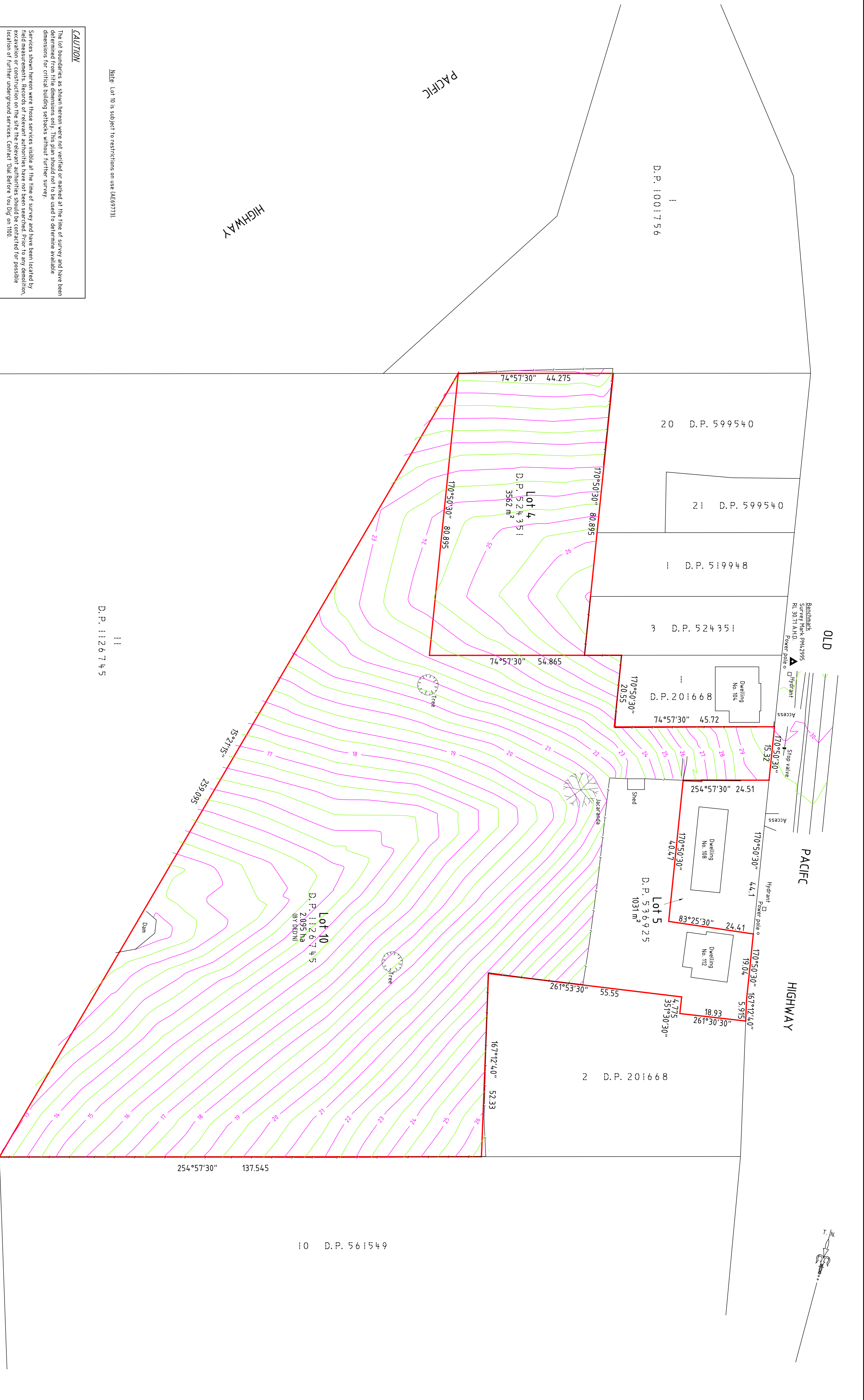
10

DP 561549

10

102//1015866





Note: Lot 10 is subject to restrictions on use (A659773).

**CAUTION**  
 The lot boundaries as shown hereon were not verified or marked at the time of survey and have been determined from title dimensions only. This plan should not be used to determine available dimensions for critical building setbacks without further survey.  
 Services shown hereon were those services visible at the time of survey and have been located by field measurements. Records of relevant authorities have not been searched. Prior to any demolition, excavation or construction on the site the relevant authorities should be contacted for possible location of further underground services. Contact 'Dial Before You Dig' on 1100.  
 Contours are an indication only of the level of the land as interpolated from the heights shown.  
 Selected significant trees have been located by this survey as shown on the plan.

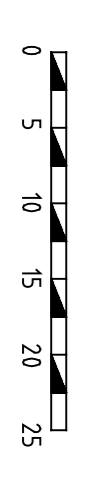
CONTOUR & SELECTED DETAIL PLAN  
 LOT 4, D.P. 524351, LOT 5 D.P. 536925 & LOT 10 D.P. 1126745  
 108-112 OLD PACIFIC HIGHWAY  
 RALEIGH

| REVISION | DESCRIPTION | DATE |
|----------|-------------|------|
|          |             |      |

**STEVE RUSSELL SURVEYING**  
 REGISTERED SURVEYORS & LAND DEVELOPMENT CONSULTANTS  
 P.O. BOX 766 COFFS HARBOUR N.S.W. 2450  
 Email: surveys@srzemail.com.au Phone: (02) 66522 822 Fax: (02) 66522 845

| DATUM:  | SURVEYED: | DESIGNED: |
|---------|-----------|-----------|
| A.H.D.  | SDR       | JAL       |
| JOB No: | 9410      | DRAWN:    |
| DATE:   | 3/7/2009  | CHECKED:  |
|         |           | SDR       |

| RECORDS REFERENCE              | SHEETS                          |
|--------------------------------|---------------------------------|
| DATA BASE: H:\CDSDATA\08-9410_ | No. 1                           |
| PLANS: H:\ACAD\DWG\9410_       | of 1                            |
|                                | DATUM ORIGIN: PM4295 at RL30.71 |







PLAN  
1:500 (A1)  
D.P. 1126745

PACIFIC

HIGHWAY

|   |         |   |   |
|---|---------|---|---|
| B | 15.2.10 | h | Minor boundary variations (Lots 1&2), added appropriate lot dimensions. |
| A | 18.8.09 | h | Preliminary layout only   |

| AMENDMENT | DATE    | BY  | DESCRIPTION |
|-----------|---------|-----|-------------|
|           | 18.8.09 | JMH | Drawn       |
|           |         | AHD | Checked     |

**STAGE 1 LOT LAYOUT**

DATE: 18.8.09  
DRAWN: JMH  
SCALE: SHOWN DATUM  
CHECKED: AHD

**JOHN HENRY and ASSOCIATES PTY LTD**  
Consulting Engineers  
PO Box 83 NSW 2447  
Mobile: 0429 895569

PROJECT: 8 Lot Residential Subdivision  
FOR: Col & Rae Jones  
2005/AF-358  
Lot 4 DP 524351 & Lots 5&6 DP 536925 108-112 Old Pacific Hwy, Raleigh

DRAWN/AMEND: 09.08.42/B  
SHEET: 1 of 1



PLAN  
1:500 (A1)  
D.P. 1126745

PACIFIC

HIGHWAY

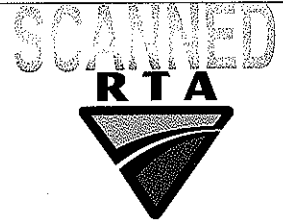
HIGHWAY

PACIFIC

|           |         |         |       |         |       |   |  |
|-----------|---------|---------|-------|---------|-------|---|--|
| AMENDMENT |         | DATE    |       | BY      |       | DESCRIPTION   |  |
| B         | 15.2.10 | J       |       |         |       | Minor boundary variations (lots 1&2), added approximate lot dimensions. |  |
| A         | 18.8.09 | J       |       |         |       | Preliminary layout only   |  |
| DATE      | SCALE   | DATE    | SCALE | DATE    | SCALE | PROJECT   |  |
| 18.8.09   | Shown   | 18.8.09 | Shown | 18.8.09 | Shown | 8 Lot Residential Subdivision   |  |
| JHM       | AHD     | JHM     | AHD   | JHM     | AHD   | Lot 4 DP 524531 & Lots 5&6 DP 536925 108-112 Old Pacific Hwy, Raleigh   |  |
|           |         |         |       |         |       | 2005/AF-358   |  |
|           |         |         |       |         |       | 09.0842/B   |  |
|           |         |         |       |         |       | 1 of 1  |  |

STAGE 2 LOT LAYOUT (lots 5,6,7&8)

File No: 33NTH10/00046 10/347  
Your reference: 2010/AF-015 mgka  
Gregory Sciffer



Bellingen Shire Council  
8 MAR 2010

208711

The General Manager  
Bellingen Shire Council  
PO Box 117  
BELLINGEN NSW 2454

Bellingen Shire Council. 2010/DA-013. Proposed Subdivision. Old Pacific Highway. Raleigh.

Dear Sir

Reference is made to your letter dated 9 February 2010 to the Roads and Traffic Authority (RTA) concerning the above proposal. The RTA has no objections in principle to the proposed development.

The following comments with regards to the impacts on road safety, traffic management and efficiency are provided for Council's consideration.

- i. The impact of road traffic noise and vibration from the Pacific Highway need to be assessed.
- ii. The new junction should be located where there are adequate safe intersection sight distances.
- iii. The need for any improvements for left and right-turning at the new junction with the old highway should be assessed. It is recommended that AUSTROAD'S guidelines are used for this purpose. This might require some widening to allow through traffic to safely pass a right-turning vehicle.
- iv. Consideration should to be given to how school bus services will be catered for.

For any further enquiries please contact Greg Sciffer (Ph: 02 66401344) for advice.

Yours faithfully

A handwritten signature in black ink, appearing to read "David Bell", is written over a faint, larger signature.

- 5 MAR 2010

David Bell  
Regional Manager, Northern Region

**Roads and Traffic Authority**

31 Victoria Street Grafton NSW 2460  
Post Office Box 576 Grafton NSW 2460 DX7610  
[www.rta.nsw.gov.au](http://www.rta.nsw.gov.au) | 02 66401300

5 May 2010

WM Project Number: 10120  
Our Ref: DA050510 AB Ltr - Traffic  
Email: denisatkinson@bigpond.com

Mr Denis Atkinson  
Denis Atkinson Planning Pty Ltd  
PO Box 247  
BELLINGEN NSW 2454

Dear Denis

**Re: Subdivision Old Pacific Highway, Raleigh**

## INTRODUCTION

We understand that Bellingen Shire Council requires assessment of road traffic noise impacts on a proposed subdivision adjoining the Old Pacific Highway at Raleigh. The subdivision is exposed to traffic noise from the Pacific Highway.

On a recent similar project adjoining the Pacific Highway in neighbouring Coffs Harbour the RTA advised the following noise level criteria should be achieved at the proposed sub-division:

*“the proposed development shall be designed such that the road traffic noise from the existing and approved upgrade of the Pacific Highway is mitigated by durable materials in accordance with EPA criteria for new residential developments (the Environmental Criteria for Road Traffic Noise (ECRTN) May 1999). The RTA’s Environmental Noise Management Manual (ENMM) provides practical advice in selecting noise mitigation treatment.*

*Where the EPA external noise criteria would not feasibly or reasonably be met, the RTA recommends that Council apply the following internal noise objectives for all habitable rooms under ventilated conditions complying with the requirements of the Building Code of Australia (BCA).*

- *all habitable rooms other than sleeping rooms*      *45dBA  $L_{Aeq,15hr}$  and 40dBA  $L_{Aeq,9hr}$  ; and*
- *sleeping rooms*      *35dBA  $L_{Aeq,9hr}$*

The EPA external criteria for a redeveloped road are 60dBA at daytime and 55dBA at night time.

The Infrastructure SEPP is not relevant as vehicle volumes are less than 40,000, although the internal criteria are similar to the RTA requirements above.

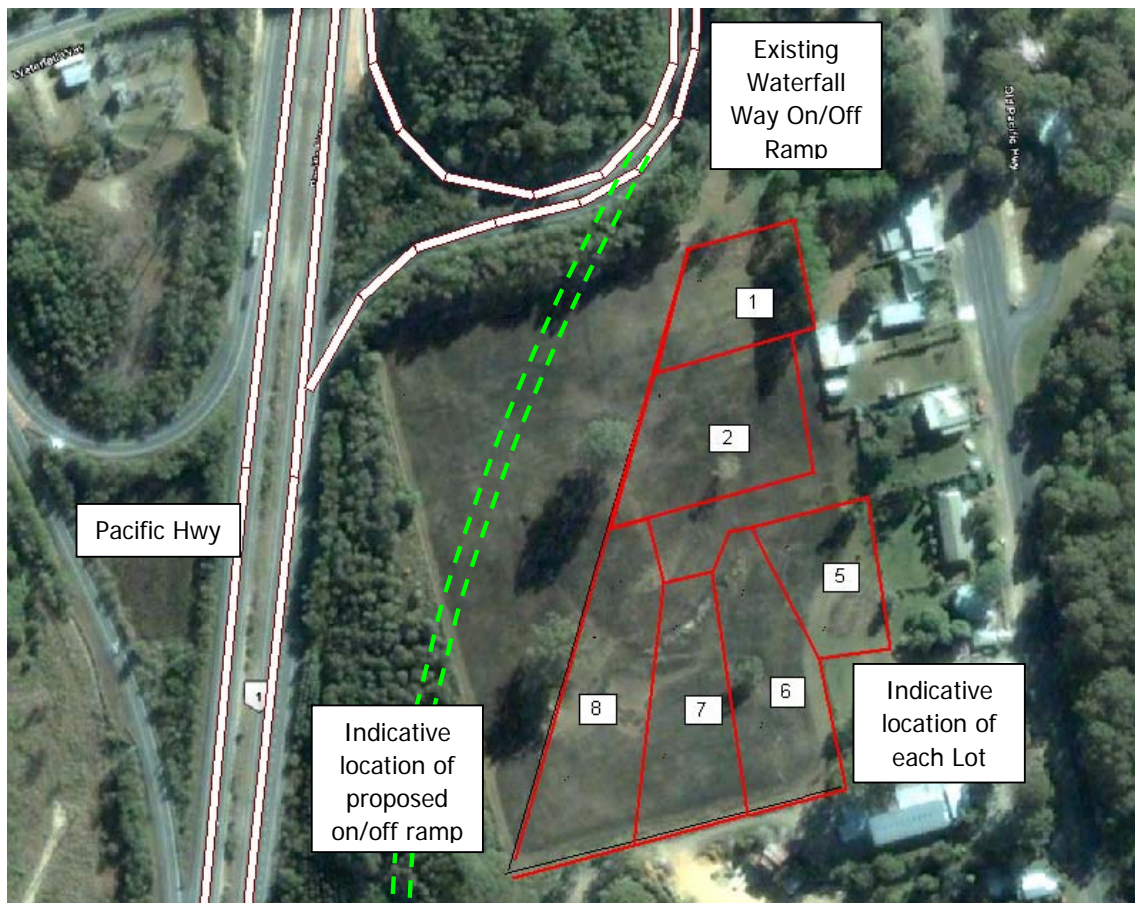
## EXISTING AND FUTURE ROAD CONFIGURATIONS

The proposed subdivision is adjacent to the existing Waterfall Way on/off ramp on the eastern side of the Pacific Highway. Wilkinson Murray understands that the RTA have acquired additional land immediately adjacent to the western boundary of the proposed subdivision. The EA for the *Warrell*

*Creek to Urunga Pacific Highway Upgrade*, which at the time of writing was under review, shows that as part of this proposed project the Waterfall Way on/off ramp will be extended south of the subdivision.

Figure 1 shows an aerial of the site with the indicative locations of the existing and proposed Waterfall Way On/Off Ramps.

**Figure 1 Aerial Photograph of the Site**



## EXISTING AND FUTURE NOISE LEVELS

Measurements of traffic noise were conducted in March 2007 by H.K. Clarke & Associates. Wilkinson Murray has reviewed these noise level measurements and compared them with results obtained through implementation of the CoRTN algorithms within the computer noise modelling software CadnaA. The measured noise levels gave good agreement, 0.5-0.7dB, with the results of the noise model and thus it is concluded that both the measured and calculated noise levels are reasonable.

The CadnaA noise model was used to calculate existing and future noise levels across the site. Existing traffic volume data in the form of AADTs was obtained from the *Warrell Creek to Urunga Pacific Highway Upgrade EA*. Future traffic numbers were calculated using the 2.2% annual growth reported in the EA. Where details of traffic volumes were not contained within the EA, such as the proportion of day and night traffic at this location or the percentage of heavy vehicles, reasonable assumptions have been made. The traffic volume data used is presented in Table 1.

**Table 1 Traffic Volume Data**

| Road                              | Existing       |      |                |      | Future         |      |                |      |
|-----------------------------------|----------------|------|----------------|------|----------------|------|----------------|------|
|                                   | Day            |      | Night          |      | Day            |      | Night          |      |
|                                   | Hourly Traffic | % HV | Hourly Traffic | % HV | Hourly Traffic | % HV | Hourly Traffic | % HV |
| Pacific Hwy Southbound            | 392            | 10   | 125            | 80   | 488            | 10   | 155            | 80   |
| Pacific Hwy Northbound            | 392            | 10   | 125            | 80   | 488            | 10   | 155            | 80   |
| Waterfall Way Southbound Off Ramp | 81             | 4    | 13             | 8    | 100            | 4    | 16             | 8    |
| Waterfall Way Southbound On Ramp  | 112            | 4    | 17             | 6    | 139            | 4    | 21             | 6    |

Note: 1. Day and Night refer to the standard RTA 15hr (7am-10pm) and 9hr (10pm-7am) time periods.

Table 2 presents the calculated existing and future traffic noise levels for the various ground and 1st floor receivers on each of the Lots. Note that a 2.5dB facade correction has been added for comparison with the EPA external criteria.

**Table 2 Existing and Future Traffic Noise Levels**

| Lot | Ground Floor |       |        |       | 1 <sup>st</sup> Floor |       |        |       |
|-----|--------------|-------|--------|-------|-----------------------|-------|--------|-------|
|     | Existing     |       | Future |       | Existing              |       | Future |       |
|     | Day          | Night | Day    | Night | Day                   | Night | Day    | Night |
| 1   | 58.6         | 57.9  | 60.5   | 58.9  | 59.8                  | 59    | 61.6   | 60    |
| 2   | 58.3         | 58    | 60.2   | 59.1  | 59.6                  | 59.3  | 61.5   | 60.4  |
| 5   | 55.8         | 55.8  | 57.2   | 56.8  | 56.9                  | 56.8  | 58.2   | 57.8  |
| 6   | 56.5         | 56.5  | 58     | 57.6  | 57.5                  | 57.5  | 59.1   | 58.6  |
| 7   | 57.3         | 57.3  | 58.8   | 58.3  | 58.5                  | 58.4  | 60.1   | 59.6  |
| 8   | 57.2         | 57.2  | 59.3   | 58.7  | 59.4                  | 59.4  | 61.3   | 60.7  |

Table 2 shows that all Lots are predicted to exceed the night time noise criteria. The magnitude of these exceedances varies between 0.8dB and 5.7dB.

### OPTIONS FOR MITIGATION TO EXTERNAL AREAS

Given the topography in the area with the height generally increasing as you progress away from the highway, noise barriers on the boundary of the property are considered to provide minimal benefit. This was demonstrated through noise modelling; with a barrier height up to 2.8m considered on both the Western and Southern boundaries the greatest predicted attenuation for ground floor receivers was 2-3dB for Lots 1 and 2, and <0.5dB for all other Lots. 1<sup>st</sup> floor receivers are predicted to receive no shielding from a barrier of this height.

Given the limited benefits of a practical height barrier on the boundary, and also that only negligible exceedances of external noise criteria are predicted for the day time period, when the external areas

are likely to be utilized, it is not considered feasible or reasonable to provide such a barrier. Instead it is preferred to treat the individual building façades to meet internal noise level criteria

## MITIGATION OF INTERNAL AREAS

Details of individual buildings on each Lot are not known at this stage so detailed advice cannot be provided. Instead it is recommended that the acoustic design of each Lot should be considered individually as development applications are prepared.

An open window is considered to attenuate approximately 10dB. Therefore each of the Lots will require some mitigation in order to achieve the internal night time noise levels. Note that the levels presented in Table 2 have a 2.5dB façade correction and this needs to be subtracted before calculating the ingress of noise.

The following conceptual advice should be incorporated into the design of each Lot in order to minimize traffic noise impacts:

- Bedrooms and sleeping areas, where possible, should not be positioned on the western façade of the house;
- Sleeping areas positioned on the Western façade will require, as a minimum 10.38mm laminated glass;
- Other habitable rooms positioned on the Western façade will require, as a minimum 6.38mm float glass;
- These same glazing specifications should be considered for the Southern façade also;
- Because windows need to remain closed the house will need to satisfy ventilation requirements. Products are available which can achieve ventilation requirements whilst maintaining noise attenuation (e.g. <http://www.acoustica.com.au/aeropac.html>);
- In accordance with good acoustic design other elements of the construction should be considered so as not to compromise the glazing performance. A typical brick veneer wall and concrete tiles with plasterboard ceiling having insulation within the wall cavity and in the ceiling space should achieve this. All windows will require good quality frames and operable windows will also require good quality acoustic seals (such as Q-Ion).

It should be noted that the Environmental Assessment of the proposed Highway upgrade considered only the existing dwellings to the east of the property. For one of these dwellings an exceedance of night time criteria was predicted and architectural treatment recommended. It is considered prudent that the developer should contact the RTA and bring to their attention the proposed subdivision. It may be that a suitably high barrier, erected in the road corridor, close to the proposed on/off ramp could shield the first storey of the nearest receivers and ultimately achieve exterior criteria. Such a barrier would also have the effect of mitigating  $L_{Amax}$  noise levels from trucks using the on/off ramp at night. The assessment of such a barrier is outside the scope of our investigation and therefore, if it is considered, further investigation would be necessary.

I trust this information is sufficient. Please contact us if you have any further queries.

Yours faithfully

**WILKINSON MURRAY (SYDNEY) PTY LIMITED**



**Adam Bioletti**  
Senior Engineer