**ROSS D COLQUHOUN ARCHITECT PTY LIMITED**
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19 March 2010

Geoff Smyth Consulting
P.O. Box 1925
**COFFS HARBOUR NSW 2450**

Attention: Mr Geoff Smyth

Dear Geoff,

**COMMUNITY TITLE SUBDIVISION AND CONSTRUCTION OF 32 RESIDENCES**
**LOT 211 DP 1044292 AND LOT 1 DP 262300 PACIFIC HIGHWAY MOONEE**

Further to your request for a response to various issues raised by Coffs Harbour City Council, I submit the following for your appraisal.

## 01: BUILDING DESIGN: BUSHFIRE PRONE AREAS

Whilst all buildings have similar construction materials, there are additional features incorporated which ensure that each residence complies with the requirements of AS3929-1999 *Construction of Buildings in Bushfire-prone Areas* and with the recommendations of the *Bushfire Risk Management Report* prepared by BushFireSafe (Aust) Pty Ltd. The compliance of all residences located in each of the three identified risk zones is summarised as follows:

### (A) EXTREME BUSHFIRE ATTACK CATEGORY

This zone requires Level 3 Construction in compliance with AS3959-1999 and the ten residences (Lots 1-9 and Lot 25) located within this zone have all been designed to comply with Level 3 Construction as follows:

- **FLOORS**
  The floor construction of these residences is of timber framing and flooring, generally with a minimum clearance of 600mm under any bearers. Where the clearance is less than 600mm, the affected area will be enclosed or the timbers will be fire retardant treated or the floor will be reinforced concrete to AS3959-1999 (Level 3).

- **SUPPORTING POSTS**
  All posts supporting timber framed floors will be of masonry or reinforced concrete construction to AS3959-1999 (Level 3).

- **EXTERNAL WALLS**
  External walls generally are of brick veneer construction with any feature panels of framed construction incorporating breather-type sarking complying with AS/NZS 4200.1 and lined with custom orb colorbond finish steel cladding which complies with AS3959.1999 (Level 3).

- **EXTERNAL DOORS**
  All external doors will be of 35mm thick solid core construction, fitted with draught excluding seals and tight fitting door screens using corrosion-resistant steel or bronze mesh as described in AS3959-1999 (Level 3).

- **VENTS & WEEPHOLES**
  All vents and weepholes will be protected with spark guards as described in AS3959-1999 (Level 3).

- **ROOFS**
  All roofs will be lined with colorbond finish custom orb steel roofing fully sarked and sealed as described in AS3959.1999 (Level 3).

- **EAVES**
  All eaves will be fully sealed and lined with fibre cement sheeting in compliance with AS3959.1999 (Level 3).

- **GUTTERS AND DOWNPIPES**
  All gutters and downpipes will be fabricated from colorbond finish steel and gutters in compliance with AS3959.1999 (Level 3) and fitted with leaf gutter guards with a flammability index not greater than 5 when tested in accordance with AS1530.2.

- **VERANDAHS AND DECKS**
  All residences will have timber framed decks on the western side which will be constructed from fire retardant treated timber which will be compliant with AS3959.1999 (Level 3)and additionally, residences located on Lots 8, 9 and 21 will have reinforced concrete decks on-ground, also in compliance with AS3959.1999 (Level 3).

- **SERVICE PIPES**
  All service pipes (water/gas) will be metal, complying with the requirements of AS3959.1999 (Level 3).

**(B) HIGH BUSHFIRE ATTACK CATEGORY**

This zone requires Level 2 Construction in compliance with AS3959-1999 and the ten residences (Lots 10 + 11, Lots 15-20 and Lots 26 + 27) located within this zone have all been designed to comply with Level 2 Construction as follows:

- **FLOORS**
  The floor construction of these residences is of reinforced concrete, generally on ground and in part suspended both of which comply with AS3959-1999 (Level 2).

- **EXTERNAL WALLS**
  External walls generally are of brick veneer construction with any feature panels of framed construction incorporating breather-type sarking complying with AS/NZS 4200.1 and lined with custom orb colorbond finish steel cladding which complies with AS3959.1999 (Level 2).

- **EXTERNAL DOORS**
  All external doors will be fitted with draught excluding seals and tight fitting door screens using corrosion-resistant steel or bronze mesh as described in AS3959-1999 (Level 2).

- **VENTS & WEEPHOLES**
  All vents and weepholes will be protected with spark guards as described in AS3959-1999 (Level 2).

- **ROOFS**
  All roofs will be lined with colorbond finish custom orb steel roofing fully sarked and sealed as described in AS3959.1999 (Level 2).

- **EAVES**
  All eaves will be fully sealed and lined with fibre cement sheeting in compliance with AS3959.1999 (Level 2).

- **GUTTERS AND DOWNPIPES**
  All gutters and downpipes will be fabricated from colorbond finish steel and gutters in compliance with AS3959.1999 (Level 2) and fitted with leaf gutter guards with a flammability index not greater than 5 when tested in accordance with AS1530.2.

- **VERANDAHS AND DECKS**
  All residences have concrete decks on-ground in compliance with AS3959.1999 (Level 2).

- **SERVICE PIPES**
  All service pipes (water/gas) will be metal, complying with the requirements of AS3959.1999 (Level 2).

**(C) MEDIUM BUSHFIRE ATTACK CATEGORY**

This zone requires Level 1 Construction in compliance with AS3959-1999 and the twelve residences (Lots 12-14 and Lots 28-36) located within this zone have all been designed to comply with Level 1 Construction as follows:

- **FLOORS**
  The floor construction of these residences is of reinforced concrete, generally on ground and in part suspended both of which comply with AS3959-1999 (Level 1).

- **EXTERNAL WALLS**
  External walls generally are of brick veneer construction with any feature panels of framed construction incorporating breather-type sarking complying with AS/NZS 4200.1 and lined with custom orb colorbond finish steel cladding which complies with AS3959.1999 (Level 1).

- **EXTERNAL DOORS**
  All external doors will be fitted with draught excluding seals and tight fitting door screens using corrosion-resistant steel or bronze mesh as described in AS3959-1999 (Level 1).

- **VENTS & WEEPHOLES**
  All vents and weepholes will be protected with spark guards as described in AS3959-1999 (Level 1).

- **ROOFS**
  All roofs will be lined with colorbond finish custom orb steel roofing fully sarked and sealed as described in AS3959.1999 (Level 1).

- **EAVES**
  All eaves will be fully sealed and lined with fibre cement sheeting in compliance with AS3959.1999 (Level 1).

- **GUTTERS AND DOWNPIPES**
  All gutters and downpipes will be fabricated from colorbond finish steel and gutters in compliance with AS3959.1999 (Level 1) and fitted with leaf gutter guards with a flammability index not greater than 5 when tested in accordance with AS1530.2.

- **VERANDAHS AND DECKS**
  All residences have concrete decks on-ground in compliance with AS3959.1999 (Level 1).

- **SERVICE PIPES**
  All service pipes (water/gas) will be metal, complying with the requirements of AS3959.1999 (Level 1).

## 02: BUILDING DESIGN: NOISE MITIGATION MEASURES

The Acoustic Assessment prepared by Black Earth Environmental Services has concluded that no significant noise impacts are likely to occur for Stage 1 Residences in the proposed development, however, whilst daytime impacts on Stage 2 are only marginal, there are likely to be night time impacts which will require mitigation measures to limit intrusive night time noise. The assessment has recommended that all Stage 2 Residences be upgraded to include minimum 6mm laminated glazing to bedroom windows with adequate mechanical ventilation installed to ensure adequate ventilation when all bedroom windows are closed.

The assessment also noted that all Stage 2 Residences have been designed and oriented so that the garage and service areas are located on the highway side. This has been done deliberately so as to limit noise migration into the more noise sensitive living and sleeping areas of each residence. The use of texture coated rendered brickwork, insulated ceilings, concrete slab floors and the use of 6mm laminated glass to bedroom windows with the provision of mechanical ventilation to allow windows to remain closed will ensure that internal noise impacts from highway traffic are not intrusive in accordance with AS2107.2000.

Therefore, all bedroom windows to Stage 2 Residences incorporate 6mm laminated glazing and mechanical ventilation in compliance with the recommendations of the Acoustic Assessment.

Further, the residences located on Lots 25 to 29 and Lots 33 to 36 will also be fitted with noise insulation to the internal skin of all external walls and ceilings, equal to CSR Fibertex Rockwool Acoustic Grade 75mm thick insulation batts.

## 03: BUILDING DESIGN: HEIGHT OF BUILDINGS

It is noted that there are two instances (Residences on Lots 8 and 9) where the eaves height will exceed 6m by a maximum of approximately 700mm due to them being built on the steepest part of the land. These two Residences are located on large blocks of land and as the additional height is marginal, there will be no discernable loss of privacy and only a minor increase in overshadowing of adjoining properties (Lots 7 and 25) which are also located on elevated lots. There are no properties below Lots 8 and 9 to be affected by overshadowing.

## 04: URBAN DESIGN: FENCING FACING THE STREET

The residences located on Lots 1 to 9 and Lot 25 have rear fences facing the connecting road from Woodhouse Road. These fences have been designed with the intention of enhancing the streetscape, are 1.5m high with alternating panels of texture coated masonry and horizontal timber slats. The residences on these lots are all elevated above the connecting road and afford viewing of the street which adds

to the sense of safety. The proposed 1.5m fence height is sufficient to maintain privacy to the lower level of the lots, however, the elevation of the residences and their distance back from the frontage, ensures a satisfactory level of privacy for the occupants.

CPTED principles have been applied to the connecting road which is overlooked by Lots 1 to 9 and Lot 25, including the minimal use of blank walls facing the street, Kitchens, Living Rooms and Bedrooms overlooking the street providing casual surveillance opportunities and sight lines. The boundary fencing along the connecting road not only provides a degree of privacy to the rear yards of each residence but they also define the private use areas from the public domain. The design quality of the fencing and streetscape is controlled by the developer with planting of street trees being carried out as part of the land development, not by individual property purchasers.

Some aspects of CPTED principles are more difficult to apply to the Collecting Road because of overriding noise issues emanating from the Pacific Highway which necessitate the location of non-living spaces on that side of the residences (Lots 25 to 28 and Lot 36), however, the front doors of most houses do face the street offering casual surveillance opportunities. The streetscape along the collecting road offers good sight lines, the properties fronting it have open front yards and together with the casual surveillance of the street offered by the houses, a sense of safety will be engendered in an inviting environment.

## 05: BUILDING DESIGN: CUT AND FILL

A number of lots require some cut and/or fill, usually involving only a small percentage of the lot with walls tapered down from the maximum heights. Lots 15 to 20 require the biggest cuts and these generally are located in the rear yards (northern side of the houses) and will be benched at each side boundary and retained with engineer designed retaining walls. The rear yards will be sloped upwards to minimise the height of walls required along the rear boundaries.

The extent of cutting and filling throughout is summarised as follows:

**LOTS 1 to 4:**
No cutting / 900mm maximum height of fill is required at top of driveways which will be retained by engineer designed retaining walls faced with stone.

**LOT 5:**
No cutting or filling is required.

**LOT 6:**
A cut of 500mm maximum height required to the northern side of the house, retained at the boundary by a stone or timber landscaping wall. No filling is required.

**LOT 7:**
No cutting/ 600mm maximum height of fill is required at top of driveway area, retained by stone faced landscaping wall.

**LOTS 8 + 9**
No cutting/ 1200mm maximum height of fill is required to the front yard, retained by engineer designed stone faced retaining wall.

**LOT 10:**
A cut of 1300mm maximum height is required to the northern side of the house, retained at the boundary by engineer designed retaining walls/ No fill required.

**LOT 11:**
A cut of 1000mm maximum height is required to the north-eastern corner of the lot, retained by engineer designed retaining walls at boundaries/ No fill required.

**LOT 12**
No cutting or filling is required.

**LOTS 13 + 14:**
No cutting or filling is required.

**LOTS 15 to 20:**
A cut of 1800mm maximum height tapering to 1300mm along the northern boundary is required, benched at each side boundary and retained with engineer designed retaining walls/ No fill required.

**LOT 25:**
No cutting or filling is required.

**LOT 26:**
No cutting or filling is required.

**LOT 27 + 28:**
A cut of 250mm maximum is required, retained by stone faced landscaping walls/ no filling is required.

**LOTS 29 to 35:**
No cutting or filling is required.

**LOT 36:**
A cut of 600mm maximum height is required on the south-eastern corner of the house, retained by stone or timber landscaping wall/ 800mm maximum height of fill is required to the top of the driveway, retained by stone faced retaining wall.

## 06: BUILDING DESIGN: DRIVEWAYS

The gradient of each driveway has been checked and summarised as follows:

* Lot 1: Driveway rises 0.994m in 11.85m length = 8.4% average gradient.
* Lot 2: Driveway rises 0.06m in 6.7m length = 0.9% average gradient.
* Lot 3: Driveway rises 0.06m in 6.5m length = 0.9% average gradient.
* Lot 4: Driveway rises 0.3m in 4.6m length = 6.5% average gradient.
* Lot 5: Driveway rises 1.0m in 7.3m length =13.7% average gradient.
* Lot 6: Driveway rises 0.5m in 6.5m length = 7.7% average gradient.

| | | | |
|---|---|---|---|
| * | Lot 7: | Driveway rises 0.25m in 3.9m length | = 6.4% average gradient. |
| * | Lot 8: | Driveway rises 0.25m in 3.8m length | = 6.6% average gradient. |
| * | Lot 9: | Driveway rises 0.15m in 5.8m length | = 2.6% average gradient. |
| * | Lot 10: | Driveway rises 0.5m in 7.9m length | = 6.3% average gradient. |
| * | Lot 11: | Driveway rises 0.85m in 5.5m length | =15.5% average gradient. |
| * | Lot 12: | Driveway rises 0.15m in 4.5m length | = 3.3% average gradient. |
| * | Lot 13: | Driveway rises 0.5m in 15.0m length | = 3.3% average gradient. |
| * | Lot 14: | Driveway rises 1.0m in 7.3m length | =13.7% average gradient. |
| * | Lot 15: | Driveway rises 0.5m in 4.3m length | =11.6% average gradient. |
| * | Lot 16: | Driveway rises 1.3m in 9.7m length | =13.4% average gradient. |
| * | Lot 17: | Driveway rises 1.05m in 8.7m length | =12.1% average gradient. |
| * | Lot 18: | Driveway rises 1.0m in 7.7m length | =13.0% average gradient. |
| * | Lot 19: | Driveway rises 1.0m in 8.0m length | =12.5% average gradient. |
| * | Lot 25: | Driveway rises 0.5m in 6.0m length | = 8.3% average gradient. |
| * | Lot 26: | Driveway rises 0.3m in 6.0m length | = 5.0% average gradient. |
| * | Lot 27: | Driveway rises 0.2m in 6.0m length | = 3.3% average gradient. |
| * | Lot 28: | Driveway rises 0.3m in 6.0m length | = 5.0% average gradient. |
| * | Lot 29: | Driveway rises 0.5m in 8.0m length | = 6.3% average gradient. |
| * | Lot 30: | Driveway rises 0.2m in 4.8m length | = 4.2% average gradient. |
| * | Lot 31: | Driveway rises 0.35m in 6.5m length | = 5.4% average gradient. |
| * | Lot 32: | Driveway rises 0.15m in 5.0m length | = 3.0% average gradient. |
| * | Lot 33: | Driveway rises 0.15m in 3.5m length | = 4.3% average gradient. |
| * | Lot 34: | Driveway rises 0.1m in 8.5m length | = 1.2% average gradient. |
| * | Lot 35: | Driveway rises 0.25m in 4.5m length | = 5.5% average gradient. |
| * | Lot 36: | Driveway rises 0.4m in 6.0m length | = 6.7% average gradient. |

NOTE: Driveways with a gradient greater than 12.5% ( Lots 5, 11, 14, 16 and 18 will be constructed with transition zones as outlined in AS 2890.1-1993.

**07: BUILDING DESIGN: BUILDING LINE SETBACKS**

The question of Building Line setbacks from the proposed Connecting Road, Collector Road and side boundaries has been addressed and indicated on the relevant Site Plans.

**08: BUILDING DESIGN: WATER TANK CAPACITIES**

There is variance in the capacity proposed for water tanks which is due primarily to the available length and height of the spaces available for installation of those tanks.

Drawing Number R06-028-SK08 (Basix Commitments and Thermal Performance Schedule) nominates a 2000 litre water tank for Lot 10 which has been corrected to 3000 litres. It also nominates 3000 litre water tanks for Lots 1 to 6, 8 + 9, 11 + 12 and 15 to 20, whilst Lots 7, 13 and 14 have 3500 litre tanks due to additional height being available. Drawing Number R06-028-SK12 also indicates the same size (3000 litre) water tanks to Lots 1, 2, 3 and 4.

**09: URBAN DESIGN: STREETSCAPE ELEVATIONS**

Drawing Number *R06-028-SK32 STREETSCAPE ELEVATIONS* has been amended to indicate the lateral extent of the two Streetscape Views.

**10: URBAN DESIGN: WASTE COLLECTION**

The collection of household waste for the final development is intended to include the placement of green waste, garbage and recycled waste bulk waste bins located at two collection points along the internal road which enters the site from the proposed connecting road and exits onto the proposed collecting road. The two collection points are indicated on the Final Site Setout Plan (Drawing Number R06-028-SK06) and are located adjacent to Lots 7 and 13. These collection points will be designed and constructed in accordance with the Coffs Harbour City Council Waste Management DCP, including screening, roofing and drainage to sewer.

The access road through the site is 6m wide and the minimum radius turn that the collection vehicle has to negotiate is 16m. This road will be constructed to industrial strength to accommodate the collection trucks as outlined in the DCP.

Prior to completion of Stage 2, alternative arrangements will apply to Lots 1 to 20 which comprise stage 1.

The proposal for Stage 1 is that the occupants of Lots 1 to 9 will be provided with MGB's for Green Waste, Garbage and Recycling which will normally be stored on their own lot and placed kerbside along the connecting road for collection by the licensed contractor on the applicable collection days. It is proposed that the occupants of Lots 10 to 20 will place green waste, garbage and recycling in bulk waste bins located at the collection point adjacent to Lot 7 which will be collected by relevant contractors. It is intended that the collection vehicle will turn off the connecting road and into the through-site access road just far enough to empty the bulk waste bins, then reverse a short distance onto the short spur at the end of the connecting road and then drive forward away from the site towards Woodhouse Road.

## 11: BUILDING DESIGN: EXTERNAL COLOUR SCHEMES

It is proposed that there will be four different colour schemes used throughout the development and which have been chosen using subtle natural hues, harmonising with and complementing the surrounding bushland landscape but also reflecting the coastal location of the property.

Whilst the building designs are intended to provide a sense of consistency with individual residences contributing to an integrated overall aesthetic, the range of colour schemes is designed to add interest to the streetscape and to provide a sense of individuality to each home whilst remaining part of the overall design.

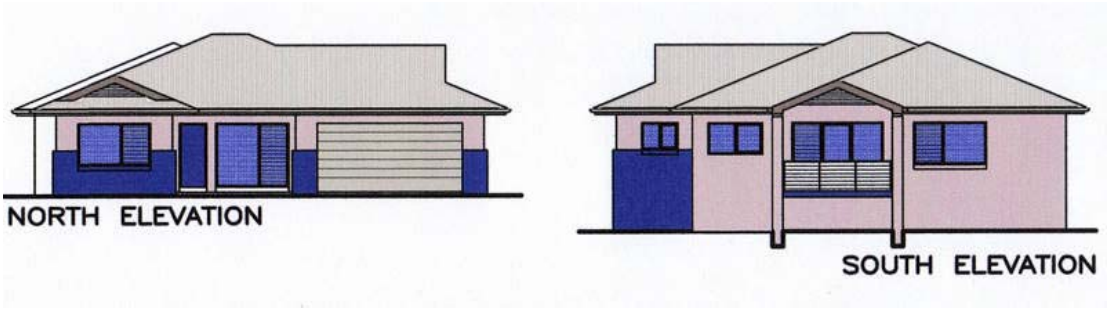
The colour schemes proposed are summarised as follow:

**COLOUR SCHEME 1**

| | |
|---|---|
| Roofing: | Colorbond JASPER |
| Fascias: | Colorbond DUNE |
| Gutters: | Colorbond JASPER |
| Windows: | Dulux JASPER |
| Walls Generally: | Dulux HEIFER |
| Feature Walls: | Dulux BEAN SHOOT |
| Garage Door: | TIMBER LOOK MOCHA |

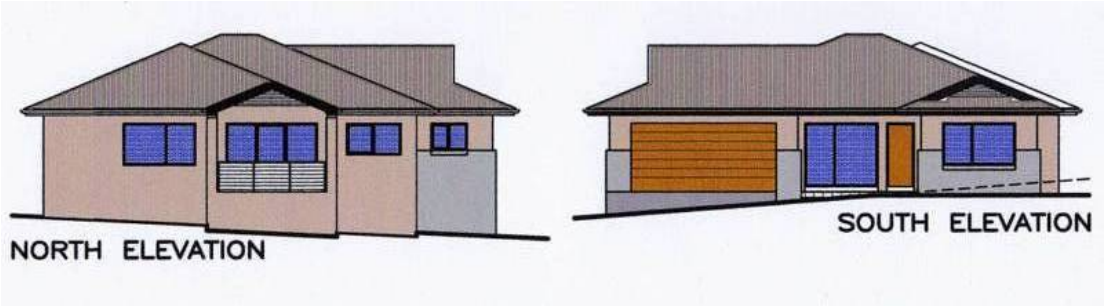
**COLOUR SCHEME 2**

| | | |
|---|---|---|
| Roofing: | Colorbond DUNE | |
| Fascias: | Colorbond DUNE | |
| Gutters: | Colorbond DUNE | |
| Windows: | Dulux PEARL WHITE | |
| Walls Generally: | Dulux LINSEED | |
| Feature Walls: | Colorbond DEEP OCEAN | |
| Garage Door: | Colorbond DUNE | |



**COLOUR SCHEME 3**

| | | |
|---|---|---|
| Roofing: | Colorbond BUSHLAND | |
| Fascias: | Colorbond MONUMENT | |
| Gutters: | Colorbond MONUMENT | |
| Windows: | Dulux OLDE PEWTER | |
| Walls Generally: | Dulux SELF-DESTRUCT | |
| Feature Walls: | Dulux POZIERES | |
| Garage Door: | TIMBER LOOK MOCHA | |



**COLOUR SCHEME 4**

| | | |
|---|---|---|
| Roofing: | Colorbond PALE EUCALYPT | |
| Fascias: | Colorbond COTTAGE GREEN | |
| Gutters: | Colorbond COTTAGE GREEN | |
| Windows: | Dulux OLDE PEWTER | |
| Walls Generally: | Dulux HOG BRISTLE | |
| Feature Walls: | Dulux GRAPE LEAF | |
| Garage Door: | TIMBER LOOK MOCHA | |


The colour schemes will be distributed approximately as follows:

Colour Scheme 1: Lots 4, 6, 9, 11, 15, 19, 26, 29, 36.
Colour Scheme 2: Lots 2, 7, 12, 17, 20, 28, 32, 35.
Colour Scheme 3: Lots 1, 3, 8, 13, 16, 27, 31, 34.
Colour Scheme 4: Lots 5, 10, 14, 18, 25, 30, 33.

Please don't hesitate to contact me should you have any queries or comments.

Regards,
**ROSS D COLQUHOUN ARCHITECT PTY LIMITED**

**ROSS COLQUHOUN**
Director