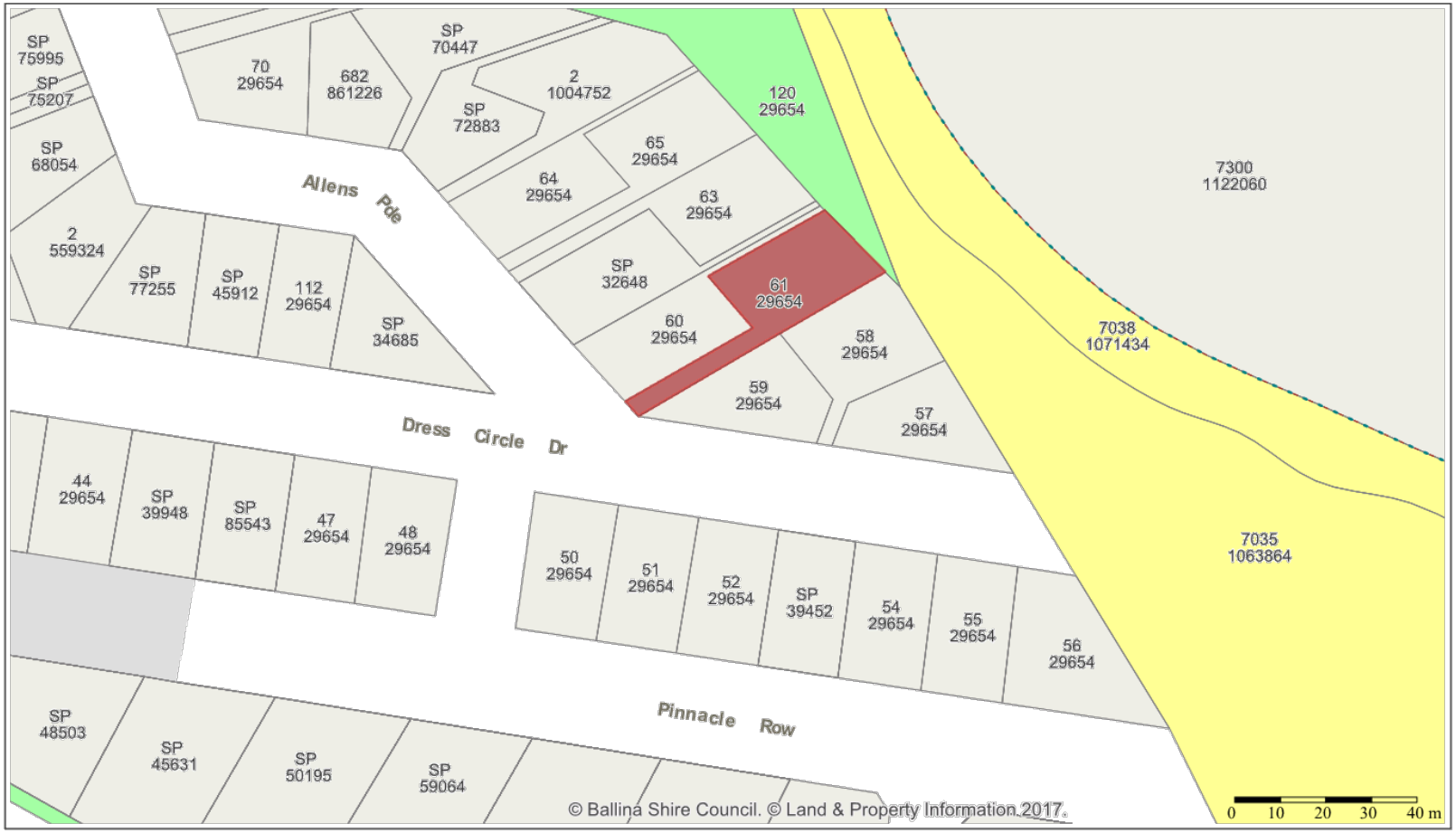

Ballina Shire Council
40 Cherry Street
BALLINA NSW 2478

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N

ballina shire council
geographical information system

Projection: GDA94 / MGA zone 56
Date: 13/03/2017

Page 1 of 4.

Mr. Vince Hunt.
BALLINA SHIRE COUNCIL.
40 CHERRY STREET.
BALLINA NSW 2478.

REFERENCE DA 2016/744 LOT 61
DP29654.
64 ALLENS PARADE.
LENNOX HEADS. 2478.
Application for extension of closing date on DA 2016/744.

Paul Robertson and family of 62 Allen's Parade LH.
Lodge a letter of discontent of the proposed building adjoining our property.

Firstly, I would like to say that I know and like the family that have lodged the building submission and I totally understand that they would like to build their dream home on the land they have purchased.
Having said that I feel there is lack of planning and also community consultation as neighbours we have only had a very short period of time to digest this DA.
The DA itself was never discussed with any of the neighbouring property owners and lodged on the 23rd December, I have had very little time to understand the DA and what is associated in the actual construction.

I ask for an extension of time (at least 1 month) to absorb and submit a detailed report that may well include, planning, several types of engineering submissions and insurance assurances. I feel an on-sight discussion with the owners, adjacent property owners, engineers and builder with council representatives present is well worth pursuing as this is not a normal DA by any means.
The adjoining property owners are all retired and the quiet amenities we currently enjoy is going to be upset for quite some time.
How long is this project expected to last? Possibly much longer than envisaged due to many excavation and building hurdles that have not been given any input in the DA that I can see.

The proposed submission is much larger than the LEP states and I ask BSC to consider this, we all must live by the same building codes and laws.
The proposal states they already know the structure is larger than the laws allow, why would a submission knowingly go to council on these grounds unless they are hoping for a compromise on the Shires behalf. Which no doubt that is exactly what will happen.
The northern boundary of the proposal has my neighbours and our own nature strip where we now have a beautiful grassed path to access the Boardwalk if the structure is allowed to be built where no 45-degree angle on the roof line from the set
back is allowed, this will significantly decrease the amount of sunlight (shadowing) and our grass will die and we will be left with dirt and mud.
Also, the sea breeze to our homes will be depleted if the bulky structure (which does not meet current building requirements) is endorsed by council, it may seem insignificant but it's not.
This is not environmentally friendly and will only lead to more electricity consumption forever!

The proposed underground parking is in my opinion the major contentious issue that needs addressing and I ask council staff or even better still, council electives representing the community who will indeed vote on the approval or disapproval to come to the site, investigate and discuss the many issues pertaining to the underground parking issue, needless to say that the main sewer junction runs along and across 2 boundaries of excavation and possibly across the actual driveway.
This fact alone deserves investigation before even considering the other many issues pertaining to this proposal.

The excavation of the property is yet another major issue.
The land was originally filled and retained in the 1970's by the then owner Mrs C Strike and myself as we had adjoining properties that had badly eroded by the ocean with less than 50% of land remaining, we had a geo technical engineer design a sea wall. Mr David Coffee.
The design is in council archives.

The sea wall is there for a reason and any damage to that. i.e. excavation of rock, may indeed be a catastrophic problem, if the current design of this excavation is allowed to proceed and materials and rocks are taken from the site then the whole design may in fact need re-addressing, again I ask council to come and inspect the site themselves before committing to addressing the proposal.

Also, the underpinning of boundaries, the amount of material, truck movements, dust, possible movement to ground and damage to neighbouring premises needs attention.
What is the actual allowable depth and height of these forms of construction?
This is a quiet residential area not an industrial depot.

A complete geo technical report and a structural engineering plan need submitting outlining just how this 2-metre-deep plus and well over 100-metre-long excavation with 6-metre-deep piling is designed and what impact this may have on the surrounding dwellings.

What type of shoring up method is used, is it steel shutters rammed into the earth? This may have serious impact on my and my neighbour's foundations.
I also have an in-ground concrete pool, they have been known to crack due to close proximity excavation work.
Is this and other neighbourly concerns being taken into consideration?

Are our premises going to be inspected beforehand so that any damage is met by the owners of the proposed structure.

The land itself is open to spring waters as indeed along many properties along this section are and opening up this land may be opening up further problems, yet again more questions arise if there is a spring and there has to be constant pumping out of the water into the storm water and subsequently the ocean.
There is in fact an existing aggregate and drainage pipe in place around my entire property (1m deep x 850 mm wide) which was for this exact reason and had to be implemented prior to building approval by BSC at the time.

4

Please note that this piece of land was originally a swamp, it was filled and has been eroded and re filled with a rock wall being built for protection and if this proposal is passed it will again be excavated with mechanical means to extract any water.
I also note that no provision is included regarding storm water runoff from adjacent land and indeed in times of heavy rain the position of the entrance to the drive is subject to heavy storm water runoff from the road and once again is mechanical extraction required or even addressed or even thought of, the due diligence required by the applicants is sorely lacking.

There is also a traffic issue as the drive leads out onto an intersection and coming from underground to this 4-way intersection is again something that council or Police should consider as the visual contact with traffic flow may be dangerous, I do not have any directives on this from what has been lodged with the DA to address so I don't really understand how this will work.

I am not being alarmist or trying to make a problem.
I served my time as a plumber and had a business here in both Tintenbar Shire and Ballina Shire in the construction mainly doing excavations, foundations and house slab for many years.

I am only addressing some issues that are quite apparent and have not been addressed in the development application, now that these issues are being bought to council's attention please give the owners and neighbours time to discuss quite a number of issues, after all we all have to live here together and hopefully be good neighbours.

Regards, Paul Robertson.

62 Allen's Parade. LH.

David Tyler

From: Jim Walter <jimwalter3@gmail.com>
Sent: Wednesday, 18 January 2017 2:50 PM
Subject: Attn Vince Hunt please. Your reference DA2016 / 744

Dear Vince,

Re DA for Lot 61, 64 Allens Pde, lennox Head.

We have received by surface mail, a DA proposal for the vacant block next door, owned by Matthew Gollan.

The closing date for any submission on your letter is 21/01/17.
However, your letter did not arrive until a few days ago, presumably because it had to be processed over the Xmas / New Year holiday period.

I would therefore appreciate if you could amend the closing date for submissions to 21/02/17, to give us a reasonable time to formulate a submission.

Yours sincerely,
Susan Walter.

42 Dress Circle Drive
Lennox Head NSW 2478
16 January 2017
geoffwegg@bigpond.com
0411473303

Mr Vince Hunt
Ballina Shire Council
40 Cherry Street
Ballina NSW 2478

Reference DA 2016/744 Lot 61 DP 29654, 64 Allens Parade, LENNOX HEAD

Dear Sir,

I hereby make application to have the closing date for a public submission in relation to **DA 2016/744** extended from **21 January 2017** to **21 February 2017**. The reasons for my application are as follows:

- We have been aware that a residential dwelling was to be built on the vacant block at 64 Allens Pde. Lennox Head for over twelve months
- Unfortunately, the land owners, Mr & Mrs Gollan or their representatives Ardill Payne & Partners, have not sought to communicate with or advise the adjacent land holders of any details regarding the proposed construction
- We note that **DA 2016/744** was lodged on **Friday 23 December 2016** immediately prior to the Christmas break
- The accompanying letter from Ballina Shire Council (BSC) to the adjacent landholders advising us of the development application is dated **6 January 2017**
- The notification letter arrived by post on **12 January 2017** and the closing date for submissions is the **21 January 2017**, which restricts the time for consideration of the details and the opportunity of discussion with the applicants to raise any issues, to just over one week.
- In discussion with other adjacent landholders it is felt that it is important to have a meeting with the applicants to attempt to mediate and resolve some relevant issues
- We have attempted to contact the applicants since receiving the notification letter but have been unable to do so. We have been advised that they are currently overseas and their date of return is unknown.

However, should the application for extension be denied, I hereby make the following submission objecting to **DA 2016/744.**

INTRODUCTION

- As a resident and owner occupier of an affected property we are aware of the various local, state and federal laws and regulations pertaining to Coastal Erosion Zones, SEPP 71, Waterfront Development, National Parks, LEP, DCP, Height of Buildings, Land Zoning and Lot Sizes etc. as the principles set out in these documents are designed to protect and enhance the environment in which we live
- We understand that the current LEP which came into effect on 4 February 2013, were upgraded to prevent dwellings with undue bulk such as those previously built on the eastern side of Rayners Lane being constructed in other parts of Lennox Head.
- We were comfortable with the knowledge that a residential dwelling was to be built on the adjoining property at Lot 61, knowing that BSC would enforce the relevant laws and regulations for which they were designed and implemented. Should BSC approve this proposal we will suffer significant and quantifiable damages. We have accessed the BSC portal and perused the documentation lodged there in support of the **DA 2016/744.** It is apparent in that documentation that **the proposed DA results in gross over development** of the site which is inconsistent with the objectives of the Ballina Shire DCP.

SPECIFIC GROUNDS OF OBJECTION

References:

Ardill Payne & Partners, Development Application & Statement of Environmental Effects – Submission to Ballina Council Development
Ballina Shire Development Control Plan 2012 – Chapter 4 Residential and Tourist Development

OBJECTION 1

- At 5.2.2 of the submission it states inter alia, "*There are two pine trees that will have to be removed to facilitate construction of the proposed dwelling. Due to the eastern building line (for coastal hazard mitigation) the house has had to be positioned on the western part of the lot, which has resulted in the trees having to be removed in order to accommodate a reasonable sized house.*"
- The Cook Pine trees in question are approximately 12m in height. They form an iconic part of the landscape of the southern end of Seven Mile Beach and are a landmark for the adjacent Brian Smith boardwalk. It is the **projected size of the house** which requires the removal of the trees, not their location, health or size. The trees were on the block when the applicants purchased the land. The removal of significant coastal vegetation is not consistent with SEPP 71, Coastal Protection.

OBJECTION 2

- Also at 5.2.2 it states, *"As a consequence of the eastern building line and battle-axe handle, the actual developable area of the subject land has dimensions of approx. 20m x 20m, which will be further reduced as a consequence of BCA and DCP boundary setbacks."*
- The size of the land has not changed, so the acknowledgement in the submission that **"the** developable area of the subject land has dimension of 20m x 20m..." was or should have been known (*caveat emptor*) to the applicants when they purchased the land. The lack of due diligence by the applicants should not be borne by the adjoining landholders
- At Part 3 – General Controls 3.1 C the submission states, *"The application does not comply with the building envelope controls with minor encroachments being proposed."*
- The building **grossly exceeds** the maximum size permitted by the BSDCP. In particular the first floor at the northern boundary is located **over 4.0m outside of the maximum building envelope and over 1.7m outside of the maximum building envelope** at the southern boundary. It is probable both of these encroachments outside of the envelope exceed 6.5m in height from the wall/eave junction (plans and planning report publicly available are silent on this issue). **The encroachments of the building envelope cannot under any circumstance be considered as "minor".**
- Non-conformance with the maximum allowable building envelope is not warranted due to the subject lands **high visual prominence from abutting public areas** (including expansive view lines from the Pacific Ocean and Seven Mile Beach) and **obstruction of view corridors from adjoining residences.**
- The proposed building bulk is not consistent with community expectations. Building envelopes were deliberately introduced to the BSDCP as a response to community expectations and disappointment with similar overdevelopment of residential sites within the Lennox Head coastal zone.

OBJECTION 3

- Proposed works for the proposed **swimming pool** significantly encroach upon the foreshore building line and southern boundary. The works including substantial piling operations are **inconsistent with the objectives of the BSDCP Chapter 2 Section 3.14 and Chapter 4C Elements – Building Envelope Variations (i)**

OBJECTION 4

- The current plans necessitate a substantial **basement carpark** with mechanical drainage. This basement results in considerable earthworks along a very narrow driveway access. Further detail is required to determine the impacts of such bulk earthworks upon adjoining properties both during and after construction.
- The engineering detail (Annexure F) for the driveway access to the basement carpark indicate that it requires considerable excavation, from **zero at the kerb side** of Dress Circle Drive/Allens Parade to **2.02m at the entrance to the basement**. The entrance is located adjacent to the boundary of the adjacent properties, Lots 58 and 59. The approx. 2m excavation will require substantial retaining walls which are **not consistent with the BCDCP** requirement in relation to earthworks, Chapter 4 P Elements – Earthworks and Slope Sensitive Design Controls (i), which restrict the excavation and/or filling on or within 900mm of a property boundary to **a maximum height of 1200mm.**

- The **BSC sewer reticulation line at a depth of 0.8m** runs across the access driveway adjacent to the proposed entrance to the basement carpark. Annexure F indicates that excavation is required to a depth of approx. 2m for the entrance to the basement carpark. **The location of the sewer reticulation line and junction seems to preclude the construction of the basement carpark.**
- There is **no provision for acceptance, conveyance and discharge of the natural stormwater overland flow** from existing upstream properties. Significant ponding currently occurs on the subject land in heavy rain. Council, with the construction of the sea wall provided a stormwater gully pit on the subject land which is used for the collection and discharge to the east of natural stormwater overland flow from Lots 58, 59, 60, 62 and 63 on DP29654. It is our understanding a downstream property owner cannot erect any type of barrier that interferes with the path of stormwater and the owner must accept the 'natural' run-off onto their property.

OBJECTION 5

- The building bulk results in unacceptable **overshadowing** of existing dwellings to the south and west. There is no shadow plan for the proposed dwelling
- The building location results in **unacceptable overlooking** of existing dwellings to the north, south and west. The report on the environmental effect of the development acknowledges the resultant loss of privacy and amenity for the existing dwellings and suggests some window openings may be fixed and utilise opaque glazing and/or privacy screens. Further details are required to determine if these actions will ameliorate the impacts.

OBJECTION 6

- My partner and I have an **approved DA 2016/393** for additions and renovation for our property at Lot 59, an adjoining property. Contracts have been signed and construction is due to commence on Monday 23 January 2017. These additions and renovations were designed in accordance with the BSDCP on the understandable expectation that an adjoining dwelling would be designed and constructed consistent with the BSDCP's minimum standards. If we had countenanced that the BSC would consider a proposal such as this, which is grossly in excess of minimum requirements, then **our plans would have expressed an entirely different aspect.** If the BSC approves this proposal, which is inconsistent with the local and state government ordinances and regulations, we would suffer **significant and quantifiable damages.**

CONCLUSION

- We were comfortable with the knowledge that a residential dwelling was to be built on the adjoining property at Lot 61. We expect that BSC will enforce the relevant laws and regulations for which they were designed and implemented. It is apparent that **the proposed DA results in gross over development** of the site which is inconsistent with the objectives of the Ballina Shire DCP.
- After consideration of the objections raised we expect that the BSC will reject DA 2016/744 in its current form

Sincerely

G.H. Wegg

42 Dress Circle Drive
LENNOX HEAD N S W 2478

Email: harg1rob@gmail.com
Phone: 0412 660 994

19 January 2017

Mr Vince Hunt
Manager Building Services
Development and Environmental Health Group
Ballina Shire Council
40 Cherry Street
BALLINA N S W 2478

Dear Mr Hunt

Re: DA 2016/744 Lot 61 DP 29654, 64 Allens Parade, Lennox Head

I write in response to notification dated 6 January 2017 and received from Ballina Shire Council on 12 January 2017 regarding the above DA.

Initially, I express disappointment that the applicants, Mr and Mrs Gollan, although attending the site on numerous occasions since they purchased it some 12 months ago, have at no stage attempted discourse with any adjoining neighbours on their intentions regarding development. Our first reaction, and that of our neighbours, on the date we received notice of DA was to attempt to make contact personally at Mr Gollan's place of employment then, ascertaining his absence overseas, by telephone, voice mail and text. As no response has been forthcoming to date, unfortunately the only avenue to raise concerns is by lodging a written notice of objection. In the interests of good neighbourly relations, prior discussion face to face on potential impacts of the development may have avoided this situation.

Without access to floor plans for the proposed dwelling, some difficulty is experienced in obtaining a clear understanding of its functionality.

I fully endorse the objections and comments incorporated in the submission of 16 January 2017 by my partner and co-owner of 42 Dress Circle Drive, Geoffrey Wegg. In addition to the points he has raised with you, following are additional concerns of mine (*copy attached*). Please read them in conjunction with the objections raised by Mr Wegg.

Objection 2 (from submission by Geoffrey Wegg) – **Bulk and Height**

At section 4.5 Social and Economic Impacts of the Ardill Payne & Partners submission accompanying the DA application, reference is made to the proposed construction being "compatible with the adjoining and adjacent buildings in terms of use, density, bulk, scale, height, external appearance etc". I contend that with the exception of Lot 63, which was completed in 2016 and falls under the auspices of the 2012 BSDCP, other adjoining buildings were constructed over 10 years before that time and are not appropriate to be used as comparison under current controls.

Objection 4 (from submission by Geoffrey Wegg) – **Excavation**

BSDCP 2012 Chapter 4, P Element-Earthworks and Slope Sensitive Design Controls states as its first objective "to limit the extent of excavation and filling".

Given the DA anticipates excavation to a depth of 2 metres over an area of some 200 square metres from this site, with nil opportunity to use any of the excavated material for fill, this could hardly be deemed to be a "limited extent".

The aspect of removal of substantial rocks which were placed on this site in the early 1970s to counteract erosion and the sheer volume of excavated material, will require a significant number of heavy truck movements during the very first phase of the construction.

It also appears from plans submitted, that the driveway narrows to 2.4 metres for a distance which would seem to made truck movements difficult.

My concerns centre on the potential damage caused by vibration to our existing dwelling, the noise, dust and fumes generated at this time. It is highly likely being present in our residence will be untenable or at the very least, uncomfortable, during the excavation phase due to these impacts in such close proximity.

We have recently suffered construction of a double storied dwelling on a site some 150 metres diagonally opposite over almost a 12 month period. The noise and dust aspects of that made life most uncomfortable at times, to the extent we could not carry out a conversation, speak on the telephone or hear radio or television in our home.

I request the applicants provide:

- advice as the estimated number of truck movements, over what time period and a daily schedule as to when they will occur,
- how noise, dust and fumes will be mitigated,
- an assurance that should physical damage be caused to our property during any stage of construction (based on proof of structural integrity prior to commencement), that insurance will be activated and damage will be made good at the expense of the applicants and
- confirmation that a properly constructed, reinforced, fenced driveway with retaining walls will be established prior to any site works commencing.

Objection 5 (from submission by Geoffrey Wegg) – **Overshadowing**

At section 5.2 Ballina Shire DCP 012 (BSDCP) subsection 5.2.3 of the Ardill Payne & Partners submission accompanying the DA application, reference is made to Point i of the Control relating to C Element-Building Envelopes.

Construction Certificate number 11.2016.393.1 has recently been issued to permit renovations to our residence with work due to commence this month. Solar passive planning (such as strategically placed rooflines to manage seasonal sun entrance, reduction of current living area by some five square metres to facilitate a covered walkway reducing impact of summer sun to our northern aspect, installation of skylights, solar power to the grid and solar water heating) was included. Also incorporated were ventilation maximisation features, such as double hung windows enabling air flow even in times of inclement weather or when absent

from the residence, removal of existing air conditioning system and replacement with ceiling fans.

The size and bulk of the proposed dwelling on Lot 61 will impact wind flow to our home, particularly during the summer months when prevailing cooling breezes are northerly or north easterly. It is highly likely the proposed dwelling will also fail to comply with the requirement enabling minimum sunlight to our residence between 9am and 3pm for a period of 3 hours on 21 June.

I request the applicants provide:

- a shadow diagram indicating the sun's location on 42 Dress Circle Drive on 21 June.

Objection A (not included in submission by Geoffrey Wegg) – **Plant Noise**

The proposed dwelling includes a swimming pool and although not specified, potentially air conditioning or heat pump units. Although some details are included in the Ardill Payne & Partners submission regarding contents of the basement, it is silent on location of plant to drive motors. Given close proximity to adjoining dwellings, it is likely additional noise will be generated by these items.

I request the applicants provide:

- details of where the plant will be located to drive pool and air conditioning/heat pump motors.

Objection B (not included in submission by Geoffrey Wegg) – **Use of the dwelling**

In light of the proposed inclusion of 4 bedrooms with ensuites, a games room with toilet and bar, a study and beachside pool, the completed building would provide a highly desirable rental property for holiday makers in Lennox Head. Experience I have recently undergone in a beachside location at Jervis Bay on the south coast of NSW, has alerted me to the potential for "residences" to become "holiday homes", subject to mass rentals to groups of people intent on enjoying their top end rental "party house" to the detriment of surrounding neighbours. Life has become hell for permanent residents and peaceful holiday makers alike.

I request the applicants provide:

- confirmation of the intended use of this dwelling on completion and, if for their permanent residence, for what anticipated time frame.

I look forward to a future opportunity to review points above as well as those raised by Mr Wegg in his submission, with the applicants, BSC officers and adjoining neighbours in order a satisfactory outcome can be achieved for all concerned.

Sincerely

Robyn Hargrave

Robyn Hargrave

COPY

42 Dress Circle Drive
Lennox Head NSW 2478
16 January 2017
geoffwegg@bigpond.com
0411473303

Mr Vince Hunt
Ballina Shire Council
40 Cherry Street
Ballina NSW 2478

Reference DA 2016/744 Lot 61 DP 29654, 64 Allens Parade, LENNOX HEAD

Dear Sir,

I hereby make application to have the closing date for a public submission in relation to **DA 2016/744** extended from **21 January 2017** to **21 February 2017.** The reasons for my application are as follows:

- We have been aware that a residential dwelling was to be built on the vacant block at 64 Allens Pde. Lennox Head for over twelve months
- Unfortunately, the land owners, Mr & Mrs Gollan or their representatives Ardill Payne & Partners, have not sought to communicate with or advise the adjacent land holders of any details regarding the proposed construction
- We note that **DA 2016/744** was lodged on **Friday 23 December 2016** immediately prior to the Christmas break
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- The notification letter arrived by post on **12 January 2017** and the closing date for submissions is the **21 January 2017**, which restricts the time for consideration of the details and the opportunity of discussion with the applicants to raise any issues, to just over one week.
- In discussion with other adjacent landholders it is felt that it is important to have a meeting with the applicants to attempt to mediate and resolve some relevant issues
- We have attempted to contact the applicants since receiving the notification letter but have been unable to do so. We have been advised that they are currently overseas and their date of return is unknown.

However, should the application for extension be denied, I hereby make the following submission objecting to **DA 2016/744.**

INTRODUCTION

- As a resident and owner occupier of an affected property we are aware of the various local, state and federal laws and regulations pertaining to Coastal Erosion Zones, SEPP 71, Waterfront Development, National Parks, LEP, DCP, Height of Buildings, Land Zoning and Lot Sizes etc. as the principles set out in these documents are designed to protect and enhance the environment in which we live
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- We were comfortable with the knowledge that a residential dwelling was to be built on the adjoining property at Lot 61, knowing that BSC would enforce the relevant laws and regulations for which they were designed and implemented. Should BSC approve this proposal we will suffer significant and quantifiable damages. We have accessed the BSC portal and perused the documentation lodged there in support of the **DA 2016/744.** It is apparent in that documentation that **the proposed DA results in gross over development** of the site which is inconsistent with the objectives of the Ballina Shire DCP.

SPECIFIC GROUNDS OF OBJECTION

References:

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OBJECTION 1

- At 5.2.2 of the submission it states inter alia, *"There are two pine trees that will have to be removed to facilitate construction of the proposed dwelling. Due to the eastern building line (for coastal hazard mitigation) the house has had to be positioned on the western part of the lot, which has resulted in the trees having to be removed in order to accommodate a reasonable sized house."*
- The Cook Pine trees in question are approximately 12m in height. They form an iconic part of the landscape of the southern end of Seven Mile Beach and are a landmark for the adjacent Brian Smith boardwalk. It is the **projected size of the house** which requires the removal of the trees, not their location, health or size. The trees were on the block when the applicants purchased the land. The removal of significant coastal vegetation is not consistent with SEPP 71, Coastal Protection.

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- My partner and I have an **approved DA 2016/393** for additions and renovation for our property at Lot 59, an adjoining property. Contracts have been signed and construction is due to commence on Monday 23 January 2017. These additions and renovations were designed in accordance with the BSDCP on the understandable expectation that an adjoining dwelling would be designed and constructed consistent with the BSDCP's minimum standards. If we had countenanced that the BSC would consider a proposal such as this, which is grossly in excess of minimum requirements, then **our plans would have expressed an entirely different aspect**. If the BSC approves this proposal, which is inconsistent with the local and state government ordinances and regulations, we would suffer **significant and quantifiable damages.**

CONCLUSION

- We were comfortable with the knowledge that a residential dwelling was to be built on the adjoining property at Lot 61. We expect that BSC will enforce the relevant laws and regulations for which they were designed and implemented. It is apparent that **the proposed DA results in gross over development** of the site which is inconsistent with the objectives of the Ballina Shire DCP.
- After consideration of the objections raised we expect that the BSC will reject DA 2016/744 in its current form

Sincerely

G.H. Wegg

David Tyler

From: Vince Hunt <VINCEH@ballina.nsw.gov.au>
Sent: Thursday, 19 January 2017 2:31 PM
Subject: FW: Attn Vince Hunt please. Your reference DA2016 / 744

Dave, can you please respond- thanks

From: Jim Walter [mailto:jimwalter3@gmail.com]
Sent: Thursday, 19 January 2017 1:28 PM
To: Vince Hunt
Subject: Re: Attn Vince Hunt please. Your reference DA2016 / 744

Dear Vince,

Re DA 2016/744

I have been to the council website for the DA, and although there is a lot of information, it does not have enough detail on a few points.

Accordingly, I would appreciate if council could provide more plans on the following northwest facing aspects of the building.

1) Cross sections showing Heights and dimensions of the northwest facing walls, and setbacks of the northwest facing walls, both upper and lower floors, from the easements.

2) Materials, (eg type of glass, opaque or clear), to be used in the windows in the northwest facing walls.

3) Cross sections showing basement carpark.

4) Top floor balcony - Does this encroach on the 10 metre setback from the front fence on the north side?

Would you kindly email these sections and information to our email address, jimwalter3@gmail.com at your earliest convenience, so we have time to respond before the expiry date.
Thanking you for your assistance,

Regards,
Susan Walter.

On Wed, Jan 18, 2017 at 4:43 PM, Vince Hunt <VINCEH@ballina.nsw.gov.au> wrote:

Hi Susan, we have had a couple of requests and extended the period of time till 30 January 2017.

We have a legislative requirement to generally determine applications within 40 days (unless the application is deficient), otherwise applicants can appeal directly to the Land and Environment Court.

Please contact our Dave Tyler should you need a few extra days.

Regards,

1

Vince

From: Jim Walter [mailto:jimwalter3@gmail.com]
Sent: Wednesday, 18 January 2017 2:50 PM
Subject: Attn Vince Hunt please. Your reference DA2016 / 744

Dear Vince,

Re DA for Lot 61, 64 Allens Pde, lennox Head.

We have received by surface mail, a DA proposal for the vacant block next door, owned by Matthew Gollan.

The closing date for any submission on your letter is 21/01/17.

However, your letter did not arrive until a few days ago, presumably because it had to be processed over the Xmas / New Year holiday period.

I would therefore appreciate if you could amend the closing date for submissions to 21/02/17, to give us a reasonable time to formulate a submission.

Yours sincerely,

Susan Walter.

2

are those of the individual sender, and shall be understood
as being neither given nor endorsed by the Ballina Shire Council.

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<BR

Mr. Vince Hunt.
Ballina Shire Council.
40 Cherry Street.
Ballina.2478.

Reference DA 2016/ 744 Dp 29654.
64 Allens Parade. Lennox Heads.

Mr Hunt,

I'm confused that the building application cited above would have the audacity to apply for such a large structure on this land.
The building is well oversized for the property and probably they have presented the plans in the hope of a compromise, this is wrong and Council should look into this application.
There will be a lot a shadowing along the northern, western and southern boundaries and this needs to be investigated.
Also, the bulky structure does not comply with current building codes.
The cutting down of the trees is also an issue and even trimming the beautiful pandanus tree should not be allowed.
Water dragons, osprey, other animals and birds use these trees as refuge and a place to watch for food for their young, please consider this most environmentally sensitive aspect.
The underground car park also need some attention from Council as to whether this will have adverse impact on neighbouring properties or is in fact legal.

Yours Sincerely. Mark Lea.

Mr. Vince Hunt.
Ballina Shire Council,40 Cherry St.
Ballina.

Reference DA 2016/744
Lot 61 DP 29654.
64 Allens Parade.
Lennox Head.

Dear Sir,

I am making a few objections to the above DA.

The building is way way way oversize for the block of land and to my knowledge does not meet current building laws set out in our building code.
This will have a big impact on the wind flow to our place and our neighbours place resulting in us having to use mechanical means to have some relief from the heat.

The structure will cause significant shadowing to our path way that leads to the beach and probably the grass won't grow.
The shadowing will have a major effect on my neighbour's property. For example, their kitchen, washing line, and granny flat will be mostly in shade much of the time.

The underground car park seems like a bit of an over kill but more importantly the two pine trees will be cut down, that is where the water dragon lizards go for a lot of the time to rest and the osprey use those trees to watch for fish to catch so

they can feed their young. Why would BSC allow this to happen?

There are other issues and I feel this Da surely lacks and there is a lot of input and needs to be re addressed with a lot more relevant info.

Sincerely, Judy Browne.
2/60 Allens Parade.
Lennox Heads.

Garry Hargrave
20 Wilson Esplanade
Redland Bay
QLD 4165

Email: garry@foxandbell.com.au
Phone: 0411 599 522

21 January 2017

Mr Vince Hunt
Manager Building Services
Development and Environmental Health Group
Ballina Shire Council
40 Cherry Street
BALLINA N S W 2478

By Email: council@ballina.nsw.gov.au

Dear Sir,

Re: Submission to DA 2016/744
Lot 61 DP 29654
64 Allens Parade
Lennox Head

I make this submission to Council regarding the above development application.

I am part owner of the adjoining property situated at 44 Dress Circle Drive described as Lot 58 on DP29654.

The proposed construction on Lot 61 does not make provision for the natural stormwater over land flow from our property. If built as proposed it will create a dam along our northern boundary.

The sea wall construction in the 1980's was designed so the stormwater from Lots 58,59, 60, 62, and 63 flowed overland to a sag gully pit constructed in the walkway of Lot 60. This is a significant volume of water which results in regular pondage on Lot 61 in heavy rain.

The houses on Lots 58, 59, 60 and 62 all have been built according to the stormwater design of the sea wall.

The current proposal on Lot 61does not make provision for the continuation of this situation and will require substantial modification to deal with the stormwater overland flow.

I am having difficulty in reconciling the driveway/basement treatment along the common boundary between Lot 61 and our Lot 58. The critical cross section along the driveway (at the common boundary of Lot 58 and 59) and the basement floor plans are missing from the publicly displayed material which makes it impossible to determine the impacts on our property.

It is not in keeping with the intention of the public notification provisions in the Act for such critical information which dictate impacts on adjoining property to be not publicly available. I have made direct contact with the applicant but to-date (the last day for submissions) have not had a response.

However it does appear the proposal involves excavation approximately 2.0metres deep for approximately 15m along the western end of our common boundary.

This cut seems to be on the physical boundary which would be contrary to Council's policy of a maximum 1.2m retaining wall along a boundary. The dwelling on our land is situated approximately 1.0m from this proposed cut and we require undertakings that no damage will occur to our property and improvements.

We would also like to understand the boundary treatment and fencing proposed along our common boundary.

It is probable the proposed driveway will clash with the existing council trunk sewer line. Rectification of this may require major modification of the driveway, ground floor foot print and possibly the basement entrance. All of these modifications may have considerable impact on our property. If modifications are made we request Council extends to adjoining owners a further opportunity for comment.

I look forward to further advice from Council regarding the assessment of the proposal and hopefully contact from the applicant regarding access to more detailed design plans.

Yours Sincerely

Garry Hargrave

Tim Medhurst
26 Sonanne Place
Fig Tree Pocket Q 4069

timothymedhurst@gmail.com
0417 068682

22 January 2017

Mr Vince Hunt
Manager Building Services
Development and Environmental Health Group
Ballina Shire Council
40 Cherry Street
BALLINA N S W 2478

By Email: council@ballina.nsw.gov.au

Dear Sir,

Re: Submission to DA 2016/744
Lot 61 DP 29654
64 Allens Parade
Lennox Head

I make this submission to Council regarding the above development application.

I am part owner of the adjoining property situated at 44 Dress Circle Drive described as Lot 58 on DP29654.

I make comment on 4 matters that will impact on our property given the proposed design and treatment along the south boundary of Lot 61 – being the common boundary between Lots 58 and 61.

1. The proposed construction on Lot 61 does not make provision for the natural stormwater over land flow from our property. If built as proposed it will create a dam along our northern boundary. In heavy rain there is a significant volume of water which results in regular pondage on Lot 61. The original subdivision design allows for overland flow to the sag gully pit constructed in the walkway of Lot 60. The current proposal on Lot 61 does not make provision for the continuation of this situation and will require substantial modification to deal with the stormwater overland flow.

2. From the plans provided it is difficult to determine the driveway/basement treatment along the common boundary between Lot 61 and our Lot 58. It is probable the proposed driveway will clash with the existing council trunk sewer line. Rectification of this may require major modification of the driveway, ground floor foot print and possibly the basement entrance. All of these modifications may have considerable impact on our property. If modifications are made we request Council extends to adjoining owners a further opportunity for comment.

3. It appears that the proposal involves excavation of approximately 2.0 metres deep for approximately 15m along the western end of our common boundary. This cut seems to be on the physical boundary which would be contrary to Council's policy of a maximum 1.2m retaining wall along a boundary. The dwelling on our land is situated approximately 1.0m from this proposed cut and we require undertakings that no damage will occur to our property and improvements.

4. We would also like to understand the boundary treatment and fencing proposed along our common boundary between Lots 61 and 58.

I look forward to further advice from Council regarding the assessment of the proposal.

Yours sincerely,

Tim Medhurst

Mr.Vince Hunt.
Ballina Shire Council.
40 Cherry Street.
Ballina. NSW.2478.

Reference DA 2016/744. DP
Dear Sir,

I know everyone has a right to build on their own property and I know and like the family that are going to build on the property that adjoins ours, I feel it only necessary to write a letter because the proposed building directly contravenes the current building codes that ALL residents must address and be subject to.

I make submission of objection to the above DA.
I refer to the Impact the building will have on our house due to shadowing on the eastern boundary of our land.
Our kitchen, washing line and dads old surf shack will be very much affected.

Also along the northern boundary this will affect the grassed path as well.
I attach few pics taken at 9-00am for reference.

Not only that but if they are allowed to proceed to chop down the iconic pine trees and also part of the pandanus tree then the native water dragon colony, native birds, eagles and osprey plus many other native species that use these trees as

a refuge and lookout to be able to catch fish and provide for their families will be gone forever.
Looking at the proposal and the existing (protected) pandanus tree the development will chop down 50% or more of the pandanus tree and root system to be able to accommodate building, is that allowable? PHOTO ATTACHED.
How will this affect the tree? Adversely don't you think.
Why even consider such a thing?
The pandanus tree is on our boundary and is an integral part of our landscaping, it has been there for well over 30 years.

I also attach a pic of the local water dragon family using the pine trees for a rest spot and protection, what happens to them when the trees get chopped down, I think you already know.

The building is very much oversize and if the setbacks are not the same as other buildings (e.g. Mandy and Greg Pratt) just a few doors up then I feel that there is definitely a double standard applying.
The 45-degree setback is there for a reason and if this is not adhered to then the shadowing and importantly the wind flow will be restricted to the adjoining properties and then they will have to use more electricity for lighting and also for running fans or a/c permanently.

I also think that the underground parking is not really thought out properly as the sewerage line must be chopped through, also possibly continual pumping out of seepage water and natural springs and surface water from rain that

runs down the tunnel must be pumped into the storm water and will end up in the ocean.
Has any attention been given to the noise factor of running the pumps and the position of these pumps? Will the noise echo up the tunnel?
It warrants attention from council before committing.

Please council give this DA some serious thought OR BETTER STILL COME OUT AND INSPECT THE SITE.
Once you have passed this DA it is there permanently and the residents in adjoining properties have to live with it, please give this serious consideration on the issues I have mentioned and no doubt on many more that you already know of that have been sent through by the other concerned residents.
NO ONE WANTS ANOTHER RAYNERS LANE TYPE DEVELOPMENT.
You have the responsibility to govern for the good of your entire constituents and what decisions made now on behalf of this DA will set a precedent for other developments.

I would like to say though that I AM NOT BITTER OR HAVE ANY BAD INTENTIONS TO THE NEW OWNERS, I KNOW AND LIKE THEM AND HOPE WE CAN BE FRIENDS, I AM VERY CONCERNED THOUGH THAT THE SUBMISSION IS WAY OVER THE LEGAL CONFINES IN THE VAIN HOPE OF BSC WILL FOLD ON A NUMBER OF ISSUES AND SO A COMPROMISE WILL BE ATTAINED IN CONTRAVENTION OF THE CURRENT BUILDING CODES THAT ALL MUST OR SHOULD ADHERE TO.

Regards, MICHELE ROBERTSON.
62 Allens Parade. LH.

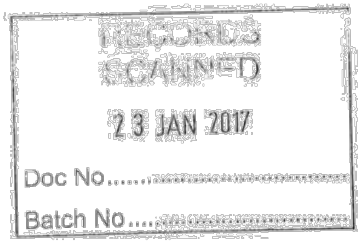
M.R 23-1-17


LOCAL WATER DRAGON
COLONY WILL DISAPPEAR
ALONG WITH
SEA EAGLES
KITES
&
OSPREY


PHOTO AT 9-00AM

MR VINCE HUNT.
BALLINA SHIRE COUNCIL.

REFERENCE DA 2016/744 LOT 61
DP29654.
64 ALLENS PARADE.LH.2478.



DEAR SIR,

I make application of the above DA be rectified because of the design being non-compliant with the current LEP of the time.

There are environmental issues that need to be addressed. EG the chopping down of 2 very large iconic trees where many native birds and animals use and have used for different reasons for many years. Pandanus trees are protected with a DA for removal necessary, the building DA in question calls for approx. half of the pandanus tree to be culled and its roots pulled out.
Quite possibly causing the tree to die, the bulk of this tree is on our boundary and forms an integral part of our landscaping, why would this destruction be admissible or allowed?

The swimming pool will be forward of the building line and this is non-compliant.
The entire building is oversize for the allowable land and in turn the neighbouring properties are expected to have shadowing and loss of sea breeze because of lack of

understanding on the owners behalf when purchasing the parcel of land.
We all must live by the same laws, no exception. Or are there?
I feel the driveway to the underground car park are non-consistent with the BCDCP requirement for earth and slope sensitive design controls, this should be thoroughly investigated prior to approval.
There is a sewer that will have to be cut through from the adjoining property, what happens to their sewage?
I feel that this current DA is subject to so many questions that more than likely it has been put to council in the hope of a compromise be met and eventually they, the owners, get what they originally intended. That being an oversized building that encroaches on many forms of the current maximum allowable building platforms which will set a precedent for future development.
BSC we do not want another RAYNERS LANE look alike in ALLENS PARADE.
I ask BSC to inspect the site prior to voting on this very contentious application. I would not have put pen to paper had this DA met the same standards that everyone else must conform to, it will in the end, if approved in its current form, cause tension with the very people who are their neighbours and no -one wants to have that.

Yours Sincerely, Runglawan Robertson.

R. Robertson 23-1-17


PHOTO AT 9-00 AM

Mr. VINCE HUNT.
BALLINA SHIRE COUNCIL.
40 CHERRY STREET.BALLINA.NSW 2478.

REFERENCE. DA 2016/ 744
LOT 61 DP 29654.
64 ALLENS PARADE. LENNOX HEAD.2478.

DEAR MR HUNT,

I AM WRITING TO YOU TO EXPRESS MY CONCERN AT THE ABOVE BUILDING DA SUBMITTED TO BSC.

Firstly I feel it only fair to say that I know and like the family who are applying for the DA approval and hope we can be close neighbours enjoying this beautiful corner of LH.

HAVING SAID THAT I DO HAVE SOME ISSUES.

The building does not comply with the building standards set out in the local building codes.
The underground car park is questionable at the best.
There is no provision for natural water flow and in times of storms or flood this is going to be a very real problem for the underground parking proposal.
THE SWIMMING POOL IS FORWARD OF THE ALLOWABLE BUILDING LINE.

The cutting down of the 2 pine trees is wrong and also the PROTECTED BY LAW (requiring a separate DA approval) pandanus tree will suffer due to the major lopping of its

limbs and root system making it unbalanced and will cause it to shock and possibly die.
On inspection, probably a good 50% of the pandanus tree will be destroyed, I attach some photos for you to inspect.

The animals that use these trees as a refuge will also suffer, the ospreys, sea eagles and other birds that use the pine trees to watch the fish and swoop down there to catch the mullet and other fish to feed their young will also suffer if these trees are allowed to be chopped down.

The sheer bulk of the intended structure is way oversize but that has been probably submitted this way so a compromise will be sought allowing the building to be still in violation of the BSC building codes.
The DA CITES IT HAS TO BE THIS WAY DUE TO THE SMALL BUILDING AREA these encroachments are NOT MINOR and will cause shadowing to adjoining properties, which is something that should be addressed and investigated.
The property was acquired as is and any developments must meet the BSC BUILDING CODES, they should not get changed because of lack of due diligence prior to purchase.
Our eastern boundary where our kitchen, washing line and granny flat are will be heavily shadowed.
The northern boundary will be effected and the grassed pathway that leads from my neighbour's properties and our properties will be shadowed which in turn will lead to the grass not growing and leave users with a permanent problem.

Also, the cool sea breeze we enjoy will most likely be severely affected, if the building were to meet the current allowable building codes this would not be a problem.

The building will also look directly into their neighbours' homes if the design is not rectified, privacy will be compromised.

Why allow this to happen, please inspect the RAYNORS LANE BUILDING'S that you allowed to be built and do not allow this type of development to be the new norm, you are in a position of authority to address contentious issues and make good decisions for the majority of you constituents.

I like the owners and wish them all the best if they had lodged a plan that was within the confines of the current building standards that BCS has adopted neither myself or any other member of our family would have complained. THIS DEVELOPMENT APPLICATION IS WAY OVERSIZE for the parcel of land, by all means build but please not at the expense of their neighbours and the environment.

Yours Sincerely. LENNEX ROBERTSON.

23-1-17


ALL THIS LAST
OF LINE DRAW
WILL BE
CUT DOWN
VERY LITTLE
LEFT - PANDANUS
MAY DIE

David Tyler

From: Garry Hargrave <garry@foxandbell.com.au>
Sent: Monday, 23 January 2017 2:25 PM
Subject: RE: DA 2016/744 Cross Sections, Driveway and stormwater details

HI David,

Thanks for your response. Unfortunately the driveway cross section does not include the critical cross-section at the intersection of the sewer line. It is a physical issue as the whether there is a clash – and if so how the design is modified to accommodate the sewer line.

The additional detail unfortunately has not resolved our stormwater overland flow issue – indeed it appears there is no provision for external catchments both in the calculations for and the design of the proposed southern stormwater outlet. I can't determine how water from our site (Lot 58) and the adjoining Lot 59 will get to the proposed stormwater outlet. As well the proposed driveway appears to divert stormwater from Lot 59 onto our Lot 58.

The building envelope diagram is employing some "consultant license" as the 1.8m height at the side boundary appears to be at the applicants ground floor finished surface level rather than natural ground level.

Regards

Garry Hargrave
0411 599 522

From: David Tyler [mailto:davidt@ballina.nsw.gov.au]
Sent: Monday, 23 January 2017 12:24 PM
To: David Tyler <davidt@ballina.nsw.gov.au>
Subject: DA 2016/744 Cross Sections, Driveway and stormwater details

Please be advised that cross sections, driveway and stormwater details for this application are now available for public access via DA's on-line.

Regards

David Tyler
Senior Building Surveyor
Development and Environmental Health Group

ballina.nsw.gov.au | discoverballina.com
p: (02) 6686 1433 | f: (02) 6681 1375 | m: 0428 003 543

error please pass it on to the intended recipient in its original form, or contact the Ballina Shire Council.

Opinions, conclusions and other information contained within this message that do not relate to official Council business are those of the individual sender, and shall be understood as being neither given nor endorsed by the Ballina Shire Council.

42 Dress Circle Drive
Lennox Head NSW 2478
24 January 2017
geoffwegg@bigpond.com
0411473303

Mr Vince Hunt
Ballina Shire Council
40 Cherry Street
Ballina NSW 2478

Reference DA 2016/744 Lot 61 DP 29654, 64 Allens Parade, LENNOX HEAD

Dear Sir,

The "*Cross Section of the Driveway & Stormwater Plans for Public Access*" was posted on the BSC DA website on 24 January 2017. The enclosed building envelope plan, according to the scale 1:200, shows that the 1.8m height and 45deg envelope aspect, as depicted by the red dotted line on the western, northern and southern elevation of the proposed building, are calculated from the **ground floor finished surface level.**

The 1.8m height should be measured from **ANGL (above natural ground level).** This is a difference of 450mm. This significantly alters and lowers the level at which the 45deg envelope angle intersects the proposed building as shown on the plan.

This distortion of the building envelope plan gives an erroneous impression of the extent of the encroachments outside the allowable envelope as set out in the BSCDCP.

Please take this issue into consideration when assessing the DA.

Sincerely

G H Wegg

Date: 27 January 2017
Your Ref: DA2016/744

The General Manager
Ballina Shire Council
PO Box 450
BALLINA NSW 2478

Attention: Vince Hunt

Dear Vince,

Re: Proposed Two Storey Dwelling, Swimming Pool and Vegetation Removal – Lot 61 DP 29654 – 64 Allens Parade, Lennox Head NSW 2478

We make this submission in respect to the Development Application currently being assessed by Council under DA2016/744. We are the owners and residents of 58 Allens Parade Lennox Head which is located to the north of the proposed development site.

We have prepared this submission in consultation with our consulting town planners and architect.

The grounds for submission are as follows:

1. The development does not comply with the foreshore building line of 10.3 metres from both the northern and southern boundary as identified in Table 4.13 of Section 4.5 of Chapter 4 of the Ballina Development Control Plan (BDCP) 2012 (see below). The submitted Statement of Environmental Effects (SEE) and Site Plan incorrectly state that the required setback is 10 metres. The SEE also states that only the swimming pool encroaches within this setback but it is clearly evident that part of the dwelling being the pergola, terrace and deck encroach within the setback, no details or justification for this encroachment has been provided. Council should not entertain a variation to this development control as it is required to not only afford protection to the property itself but also to adjoining properties.

Table 4.13 – Allens Parade Area (Seawall Frontage) Building Provisions				
Address	Lot DP/SP	Habitable Floor Level (AHD)	Foreshore Building Line (from eastern lot extremity)	
			at northern boundary	at southern boundary
52 Allens Parade	Lot 2 DP 1004752	5.25m	5.7m	10.3m
56 Allens Parade	Lot 65 DP 29654	5.25m	10.3m	10.3m
58 Allens Parade	Lot 63 DP 29654	5.25m	10.3m	10.3m
64 Allens Parade	Lot 61 DP 29654	5.25m	10.3m	10.3m
44 Dress Circle Drive	Lot 58 DP 29654	5.25m	10.3m	7.0m
46 Dress Circle Drive	Lot 57 DP 29654	5.25m	7.0m	N/A

2. As identified in the SEE, the proposal does not comply with the building envelope controls as identified in Element C of Part 3 of Chapter 4 of the BDCP 2012. These encroachments are not minor as suggested in the SEE but are a significant encroachment to this development standard with a majority of the second floor of the dwelling encroaching on the building height plane. This will increase overshadowing of adjoining properties and also diminish privacy to adjoining properties. To this end, the sought variation is inconsistent to the objectives contained within Chapter 4 of the Ballina DCP as they relate to building envelopes (Section 3.1.3).
3. Over shadowing plans have not been submitted with the development application and therefore the conclusions reached within the SEE relating to amenity impacts are unable to be substantiated. Given the illustrated non-compliances with the Building Envelope and Foreshore Building Line controls, over shadowing plans should be submitted to demonstrate that the proposed development does not have an adverse impact upon adjoining properties. We are concerned that the scale of the proposed dwelling will have deleterious impacts upon solar access to our property. It is requested that Council provide these overshadowing plans to adjoining residents for further comment.
4. The location of the pool pump has not been shown on the plans. This equipment needs to be illustrated so its location may be assessed and to determine beyond any reasonable doubt that the proposed location will not cause nuisance to adjoining residents.
5. The SEE states that no untreated stormwater will be discharged from the site (page 19). The development proposes to pump stormwater from the driveway and garage directly into Councils existing stormwater infrastructure. This stormwater from the driveway and garage will contain oils/fluids from vehicles that use the driveway and garage. This stormwater is directly discharged into the ocean.
6. The non-compliances with the Building Envelope controls and the foreshore building line will cause loss of views and privacy for adjoining residents. The non-compliances with the foreshore building line will impact upon our views with the non-compliances with the building envelope controls also contributing to the adverse impact upon views from adjoining residents. Whilst we recognise one does not own views over adjoining land parcels, it is recognised the visual impact upon a property whereby it is integral to the amenity of the resident is a matter for consideration.

7. The application states that the proposal will not result in unreasonable loss of privacy to applicants. However, there are large windows proposed on the North-Western façade of the dwelling which will compromise the privacy of the master bedroom, study and 2 guest bedrooms on the South-Eastern side of our property. Additionally, the privacy of the rear neighbours will also be affected. The proposed deck that will be located within the 10.3 metre foreshore building line will also cause privacy issues to our property. More detail is needed on the treatments of these facades as it does not meet the objectives of the control within Council's DCP. Should the prescribed foreshore building line and building envelope controls be complied with, the impact upon privacy for adjoining residents will be reduced.
8. The proposal requires significant earthworks with little comment on how these earthworks will be managed within the SEE. An appropriate condition of consent should be applied to require a Construction Management Plan to be provided for the earthworks to minimise the disturbance to adjoining and adjacent properties. This is to include dust suppression and de-watering practices. Dilapidation reports for all adjoining and adjacent residents should also be required prior to construction works commencing with the cost of these reports borne by the applicant.

We are not opposed to a dwelling on the site. However, we request Council enforce the required development controls to minimise any adverse impact upon the adjoining residents and surrounding natural environment. The controls within the DCP are those applied by Ballina Shire Council to our dwelling which we were required to comply with in full. We do not believe the circumstances of the case outlined by the landowner's consultants justify the number and scale of variations sought for this current application.

We respectfully request Council to ask the applicants to redesign the dwelling to comply with the required development controls prescribed for this type of development including the foreshore building line and building envelope controls.

Yours sincerely,

Susan Walter.

Susan Walter
58 Allens Parade Lennox Head

Dr Jim Walter
58 Aliens Pde
Lennox Head
NSW 2478

27/01/2017

Your reference DA2016/744

To the general manager,

Ballina Shire Council, PO box 450, Ballina, 2478

Attention Vince Hunt,

Dear Vince,

Re: Proposed two storey dwelling, Lot 61 DP29654 – 54 Allens Pde, Lennox Head.

My wife Susan Walter owns the property adjacent to the above property on the north side, and she has made a submission regarding the DA, outlining for a number of reasons, the need for the owner to comply strictly with council building regulations.

If I may, I would like to make a submission also, outlining a few additional concerns.

As you know, this whole area is reclaimed, and although the sea wall is very effective, it seems risky for a major hole, (the underground carpark), to be dug out of the relatively small reclaimed area with the possibility of destabilising the whole area.

Secondly, I am concerned that one of your council employees recently told my neighbour directly behind the proposed dwelling, that the final approval would be "a compromise".

Three of the neighbouring properties are going to lose virtually all of their views, and although they naturally expect their views to be largely lost, even a 1% compromise in favour of the DA applicant, represents a very significant loss of views for the people situated behind him.

I would appreciate if council could ensure that the DA applicant conforms precisely to setback regulations for this reason.

Yours sincerely,

James Walter.

Phone: (02) 6687 4309

Email: jimwalter3@gmail.com

Ballina Shire Council
40 Cherry Street,
Ballina
NSW, 2478

Re: Submission for comment on Development Application 2016/744
64 Allens Parade, Lennox Head, NSW 2478
Lot 61/DP29654

To The General Manager,

As the property owner of 59 Dress Circle Drive, Lennox Head, I provide this submission in objection to the proposed development at the address listed above (DA2016/744).

My objection pertains to the building height of the proposed dwelling as follows:

1. The proposed dwelling is specified to be three storey's in height which, if equates to a rise in storey of three in accordance with C1.2 of the Building Code of Australia, I believe contravenes the Ballina Shire Development Control Plan 2012;
    I. 3.1.2 Planning Objectives:
        i. To manage the bulk and scale of residential development to avoid adverse impacts on adjoining land uses
        ii. Ensure new development recognises and responds to the privacy of adjoining premises
    II. 3.1.3 Development Controls, A. – Building Height Objectives:
        i. Ensure that the height of buildings are compatible with the bulk and scale of the locality;
        ii. Minimise adverse impacts on existing amenity of adjoining properties and scenic or landscape quality of the locality
    III. 3.1.3 Development Controls, A. – Building Height Controls
        i. Buildings with three levels or greater development must be designed to minimise overshadowing and protect privacy of occupants of adjoining buildings
2. The proposed development is within the Lennox Head Coastal Hazard Protection Area and therefore subject to the habitable floor levels as specified in Table 4.13. Assuming the basement level is non-habitable; the FFL of the second storey therefore is required to be 5.25m above AHD. As such, this may result in the building exceeding the maximum allowable building height for medium density residential development.

My major concern is that the proposed development will adversely affect the coastal views I enjoy from my property should approval be granted for the dwelling at the proposed height.
It should also be noted that the address on the site DA advertisement is 46 Alllens Parade which I believe adds a degree of ambiguity to the notification of the public.

I am happy to discuss my submission further if required.

Sincerely

Jennifer Wicks

1/6 Pinnacle Row
Lennox Head NSW 2478

30 January 2017

Mr Vince Hunt / Mr David Tyler
Ballina Shire Council
40 Cherry Street
Ballina NSW 2478

Reference DA 2016/744 Lot 61 DP 29654, 64 Allens Parade, Lennox Head

Dear Sirs,

I have only recently been made aware of this DA and now find I have 30 minutes in which to lodge this objection. I have read the various objection on the Ballina Shire website and must say that I fully support those objections, particularly those as submitted by G.H. Wegg.

At the outset, may I add that as per my call with Mr Tyler I believe that the lack of public notification on an Application that has a range of significant ramifications on the broader Lennox Head community is unacceptable. I can understand a desire to limit notifications in instances where there are minor exemptions being sought. However, in this instance, the number of exemptions and their impact are relevant to the entire Lennox Head community.

I would ask for a further extension for submissions so that I can raise this matter with various community groups including the Lennox Head Residents Association.

In order to meet your deadline, I will now simply state that I strongly object to many aspects of the development, and support all of the other objections to date. Please advise on the potential for such an extension so that I can arrange a more complete submission and also ensure that others have such an opportunity.

Ken Muldoon
0422656407

1 of 3

Mr. VINCE HUNT.
DA ~~20116/744~~ 2016/744

Dear Sir,

Thank you for your recent correspondence dated
6th FEBRUARY 2017

You have not mentioned the environmental aspects that have been previously raised with this development proposal.

The native animal habitat as mentioned in a previous letter, that being 2 pine trees and 1 pandanus tree should be taken into account as these trees are a sanctuary and also a vantage point for sea birds to be able to swoop down and catch the fish that are there in abundance in the season so that they can survive and also feed their young.

Cultural heritage is now an important aspect of our community life in Ballina Shire, the well-being of the native fauna and flora's environment is taken seriously by government authorities and indeed is part of the natural cultural heritage that unfortunately BALLINA SHIRE COUNCIL in the past discarded in the name of development.
One would expect a more mature approach by BSC on this subject pertaining to native fauna and flora with environmental health in mind.
Past development approvals by BSC has led to the degradation of the coastal amenity, Rayners Lane being a prime example of development before forethought which in

turn led to the removal of all foliage where native species once thrived.

There is a local colony of water dragon lizards that use these trees regularly as a refuge and resting place where the DA is lodged.
NATIVE reptiles and other species use the root structure of the PANDANUS tree as well. Blue tongue lizards, green tree frogs and snakes have been seen there to name just a few.
There are many species of native birds also that can be seen using these trees regularly, galas, wood pigeons, magpies, kookaburras, native butcher birds, osprey, Brahminy kite, white breasted sea eagles, frogmouth owls just to name a few, once these trees are gone so is their habitat and alas so are they to this area.
Will BSC take into account of what the removal effect of these trees will have on the native animals, birds and reptiles?
The DA in question calls for the removal of both the pine trees and a great deal of the pandanus tree.
The removal of much of the pandanus tree including the root system will have an adverse effect and could well lead to the pandanus tree being severely damaged (the lopping down of the eastern limbs and digging up removing the roots of this tree will leave it severely unbalanced and disadvantage it as to be able to withstand strong wind) or possibly incur dying, this tree is on our boundary as well.
We do not want that to happen, it is an integral part of the natural landscape.

3

The trees were there when the property was purchased, surely due diligence on the current owners prior to purchase must apply.
Objection is raised to any interference to these trees and native animal habitat refuge in any form.
Native animals that frequently use these trees must be given priority and consideration as to their habitat and future sustainability in the area of which they have lived long before any development was ever here.

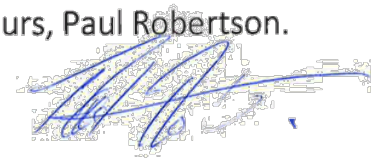
The pressure these animals are under to survive because of the expansion of coastal development is extreme and must be taken into consideration.

The rock wall is also a place where the native species use, the DA in question will remove part of the existing rock wall and yet again destroy another habitat refuge of protected native species.

It is noted you are now also adding to your title:
DEVELOPMENT and ENVIRONMENTAL HEALTH GROUP.

Does that mean that you take into account the health of the environment, including native fauna and flora species wellbeing and survival in the future?

Yours, Paul Robertson.



ENVIRONMENTAL ISSUES

DA 2016/744

Ballina Shire Councillors,

Ballina Shire Council has implemented a Significant Tree Register. There are 2 Cook Island pine trees approximately 20m tall and a magnificent example of a pandanus tree that are recognised as an iconic part of our natural foreshore landscape adjacent to the Brian Smith Boardwalk at the southern end of Seven Mile Beach.

These 3 trees are located on beachfront land adjoining the boardwalk adjacent to the "Bream Hole" and have been there since 1983.

The pine trees serve as an elevated safe hunting platform for an endangered pair of osprey and white bellied sea eagles, they are also a habitat to many other native species of animal and birds.

The large, healthy pandanus tree which has a significant aerial root system it is located on the boundary between Lot 63 and Lot 61, the subject of DA 2016/744. This is an integral part of our landscaping.

The aerial root system on the pandanus tree is a habitat of a number of native animal species, water dragon lizards, green tree frogs and a number of different species of snakes to name just a few, all use this tree and root system frequently.

The location of the 2 Cook Island Pine trees cannot be replicated by planting other trees elsewhere to offset the removal of these trees as the Osprey and Sea Eagles require an elevated position to be able to hunt. These trees give them a location with the sun behind them in the afternoons so they can see their prey and have access to deep water hunting grounds which have abundant fish.

The "Bream Hole" is a breeding ground for sea life and a unique area for migrating fish. The trees in question are in a strategic location that allow these birds to take full advantage of their position. These endangered trees should be acknowledged and protected by listing them in the Register of Significant Trees. The DA calls for the removal of these trees.

PREVIOUS ENVIRONMENT DECISIONS

A prime example is the removal of a Norfolk Island Pine at the end of Dress Circle Drive just a few years ago. Those mature and irreplaceable trees were an iconic part of the landscape.

Those trees were also used by the Osprey and White bellied sea eagles as a perch to hunt fish from the area. Unfortunately, BSC gave consent to the developer to remove of one of the trees.

The remaining tree is now dying due to its fibrous root system being impacted on by the removal of soil and earthworks associated with the other trees removal. It is unfortunate that the significant tree register which BSC has now adopted was not in place at this time.

The arborist who is compiling the report of the two Cook Island pine trees on the DA in question has also been employed by the owners of the dying Norfolk Island Pine tree for the past 18 months to try and save it but alas it is not going to survive. Consequently, neither will the Ospreys or Sea Eagles if BSC allows the removal of the last habitat in this particular area. There are no other similar trees in this location from which they can perch and hunt from these strategically positioned trees.

In his report, he did not mention that a stump grinding method allows for the removal of one tree without upsetting the root system of another tree.

ENVIRONMENT AND HABITAT PROTECTION

The protected marine park waters inside the reef provide a resting spot for mullet to lay up and gather in numbers during their annual migration north. This provides a unique hunting ground for these birds to hunt, eat, survive and raise their young. in past. The trees are providing the position, elevation and location for the current and hopefully future generations of these endangered species.

There is no other permanent location like this in our entire area which is why the endangered Osprey & white bellied Sea Eagles (to name just a few) use this location. Surely these strategically located habitat trees should/must be spared from the developer's axe.

Bundjalung peoples can testify to this aspect of how the native fauna & flora works and survives in our area.

Destruction of these iconic habitat trees, used daily by many native species of fauna, will be a massive environmental tragedy.

ROCK WALL AND OTHER KEY ISSUES
DA 2016/744

Ballina Shire Councillors,

The land at Lot 61 Allens Parade was badly eroded by the sea. It was deemed unsuitable to build on and had many restrictions placed on it. The land was reclaimed, filled with large rocks and soil and was never intended to have the reclaimed soil removed or have major earthworks involving major excavation, pile driving and extensive shoring up.

ROCK WALL AND CELLAR BEING PART OF OUR HOME.

An integral part our home has a solid rock wall alongside the narrow driveway where excavation trucks and other earthmoving equipment, concrete trucks, cranes, etc. will be working and use as their access. We also have a cellar in our home which is also located alongside the drive way.

Rock walls are static, they do not flex. The excavated driveway these trucks will be using is less than 1 metre from the rock wall on the southern side of my house. If BSC allows the DA to proceed for the underground carpark it is inevitable that the existing rock wall and

cellar will be subject to ground movement and probable structural damage.

This requires a proper and complete engineering survey, supported by documentation guaranteeing structural integrity to the adjoining properties prior to the DA being granted.

Thorough investigation of the above DA application it is essential before the underground carpark is given approval along with the removal of the three trees (see submission regarding Environmental Issues) on this land to ensure the structural integrity of the adjoining properties is not affected.

The risk of quantifiable damages being incurred and compensation being sought by the adjoining landholders must be considered if the DA proceeds or is approved in its current form. The parties to the application would be held responsible for any property damage being incurred to neighbouring land and residences. The likelihood of land slippage occurring during excavation should not be underestimated under the current application thus putting properties at risk of severe damage.

FOUNDATION AND EXCAVATING ENVIRONMENTAL AND PUBLIC HEALTH

The existing homes do not have deep pile driven foundations, they only have standard foundations. The excavation for the underground carpark runs along four of our homes boundaries. The proposed excavation is a minimum of 2.3metres depth and over 100 metres in length.

At the time of writing, (March 2017) Ballina Shire has been recorded as the driest place in NSW. Natural springs that are not visually present at the moment but are on the land must be considered prior to excavation.

NOTE: Once springs are disturbed there is no easy remedy they continually run and to my knowledge water always find the easiest way out.

The DA being sought will require pumps to discharge the natural spring and surface run off waters plus oil and residues from the vehicles using the underground carpark. Where does it go? Do they continually pump 24/7? Does it get pumped into the adjoining Cape Byron Marine Park as stormwater runoff?

An environmental issue with trucks used to cart the material away arise as the mud from the tyres, wheels

etc. will be dropped along Allen's Parade and find its way into the stormwater drain and be directly discharged into The Cape Byron Marine Park.

What happens if the sewer is broken and raw sewage seeps into the adjoining cape Byron Marine Park over a protracted period? Environmental & Public Health is of concern and BSC is obliged to ensure these issues are investigated and addressed when considering the application

MAIN SEWER LINE

I owned several lots of land adjoining the DA at the time when BSC installed the sewer line. It was constructed on sand fill with raised concrete block column supports on shallow pad foundations dug into the marshy land.

The reticulation sewer system line runs across the boundary and the driveway of the intended excavation for the underground carpark. The sewer line is 800mm below ground level and is subject to damage with the major excavation of the driveway to the car park at that

point, as well as the piling of foundations and shoring up required for the construction.

The pine and pandanus trees are well advanced. Their root systems are vast and probably go under existing concrete and landscaped paved areas on the adjoining properties. The roots also may be entwined around the council sewer line.

The pandanus tree grows directly above the sewer line and the two pine trees are a few metres away. Removal of the trees and root system may possibly cause damage to adjoining properties and the sewer line.

No one wants raw sewage issues in their back yard. This is council's main sewage line servicing our area.
It was built on land that previously was called a lagoon using sand that was imported, it is not on solid virgin ground and is subject to movement which in turn may cause the sewer line damage.

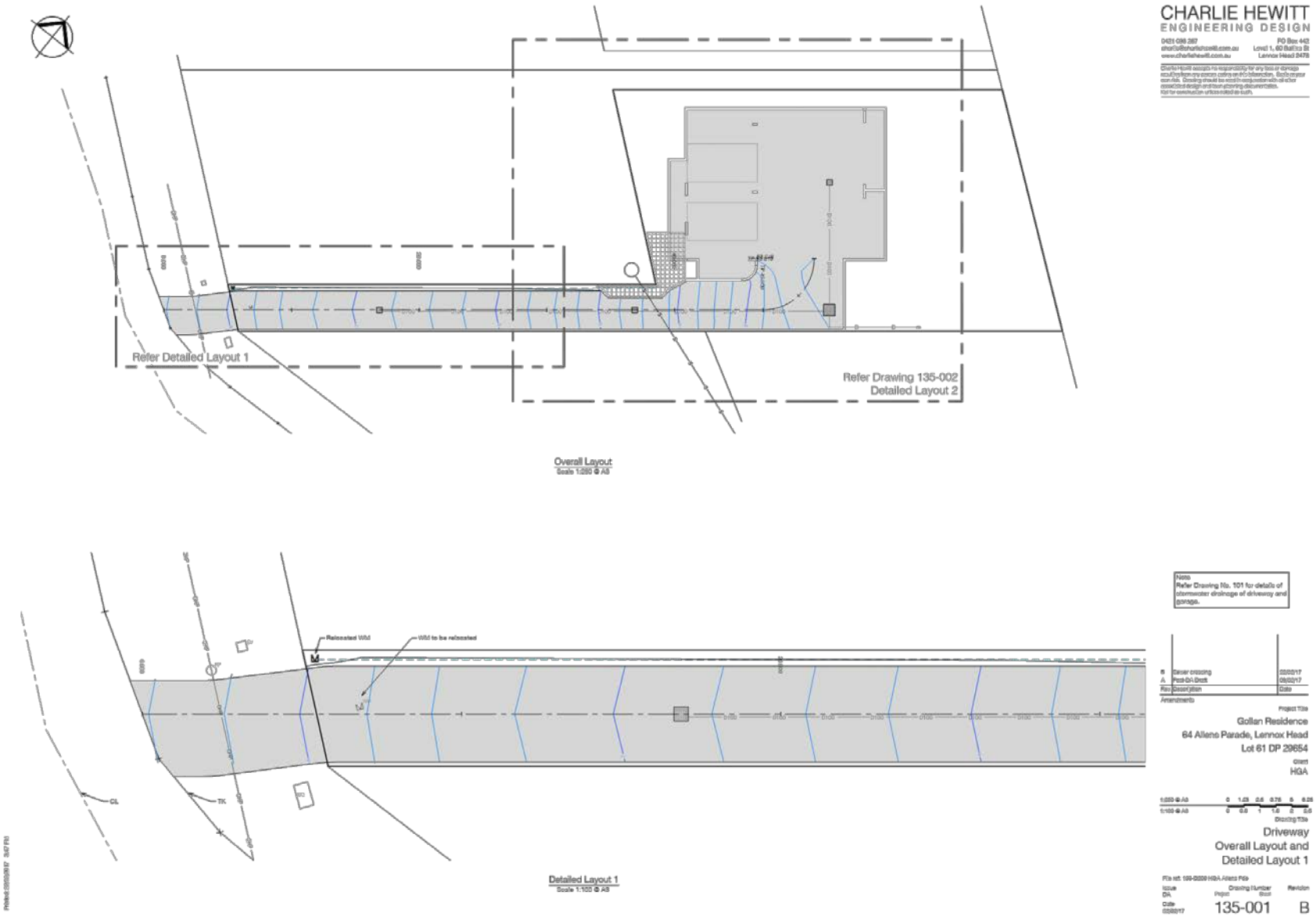
PUBLIC SAFETY

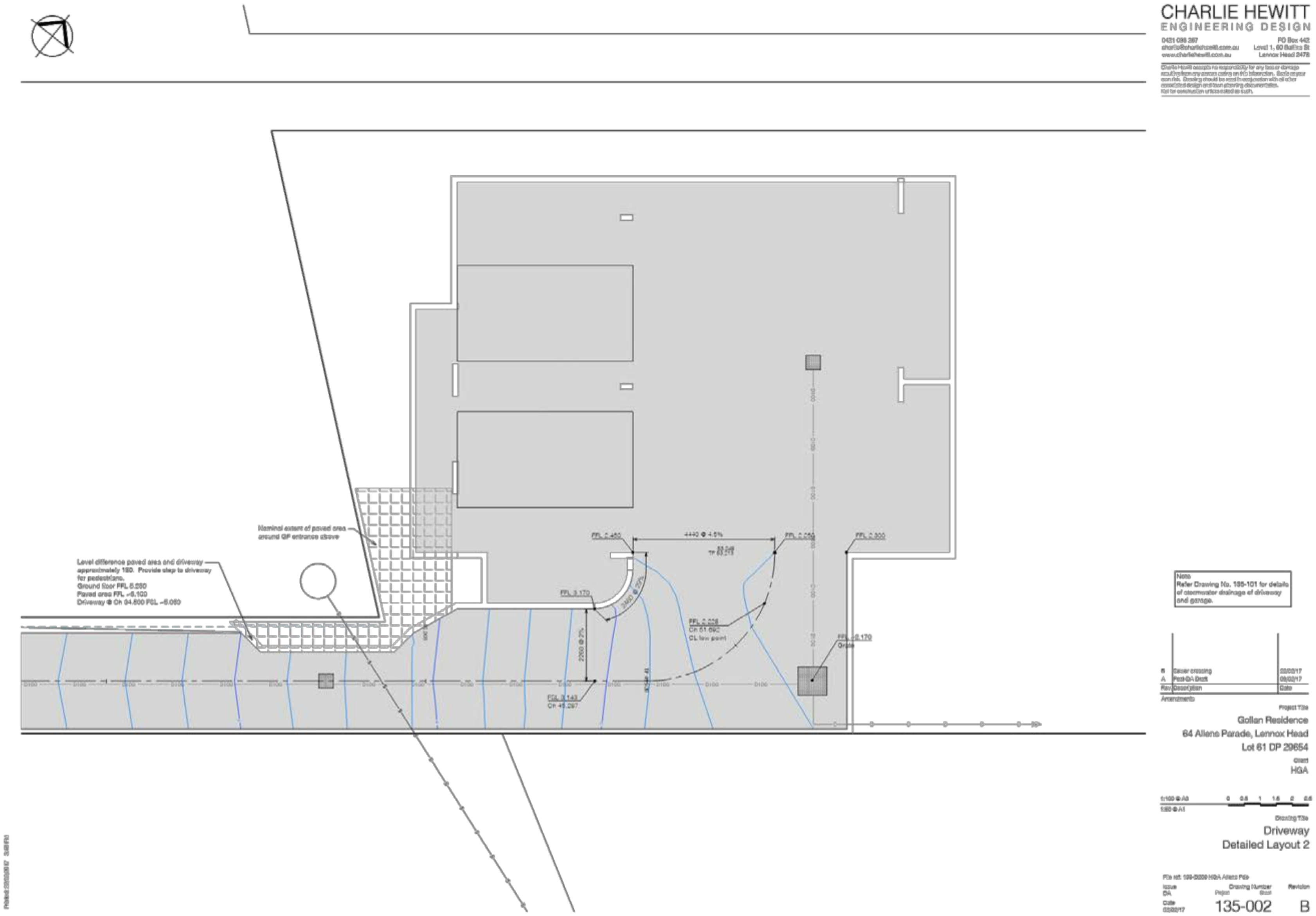
Originally the development of Allan's Parade & Dress Circle Drive did not envisage further development of the Pinnacle Row sub division. This is now a major four-way intersection with continual expansion following the sub-division of properties culminating in a large

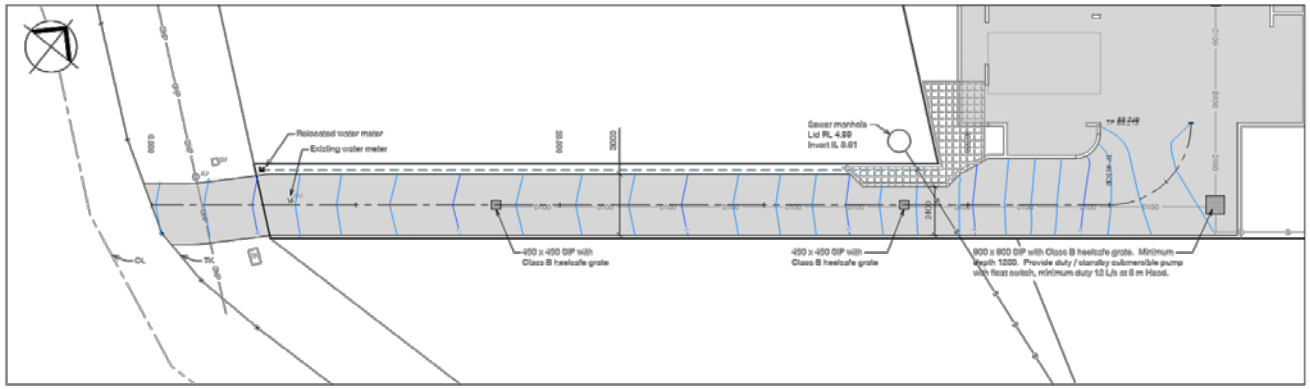
increase of vehicle and pedestrian traffic. Locals and tourists now use these streets for access to the beach, surfing spots, walking and bike tracks.
A detailed traffic movement report is required regarding the access to this driveway from Allens Parade and its proximity to the busy intersection.

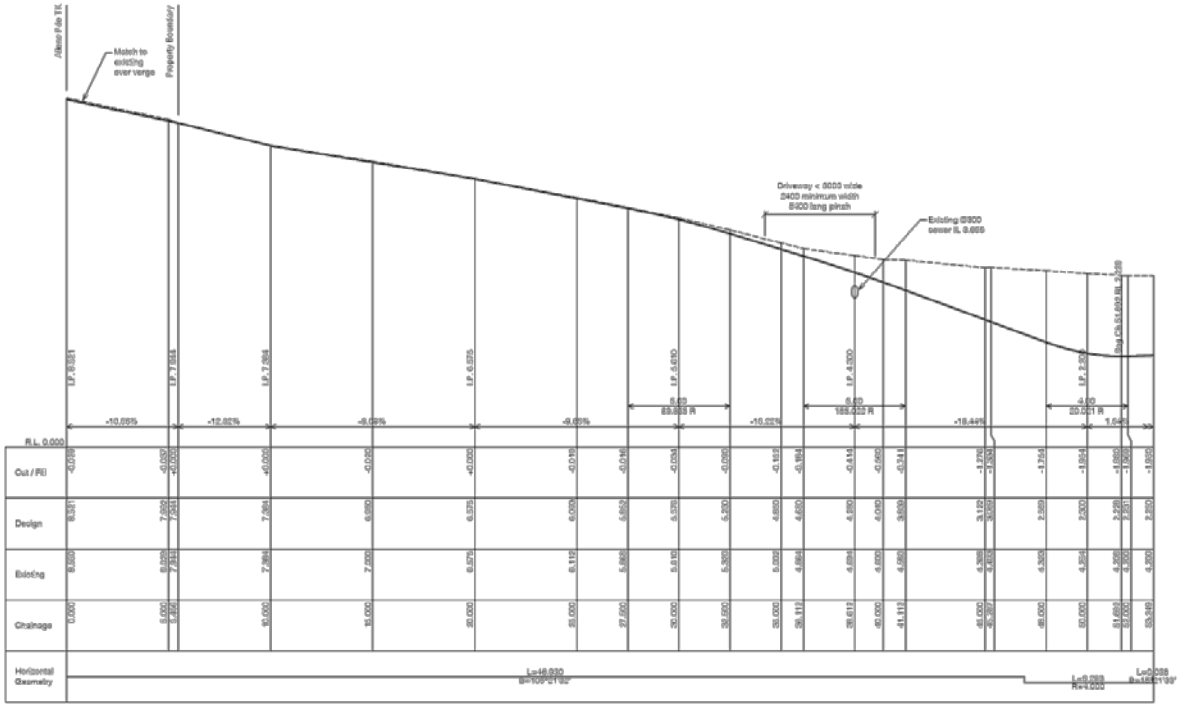
Traffic control should also be addressed during the building process as the school bus picks up and drops off children four times per day just 20 meters from the driveway access. There is no off-street parking for this development and it is anticipated that there will be over 500 large truck movements through this driveway access point being required for the underground carpark alone.
On the parking diagram provided for the DA all this is for parking only 2 cars ..... really?

There will be many more heavy truck movements, delivery trucks, concrete pumps, concrete trucks, cranes etc. using this access. All trades vehicles associated with the construction will have to park somewhere in the already narrow overcrowded streets as there is no off-street parking contingency plan associated with this DA. Pedestrian and traffic safety planning has not been addressed in the DA proposal.


CHARLIE HEWITT
ENGINEERING DESIGN
Refer Detailed Layout 1
Refer Drawing 135-002
Detailed Layout 2
Overall Layout
Scale 1:200 @ A3
Relocated Wall
Wall to be relocated
CL
TK
Detailed Layout 1
Scale 1:100 @ A3
Note
Refer Drawing No. 101 for details of stormwater drainage of driveway and garage.
B Issue for DA 03/03/17
A Post-DA Draft 09/02/17
Rev Description Date
Amendments
Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
Client
HGA
Drawing Title
Driveway
Overall Layout and
Detailed Layout 1
Issue DA
Drawing Number 135-001
Revision B
Date 03/03/17


CHARLIE HEWITT
ENGINEERING DESIGN
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
HGA
Driveway
Detailed Layout 2
135-002
B





CHARLIE HEWITT
ENGINEERING DESIGN

0421 088 287
charlie@charliehewitt.com.au
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PO Box 442
Level 1, 60 Ballina St
Lennox Head 2478

Charlie Hewitt accepts no responsibility for any loss or damage resulting from any errors, omissions or inconsistencies. Do not scale drawings. Drawing should be read in conjunction with all other consultant's design and documentation.
Not for construction unless noted as such.

Sewer Crossing Calculations

Sewer invert at d/s SMH	IL 0.010
Sewer invert at u/s SMH	IL 0.870
Sewer length	18.420 m
Sewer grade	1.41%
Distance from d/s SMH at crossing	3.188 m
Sewer invert at crossing	IL 0.630
Driveway crossfall at crossing	3% v grade
Driveway chainage at crossing	Ch 66.610
Worst case	Driveway centreline
Sewer diameter	300
Minimum cover over sewer (AS3500.2)	100
Lowest driveway level at CL Ch 66.612	RL 4.200

Rev	Description	Date
B	Sewer crossing	03/03/17
A	Post-DA Draft	09/02/17

Amendments

Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654

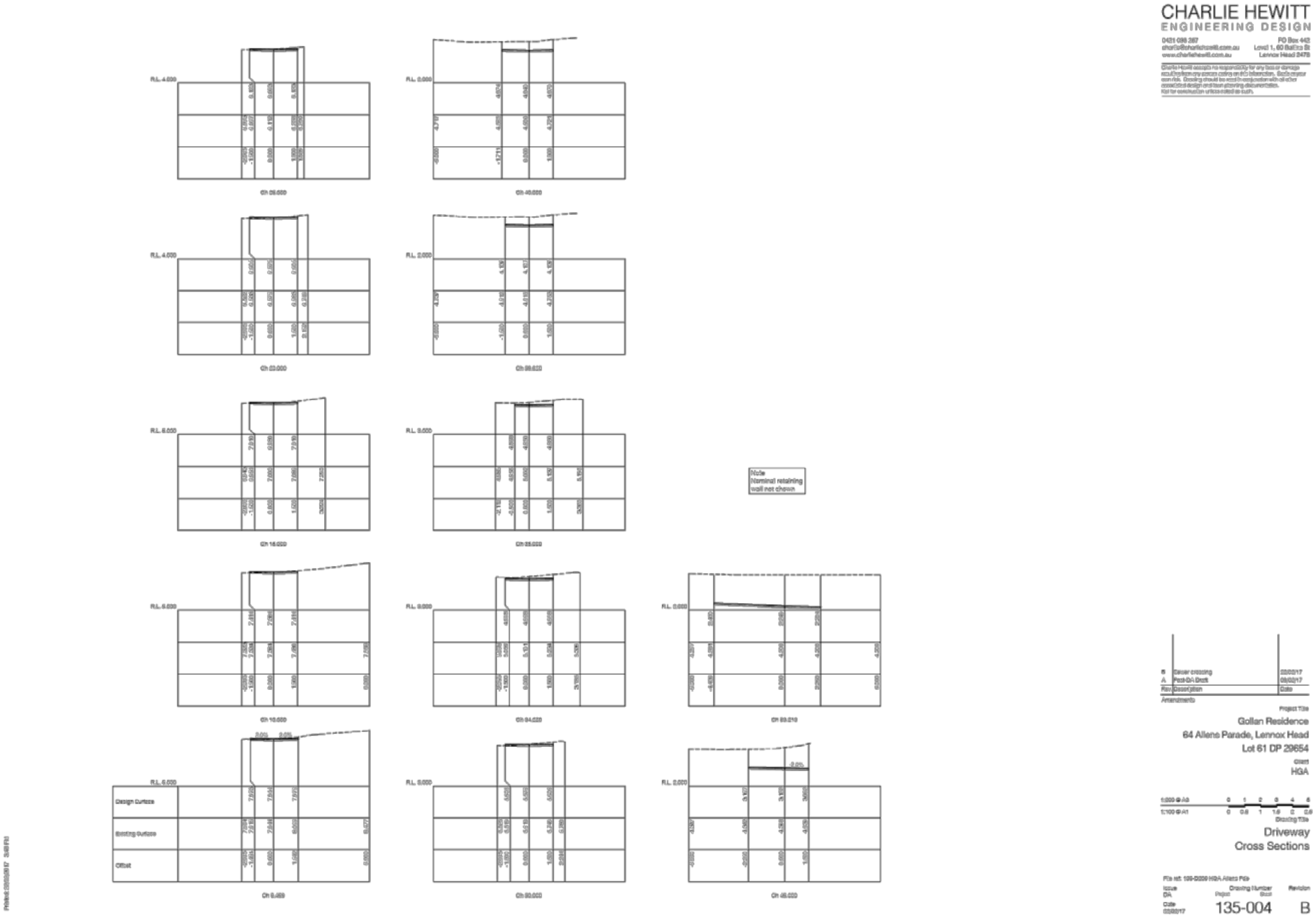
Client
HQA

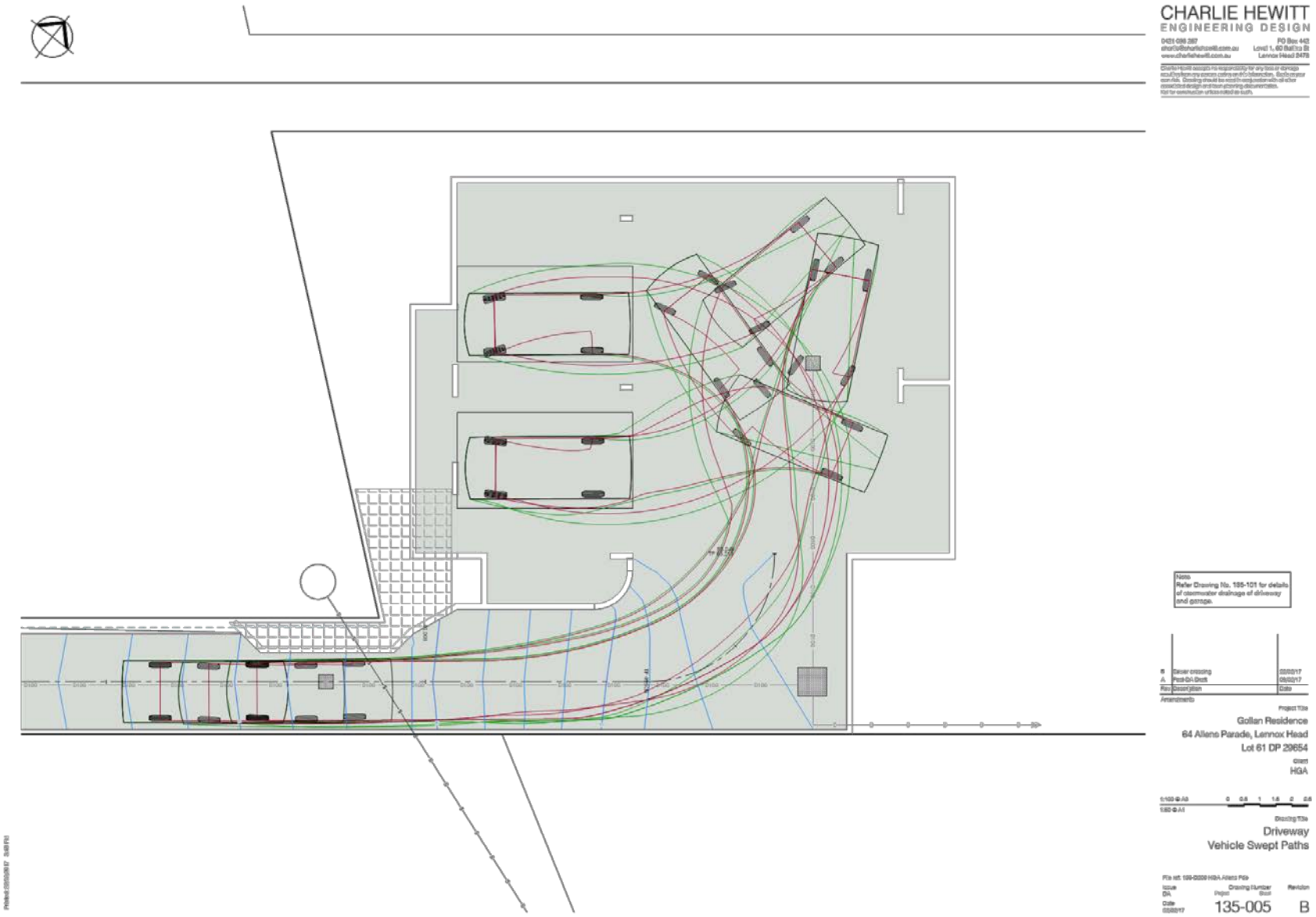
Horizontal 1:200 @ A3 0 1 2 3 4 6
Vertical 1:100 @ A3 0 0.5 1 1.5 2 2.5

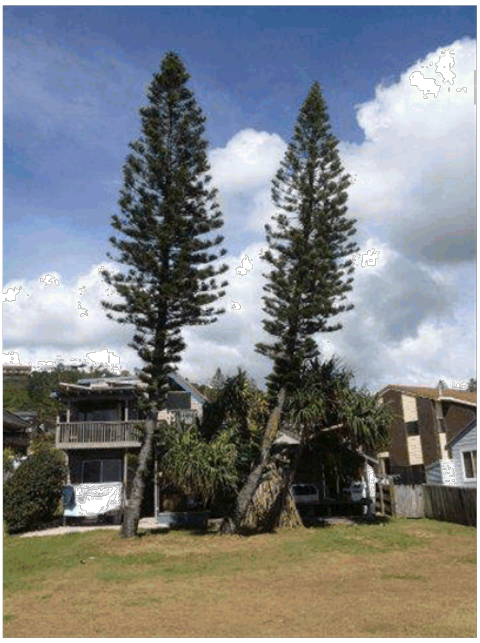
Drawing Title
Driveway
Longitudinal Section

File ref: 135-DA09 HQA Allens Pde

Issue	Drawing Number	Revision
DA	135-003	B
Date 03/03/17	Page	Sheet


CHARLIE HEWITT
ENGINEERING DESIGN
Note
Nominal retaining
wall not shown
Design Surface
Existing Surface
Offset
Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
HGA
Driveway
Cross Sections
135-004
B


CHARLIE HEWITT
ENGINEERING DESIGN
Note
Refer Drawing No. 135-101 for details of stormwater drainage of driveway and garage.
Sewer crossing
Post-DA Draft
Description
Amendments
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
HGA
Driveway
Vehicle Swept Paths
Issue
DA
Drawing Number
135-005
Revision
B



Tree Impact Assessment Report

64 Allens Parade Lennox Head NSW

Prepared for: Sharon Gollan

Date: 01 March 2017

Prepared By: Michael Hallinan
Diploma in Arboriculture
Associate Diploma in Horticulture (Arboriculture)
Bachelor of Applied Science - Environmental Resource Management

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Introduction

Background

Arbor Ecological was engaged by Sharon Gollan to undertake and report on a tree impact assessment in relation to two Cook Island Pines (*Araucaria columnaris*), hereafter referred to as the trees, and proposed building construction which is the subject of a Development Application to Ballina Shire Council. The trees are located at 64 Allens Parade Lennox Head NSW, hereafter referred to as the site, in the Ballina Shire Local Government Area.

Aim

The assessment aimed to gather, analyse and present information on tree health and condition, and the likely impact of the proposed development on trees to inform recommendations for tree retention, tree removal, tree protection and management measures.

Objectives

- To assess the health, condition and values of the trees;
- To determine the impacts of development on the trees; and
- To provide recommendations in regard to tree retention, tree protection, tree removal and management measures.

The Trees and the Site

The trees occur near the south western site boundary close to neighbouring properties as shown on Figure 1. The site lies behind the foredune south of Seven Mile Beach Lennox Head at an elevation of approximately five metres Australian Height Datum (AHD). The land is relatively level, sloping gently to the south east in the area of the trees. Sandy soil and excellent drainage prevails throughout the site. Exotic grasses dominate groundcover in the open, backyard landscape.

The Cook Island Pine is native to the Cook Islands, north east of Australia in the South Pacific. The species grows up to 60 metres in height under optimal conditions and has a distinctive narrow conical form. Some very tall specimens of the related Norfolk Island Pine (*Araucaria heterophylla*) have attained somewhat iconic and/or landmark status locally and in many Australian coastal towns.

Photographs of the site indicate that the Cook Island Pines have been planted since 1983. The site is zoned R3 Medium Density Residential under the Ballina Local Environmental Plan 2012.

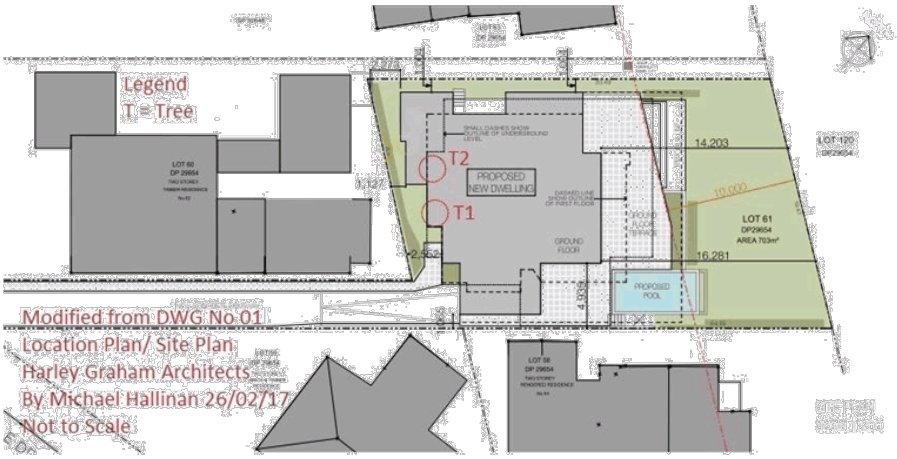


Figure 1. Indicative site plan showing trees in relation to the proposed development.

Assessment Methods

On 26/02/17, Michael Hallinan made an assessment of the trees and their growing environment. Tree health and condition was examined via a Visual Tree Assessment (VTA)[1]. Binoculars were used to view upper parts of the tree; a clinometer to measure tree height and lean, fibreglass sounding hammer to assess tree hollowness; and a pointed metal probe to lift bark, examine any accessible decay, and assess soil type. Reviews were made of aerial photography, a 1983 photograph and development plans for the site.

This report uses AS4970 2009 *Protection of trees on development sites*[2] as a primary reference and guide for recommendation regarding tree retention, tree protection, tree removal and management measures.

[1] Visual Tree Assessment (VTA) is a standard method for tree inspection from ground level of overall vitality, health, stability and defect symptoms. Inspection may be undertaken with the aid of binoculars, probes and sounding mallet, and includes inspection of a range of tree features and environmental factors. More detailed tree part inspection may be recommended as a result of VTA (Mattheck, C & Breloer, H 1994, *The body language of trees, a handbook for failure analysis*, TSO Her Majesty's Stationary Office, London, England.).

[2] Standards Australia 2009, *AS4970-2009 Protection of trees on development sites*, Standards Australia, Sydney.

Results and Discussion

Tree features and characteristics are noted below in Table 1 and shown in Plates.

Table 1. Tree features and characteristics.

	Tree 1. Cook Island Pine	Tree 2. Cook Island Pine
Age class[3]	Semi-mature	Semi-mature
Height	18m	17m
Average Crown spread	5m	5m
Diameter at Breast Height (DBH)[4]	51cm	53cm
Diameter above root buttress	57cm	60cm
Health[5]	Good	Good
Structural defects[6]	17^0 lean (partially corrected) on lower trunk to NW. Low to moderate Live Crown Ratio (LCR)[7] from removal of lower branches (crown raised or lion-tailing).	31^0 lean (uncorrected) on lower trunk to N. Girdled structural root[8] to the west. Extensive compression cracks[9] in compression wood[10] extending vertically from the root collar on the northern side. Low to moderate Live Crown Ratio (LCR)[7] from removal of lower branches (crown raised or lion-tailing).
Condition[11]	Fair	Poor
Site Factors	Concrete pavement over part of root zone 2m to the west	A retaining wall over part of root zone 4m to the west
Conservation Values	Shade and visual and amenity values. Reportedly used by perching Osprey	

[3] Age class categories: (**Y**) Young refers to a juvenile, established tree; (**SM**) Semi-mature refers to a tree between immaturity and full size; (**M**) Mature refers to a full size tree with capacity for some further growth; (**OM**) Over-mature refers to a tree in decline.
[4] Diameter at Breast Height (DBH) refers to the diameter of the trunk measured at breast height (1.4m above the ground) (Matheny, NP & Clark, JR 1994, *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas*, 2nd ed., International Society of Arboriculture, Illinois, USA.).
[5] Health refers to observations of crown density; vigour, foliage size and colour; extension growth, presence and extent of pests, diseases, deadwood, dieback and epicormics growth. Observations are made relative to species profiles of normal growth characteristics and expressed as (**G**) Good, (**F**) Fair, (**A**) Average, (**P**) Poor and (**VP**) Very Poor.
[6] Structural defects are physiological faults that can increase the risk of failure. They are either naturally occurring (e.g. from storm damage, pests, pathogens, wind and gravity forces), or from human activities, e.g. poor planting and pruning practices.
[7] Live Crown Ratio (LCR) is the ratio of the height of the live crown to the height of the entire tree.
[8] Girdled roots are roots that encircle all or part of the trunk or other roots , constricting vascular tissue and inhibiting growth, water movement and photosynthesis (Dunster et al 2013).
[9] Compression crack refers to fracture, separation or splitting of wood fibres caused by compressive stress (Dunster et al 2013).
[10] Compression wood is reaction wood (wood formed in leaning stems to counteract the effects of gravity) in gymnosperms that develops on the underside of branches and leaning trunks, and is important for load bearing (Dunster et al 2013).
[11] Condition is a combination of the tree health and structure expressed as (**G**) Good, (**F**) Fair, (**A**) Average, (**P**) Poor and (**VP**) Very Poor.

The Cook Island Pines are highly exposed to strong and prevailing winds[12] from the south and north east. Strong and prevailing southerly winds are the primary cause of tree leans to the north north-west.

Cook Island Pines regularly develop characteristic leans. Tree 2 has developed compression wood[10] on the north side in response to significant loading[13] from gravitational forces associated with a considerable and uncorrected lean to the north, and strong and prevailing southerly winds. Extensive compression cracks[9] have developed in compression wood extending vertically from the root collar on the northern side of the stem. This represents a major failure of load bearing capacity which substantially elevates the risk of tree failure when combined with a considerable and uncorrected lean, significant loading and exposure, and a defective girdled structural root.

No formal risk assessment has been made, nor an assessment of Safe Useful Life Expectancy (SULE)[14]. However, the main target[15] in the event of tree failure is the neighbouring house and its occupants to the north northwest, approximately ten metres from the base of the tree and well within the tree fall zone. Tree 2 is therefore recommended to be removed whether or not the development proceeds.

Since the two trees have grown together as a unit, removal of Tree 2 would likely adversely impact the remaining Cook Island Pine (Tree 1) as a result of increased exposure and structural root disturbance. It is considered that removal of Tree 1 is also justifiable as a consequence.

Impact Assessment

Indicative Tree Protection Zone (TPZ)[16] details according to Standards Australia (2009) (*AS 4970 Protection of trees on development sites*) are as follows:

Tree 1
TPZ = 6.12m (radius)
TPZ Area = 118m^2

Tree 2
TPZ = 6.36m (radius)
TPZ Area = 127m^2

---

12 Australian Government Bureau of Meteorology (BoM), *Climate Data Online*, retrieved 26 February 2017, http://www.bom.gov.au/climate/data/

13 Loads include dynamic load from wind and static load from gravity acting on a tree (Dunster et al. 2013).

14 SULE refers to the length of time that the arborist assesses a tree can be retained with an acceptable level of risk based on the information available at the time of inspection (Barrell Tree Consultancy 2009, *Tree AZ, Pre-planning tree surveys: Safe Useful Life Expectancy (SULE) is the natural progression*, retrieved 26 February 2017, www.TreeAZ.com).

15 Targets are people, property or activities that could be injured, damaged or disrupted by a tree (Dunster et al. 2013).

16 The Tree Protection Zone (TPZ) is a restricted area on development sites, usually delineated by protective fencing and signs, for the protection of tree roots and crown. It is installed prior to site establishment and retained intact until completion of the works (Standards Australia 2009).

Note that Standards Australia (2009) allows for variations to be made to the TPZ by a qualified arborist if impacts are able to be mitigated to an acceptable level. Tree protection measures have however not been specified at this point since the trees are not proposed to be retained.

Figure 1 shows that the proposed development construction and excavation would occur in the areas occupied by the tree trunks and roots. The proposed development would therefore physically displace the two trees making it impossible to retain the trees and necessitating tree removal.

As a consequence, no calculations have been made of the distance from trunk centre to edge of proposed building; proposed TPZ encroachment area and percentage of TPZ; Structural Root Zone (SRZ)[17]; and proposed SRZ encroachment area and percentage of SRZ.

As a compensatory measure for tree loss, the proponent has offered to purchase four advanced stock of Cook Island Pines (*Araucaria columnaris*) and have them professionally planted in nearby public reserves of Council's choosing.

Recommendations and Conclusions

Tree two is recommended to be removed since it has developed extensive compression cracks9 in compression wood10 extending vertically from the root collar on the northern side of the stem. This represents a major failure of load bearing capacity which substantially elevates the risk of tree failure when combined with a considerable and uncorrected lean, significant loading and exposure, and a defective girdled structural root.

Tree 1 may also be justifiably removed since it has grown and developed together as a unit with Tree 2, and the removal of Tree 2 would likely increase its exposure and structural root disturbance.

The proposed development would physically displace roots and trunks of the two trees making it impossible to retain the trees and necessitating tree removal.

As a compensatory measure for tree loss, the proponent has offered to purchase four advanced stock of Cook Island Pines (*Araucaria columnaris*) and have them professionally planted in nearby public reserves of Council's choosing.

If the two trees are retained, structural stability of the trees is recommended to be monitored by a suitably experienced and qualified arborist (AQF level 5 / Diploma level) at annual intervals and following severe storms.

[17] The Structural Root Zone (SRZ) is the area required for tree stability. It only needs to be calculated when major encroachment into a TPZ is proposed. A larger area than the SRZ is required to maintain a viable tree (Standards Australia 2009).

Consideration should be given to Ballina Shire Development Control Plan 2012, Chapter 2a - Vegetation Management, and further advice should be sought if required, prior to any further tree removal or pruning on the site.

New landscape plantings planned for the site should be made up of non-invasive species selections. Locally occurring, indigenous, native species should be considered.

General Assumptions and Limitations

- Information in this report relates only to the trees examined and reflects their condition at the time of inspection.
- Information presented in this report relies on plans and other information provided by the client.
- This assessment was limited to visual examination of accessible items without climbing, coring, dissecting or excavating. No responsibility is assumed for any tree defects that could only have been discovered by performing climbing, coring, dissecting or excavating.
- Arbor Ecological bears no responsibility for the means and methods used by any party that implements the recommendations in this report.

Plates

Plate 1. The subject Cook Island Pines with considerable leans, particularly Tree 2.

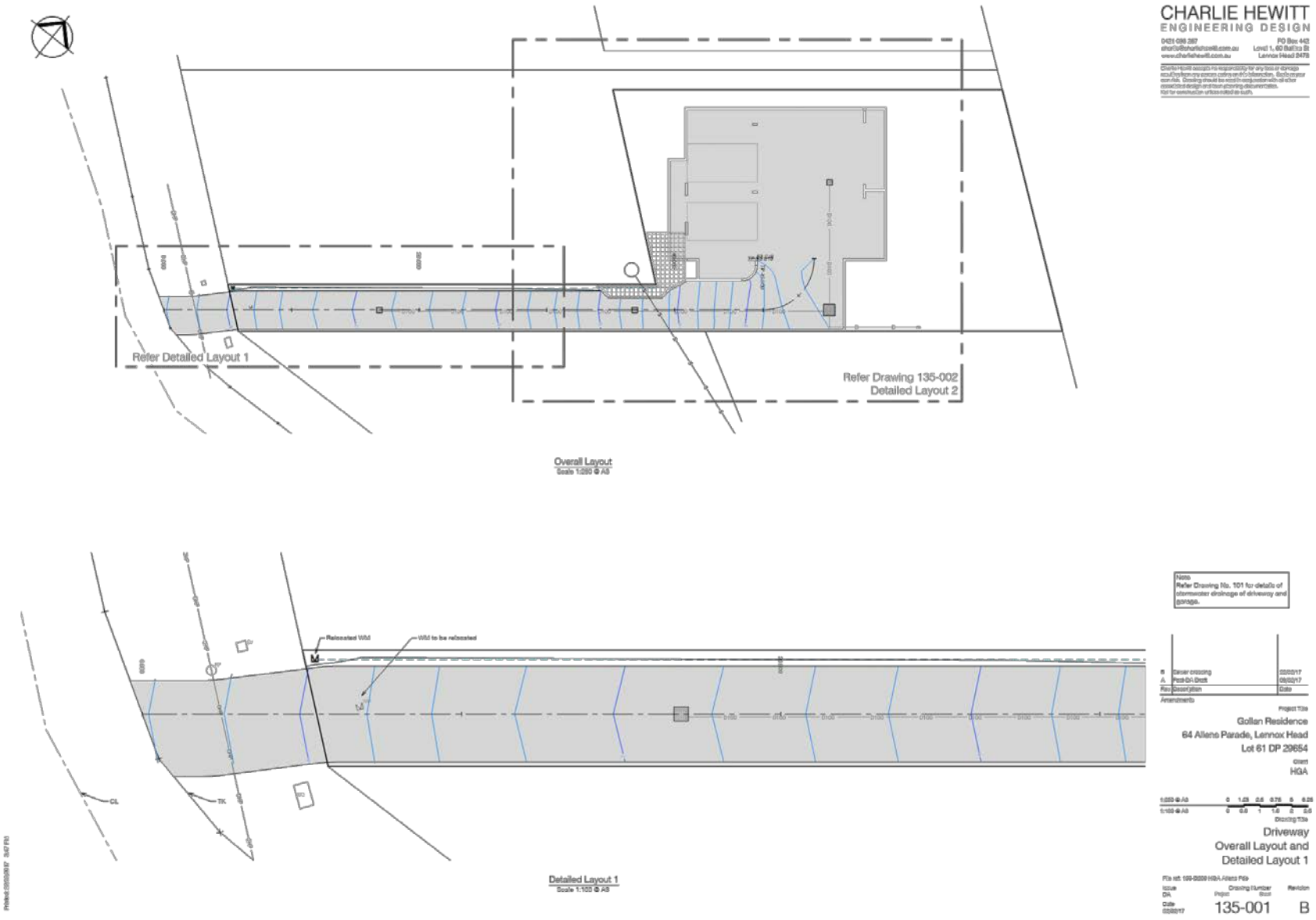
Plate 2. Compression cracks in compression wood extending vertically from the root collar on the northern side of Tree 2.

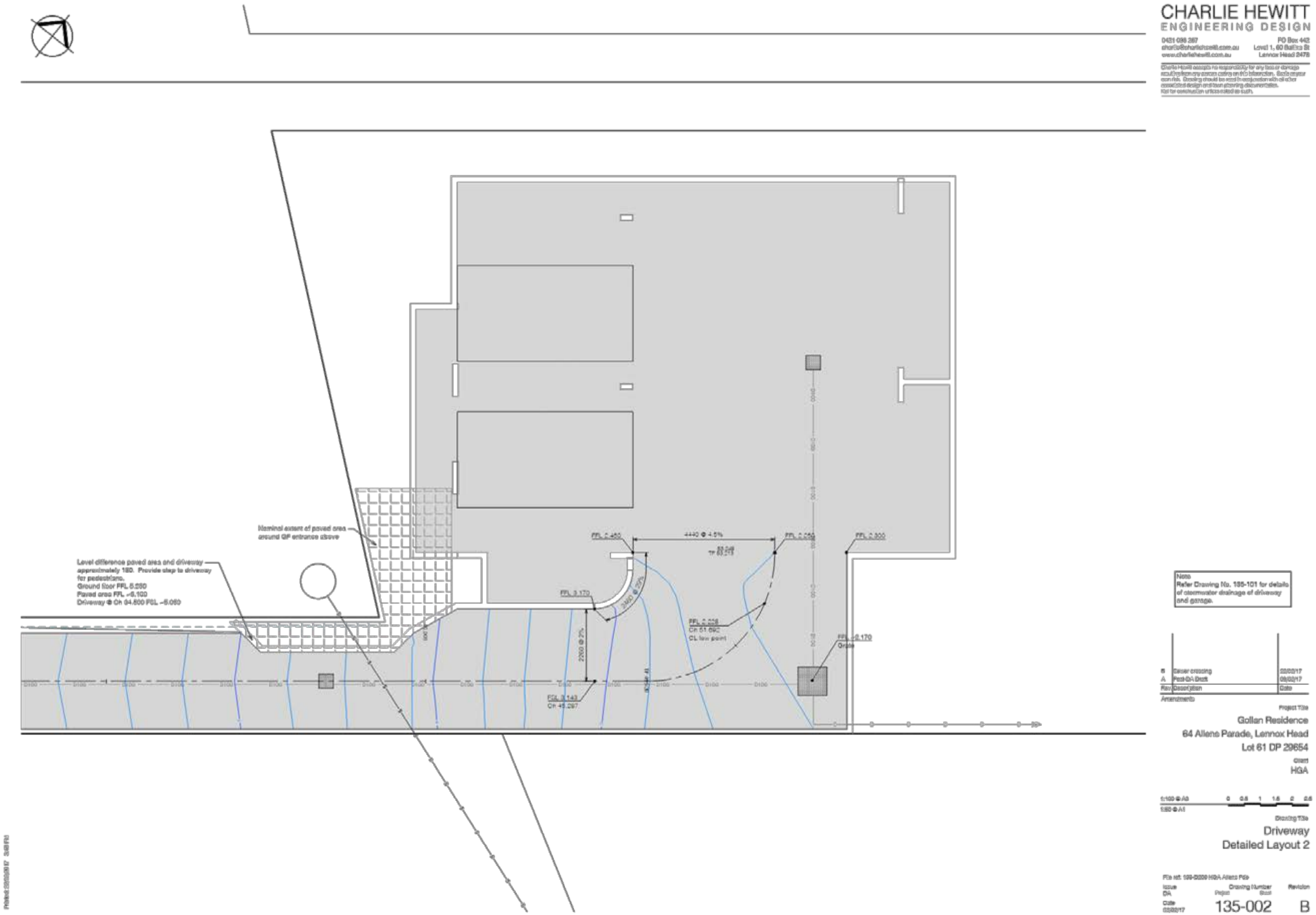
Plate 3. Compression cracks in compression wood extending vertically up the stem of Tree 2.

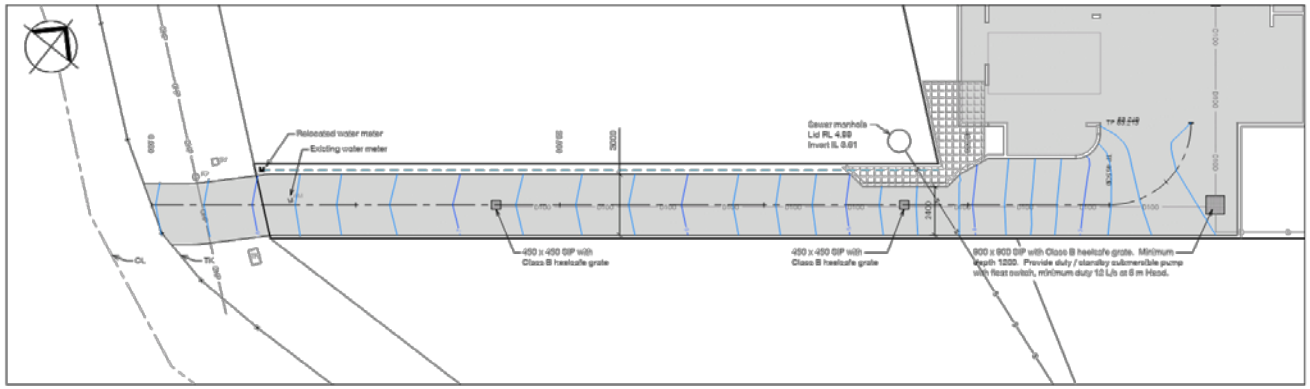
Plate 4. Defective girdled structural root of Tree 2 at the soil surface.

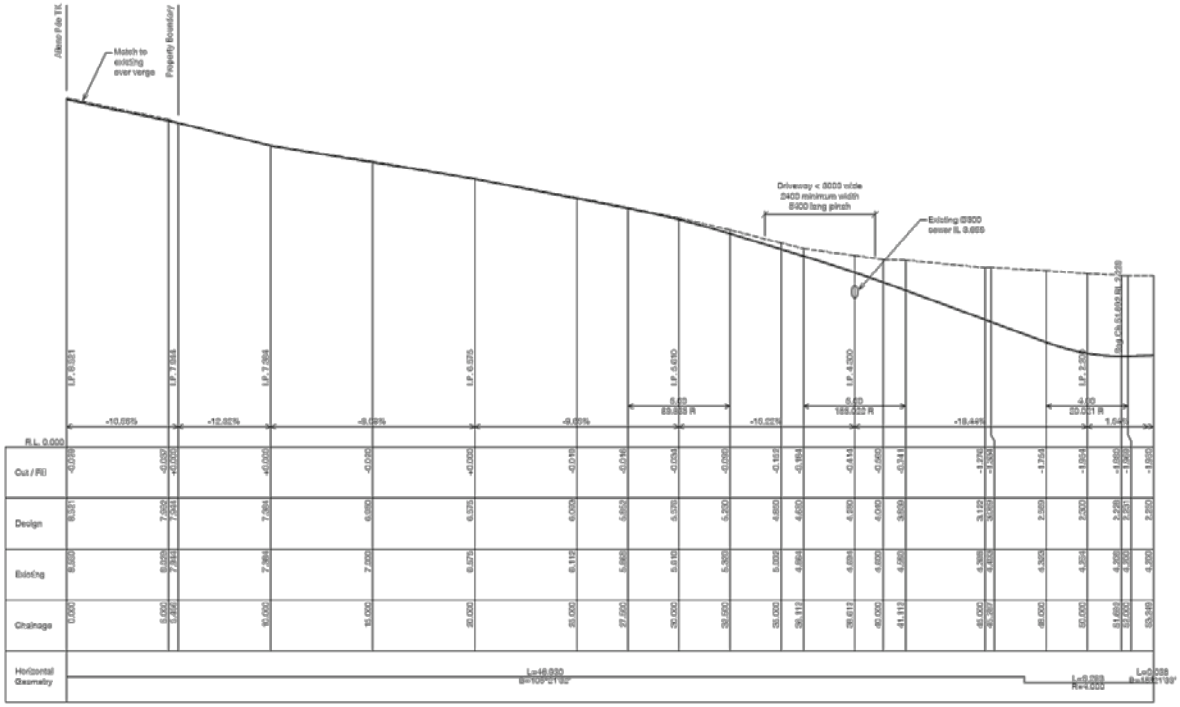
Plate 5. Exposed surface roots and sandy soil at the base of Tree 1.

Plate 6. 17° lean (partially corrected) on the trunk of Tree 1 (left), and 31° lean (uncorrected) on the trunk of Tree 2 (right). Low to moderate Live Crown Ratio (LCR) from removal of lower branches (crown raised or lion-tailing).


CHARLIE HEWITT
ENGINEERING DESIGN
Refer Detailed Layout 1
Refer Drawing 135-002
Detailed Layout 2
Overall Layout
Scale 1:200 @ A3
Relocated Wall
Wall to be relocated
CL
TK
Detailed Layout 1
Scale 1:100 @ A3
Note
Refer Drawing No. 101 for details of stormwater drainage of driveway and garage.
B Issue for DA 03/03/17
A Pre-DA Draft 09/02/17
Rev Description Date
Amendments
Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
Client
HGA
Drawing Title
Driveway
Overall Layout and
Detailed Layout 1
Issue DA
Drawing Number 135-001
Revision B
Date 03/03/17


CHARLIE HEWITT
ENGINEERING DESIGN
Nominal extent of paved area around GF entrance above
Level difference paved area and driveway approximately 180. Provide step to driveway for pedestrians.
Ground floor FFL 5.250
Paved area FFL ~5.100
Note
Refer Drawing No. 135-101 for details of stormwater drainage of driveway and garage.
Amendments
Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
HGA
Drawing Title
Driveway
Detailed Layout 2
Drawing Number
135-002
Revision
B





CHARLIE HEWITT
ENGINEERING DESIGN

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Level 1, 60 Ballina St
Lennox Head 2478

Charlie Hewitt accepts no responsibility for any loss or damage resulting from any errors, omissions or inconsistencies. Do not scale drawings. Drawing should be read in conjunction with all other consultant's design and documentation. Not for construction unless noted as such.

Sewer Crossing Calculations

Sewer invert at d/s SMH	IL 0.010
Sewer invert at u/s SMH	IL 0.870
Sewer length	18.420 m
Sewer grade	1.41%
Distance from d/s SMH at crossing	3.188 m
Sewer invert at crossing	IL 0.630
Driveway crossfall at crossing	2% v grade
Driveway chainage at crossing	Ch 66.610
Worst case	Driveway centreline
Sewer diameter	300
Minimum cover over sewer (AS3500.2)	100
Lowest driveway level at CL Ch 66.612	RL 4.200

Rev	Description	Date
B	Sewer crossing	03/03/17
A	Post-DA Draft	09/02/17

Amendments

Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654

Client
HQA

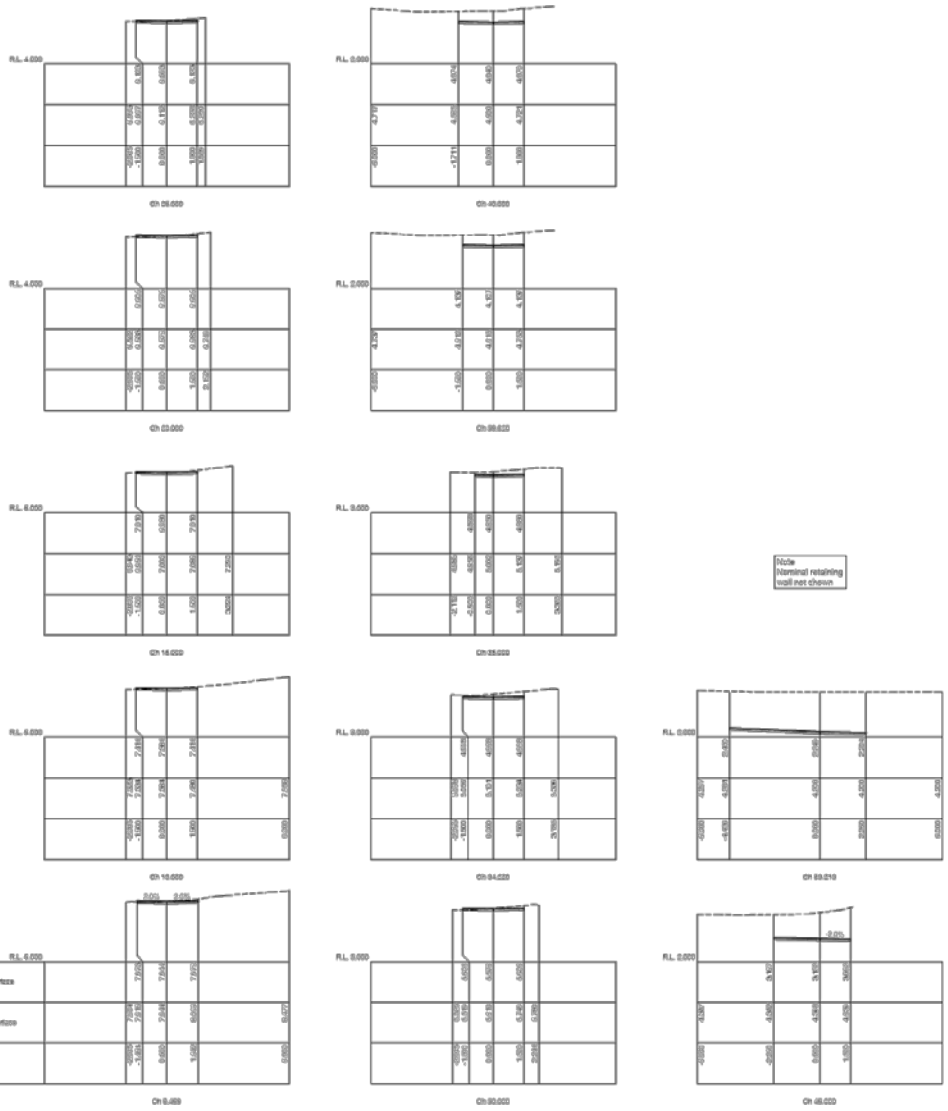
Horizontal 1:200 @ A0 0 1 2 3 4 6
Vertical 1:100 @ A0 0 0.5 1 1.5 2 2.5

Drawing Title
Driveway
Longitudinal Section

File ref: 135-DA HQA Allens Pde

Issue	Drawing Number	Revision
DA	135-003	B

Date 03/03/17



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Rev	Description	Date
B	Sewer crossing	03/03/17
A	Post-DA Draft	09/02/17

Amendments

Project Title
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654

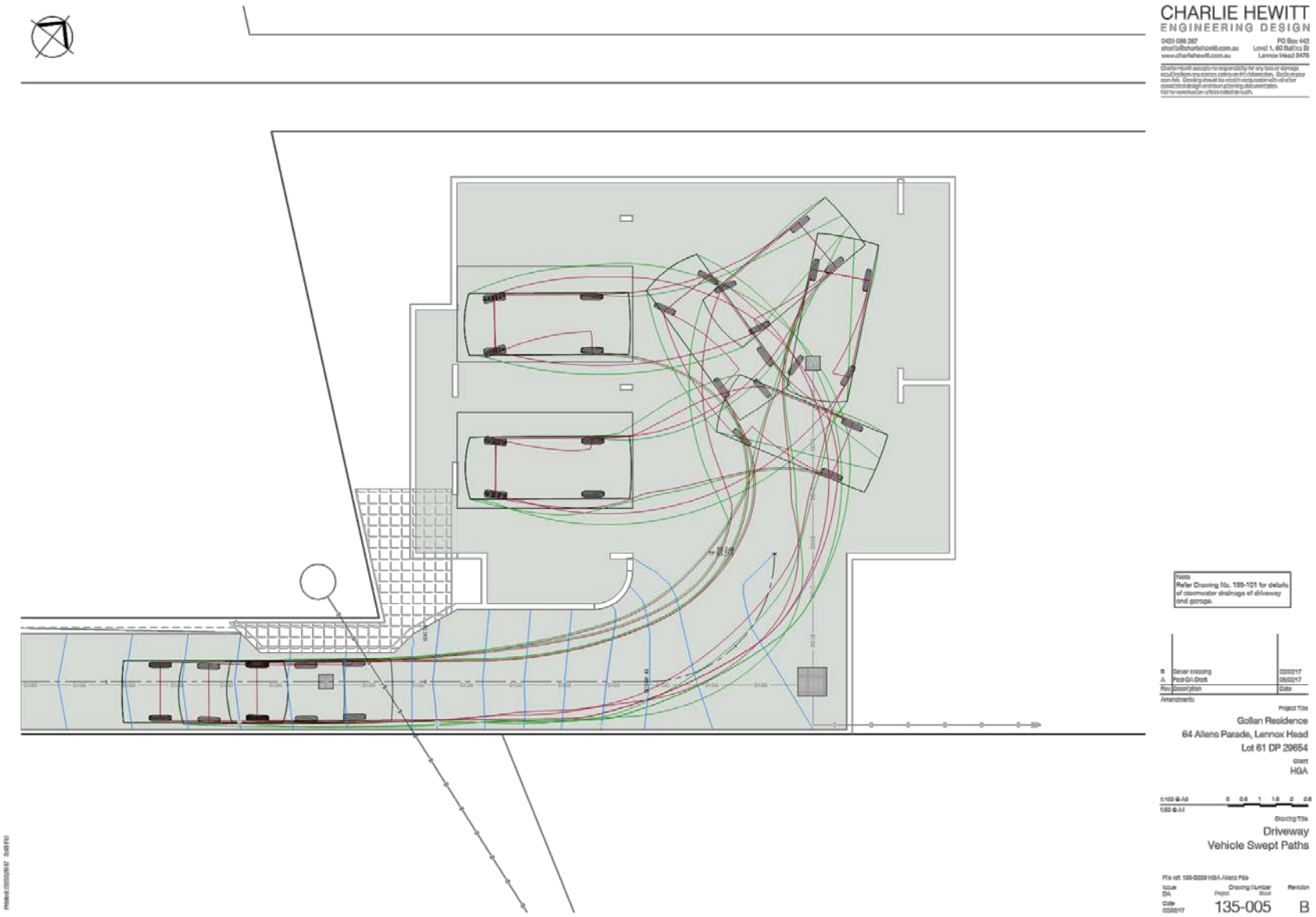
Client
HQA

1:500 @ A3 0 1 2 3 4 5
1:100 @ A1 0 0.5 1 1.5 2 2.5

Drawing Title
Driveway
Cross Sections

File ref: 135-DA Allens File

Issue	Drawing Number	Revision
DA	135-004	B
Date 03/03/17		


CHARLIE HEWITT
ENGINEERING DESIGN
Note:
Refer Drawing No. 135-101 for details of stormwater drainage of driveway and garage.
Sewer crossing
Post-DA Draft
Description
Amendments
Gollan Residence
64 Allens Parade, Lennox Head
Lot 61 DP 29654
HGA
Driveway
Vehicle Swept Paths
135-005
B

civil consult

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Matt Gollan
LENNOX HEAD, NSW
Attention: Matt Gollan

ENGINEERING REPORT

Investigation and Site Classification

Job No. 16046 **Rev No.** 0 **Date** 31/10/2016

1 Introduction

This report presents the results of a geotechnical investigation carried out at the site of a proposed residential development at 64 Allens Parade, LENNOX HEAD, NSW.

The focus of the geotechnical investigation was on the foot print of the proposed development with boreholes located across the site.

The scope of the services provided by Civil Consult included the following;

- Geotechnical investigation and report to AS 2870
- Indicative Site classification
- Factual findings of the investigation
- Presentation of the subsurface profile

AS2870 provides the following comments in relation to site classification, "Site classification is based on the expected ground surface movement and the depth to which this movement extends". This classification is undertaken for sites where ground movements occur due to normal moisture conditions such as those caused by seasonal and regular climatic effects, allowing appropriate footing types to be designed to accommodate expected movements across a site.

2 Site Conditions

2.1 Site Description

The site is located on a residential allotment approximately 1km South East of Lennox Head and covers an area of approximately 702 m^2. Accessed from the street between existing properties along the southern boundary, the lot is bordered by dwellings to the south west, north west and south east. The South Pacific Ocean lies to the north east below a steep sloping rock retaining wall and wooden board walk. Two gentle slopes running the length of the block and meeting at a low point approximately in the centre of the allotment. The site is primarily grassed. There are Pandanus palms

and shrubs situated along the south western boundary, a brush fence between allotments along the southern boundary and an easement along the northern boundary.

2.2 Site Geological Setting

The site is identified as part of the Angels Beach landscape (ab) as defined by Morand (1994)[1]. The Angels Beach landscape is defined as level to gently undulating plains of extremely low relief barrier beaches with their extent determined by the surrounding headlands. The topography is subject to continual change in response to wave energy and tidal dynamics. Reference to The Lismore-Ballina 1:100 000 geological map indicates that the site is underlain by Quaternary (Holocene) beach and dune sand. Beaches consist predominantly of coarse-grained quartz sand with some shell fragments. Dunes consist of fine to coarse-grained Aeolian quartz sands.

3 Field Investigation

3.1 Field Work Undertaken

Three boreholes were drilled on the 26/10/2016; BH1, BH2 and BH3 were excavated using a utility mounted power auger to a maximum depth of 1.0m, 5.4m and 0.4m respectively.

The borehole locations were selected and marked out by Civil Consult using plans provided by the client. Borehole locations targeted the footprint of the proposed development.

Dynamic Cone Penetrometer (DCP) were undertaken adjacent to the boreholes and the results are presented in the boreholes logs at the end of this report.

A Site Plan identifying approximate location of each borehole can be found in Appendix A.

Engineering logs are presented in Appendix B.

3.2 Subsurface Profile and Description

A summary of the subsurface profile at the south eastern boundary of the allotment at BH1 is described as follows:

Silty SAND (TOP SOIL) – medium dense, fine to medium grained, dry with organics from 0m to 0.2m below surface;

Silty SAND (UNCONTROLLED FILL) – dense to very dense, fine to medium grained, slightly moist with trace gravel and medium plasticity clay from 0.2m to 1.0m below surface.

BH1 refused at 1.0m below surface on possible cobbles and boulders.

A summary of the subsurface profile in the centre of the allotment at BH2 is described as follows:

Silty SAND (TOP SOIL)	– medium dense, fine to medium grained, dry with organics from 0m to 0.2m below surface;
Silty SAND (UNCONTROLLED FILL)	– medium dense to very dense, fine to medium grained, slightly moist to moist with trace gravel and medium plasticity clay from 0.2m to 2.0m below surface;
GRAVEL (UNCONTROLLED FILL)	- possible cobbles and boulders from 2.0m to 2.3m below surface;
PEAT (RESIDUAL)	- very soft to soft, medium to coarse grained, low plasticity organic clay, moist with trace gravel from 2.3m to 2.6m below surface;
Silty SAND (ALLUVIAL)	-dense to very dense, fine to medium grained, very moist to wet from 2.6m to 5.4m below surface.

A summary of the subsurface profile at the central western boundary of the allotment at BH3 is described as follows:

Silty SAND (TOP SOIL)	– medium dense, fine to medium grained, dry with organics from 0m to 0.2m below surface;
Silty CLAY (UNCONTROLLED FILL)	– stiff, medium plasticity, dry with trace fine to medium sand from 0.2m to 0.3m below surface;
GRAVEL (UNCONTROLLED FILL)	- medium dense, medium to coarse grained, dry from 0.3m to 0.4m below surface.

BH3 refused at 0.4m below surface on possible cobbles and boulders.

4 Field Work Results and Recommendations

4.1 Adopted Site Classification

Due to the presence of significant depths of uncontrolled fill, this site must be classified as "Class P" in accordance with AS2870 and should be designed in accordance with engineering principles, as per Section 4 of AS 2870.

The classification provided above is based on performance and maintenance requirements in Appendix B of AS2870-2011, and site maintenance shall be undertaken in accordance with the provisions of CSIRO BTF 18, 'Foundation Maintenance and Footing Performance: A Homeowners Guide', which is attached at the end of this report.

4.2 Deep Foundations in sand

Preliminary allowable bearing pressures for the subsurface profile encountered at the site are presented in Table 1.

Table 1 – Ultimate Pile Geotechnical Parameters for Driven Piles

Stratum	Description	Ult. End Bearing fb (kPa)(1-8)	Ult. Shaft Friction, fs (kPa) (1-8)
UNCONTROLLED FILL	Silty SAND (MD-VD)	Not recommended	Not recommended
NATURAL (ALLUVIAL) At 6.0m Below Footing Level	Silty SAND (D-VD)	2000	60

1 Final pile type to be designed and confirmed by structural engineer prior to the commencement of construction.
2 Parameters presented are for displacement piles only.
3 Bearing pressures shown are for piles in compression only.
4 A geotechnical strength reduction factor (ϕ_g) of 0.5 should be applied to the ultimate geotechnical strength (R_{ug}) to calculate the design geotechnical strength R*g.
5 Final pile depths are to be determined by structural engineer.
6 Pile depths of 6.0m have been adopted for the calculation of end bearing design parameters.

Displacement Piles

Bearing pressures provided in Table 1 could be used to estimate the capacity of displacement piles, however the performance of the piles would need to be verified during installation using appropriate techniques and manufacturer's specification for proprietary products such as screw piles or driven piles.

4.3 Constraints

The following geotechnical constraints have been identified across the site and should be considered during design and construction of any structure on the site;

- The presence of deep uncontrolled fill makes the adoption of shallow footings not recommended.
- The presence of cobbles and boulders within the site will be problematic for the excavation and installation of deep footing using driven or drilled piles at the current level.
- It is recommended that the uncontrolled fill identified across the site be removed and replaced with engineered fill back to the underside of the proposed lower level of the structure. From this level, deep footings shall be installed to enable the construction of floor slabs and upper structure.
- Install geofabric at rear face of the rock wall, fully wrapping any placed engineered fill, to reduce the risk of piping through the existing wall after the replacement of suitable fill.

- Temporary support of excavations will need to be considered by a geotechnical engineer during detailed design to ensure no impact to adjacent properties during excavation works.

Groundwater seepage was observed at approximately 3.1m below ground level during the investigation in BH2. Ground water level variations differing from those observed at the time of the investigation can be expected due to climatic effects, heavy rainfall, permeability of the soil strata and tidal influences.

5 Engineering Recommendations

The following general engineering recommendations relating to site earthworks should be adopted when carrying out any cut or fill across the site;

- All earthworks shall be undertaken in accordance with AS 3798 - 2007
- Foundation preparation for site filling shall include stripping topsoil and removing any stones, rubbish, timber, organic material, vegetation or existing fill or unsuitable material.
- Undertake a proof roll of the subgrade/foundation using a 12t roller, loaded water cart or pneumatic tyred tip truck. Any areas which display visible deflection (>2mm of movement) should be removed and replaced with compacted select fill. This material shall be placed in 150mm layers and receive reasonable compactive effort to achieve target density of 95% MDD.
- For cohesive material used as fill, moisture should be controlled within +/- 2% of optimum moisture content (OMC) for targeted compaction density, the material must non-reactive in term of shrink swell movements.
- For non-cohesive material used as fill, a target minimum relative compaction of 75% density index must be achieved for all layers placed.
- Slopes of batters: fill batters should be max 1V:2H, and cut batters should be max 1.5V:2H and confirmed by engineer on site during excavation.
- Temporary support of any open excavations is the responsibility of the builder/contractor.
- Excavation adjacent to existing structures must be undertaken such that there is no impact on the existing structure & is the responsibility of the builder/contractor.
- Benches must be cut in excavations so that there is not more than 1.5m of exposed vertical soil face during temporary earthwork excavations and construction.

6 Limits of Geotechnical Investigation & Design

The results, analysis and design presented in this report are indicative of the specific investigation test locations and sample locations undertaken by Civil Consult.

The data provided in this report relates only to the structures described within this report and should not be used or modified for any other purpose. Civil Consult accepts no liability for any use of the data by others.

The results and design work (where presented) in this report are based specifically on test and sample locations, and are only valid at these precise locations. At all other locations across the site differences will occur to varying degrees. The subsurface profile will vary between test locations and also between individual samples taken within a test location. Conditions in the subsurface profile including groundwater can change over short periods of time and this should be considered when reviewing data presented in this report.

The data presented in the report should be reviewed by a suitably qualified engineer when footings, excavations, and subsurface structures are installed to confirm assumed conditions presented in this report. If they do not agree, further advice should be sought immediately.

Due to inherent uncertainties when interpreting subsurface conditions, there are often cost variations during projects or during the execution of projects as a result of unanticipated subsurface conditions. Civil Consult accepts no responsibility for variation of the subsurface profile and the consequences of these variations on the project or execution of the project.

Civil Consult accepts no responsibility for the use or modification of the data presented within this report by others.

7 References

1. Morand D.T., 2001, *Soil Landscapes of the Lismore-Ballina, 1:100,000 Sheet* report, NSW Department of Land and Water Conservation, Sydney.

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Job Number: 15010

If you should require any further information or clarification, please do not hesitate to contact this office.

Civil Consult Pty Ltd

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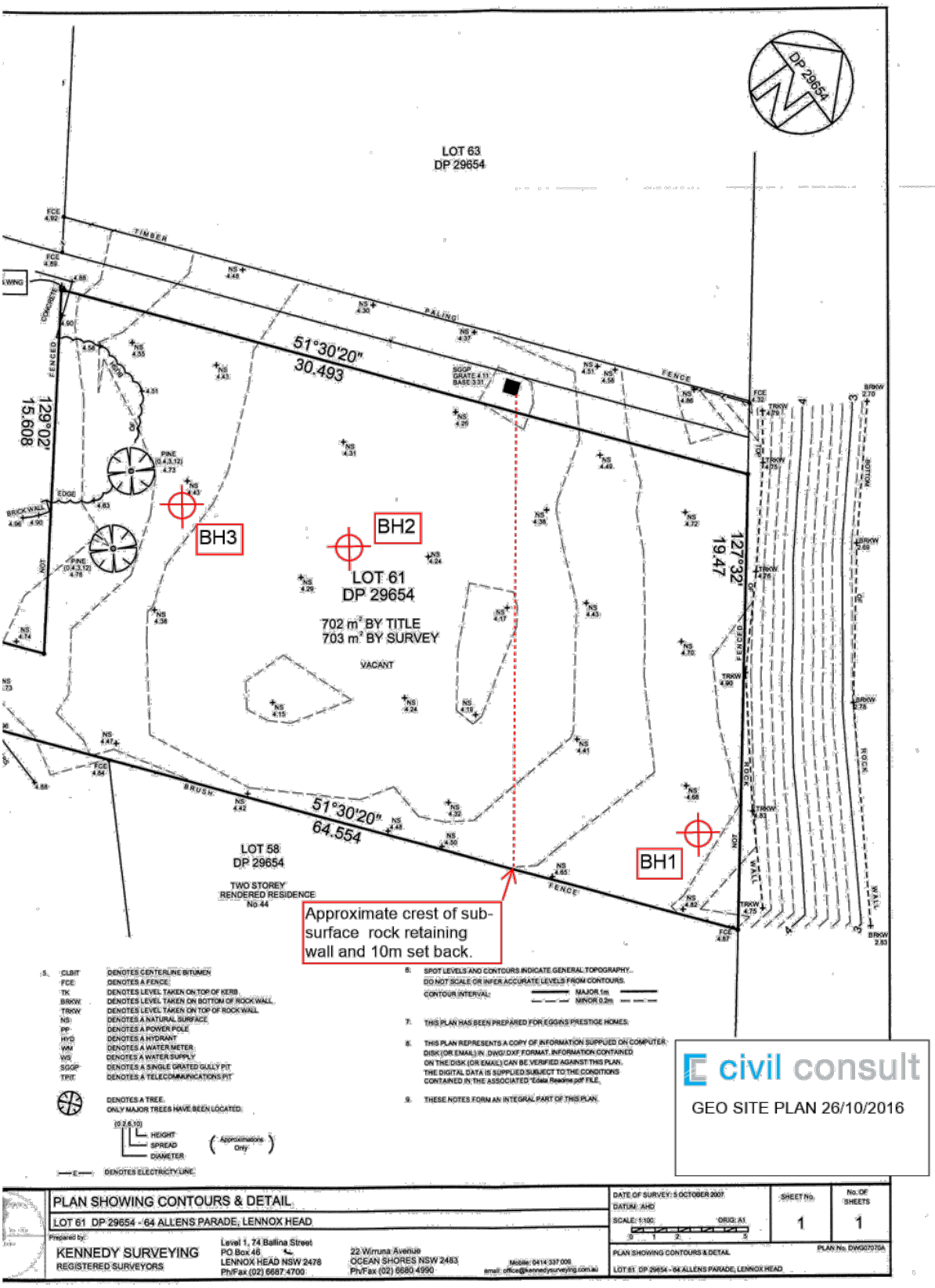
Consulting Engineers
CPEng, MIEAust, NPER, RPEQ
0490 419 541

Appendix A: Site Plan and Subsurface Arrangement
Appendix B: Geotechnical Logs
Appendix C: CSIRO Publication BTF 18-2011

civil consult

Job Number: 15010

Appendix A – Site Plan


DP 29654
LOT 63
DP 29654
TIMBER
PALING
FENCE
51°30'20"
30.493
129°02"
15.608
BH3
BH2
LOT 61
DP 29654
702 m² BY TITLE
703 m² BY SURVEY
VACANT
127°32"
19.47
BH1
51°30'20"
64.554
LOT 58
DP 29654
TWO STOREY
RENDERED RESIDENCE
No 44
Approximate crest of sub-surface rock retaining wall and 10m set back.
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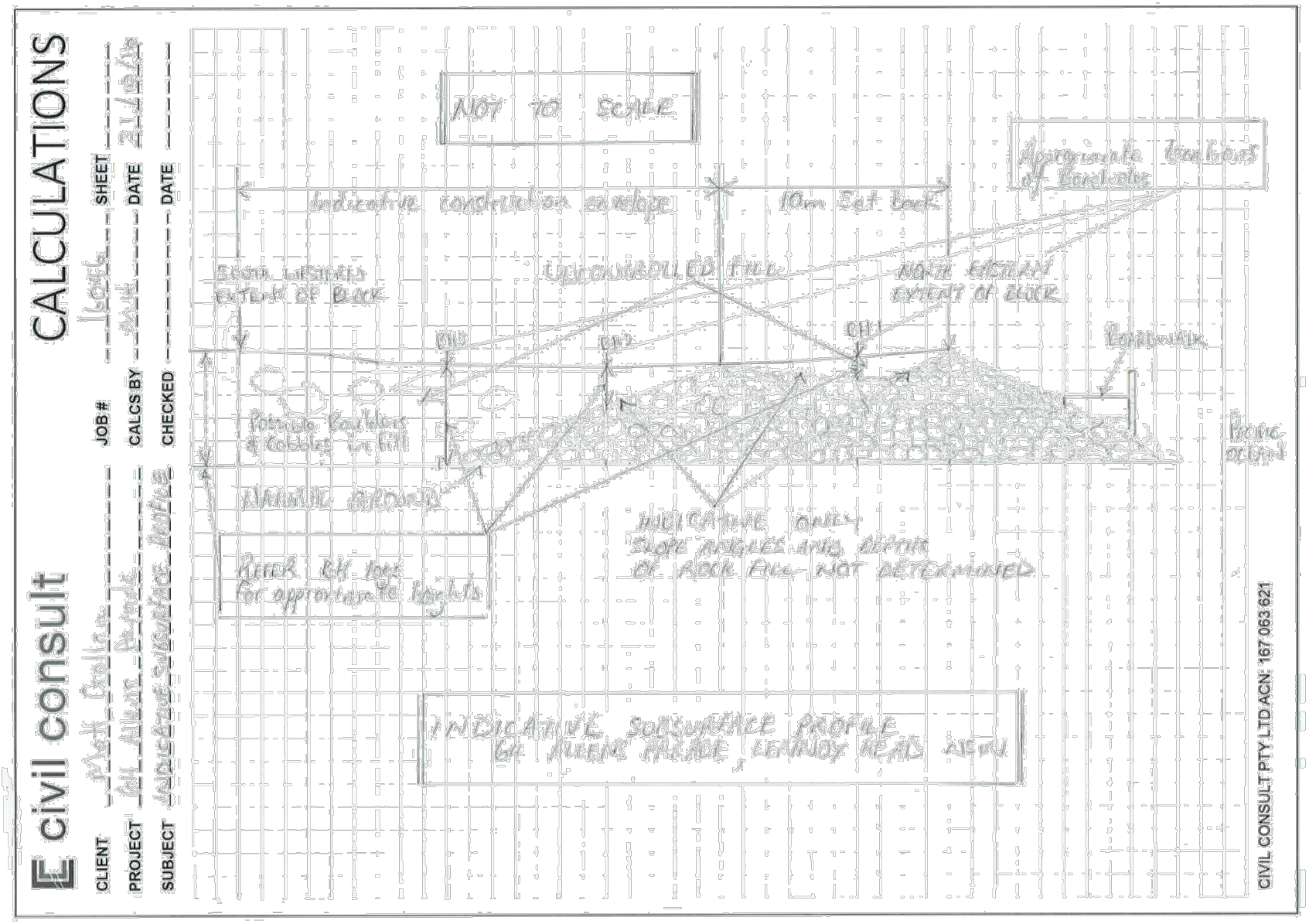
GEO SITE PLAN 26/10/2016
PLAN SHOWING CONTOURS & DETAIL
LOT 61 DP 29654 - 64 ALLENS PARADE, LENNOX HEAD
KENNEDY SURVEYING
REGISTERED SURVEYORS
Level 1, 74 Ballina Street
PO Box 46
LENNOX HEAD NSW 2478
Ph/Fax (02) 6687 4700
22 Wirruna Avenue
OCEAN SHORES NSW 2483
Ph/Fax (02) 6680 4990
DATE OF SURVEY: 5 OCTOBER 2007
DATUM: AHD
SCALE: 1:100
ORIG: A1
SHEET No. 1
No. OF SHEETS 1
PLAN No. DWG07070A


civil consult
CALCULATIONS
CLIENT
PROJECT
SUBJECT
JOB #
CALCS BY
CHECKED
SHEET
DATE
DATE
NOT TO SCALE
Approximate boundaries of Land under
Indicative constructable envelope
10m Set back
UNCONTROLLED FILL
NOTE EASTERN EXTENT OF BLOCK
Boom visibility EXTENT OF BLOCK
CH1
CH2
CH3
Footpath
Possible Boulders & Cobbles in fill
Natural ground
Refer CH lots for approximate heights
INDICATIVE ONLY
SLOPE ANGLES AND DEPTH OF ROCK FILL NOT DETERMINED
Ocean
INDICATIVE SUBSURFACE PROFILE
64 ALLENS PARADE LENNOX HEAD NSW
CIVIL CONSULT PTY LTD ACN: 167 063 621

civil consult

Job Number: 15010

Appendix B – Geotechnical Logs

Geotechnical Engineering Log

Site Identifier: BH01

Page: 1 of 1

Project:	ALLENS PARADE LENNOX HEAD	Type:	Borehole	Depth:	1.00 m	Date Commenced:	26/10/2016
Client:	Matt Gollan	Equipment:	Utility mounted drill rig	Width:	0.10 m	Date Completed:	26/10/2016
Job Number:	16046	Contractor:	ASCT	Length:	m	Logged By:	Mitchel Hill

Site:	64 Allens Parade Lennox Head	North:	-	Horizontal Datum:	-	Comments:	
Easting:	SEE PLAN	Inclination:	90	Vertical Datum:	-	BH terminated at refusal depth 1.0m on possible cobble and boulders.	
Northing:	SEE PLAN	Azimuth:	-	Survey:	-		
Elevation:	SEE PLAN						

DRILLING & LEVELS					MATERIAL DESCRIPTION			STRENGTH & DEFECTS					SAMPLES/ TESTING	
Method	Support	Moisture	RL (m)	Depth (m)	Lithology Graphic	USCS symbol	Lithology	DESCRIPTION Soil: colour, grain size/plasticity Rock: colour, grain size, structure	Origin	Strength	Weathering	Defect Spacing (mm)	Defect Description	DCP Blows/ 100mm	Depth
Solid Flight Auger				0		SM	Silty SAND	Brown, fine to medium grained, trace organics, dry.	Top Soil	MD				6	0.1
				0.05										7	0.2
				0.20		SM	Silty SAND	Brown, fine to medium grained, trace gravel and medium plasticity clay, slightly moist.	Fill - Uncontrolled					11	0.3
										D				12	0.4
														17	0.5
														17	0.6
										VD				18	0.7
														23	0.8
														Refusal	0.9
				1											
				2											
				3											
				4				BH terminated at refusal depth 1.0m on possible cobble and boulders.							
				5											

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Classifications compliant with AS1726-1993: Geotechnical Site Investigations.

Log Status: FINAL

Page: 1 of 1

Geotechnical Engineering Log

Site Identifier: BH02

Page: 1 of 1

Project:	ALLENS PARADE LENNOX HEAD	Type:	Borehole	Depth:	5.40 m	Date Commenced:	26/10/2016
Client:	Matt Gollan	Equipment:	Utility mounted drill rig	Width:	0.10 m	Date Completed:	26/10/2016
Job Number:	16046	Contractor:	ASCT	Length:	m	Logged By:	Mitchel Hill

Site:	64 Allens Parade Lennox Head	North:	-	Horizontal Datum:	-	Comments:	
Easting:	SEE PLAN	Inclination:	90	Vertical Datum:	-	Borehole continued to termination depth of 5.4m with no change.	
Northing:	SEE PLAN	Azimuth:	-	Survey:	-		
Elevation:	SEE PLAN						

DRILLING & LEVELS				MATERIAL DESCRIPTION			STRENGTH & DEFECTS					SAMPLES/ TESTING	
Method	Support	Moisture	RL (m)	Depth (m)	Lithology Graphic	USCS symbol	Lithology	DESCRIPTION Soil: colour, grain size/plasticity Rock: colour, grain size, structure	Origin	Strength	Weathering	Defect Spacing (mm)	Defect Description	DCP Blows/ 100mm	Depth
Solid Flight Auger		G		0		SM	Silty SAND	Brown, fine to medium grained, trace organics, dry.	Top Soil	MD				4	0.1
														9	0.2
				0.25		SM	Silty SAND	Dark grey, dark brown, fine to medium grained, trace gravel and medium plasticity clay, slightly moist to moist at depth.	Fill - Uncontrolled					8	0.3
														8	0.4
														11	0.5
										D				14	0.6
														14	0.7
														14	0.8
				1										11	0.9
														16	1.0
										VD				22	1.1
														30	1.2
														26	1.3
														24	1.4
														24	1.5
														22	1.6
														22	1.7
														27	1.8
														32	1.9
				2		GP	GRAVEL	Possible cobbles and boulders.	Fill - Uncontrolled					Refusal	2.0
				2.65		Pt	PEAT	Dark brown, medium to coarse grained, low plasticity organic clay, trace gravel, moist.	Residual	VS					
				2.85		SM	Silty SAND	Pale grey, fine to medium grained, very moist to wet.	Alluvial	D					
				3											
				4						VD					
								Borehole continued to termination depth of 5.4m with no change.							
				5											

civil consult

Classifications compliant with AS1726-1993: Geotechnical Site Investigations.

Log Status: FINAL

Page: 1 of 1

Geotechnical Engineering Log

Site Identifier: BH03

Page: 1 of 1

Project:	ALLENS PARADE LENNOX HEAD	Type:	Borehole	Depth:	0.50 m	Date Commenced:	26/10/2016
Client:	Matt Gollan	Equipment:	Utility mounted drill rig	Width:	0.10 m	Date Completed:	26/10/2016
Job Number:	16046	Contractor:	ASCT	Length:	m	Logged By:	Mitchel Hill

Site:	64 Allens Parade Lennox Head	North:		Horizontal Datum:	-	Comments:	
Easting:	SEE PLAN	Inclination:	90	Vertical Datum:	-	BH terminated at refusal depth 0.4m on possible cobble and boulders.	
Northing:	SEE PLAN	Azimuth:	-	Survey:	-		
Elevation:	SEE PLAN						

DRILLING & LEVELS					MATERIAL DESCRIPTION			STRENGTH & DEFECTS					SAMPLES/ TESTING	
Method	Support	Moisture	RL (m)	Depth (m)	Lithology Graphic	USCS symbol	Lithology	DESCRIPTION Soil: colour, grain size/plasticity Rock: colour, grain size, structure	Origin	Strength	Weathering	(Recovery%) RQD%	Defect Spacing (mm) 100 1000	Defect Description	DCP Blows/ 100mm	Depth
Solid Flight Auger				0		SM	Silty SAND	Brown, fine to medium grained, trace organics, dry.	Top Soil	MD					5	0.1
															6	0.2
															6	0.3
				0.20		CI	Silty CLAY	Dark grey, black, medium plasticity, trace fine to medium sand, dry.	Fill - Uncontrolled	ST					11	0.4
				0.30		GP	GRAVEL	Dark brown, poorly graded, medium to coarse, dry	Fill - Uncontrolled	VD					7	0.5
															6	0.6
															15	0.7
															7	0.8
															8	0.9
				1											7	1.0
															6	1.1
															4	1.2
															4	1.3
															4	1.4
															5	1.5
															7	1.6
															8	1.7
															8	1.8
															6	1.9
				2											5	2.0
															9	2.1
															8	2.2
															8	2.3
															7	2.4
															6	2.5
															6	2.6
															12	2.7
															17	2.8
															17	2.9
															17	3.0
				3											15	3.1
															13	3.2
															14	3.3
															13	3.4
															12	3.5
															13	3.6
															16	3.7
															16	3.8
															16	3.9
				4				BH terminated at refusal depth 0.4m on possible cobble and boulders.							15	4.0
															15	4.1
															18	4.2
															17	4.3
															20	4.4
															Refusal	4.5
				5												

civil consult

Classifications compliant with AS1726-1993: Geotechnical Site Investigations.

Log Status: FINAL

Page: 1 of 1

civil consult

Job Number: 15010

Appendix C – CSIRO Publication BTF 18-2011

Foundation Maintenance and Footing Performance:
A Homeowner's Guide

CSIRO PUBLISHING
BTF 18-2011
replaces
Information
Sheet 10/91

Buildings can and often do move. This movement can be up, down, lateral or rotational. The fundamental cause of movement in buildings can usually be related to one or more problems in the foundation soil. It is important for the homeowner to identify the soil type in order to ascertain the measures that should be put in place in order to ensure that problems in the foundation soil can be prevented, thus protecting against building movement.

This Building Technology File is designed to identify causes of soil-related building movement, and to suggest methods of prevention of resultant cracking in buildings.

Soil Types

The types of soils usually present under the topsoil in land zoned for residential buildings can be split into two approximate groups – granular and clay. Quite often, foundation soil is a mixture of both types. The general problems associated with soils having granular content are usually caused by erosion. Clay soils are subject to saturation and swell/shrink problems.

Classifications for a given area can generally be obtained by application to the local authority, but these are sometimes unreliable and if there is doubt, a geotechnical report should be commissioned. As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. The table below is Table 2.1 from AS 2870-2011, the Residential Slab and Footing Code.

Causes of Movement

Settlement due to construction

There are two types of settlement that occur as a result of construction:

- Immediate settlement occurs when a building is first placed on its foundation soil, as a result of compaction of the soil under the weight of the structure. The cohesive quality of clay soil mitigates against this, but granular (particularly sandy) soil is susceptible.
- Consolidation settlement is a feature of clay soil and may take place because of the expulsion of moisture from the soil or because of the soil's lack of resistance to local compressive or shear stresses. This will usually take place during the first few months after construction, but has been known to take many years in exceptional cases.

These problems are the province of the builder and should be taken into consideration as part of the preparation of the site for construction. Building Technology File 19 (BTF 19) deals with these problems.

Erosion

All soils are prone to erosion, but sandy soil is particularly susceptible to being washed away. Even clay with a sand component of say 10% or more can suffer from erosion.

Saturation

This is particularly a problem in clay soils. Saturation creates a bog-like suspension of the soil that causes it to lose virtually all of its bearing capacity. To a lesser degree, sand is affected by saturation because saturated sand may undergo a reduction in volume, particularly imported sand fill for bedding and blinding layers. However, this usually occurs as immediate settlement and should normally be the province of the builder.

Seasonal swelling and shrinkage of soil

All clays react to the presence of water by slowly absorbing it, making the soil increase in volume (see table below). The degree of increase varies considerably between different clays, as does the degree of decrease during the subsequent drying out caused by fair weather periods. Because of the low absorption and expulsion rate, this phenomenon will not usually be noticeable unless there are prolonged rainy or dry periods, usually of weeks or months, depending on the land and soil characteristics.

The swelling of soil creates an upward force on the footings of the building, and shrinkage creates subsidence that takes away the support needed by the footing to retain equilibrium.

Shear failure

This phenomenon occurs when the foundation soil does not have sufficient strength to support the weight of the footing. There are two major post-construction causes:

- Significant load increase.
- Reduction of lateral support of the soil under the footing due to erosion or excavation.

In clay soil, shear failure can be caused by saturation of the soil adjacent to or under the footing.

GENERAL DEFINITIONS OF SITE CLASSES

Class	Foundation
A	Most sand and rock sites with little or no ground movement from moisture changes
S	Slightly reactive clay sites, which may experience only slight ground movement from moisture changes
M	Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes
H1	Highly reactive clay sites, which may experience high ground movement from moisture changes
H2	Highly reactive clay sites, which may experience very high ground movement from moisture changes
E	Extremely reactive sites, which may experience extreme ground movement from moisture changes

Notes
1. Where controlled fill has been used, the site may be classified A to E according to the type of fill used.
2. Filled sites. Class P is used for sites which include soft fills, such as clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soil subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.
3. Where deep-seated moisture changes exist on sites at depths of 3 m or greater, further classification is needed for Classes M to E (M-D, H1-D, H2-D and E-D).

Tree root growth
Trees and shrubs that are allowed to grow in the vicinity of footings can cause foundation soil movement in two ways:

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.
- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

Unevenness of Movement

The types of ground movement described above usually occur unevenly throughout the building's foundation soil. Settlement due to construction tends to be uneven because of:

- Differing compaction of foundation soil prior to construction.
- Differing moisture content of foundation soil prior to construction.

Movement due to non-construction causes is usually more uneven still. Erosion can undermine a footing that traverses the flow or can create the conditions for shear failure by eroding soil adjacent to a footing that runs in the same direction as the flow.

Saturation of clay foundation soil may occur where subfloor walls create a dam that makes water pond. It can also occur wherever there is a source of water near footings in clay soil. This leads to a severe reduction in the strength of the soil which may create local shear failure.

Seasonal swelling and shrinkage of clay soil affects the perimeter of the building first, then gradually spreads to the interior. The swelling process will usually begin at the uphill extreme of the building, or on the weather side where the land is flat. Swelling gradually reaches the interior soil as absorption continues. Shrinkage usually begins where the sun's heat is greatest.

Effects of Uneven Soil Movement on Structures

Erosion and saturation
Erosion removes the support from under footings, tending to create subsidence of the part of the structure under which it occurs. Brickwork walls will resist the stress created by this removal of support by bridging the gap or cantilevering until the bricks or the mortar bedding fail. Older masonry has little resistance. Evidence of failure varies according to circumstances and symptoms may include:

- Step cracking in the mortar beds in the body of the wall or above/below openings such as doors or windows.
- Vertical cracking in the bricks (usually but not necessarily in line with the vertical beds or perpends).

Isolated piers affected by erosion or saturation of foundations will eventually lose contact with the bearers they support and may tilt or fall over. The floors that have lost this support will become bouncy, sometimes rattling ornaments etc.

Seasonal swelling/shrinkage in clay
Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the external footings are pushed higher than the internal ones.

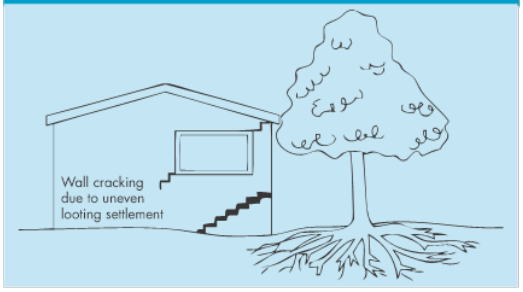
The first noticeable symptom may be that the floor appears slightly dished. This is often accompanied by some doors binding on the floor or the door head, together with some cracking of cornice mitres. In buildings with timber flooring supported by bearers and joists, the floor can be bouncy. Externally there may be visible dishing of the hip or ridge lines.

As the moisture absorption process completes its journey to the innermost areas of the building, the internal footings will rise. If the spread of moisture is roughly even, it may be that the symptoms will temporarily disappear, but it is more likely that swelling will be uneven, creating a difference rather than a disappearance in symptoms. In buildings with timber flooring supported by bearers and joists, the isolated piers will rise more easily than the strip footings or piers under walls, creating noticeable doming of flooring.

As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the external footings. The doming is accentuated and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

Doming and dishing are also affected by weather in other ways. In areas where warm, wet summers and cooler dry winters prevail, water migration tends to be toward the interior and doming will be accentuated, whereas where summers are dry and winters are cold and wet, migration tends to be toward the exterior and the underlying propensity is toward dishing.

Trees can cause shrinkage and damage



Movement caused by tree roots
In general, growing roots will exert an upward pressure on footings, whereas soil subject to drying because of tree or shrub roots will tend to remove support from under footings by inducing shrinkage.

Complications caused by the structure itself
Most forces that the soil causes to be exerted on structures are vertical – i.e. either up or down. However, because these forces are seldom spread evenly around the footings, and because the building resists uneven movement because of its rigidity, forces are exerted from one part of the building to another. The net result of all these forces is usually rotational. This resultant force often complicates the diagnosis because the visible symptoms do not simply reflect the original cause. A common symptom is binding of doors on the vertical member of the frame.

Effects on full masonry structures
Brickwork will resist cracking where it can. It will attempt to span areas that lose support because of subsided foundations or raised points. It is therefore usual to see cracking at weak points, such as openings for windows or doors.

In the event of construction settlement, cracking will usually remain unchanged after the process of settlement has ceased.

With local shear or erosion, cracking will usually continue to develop until the original cause has been remedied, or until the subsidence has completely neutralised the affected portion of footing and the structure has stabilised on other footings that remain effective.

In the case of swell/shrink effects, the brickwork will in some cases return to its original position after completion of a cycle, however it is more likely that the rotational effect will not be exactly reversed, and it is also usual that brickwork will settle in its new position and will resist the forces trying to return it to its original position. This means that in a case where swelling takes place after construction and cracking occurs, the cracking is likely to at least partly remain after the shrink segment of the cycle is complete. Thus, each time the cycle is repeated, the likelihood is that the cracking will become wider until the sections of brickwork become virtually independent.

With repeated cycles, once the cracking is established, if there is no other complication, it is normal for the incidence of cracking to stabilise, as the building has the articulation it needs to cope with the problem. This is by no means always the case, however, and monitoring of cracks in walls and floors should always be treated seriously.

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

The normal structural arrangement is that the inner leaf of brickwork in the external walls and at least some of the internal walls (depending on the roof type) comprise the load-bearing structure on which any upper floors, ceilings and the roof are supported. In these cases, it is internally visible cracking that should be the main focus of attention, however there are a few examples of dwellings whose external leaf of masonry plays some supporting role, so this should be checked if there is any doubt. In any case, externally visible cracking is important as a guide to stresses on the structure generally, and it should also be remembered that the external walls must be capable of supporting themselves.

Effects on framed structures
Timber or steel framed buildings are less likely to exhibit cracking due to swell/shrink than masonry buildings because of their flexibility. Also, the doming/dishing effects tend to be lower because of the lighter weight of walls. The main risks to framed buildings are encountered because of the isolated pier footings used under walls. Where erosion or saturation causes a footing to fall away, this can double the span which a wall must bridge. This additional stress can create cracking in wall linings, particularly where there is a weak point in the structure caused by a door or window opening. It is, however, unlikely that framed structures will be so stressed as to suffer serious damage without first exhibiting some or all of the above symptoms for a considerable period. The same warning period should apply in the case of upheaval. It should be noted, however, that where framed buildings are supported by strip footings there is only one leaf of brickwork and therefore the externally visible walls are the supporting structure for the building. In this case, the subfloor masonry walls can be expected to behave as full brickwork walls.

Effects on brick veneer structures
Because the load-bearing structure of a brick veneer building is the frame that makes up the interior leaf of the external walls plus perhaps the internal walls, depending on the type of roof, the building can be expected to behave as a framed structure, except that the external masonry will behave in a similar way to the external leaf of a full masonry structure.

Water Service and Drainage

Where a water service pipe, a sewer or stormwater drainage pipe is in the vicinity of a building, a water leak can cause erosion, swelling or saturation of susceptible soil. Even a minuscule leak can be enough to saturate a clay foundation. A leaking tap near a building can have the same effect. In addition, trenches containing pipes can become watercourses even though backfilled, particularly where broken rubble is used as fill. Water that runs along these trenches can be responsible for serious erosion, interstrata seepage into subfloor areas and saturation.

Pipe leakage and trench water flows also encourage tree and shrub roots to the source of water, complicating and exacerbating the problem. Poor roof plumbing can result in large volumes of rainwater being concentrated in a small area of soil:

- Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.
- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

Seriousness of Cracking

In general, most cracking found in masonry walls is a cosmetic nuisance only and can be kept in repair or even ignored. The table below is a reproduction of Table C1 of AS 2870-2011.

AS 2870-2011 also publishes figures relating to cracking in concrete floors, however because wall cracking will usually reach the critical point significantly earlier than cracking in slabs, this table is not reproduced here.

Prevention/Cure

Plumbing
Where building movement is caused by water service, roof plumbing, sewer or stormwater failure, the remedy is to repair the problem. It is prudent, however, to consider also rerouting pipes away from the building where possible, and relocating taps to positions where any leakage will not direct water to the building vicinity. Even where gully traps are present, there is sometimes sufficient spill to create erosion or saturation, particularly in modern installations using smaller diameter PVC fixtures. Indeed, some gully traps are not situated directly under the taps that are installed to charge them, with the result that water from the tap may enter the backfilled trench that houses the sewer piping. If the trench has been poorly backfilled, the water will either pond or flow along the bottom of the trench. As these trenches usually run alongside the footings and can be at a similar depth, it is not hard to see how any water that is thus directed into a trench can easily affect the foundation's ability to support footings or even gain entry to the subfloor area.

Ground drainage
In all soils there is the capacity for water to travel on the surface and below it. Surface water flows can be established by inspection during and after heavy or prolonged rain. If necessary, a grated drain system connected to the stormwater collection system is usually an easy solution.

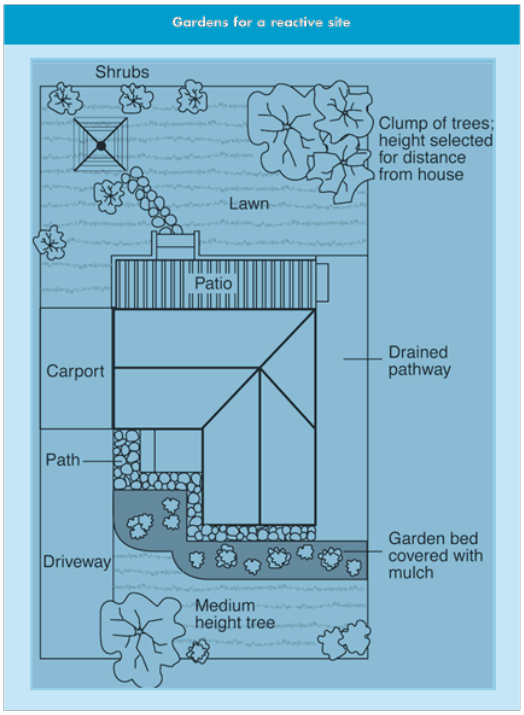
It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject is referred to in BTF 19 and may properly be regarded as an area for an expert consultant.

Protection of the building perimeter
It is essential to remember that the soil that affects footings extends well beyond the actual building line. Watering of garden plants, shrubs and trees causes some of the most serious water problems.

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving should

CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS

Description of typical damage and required repair	Approximate crack width limit (see Note 3)	Damage category
Hairline cracks	<0.1 mm	0
Fine cracks which do not need repair	<1 mm	1
Cracks noticeable but easily filled. Doors and windows stick slightly.	<5 mm	2
Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired.	5–15 mm (or a number of cracks 3 mm or more in one group)	3
Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted.	15–25 mm but also depends on number of cracks	4



extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

It is prudent to relocate drainage pipes away from this paving, if possible, to avoid complications from future leakage. If this is not practical, earthenware pipes should be replaced by PVC and backfilling should be of the same soil type as the surrounding soil and compacted to the same density.

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill from it (see BTF 19).

It may be desirable to install a grated drain at the outside edge of the paving on the uphill side of the building. If subsoil drainage is needed this can be installed under the surface drain.

Condensation

In buildings with a subfloor void such as where bearers and joists support flooring, insufficient ventilation creates ideal conditions for condensation, particularly where there is little clearance between the floor and the ground. Condensation adds to the moisture already present in the subfloor and significantly slows the process of drying out. Installation of an adequate subfloor ventilation system, either natural or mechanical, is desirable.

Warning: Although this Building Technology File deals with cracking in buildings, it should be said that subfloor moisture can result in the development of other problems, notably:

- Water that is transmitted into masonry, metal or timber building elements causes damage and/or decay to those elements.
- High subfloor humidity and moisture content create an ideal environment for various pests, including termites and spiders.
- Where high moisture levels are transmitted to the flooring and walls, an increase in the dust mite count can ensue within the living areas. Dust mites, as well as dampness in general, can be a health hazard to inhabitants, particularly those who are abnormally susceptible to respiratory ailments.

The garden

The ideal vegetation layout is to have lawn or plants that require only light watering immediately adjacent to the drainage or paving edge, then more demanding plants, shrubs and trees spread out in that order.

Overwatering due to misuse of automatic watering systems is a common cause of saturation and water migration under footings. If it is necessary to use these systems, it is important to remove garden beds to a completely safe distance from buildings.

Existing trees

Where a tree is causing a problem of soil drying or there is the existence or threat of upheaval of footings, if the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. If it is not possible to remove the relevant roots without damage to the tree, an application to remove the tree should be made to the local authority. A prudent plan is to transplant likely offenders before they become a problem.

Information on trees, plants and shrubs

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information. For information on plant roots and drains, see Building Technology File 17.

Excavation

Excavation around footings must be properly engineered. Soil supporting footings can only be safely excavated at an angle that allows the soil under the footing to remain stable. This angle is called the angle of repose (or friction) and varies significantly between soil types and conditions. Removal of soil within the angle of repose will cause subsidence.

Remediation

Where erosion has occurred that has washed away soil adjacent to footings, soil of the same classification should be introduced and compacted to the same density. Where footings have been undermined, augmentation or other specialist work may be required. Remediation of footings and foundations is generally the realm of a specialist consultant.

Where isolated footings rise and fall because of swell/shrink effect, the homeowner may be tempted to alleviate floor bounce by filling the gap that has appeared between the bearer and the pier with blocking. The danger here is that when the next swell segment of the cycle occurs, the extra blocking will push the floor up into an accentuated dome and may also cause local shear failure in the soil. If it is necessary to use blocking, it should be by a pair of fine wedges and monitoring should be carried out fortnightly.

This BTF was prepared by John Lewer FAIB, MIAMA, Partner, Construction Diagnosis.

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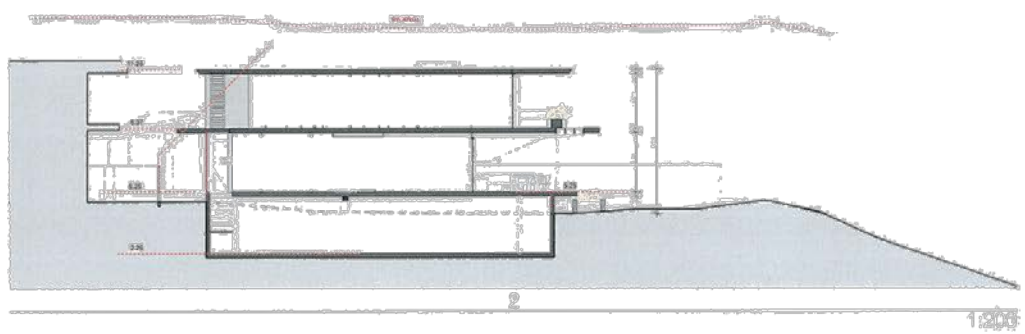
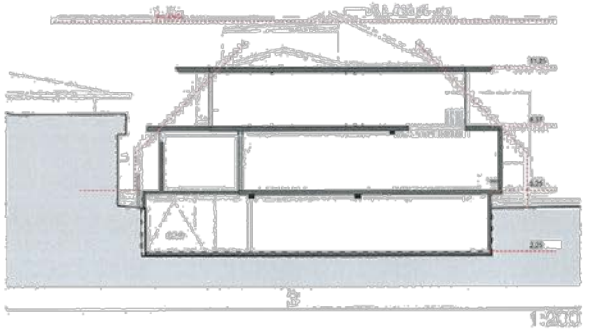
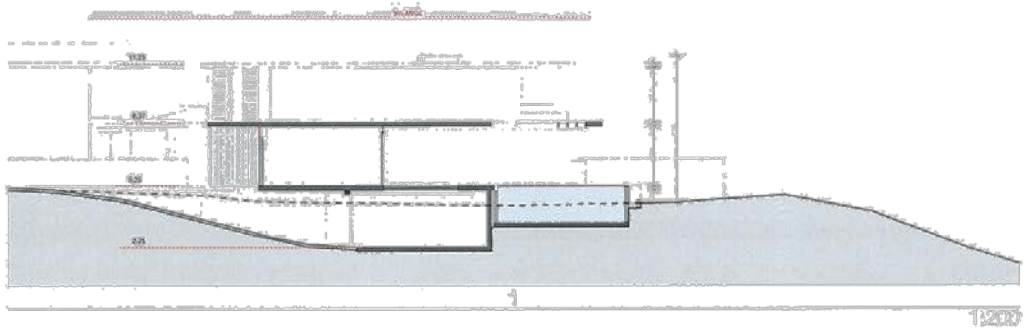
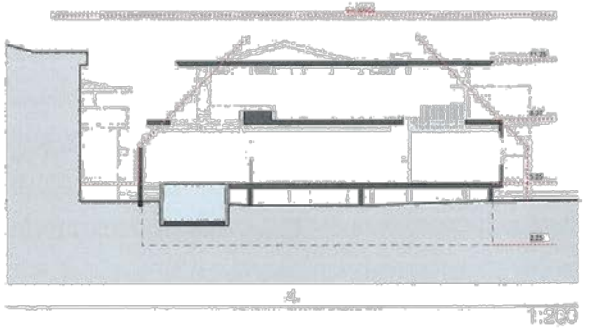
64 ALLENS PARADE
OPTION 1







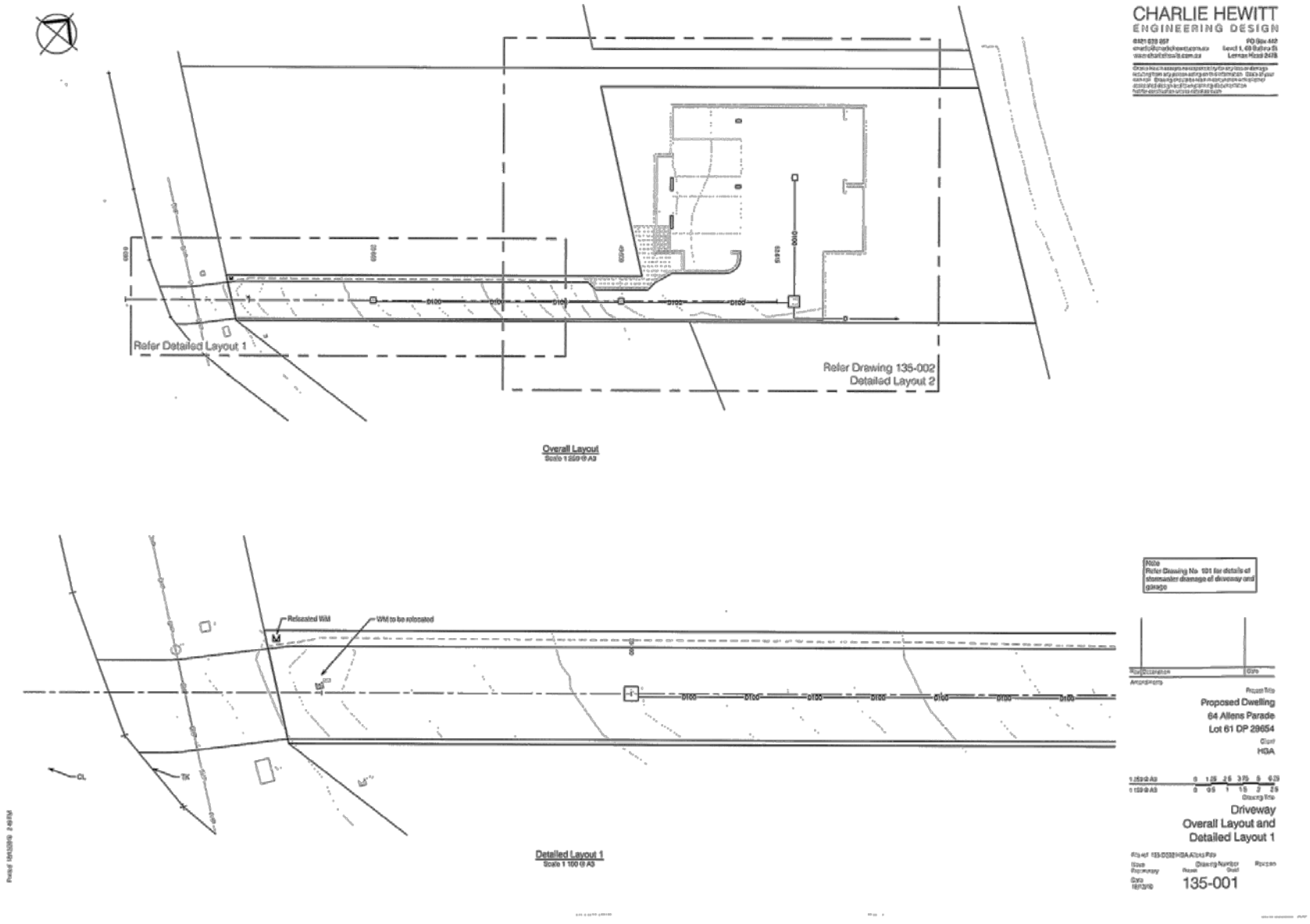


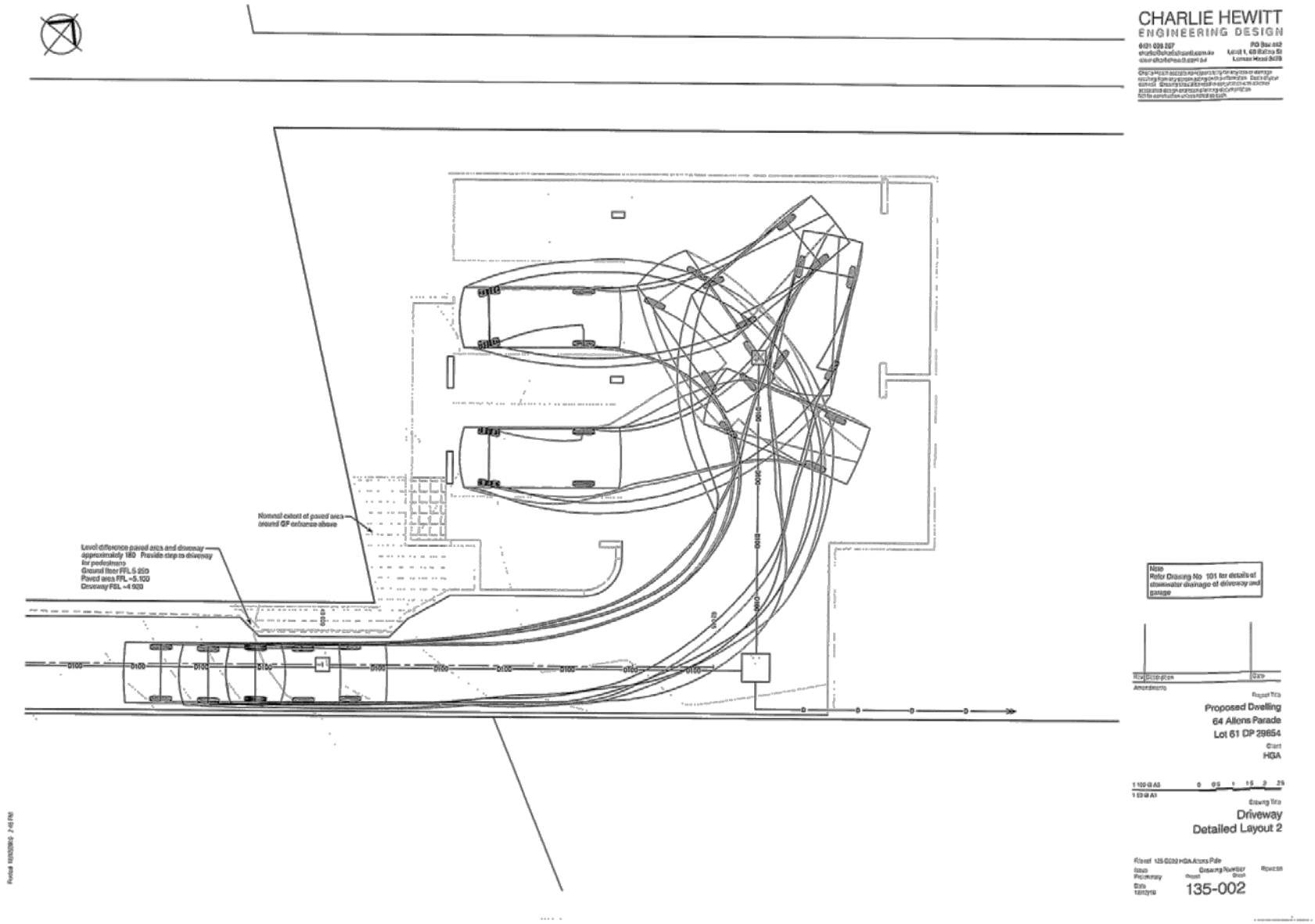
HARLEY GRAHAM ARCHITECTS

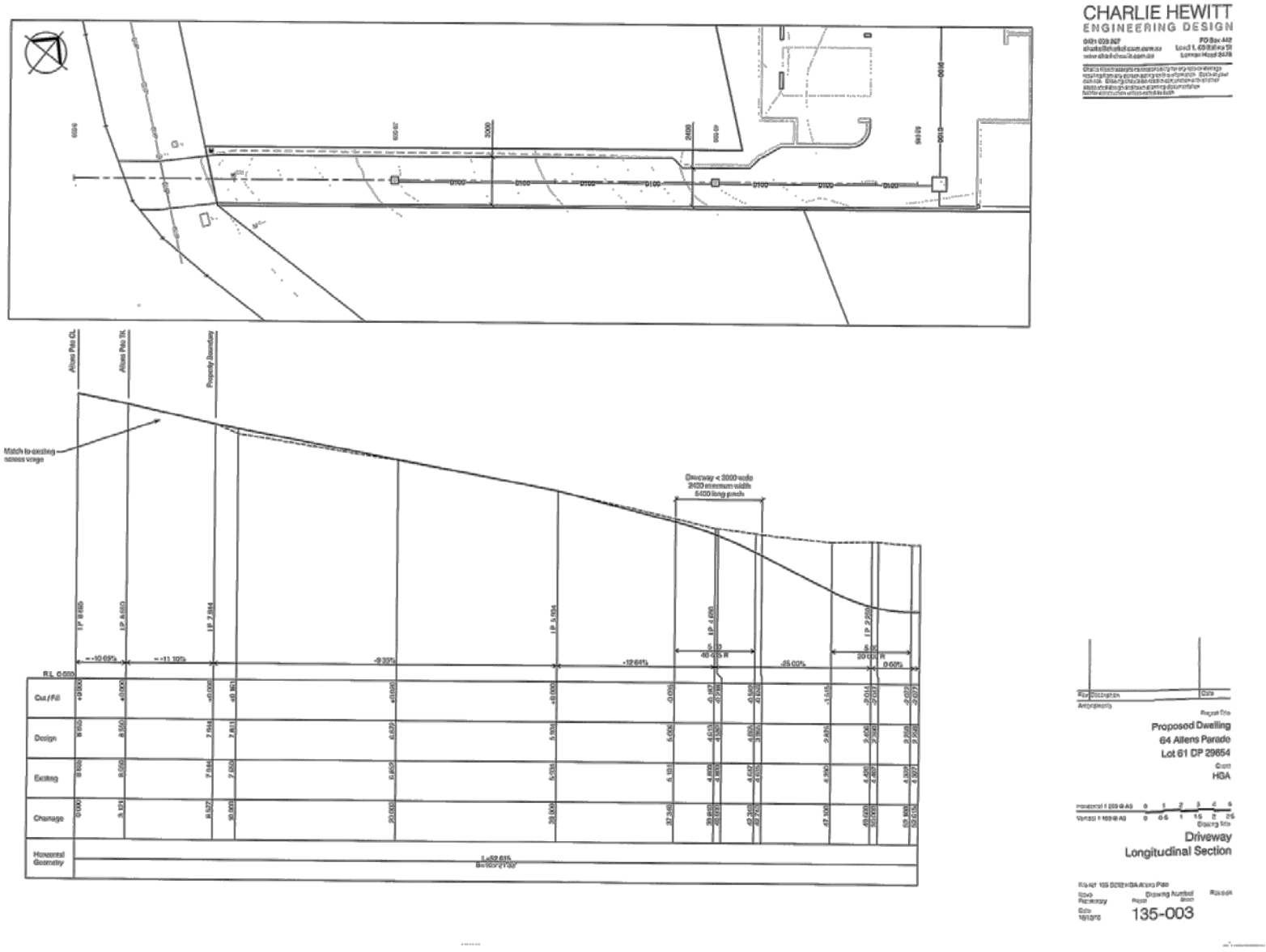
ISSUE/REVISIONS

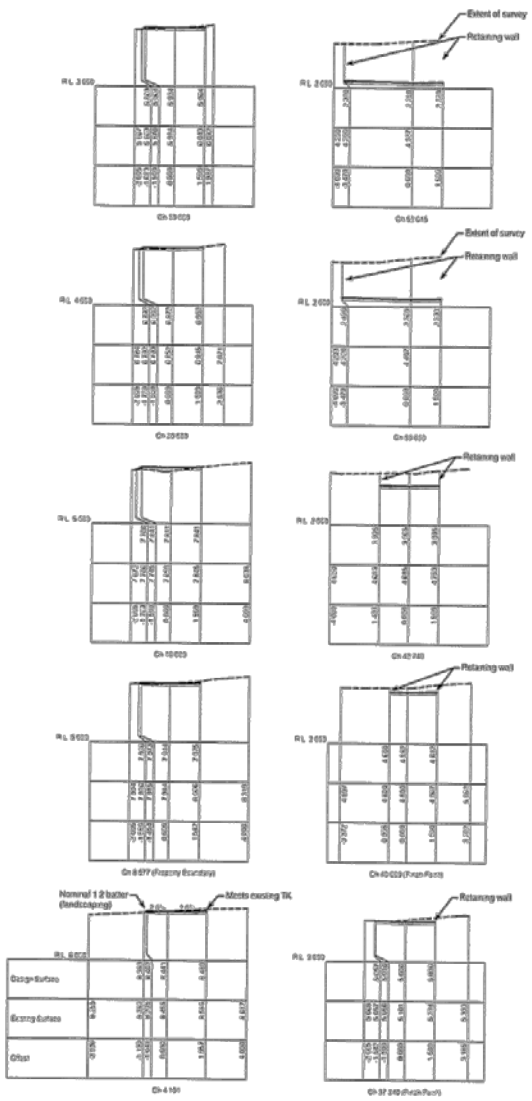
ISSUE/REVISIONS

NAME	COLLINS	ADDRESS	64 ALLENS PARADE, LENNOX HEAD	APPROVED NO		JOB NO/ DWG NO			
DESIGN	NEW DWELLING	LOT / DP	LOT 61 DP 29654	SCALE	PAPER	DWG NO			
DRAWING	SECTIONS			1:200	A3	DA	04	A	


CHARLIE HEWITT
ENGINEERING DESIGN
Refer Detailed Layout 1
Refer Drawing 135-002
Detailed Layout 2
Overall Layout
Relocated WM
WM to be relocated
Detailed Layout 1
Note
Refer Drawing No 101 for details of stormwater drainage of driveway and garage
Proposed Dwelling
64 Allens Parade
Lot 61 DP 29654
HGA
Driveway
Overall Layout and
Detailed Layout 1
135-001


CHARLIE HEWITT
ENGINEERING DESIGN
Nominal extent of paved area around GF entrance above
Level difference paved area and driveway approximately 180 Provide step to driveway for pedestrians
Ground floor FFL 5.250
Paved area FFL +5.100
Driveway FEL +4.920
Note
Refer Drawing No 101 for details of stormwater drainage of driveway and garage
Proposed Dwelling
64 Allens Parade
Lot 61 DP 29654
HGA
Driveway
Detailed Layout 2
135-002


CHARLIE HEWITT
ENGINEERING DESIGN
Allens Pde CL
Allens Pde TK
Property Boundary
Match to existing
Driveway < 3000 wide
2400 minimum width
5400 long pads
-12.69%
-11.10%
-9.23%
-12.64%
-48.00%
-25.00%
0.00%
R1. 0.000
Cut / Fill
Design
Existing
Chainage
Horizontal Geometry
Proposed Dwelling
64 Allens Parade
Lot 61 DP 29654
HGA
Driveway
Longitudinal Section
135-003



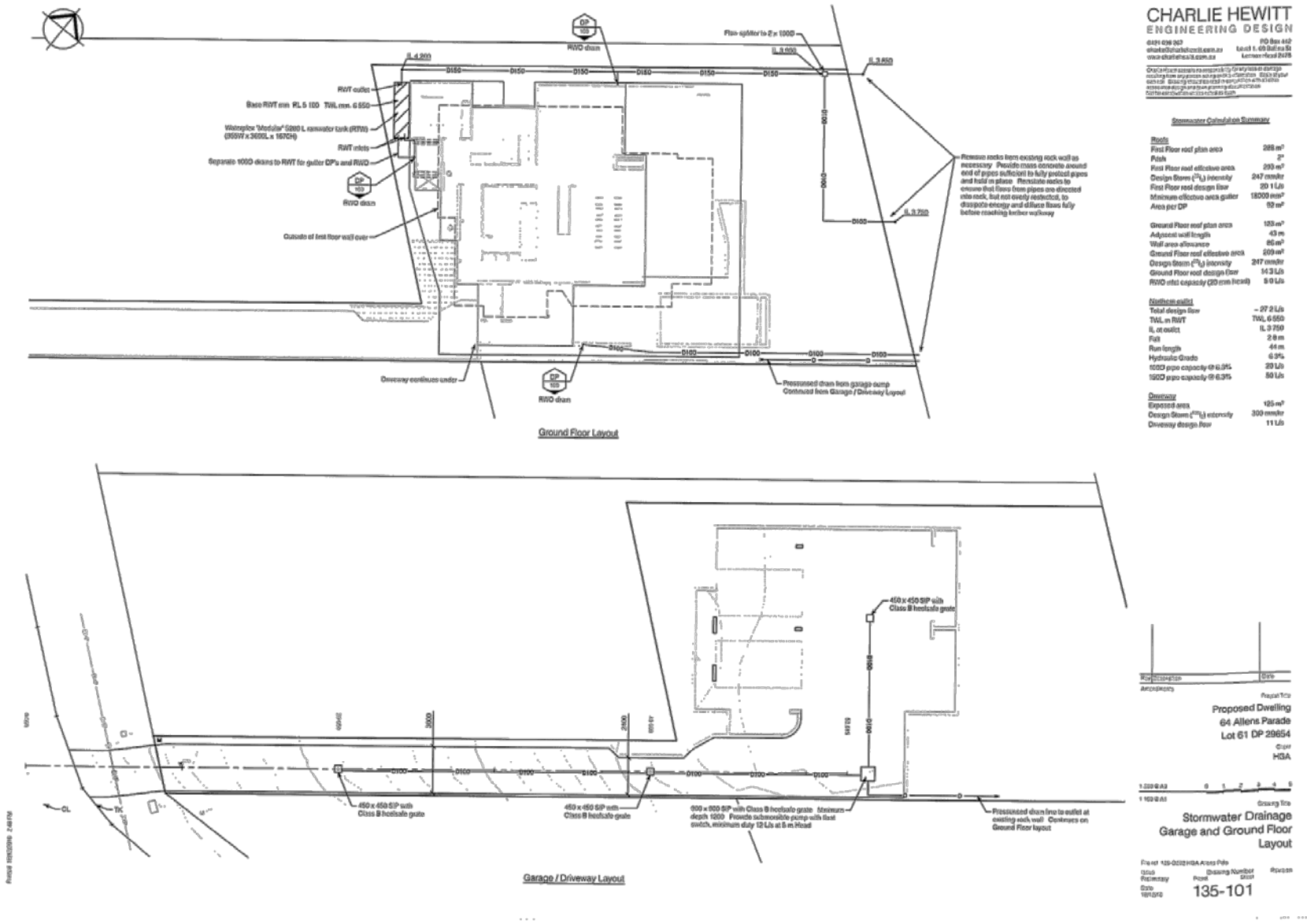
CHARLIE HEWITT
ENGINEERING DESIGN

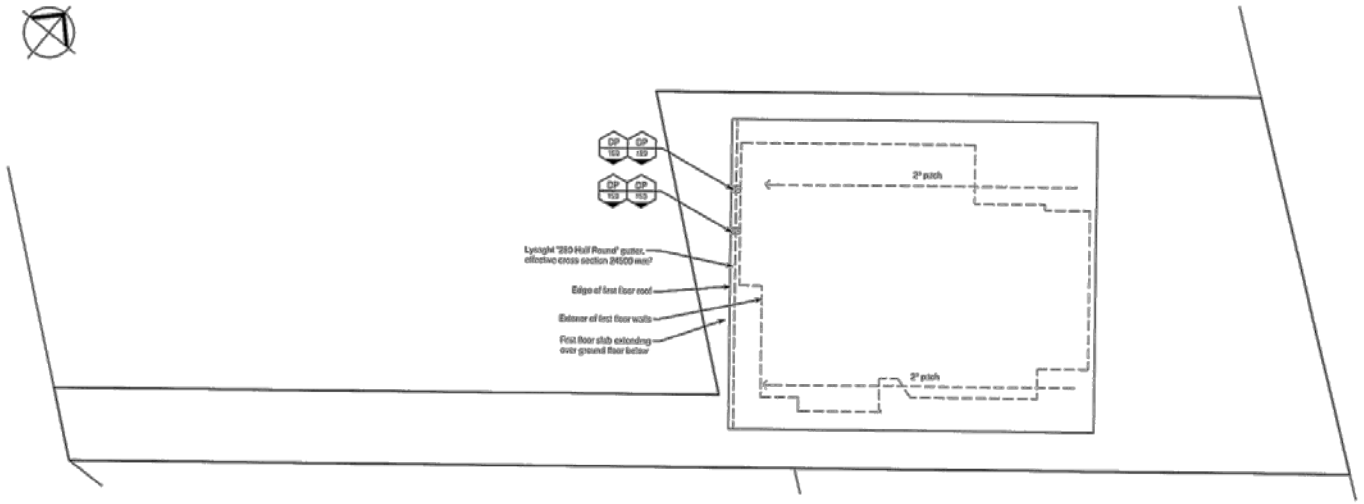
Proposed Dwelling
64 Allens Parade
Lot 61 DP 29654

HGA

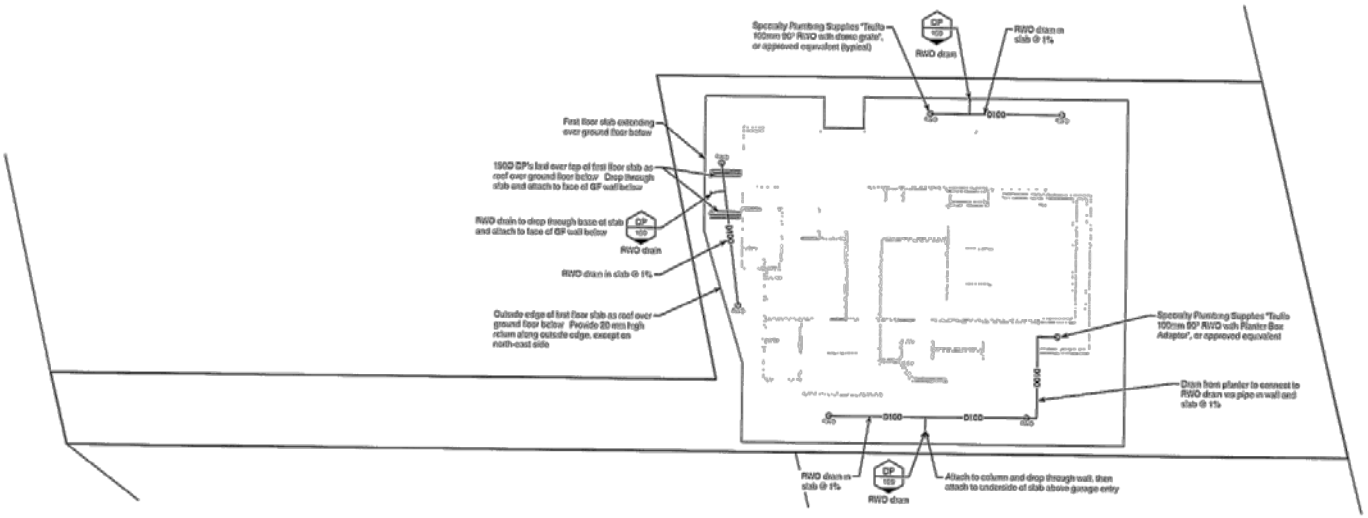
Driveway
Cross Sections

135-004


CHARLIE HEWITT
ENGINEERING DESIGN
Ground Floor Layout
Garage / Driveway Layout
Stormwater Calmsdon Summary
Proposed Dwelling
64 Allens Parade
Lot 61 DP 29654
HGA
Stormwater Drainage
Garage and Ground Floor
Layout
135-101



Roof Layout



First Floor Layout

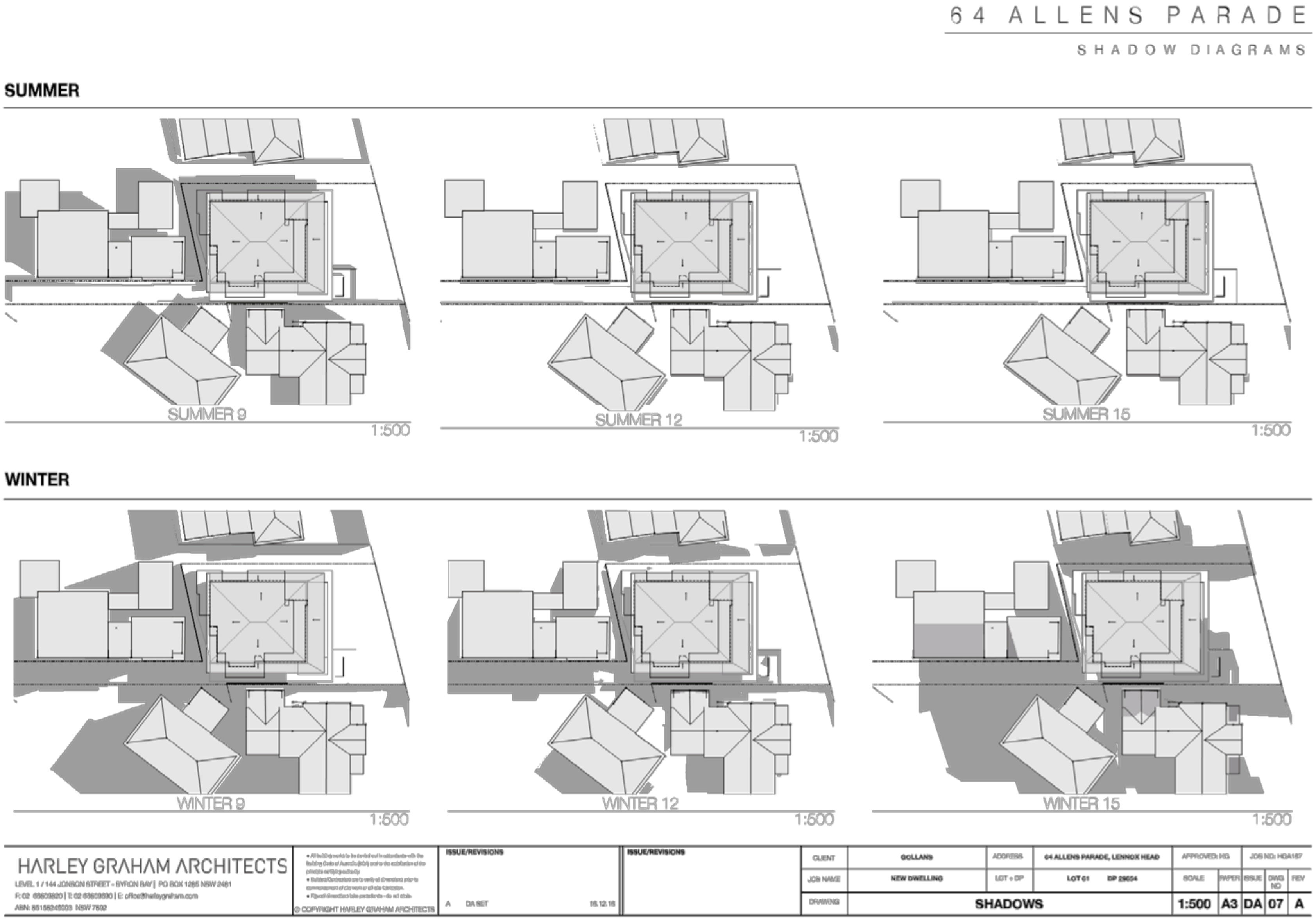
CHARLIE HEWITT
ENGINEERING DESIGN

Proposed Dwelling
64 Allens Parade
Lot 61 DP 29654

HGA

Stormwater Drainage
First Floor and Roof
Layout

135-102



64 ALLENS PARADE
SHADOW DIAGRAMS
SUMMER
SUMMER 9
1:500
SUMMER 12
1:500
SUMMER 15
1:500
WINTER
WINTER 9
1:500
WINTER 12
1:500
WINTER 15
1:500
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A DA SET 15.12.16
ISSUE/REVISIONS
CLIENT
GOLLANS
ADDRESS
64 ALLENS PARADE, LENNOX HEAD
JOB NAME
NEW DWELLING
LOT + DP
LOT 61 DP 29654
DRAWING
SHADOWS
SCALE
PAPER
ISSUE
DWG NO
REV
1:500 A3 DA 07 A

64 ALLENS PARADE

PROPOSED NEW DWELLING

DRAWING SCHEDULE

No	NAME	SCALE
01	LOCATION PLAN/ SITE PLAN & DRA...	1:2000/1:200
02	SURVEY	1:200
03	PLANS	1:200
04	SECTIONS	1:200
05	ELEVATIONS	1:200
06	LANDSCAPE PLAN	1:200

BASIX Nº: 784545

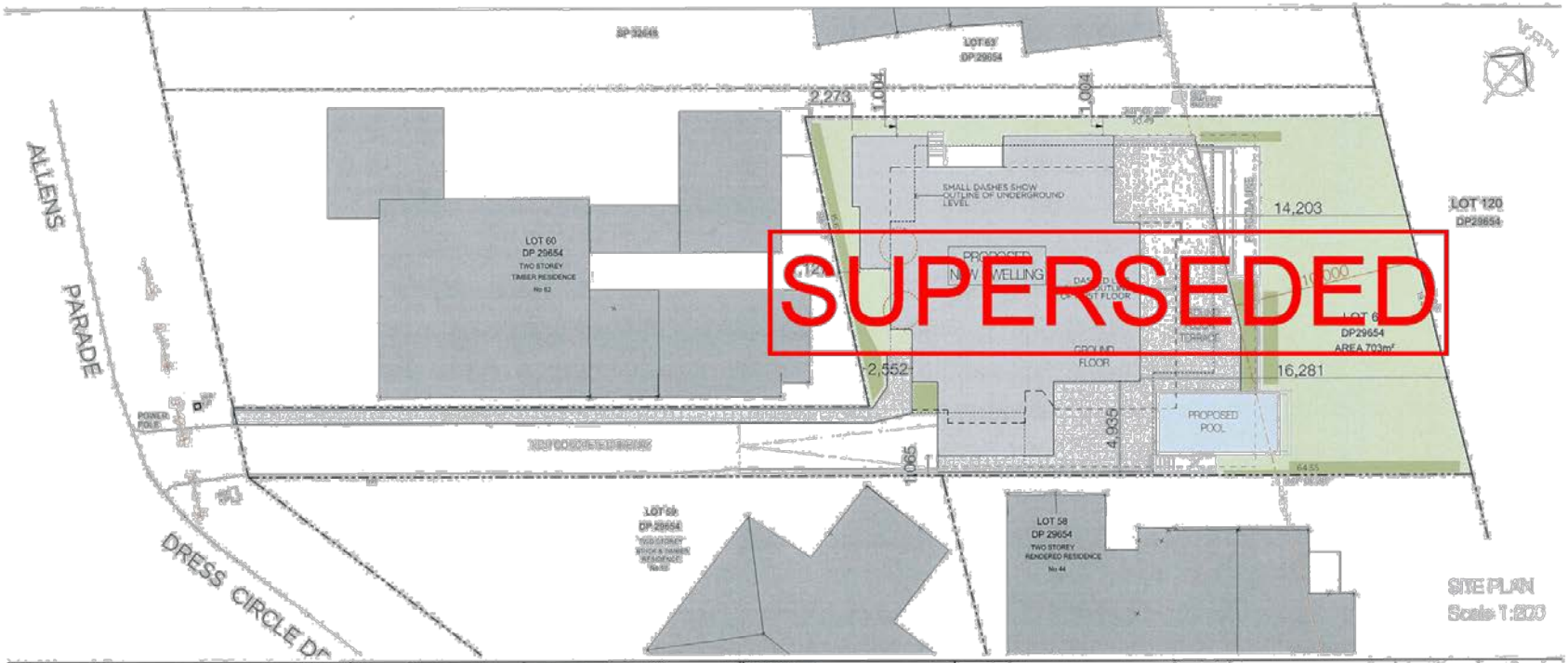
NATHERS Nº: AHGEMOHG86

LOCATION PLAN
Scale 1:2000

PLANNER
ARDYLL PAYNE AND PARTNERS
DWAYNE ROBERTS
BALLINA
46 River Street PO Box 20
BALLINA NSW 2478
Ph: 02 6686 3260

BASIX
BASIX SERVICES
DUNCAN HOPE

HYDRAULICS/ DRIVEWAY
CHARLIE HEWITT



SITE PLAN
Scale 1:200

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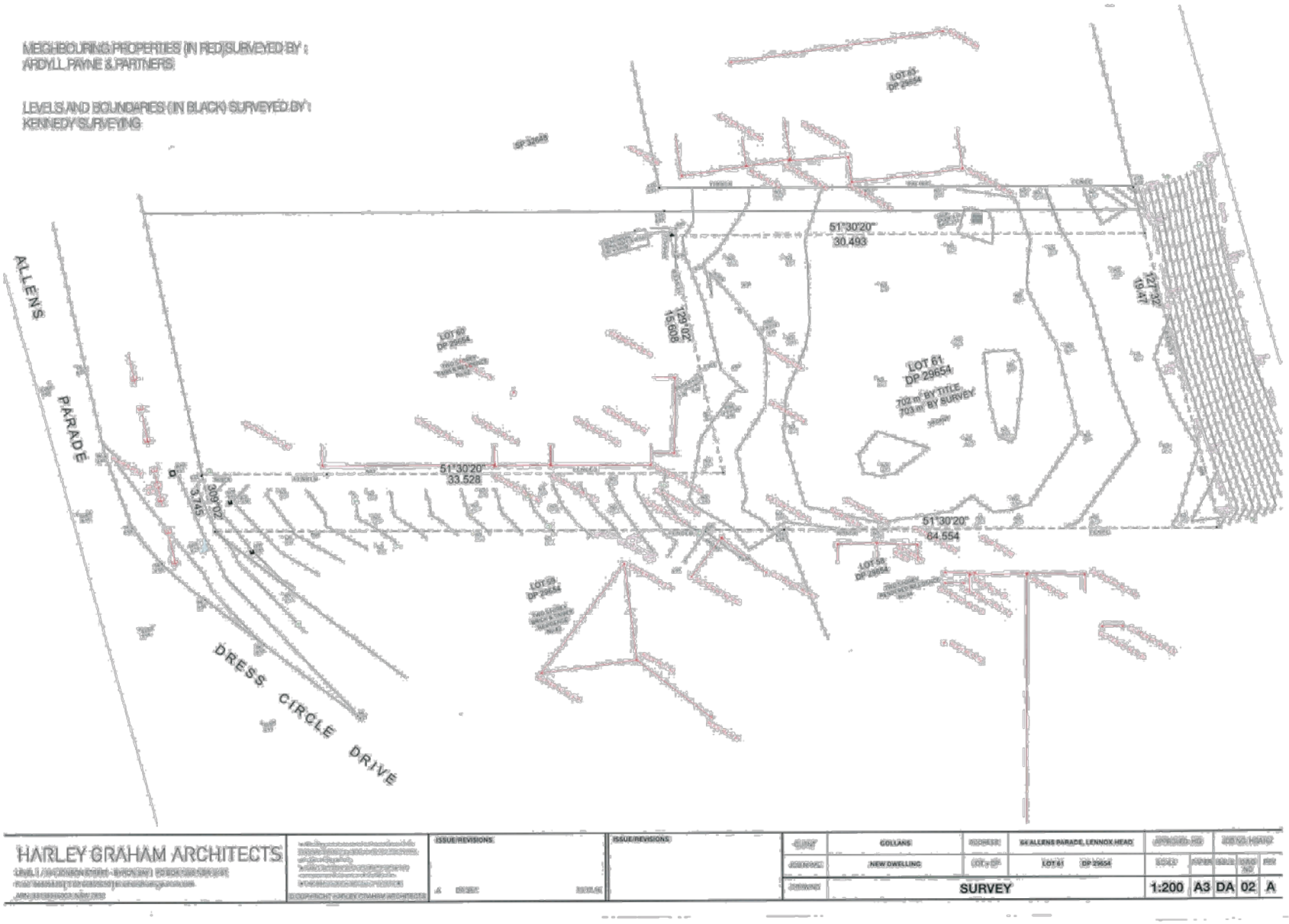
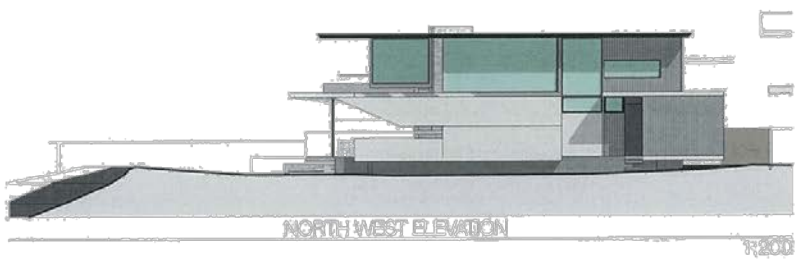
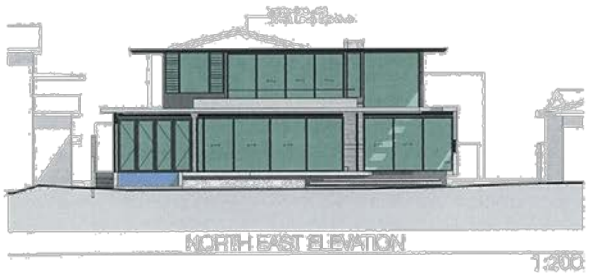
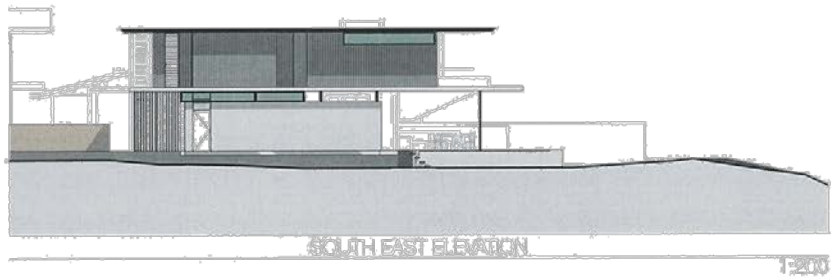
CLIENT	GOLLANS	ADDRESS	64 ALLENS PARADE, LENNOX HEAD				
JOB NAME	NEW DWELLING	LOT + DP	LOT 61 DP 29654				
DRAWING	LOCATION PLAN/ SITE PLAN & DRAWING LIST	1:2000 1:200	A3	DA	01	A	


NEIGHBOURING PROPERTIES (IN RED) SURVEYED BY :
ARDILL PAYNE & PARTNERS
LEVELS AND BOUNDARIES (IN BLACK) SURVEYED BY :
KENNEDY SURVEYING
ALLENS PARADE
DRESS CIRCLE DRIVE
LOT 61 DP 29654
702 m² BY TITLE
703 m² BY SURVEY
LOT 60 DP 29654
LOT 59 DP 29654
LOT 58 DP 29654
51°30'20"
30.493
51°30'20"
33.528
51°30'20"
64.554
129°02'
16.608
309°02'
5.745
127°32'
19.47
HARLEY GRAHAM ARCHITECTS
ISSUE/REVISIONS
ISSUE/REVISIONS
GOLLANS
64 ALLENS PARADE, LENNOX HEAD
NEW DWELLING
LOT 61 DP 29654
SURVEY
1:200
A3
DA
02
A







CONCRETE / COLOUR : NATURAL

MATERIAL :SCYON AXON
COLOUR: WOODLAND GREY

GLAZING / IRONSTONE ALUMINUM FRAMES

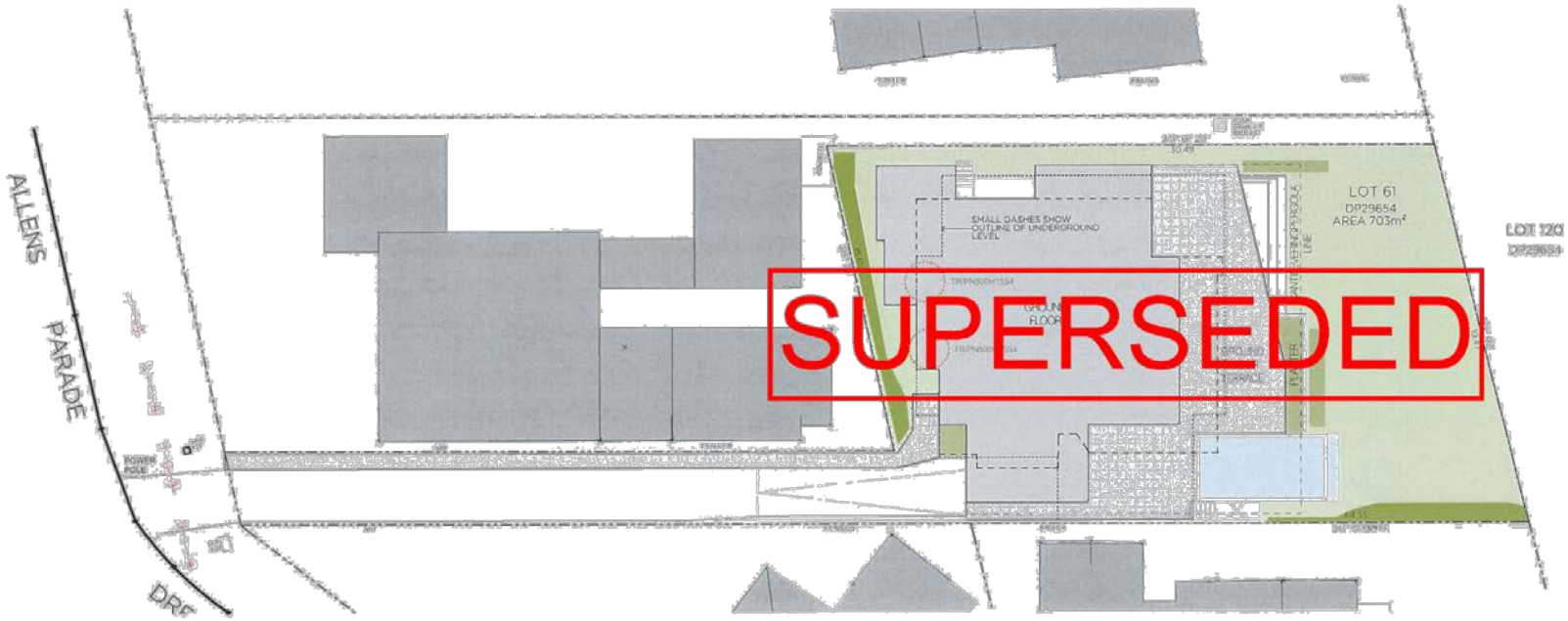
BASALT STONE / COLOUR : NATURAL

HARLEY GRAHAM ARCHITECTS

ISSUE/REVISIONS

ISSUE/REVISIONS

CLIENT	GOLLANS	ADDRESS	64 ALLENS PARADE, LENNOX HEAD	APPROVED NO	JOB NO HEARY				
JOB NAME	NEW DWELLING	LOT + DP	LOT 51 DP 29654	SCALE	PAPER	ISSUE	DWG NO	REV
DRAWING	ELEVATIONS			1:200	A3	DA	05	A



TREE REMOVAL
2 PINES

AREA 1: 205 m2
TURF
Sir Walter Buffalo

AREA 2: 20 m2
PRIVACY PLANTING
Cordyline stricta

AREA 3: 12m2

SHRUBS AND GROUND COVERS

Alpinia Caerulea
(Native Ginger)

Cordyline Congesta
(Tooth leaved Palm Lily)

Cordyline Petiolaris
(Broad Headed Palm Lily)

Asplenium australasicum
(Birds nest fern)

AREA 1:	205 m²
AREA 2:	20 m²
AREA 3:	12 m²
TOTAL ABSORBANT AREA:	237 m2
TOTAL SITE AREA:	703 m2
PERCENTAGE OF TOTAL SITE:	34%

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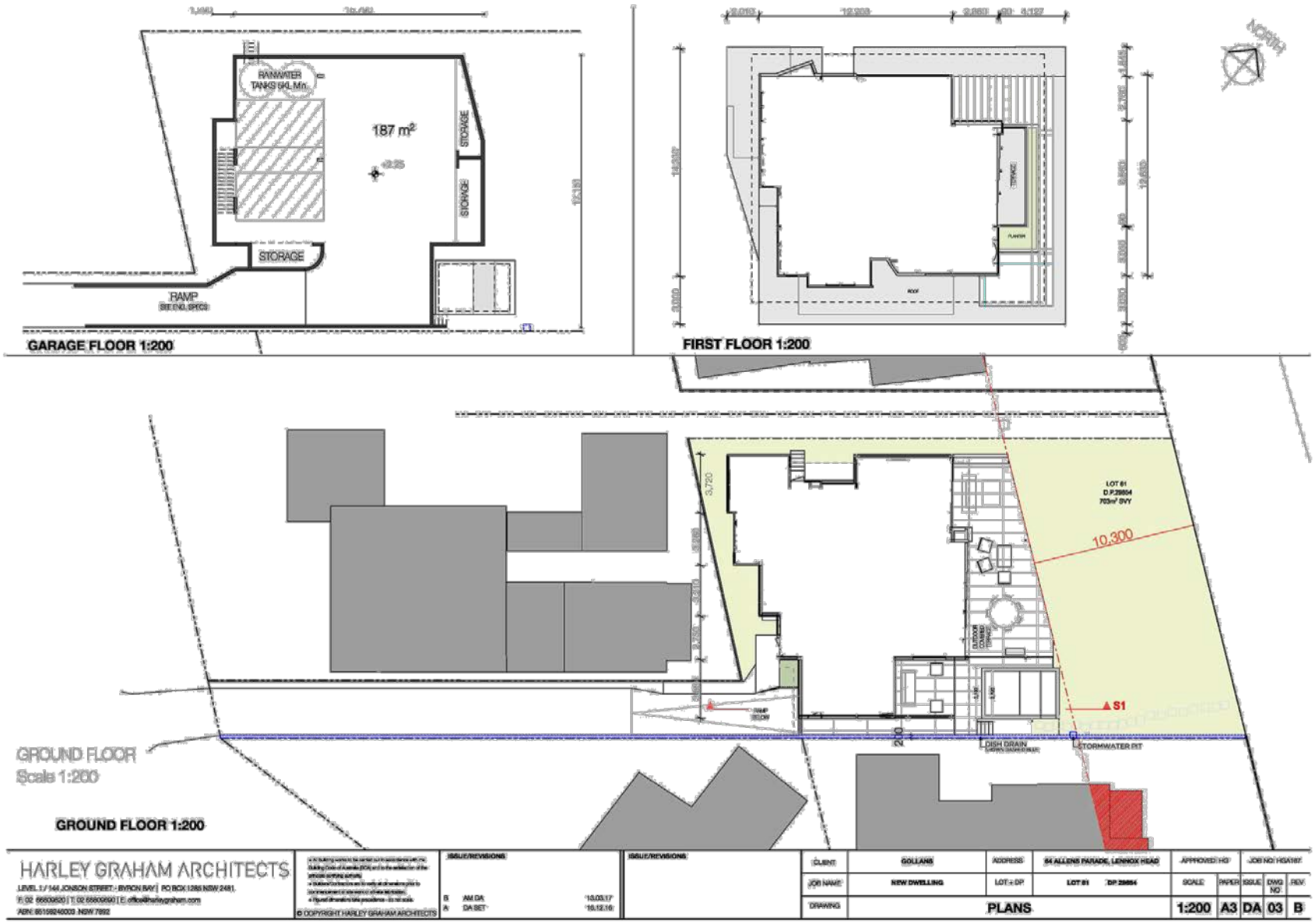
JOB NAME	NEW DWELLING	LOT & DP	LOT 61 DP 29654					
DRAWING	LANDSCAPE PLAN			1:200	A3	DA	06	A


RAINWATER TANKS 6KL Min.
187 m²
STORAGE
STORAGE
STORAGE
RAMP
SEE ENG. SPECS
GARAGE FLOOR 1:200
FIRST FLOOR 1:200
LOT 61
D.P.29854
703m² BVY
10.300
S1
STORMWATER PIT
DISH DRAIN
GROUND FLOOR
Scale 1:200
GROUND FLOOR 1:200
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LEVEL 1 / 144 JONSON STREET - BYRON BAY | PO BOX 1285 NSW 2481.
ABN: 86158240003 .NSW 7892
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A DA SET 15.12.16
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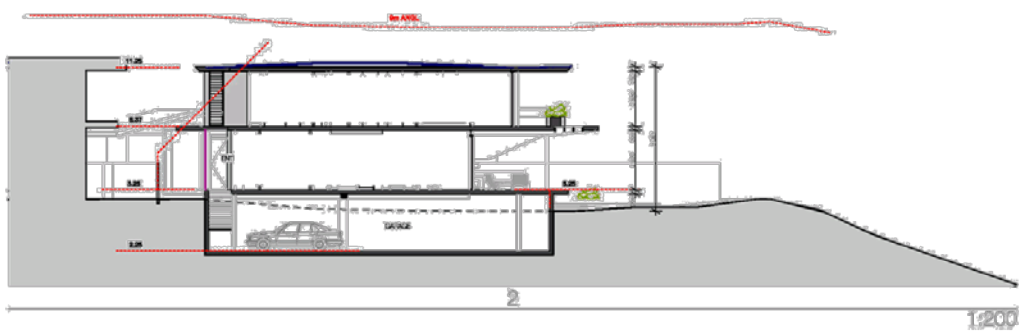
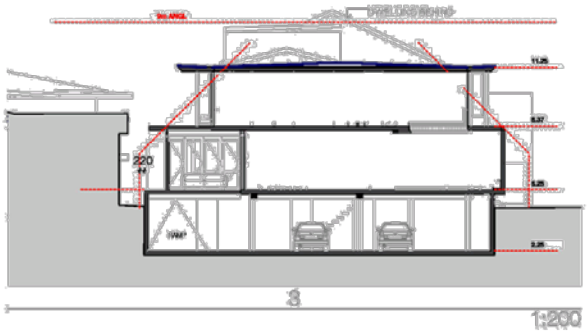
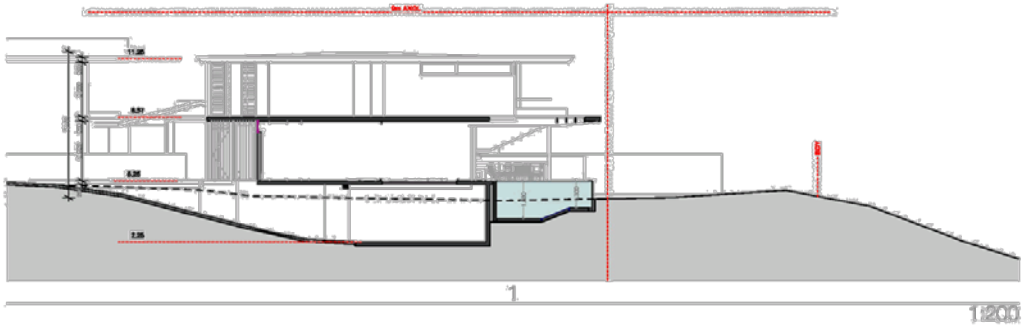
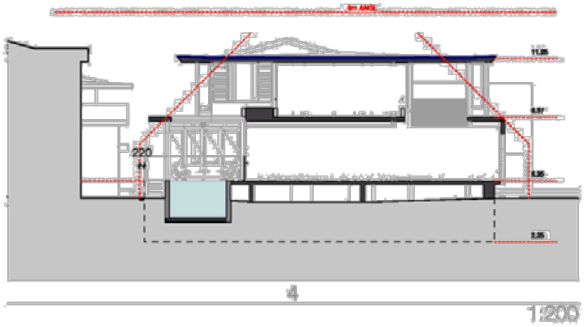
ADDRESS: 64 ALLENS PARADE, LENNOX HEAD
JOB NAME: NEW DWELLING
LOT + DP: LOT 61 DP 29854
DRAWING: PLANS
APPROVED: HG
JOB NO: HGA167
SCALE: 1:200
PAPER: A3
ISSUE: DA
DWG NO: 03
REV: B

64 ALLENS PARADE
OPTION 1









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DRAWING:	SECTIONS			1:200	A3	DA	04	B

CONCRETE / COLOUR : NATURAL	MATERIAL :SCYON AXON COLOUR: WOODLAND GREY
GLAZING / IRONSTONE ALUMINUM FRAMES	BASALT STONE / COLOUR : NATURAL

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JOB NAME	NEW DWELLING	LOT + DP	LOT 61 DP 29604	SCALE / PAPER / ISSUE / DWG NO / REV	
DRAWING	ELEVATIONS			1:200 A3 DA 05	B