

Sarah Ng

From: [REDACTED]
Sent: Monday, 12 October 2020 9:18 AM
To: DPE PS Biodiversity Mailbox
Cc: [REDACTED]
Subject: Draft Cumberland Plain Plan: Copy of submission and plan [REDACTED] Orchard Hills)
Attachments: 201009_Final Submissions to Department [REDACTED]
Stamped Plan_1619E.pdf

Dear Susan

I refer to my call this morning.

We act for the owners of [REDACTED] Orchard Hills.

As discussed, I **attach**:

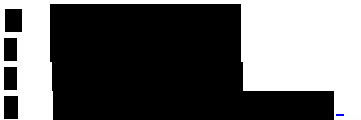
- 1) A copy of our client's submission in relation to the Draft Cumberland Plain Plan, submitted via the Department's website on Friday, 9 October 2020.
- 2) A copy of the stamped plan "1619E" referred to in condition 1 of the "Consent" (Annexure A to the submission) for completeness.

Kind regards,

Marlon

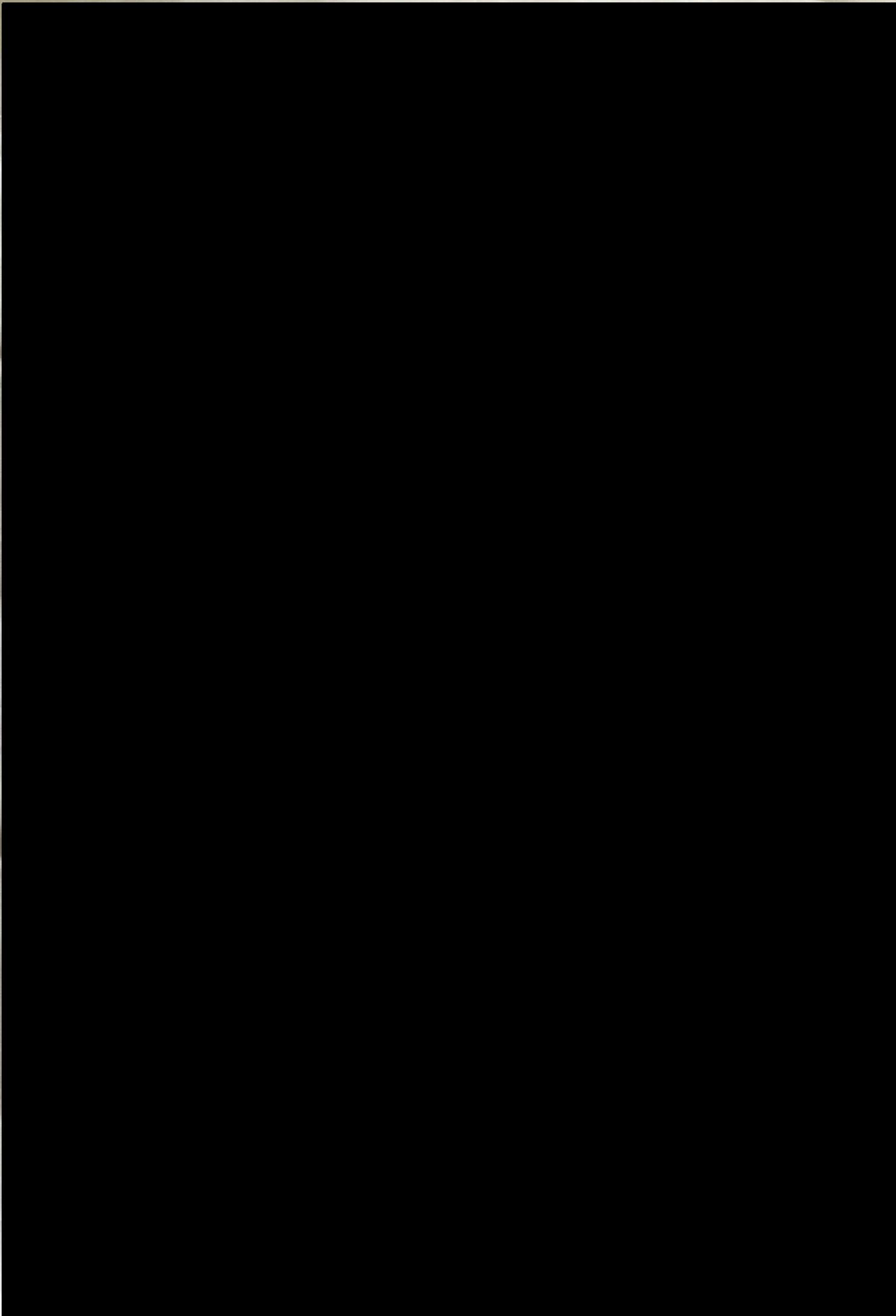
Marlon Shou
Senior Associate

I am working remotely. Please contact me on my mobile.



Beatty Legal Pty Limited
Suite 2303, Level 23
Governor Macquarie Tower
One Farrer Place
Sydney NSW 2000

Note:- The above message and any and all attached files may contain information that is private and confidential and /or subject of legal privilege intended only for the use by the intended recipient. If you are not this intended recipient or responsible for delivering the message to the intended recipient, then you have received this message in error. Any dissemination, copying or use of this message or attachments is strictly prohibited. If you have received this message in error, please notify the sender immediately and delete the message. Liability limited by a scheme approved under Professional Standards Legislation.



Our Ref: ARB.MSS.340
Your Ref:

9 October 2020

Relevant Officer
Green and Resilient Places Division
Department of Planning, Industry and Environment

Dear Officer

Re: Draft Cumberland Plain Conservation Plan ("Draft Plan"): [REDACTED]
[REDACTED] Orchard Hills ("Property")

We act for Ms Tracey Rook and Mr William Duncan, the owners of the Property.

Our clients have resided on the Property for over 28 years.

The Property is currently zoned a mix of 'E2 – Environmental Conservation' and 'RU2 – Rural Landscape' under the *Penrith Local Environmental Plan 2010*. The current E2 zone relates to the riparian corridor of Blaxland Creek which traverses through the middle of the Property.

The Draft Plan proposes to retain the existing E2 zone, with minor amendments to the alignment of the riparian corridor, but rezone a significant portion of the Property from RU2 to E2 for "biodiversity" reasons. The only part of the Property designated for urban development under the Draft Plan is a small parcel in the north-western corner of the Property, which largely comprises our clients' existing home.

Our clients submit that the rezoning is unwarranted, based on an incomplete understanding of the current permissible uses to which the Property can be put and of the physical characteristics of the Property, and is antithetical to the objectives and purposes of the Draft Plan.

We respectfully request the Department re-consider the proposed rezoning to E2 and instead designate the existing RU2 zoned land as "certified – urban capable" for the reasons set out below.

Approved development consent for subdivision

The Property benefits from [REDACTED] approved by Penrith City Council (**Council**) on 16 April 2003 and modified on 17 May 2005 (**Consent**). A copy of the Consent is **enclosed (Annexure A)**. The Consent permits the subdivision of the Property into three Torrens Title lots for residential purposes and the associated construction of a bridge over Blaxland Creek and a sealed vehicular driveway on the Property.

2006 pursuant to the Construction Certificate issued by Council dated 3 April 2006
(Annexure B).

Our clients have spent substantial time, effort, and costs in obtaining the Consent and in carrying out certain of the approved works to date. Our clients intend to complete construction, register the approved subdivision plan, and develop the subdivided lots for residential purposes. We note that the RU2 zone permits, among other things, the use of land so zoned for this purpose.

We are instructed that Ms Rook has recently raised the matter of the Consent in a call with Alex, an officer of the Department of Planning, Industry and Environment (**Department**), regarding her concerns with the adverse impact of the Draft Plain on the Property. Ms Rook was informed that the Department was not aware of the existence of the Consent, and that evidence of the Consent would cause it to reconsider the proposed rezoning of the Property to E2.

We submit that the Consent readily establishes the suitability of the Property for urban development. The Consent evidences Council's detailed consideration of the anticipated impacts of the residential subdivision, including relevant environmental impacts, and its determination that the Property is suitable for that use. Further, the conditions of the Consent required our clients to obtain a permit under Part 3A of the now repealed *Rivers and Foreshores Improvement Act 1948*. As part of that process, our clients obtained a Vegetation Management Plan (**VM Plan**) dated 14 June 2004, which was submitted to, and approved by, the then Department of Natural Resources on 9 March 2006 (**Annexure C**). Although the focus of the VM Plan was on the vegetation immediately surrounding Blaxland Creek, it made the following comments on the general condition of the ecological significance of the Property:

"The vegetation on the subject site is in poor condition. However it is still identified as an example of "Alluvial Woodland" (Unit 11 NPWS) native vegetation community. The vegetation present represents a modified community, except for the few examples of Casuarina and Melaleuca the remainder contains high levels of exotic weeds...No threatened flora species were detected on the site." (Section 2.6)

"The site would have once been representative of the Sydney Coastal River Flat Forest / Alluvial Woodland. (NPWS 2001). As such it has the status of "Endangered Ecological communities listed under the threatened species conservation 1995". (As at the 1st of June 2002). However the site is highly modified and degraded being dominated by introduced weed species..." (Section 2.7)

"The site is degraded, and except for the bank and the instream zone has little habitat that would support threatened fauna. The high density of weed species, limits the food supply for native fauna". (Section 2.8)

We are instructed that, since the VM Plan was prepared, the passage of time has resulted in this part of the Property being further degraded thereby diminishing its already limited ecological value.

The proposed rezoning of the Property by the Draft Plan will effectively sterilise the existing potential for the parts of the Property currently zoned RU2 to be used for residential purposes.

We consider that such an outcome is unwarranted and unreasonable in circumstances where the Property has the benefit of the Consent approved by Council. In light of the fact of the Consent, we submit that the RU2 zoned parts of the Property should be designated “certified – urban capable”.

Proposed E2 zone has no biodiversity value

We **enclose**:

- 1) A current aerial image of the Property. (**Annexure D**)
- 2) A current aerial image of the Property overlayed with the zones proposed by the Draft Plan from the Department’s Spatial Viewer. (**Annexure D**)
- 3) Photos of the parts of the Property proposed to be rezoned E2 for “biodiversity” reasons taken by our clients by drone in July of this year and a photo taken by hand earlier today. (**Annexure E**)

The Draft Plan states that land will be “avoided” for “biodiversity” reasons where it meets the “avoidance criteria” identified in Appendix B to the Draft Plan. The criteria applies to avoid three main categories of land evidencing the following biodiversity values:

- 1) Threatened Ecological Communities and plant community types.
- 2) Threatened species.
- 3) Ecological processes, being land identified as priority conservation lands, “BIO Map core areas, or important local habitat corridors for key species”, “BIO Map regional corridors”, and areas identified on the “Biodiversity Values Map”.

The Draft Plan also explains that the purpose of the E2 zone is to:

“protect or manage land of important environmental value. An environmental zoning can be applied to private or public land where the primary focus for that land is the conservation and/or management of environmental values”. (page 35)

We submit that the parts of the Property currently zoned RU2 and proposed to be rezoned E2 do not evidence or comprise any of the above specified categories or generally have any “important environmental value”.

In addition to the matters raised above, the enclosed photographs self-evidently demonstrate that the relevant areas of the Property are predominantly cleared and contain only grass and

cattle and the raising and training of racehorses by our clients.

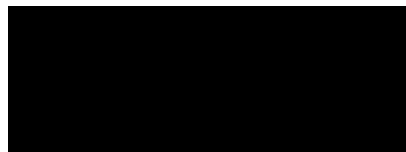
We therefore submit that the proposed rezoning of the Property would be inconsistent with the stated objectives of the Draft Plan and the purposes of the E2 zone, which are to avoid and preserve land of high biodiversity value.

Opportunity to consider and address any ecological evidence

If the Department does not agree to reconsider the proposed rezoning and considers that the relevant parts of the Property have important environmental value, we request that the it provide our clients with evidence supporting that conclusion and an opportunity for them to review and obtain independent expert advice before the Draft Plan is finalised.

Given the significant potential adverse impacts of the Draft Plan on the Property and our clients, we understand that our clients intend to provide a copy of this submission and to raise this matter directly with their Local Member of Parliament, Mrs Tanya Davies, MP, and the Minister for Planning and Public Spaces, The Hon. Robert Stokes, MP.

Yours faithfully,

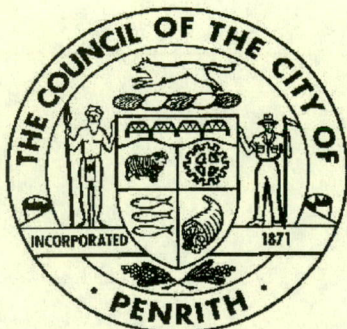


Andrew Beatty/Marlon Shou
Director/Senior Associate
Beatty Legal Pty Limited
ABN 44 273 924 764

Encl.

Annexure A – Consent





PENRITH VALLEY
River Mountains Lakes

DETERMINATION OF DEVELOPMENT APPLICATION

P E N R I T H C I T Y C O U N C I L

MODIFICATION

DESCRIPTION OF DEVELOPMENT

DA No. [REDACTED]

Description of development

SUBDIVISION THREE LOT TORRENS TITLE

DETAILS OF THE APPLICANT

Name [REDACTED]

Address [REDACTED]

PENRITH NSW 2750

NOTES

1. Your attention is drawn to the attached conditions of consent in attachment 1.
2. You should also check if this type of development requires a construction certificate in addition to this development consent.
3. It is recommended that you read the Advisory Note enclosed with this consent.

DETAILS OF THE LAND TO BE DEVELOPED

Street No.	████
Street name	████████████████████
Suburb	Orchard Hills
Lot No.	L2
DP/ SP	██████████

DECISION OF CONSENT AUTHORITY

In accordance with Section 81(1)(a) of the Environmental Planning and Assessment Act 1979, consent is granted subject to the conditions listed in attachment 1..

Date from which consent operates	16 April 2003
Date the consent expires	16 April 2006
Determination Date	16 April 2003
Date of Modification	17 May 2005

Please note that this consent will lapse on the expiry date unless the development has commenced in that time.

OTHER APPROVALS

THE FOLLOWING STATE AUTHORITIES HAVE APPROVED THE DEVELOPMENT:

- Department of Land and Water Conservation – Rivers and Foreshores Improvement Act 1948 Part 3A Permit.
- NSW Rural Fire Service under Section 100B of the Rural Fires Act 1997.

REVIEW OF DETERMINATION & RIGHTS OF APPEAL

- (a) The applicant may request Council to review its determination pursuant to Section 82A of the Environmental Planning and Assessment Act 1979 within 12 months of receiving this Notice of Determination.
You cannot make this request if the development is Designated Development, Integrated Development, or State Significant development.
- (b) The applicant can appeal against this decision in the Land and Environment Court within 12 months of receiving this Notice of Determination.
You cannot appeal if a Commission of Inquiry was held for the subject development application, or if the development is a State Significant Development.
- (c) Right of Appeal if the application was for Designated Development
If a written objection was made in respect to the Application for Designated Development, the objector can appeal against Council's decision to the Land and Environment Court within 28 days after the date of this Notice. The objector cannot appeal if a Commission of Inquiry was held.
If the applicant appeals against Council's decision, objector(s) will be given a notice of the appeal and the objector(s) can apply to the Land and Environment Court within 28 days after the date of this appeal notice to attend the appeal and make submissions at that appeal.

REASONS

The conditions in the attached schedule have been imposed for the following reasons:


- To ensure compliance with the terms of the relevant Planning Instrument.
- To ensure that no injury is caused to the existing and likely future amenity of the neighbourhood.
- Due to the circumstances of the case and the public interest.
- To ensure that adequate road and drainage works are provided.
- To ensure that satisfactory arrangements are made to satisfy the increased demand for public recreation facilities.
- To ensure that access, parking and loading arrangements will be made to satisfy the demands created by the development.
- To ensure the structural integrity of the development.
- To ensure the protection of the health and safety of the occupants of the development.

POINT OF CONTACT

If you have any questions regarding this consent you should contact:

Assessing officer	Andrew Wood
Contact telephone number	(02) 4732 7772

SIGNATURE

Name	Andrew Wood
Signature	

For the Environmental Planning Manager

ATTACHMENT 1: CONDITIONS OF CONSENT

- 1 The development must be implemented substantially in accordance with the plans numbered 1619E, drawn by Matthew Freeburn and dated 4 April 2003, and stamped approved by Council, the application form and any supporting information received with the application, except as may be amended in red on the attached plans and by the following conditions.

{Note: Prescribed conditions under the Environmental Planning and Assessment Regulation 2000 as amended will apply to building and subdivision work commencing/approved on 1 July 2003.}

- 2 Erosion and sediment control measures shall be installed prior to the commencement of works on site including approved clearing of site vegetation, and maintained in accordance with the approved erosion and sediment control plan(s) for the development and the Department of Housing's "Managing Urban Stormwater: Soils and Construction" 1998.

{Note: To obtain a copy of the publication, you should contact the Publications Officer, Housing Production Division, Department of Housing on (02) 9821 6092.}

The erosion and sediment control measures shall be certified (by way of a Compliance Certificate) as having been installed in accordance with the approved erosion and sediment control plan(s) for the development and "Managing Urban Stormwater: Soils and Construction" 1998. The Compliance Certificate shall be obtained and issued a minimum 2 days before works are to commence on site.

The approved sediment and erosion control measures are to be installed prior to and maintained throughout the construction phase of the development until [the landscaping, driveway and on-site parking areas have been completed for the development. / the land, that was subject to the works, have been stabilised and grass cover established.] *Delete if not applicable* These measures shall ensure that the tracking of mud and soil deposits from the site does not occur during the construction of the development.

- 3 No fill material is to be imported to the site without the prior approval of Penrith City Council in accordance with Sydney Regional Environmental Plan No.20 (Hawkesbury-Nepean River) (No.2-1997). No recycling of material shall be used as fill material on the site without the prior approval of Council.
- 4 All services (water, sewer, electricity, telephone and gas) [, including the provision of service conduits and stub mains,] *Delete if not applicable* are to be installed within the proposed public roads before final inspection of the engineering works.

Prior to the release of the linen plan, the following service authority clearances

shall be obtained:

- a Section 73 Compliance Certificate under the Sydney Water Act 1994 shall be obtained from Sydney Water; and
- a letter from Integral Energy stating that satisfactory arrangements have been made for electricity supply to all proposed allotments in the subdivision, including any necessary easements; and
- a letter from an approved telecommunications service provider /or that satisfactory arrangements have been made for underground telephone services to all proposed allotments in the subdivision, including any necessary easements.

These clearances are to be submitted to the Principal Certifying Authority.

- 5 For construction works carried out by an owner-builder on a residential premises but not the contractor or other persons employed by the owner-builder to carry out such works, construction hours for the owner-builder shall be restricted to the following hours so long as complaints regarding the construction are not received by Council:

- * Mondays to Saturdays, 7am to 8pm, and
- * Sundays and Public Holidays, 8am to 8pm.

In the event that Council receives complaints regarding the manner in which the construction works is being conducted, Council reserves the right to amend the construction hours for the development.

Contractors or other persons employed to carry out works

In the event that a contractor or other persons have been employed by the property owner or owner-builder to carry out all or part of the construction works, then the construction hours shall be restricted to the following:

Construction works that are carried out in the open that involve the use of heavy vehicles, heavy machinery and other equipment likely to cause offence to adjoining properties shall be restricted to the following hours in accordance with the NSW Environment Protection Authority Noise Control Guidelines:

- * Mondays to Fridays, 7am to 6pm
- * Saturdays, 7am to 1pm (if inaudible on neighbouring residential premises), otherwise 8am to 1pm
- * No work is permitted on Sundays and Public Holidays.

Other construction works carried out inside the residential building and do not involve the use of equipment that emits noise are not restricted to the construction hours stated above.

The provisions of the Protection of the Environment Operations Act, 1997 in regulating offensive noise also apply to all construction works.

- 6 A report for a wastewater treatment system, prepared by a suitably qualified person, shall be submitted for approval. The report shall indicate the type of system suitable for the soil type and the location of the disposal system on the

site. The report shall be provided with the application for the erection of a dwelling on each lot.

7 **Conditions Modified 18 May 2005**

A driveway minimum width of 3m is to be provided. Existing portions of the driveway are to be resealed with a 2 coat bitumen seal. Damaged sections of the existing driveway are to be repaired to a standard equivalent to the new pavement. New portions of the driveway are to be constructed with a 2 coat hot bitumen seal on a minimum 200mm deep pavement. Sealed footpath crossovers are to be provided at all points of ingress and egress, and is to extend from the edge of the driveway seal to the property boundary. Passing bays shall be provided as determined during construction works and as directed by Council's Engineer. The driveways shall provide safe flood access during floods to each lot. Prior to the issue of a Construction Certificate approval from the Department of Infrastructure, Planning and Natural Resources is required for the plans and works within the riparian zone of the creeks.

- 8 Prior to the release of the linen plan, appropriate ramps, table drain crossings, and vehicle entrances are to be constructed to provide reasonable physical access to Lots [REDACTED] Prior to commencement of such works, a Roads Act approval for the footpath crossing is to have been obtained from Penrith City Council.
- 9 No trees are to be removed from within the subdivision without the prior consent of Penrith City Council. Any trees to be removed as part of the engineering work are to be shown on engineering plans submitted for Council's consideration and subsequent approval.
- 10 Work on the subdivision is not to commence until:
- a Construction Certificate has been issued,
 - a Principal Certifying Authority has been employed for the project, and
 - any other matters prescribed in the development consent for the subdivision and the Environmental Planning and Assessment Act and Regulation have been complied with.

Penrith City Council is to be notified 48 hours prior to commencement of engineering works or clearing associated with the subdivision.

{Note: Prescribed conditions under the Environmental Planning and Assessment Regulation 2000 as amended will apply to subdivision work commencing/approved on 1 July 2003.}

- 11 Submission of the original Linen Plan and ten (10) copies.

The following information is to be shown on one (1) copy of the plan.

- The location of all buildings and/or other permanent improvements shall comply with any statutory boundary clearances or setbacks as defined by the Building Code of Australia and Council's resolutions.

- All existing services are wholly contained within the lot served and/or covered by an appropriate easement.

- 12 The linen plan of subdivision is to be supported by an 88B instrument creating a Restriction as to User or easement regarding the following:

Condition number 6.

Council shall be nominated as the only authority permitted to modify, vary or rescind such restriction as to user.

- 13 This condition is imposed in accordance with Penrith City Council's Section 94 Contributions Plan for Library Facilities. Based on the current rates detailed in the accompanying schedule attached to this Notice, \$1356 is to be paid prior to a Construction Certificate being issued for this development (the rates are subject to a quarterly review). If not paid within the current quarterly period, this contribution will be reviewed at the time of payment in accordance with the adopted Section 94 plan. The projected rates of this contribution amount are listed in Council's Fees and Charges Schedule.

The attached schedule should accompany the contribution payment.

The Section 94 Contributions Plan for Library Facilities may be inspected at Council's Civic Centre, 601 High Street, Penrith.

- 14 Prior to the commencement of any earthworks or construction/demolition works on site, the proponent is to:
- employ a Principal Certifying Authority to oversee that the said works carried out on the site are in accordance with the development consent and related Construction Certificate issued for the approved development, and with the relevant provisions of the Environmental Planning and Assessment Act and accompanying Regulation, and
 - submit a Notice of Commencement to Penrith City Council.

The Principal Certifying Authority shall submit to Council an "Appointment of Principal Certifying Authority" in accordance with Section 81A of the Environmental Planning and Assessment Act 1979.

{Note: As from 1 July 2003, if Penrith City Council is to be appointed as the Principal Certifying Authority (PCA) for the development, then the proponent is to formally appoint Council as the PCA. You should contact Council's Building Approvals and Environment Protection Department on (02) 47327991 to commence the procedures for appointing Council as the PCA.}

Information to accompany the Notice of Commencement

Two (2) days before any earthworks or construction/demolition works are to commence on site (including the clearing site vegetation), the proponent shall submit a "Notice of Commencement" to Council in accordance with Section 81A of the Environmental Planning and Assessment Act 1979.

The following documentation shall accompany the "Notice of

Commencement" to be submitted to Penrith City Council: *Nominate*

- A Compliance Certificate certifying that sediment and erosion control measures has been installed in accordance with condition 2.
- 15 A Subdivision Certificate is to be obtained prior to the release of the linen plan of subdivision. The Subdivision Certificate will not be issued if any of the conditions in this consent are outstanding.
- 16 **Condition Modified 18 May 2005**
The deck level of proposed Bridge No. 1 shall be a maximum of 250mm below the 1:100 year flood. The underside of Bridge No. 2 shall have a minimum clearance of 500mm above the 1:100 year flood level.
- 17 A flood report demonstrating that the proposed access way and bridge works will not have any adverse impact on the existing flood levels in the area. The report shall be submitted and approved by Council prior to a construction certificate being issued.

Department of Land & Water Conservation
GENERAL TERMS OF APPROVAL
Rivers and Foreshores Improvement Act 1948
Part 3A Permit

Requirement for Permit

- 1 Any work which requires a permit under Part 3A of the Rivers and Foreshores Improvement Act 1948 ("Part 3A permit") is not to commence until such time as a Part 3A permit has been applied for, and subsequently issued by DLWC. Any work the subject of a part 3A permit must be carried out in accordance with drawings and any plans required by these conditions, and approved by DLWC, and which will accompany the part 3A permit.

Standard of Work

- 2 All works proposed must be designed, constructed and operated so they do not cause erosion or sedimentation and do minimise adverse impacts on aquatic and riparian environments.
- 3 Activities at the Site are to be under the direction and supervision of a person or persons with knowledge, qualifications and experience to industry standards in each aspect of the operations to be undertaken.

Cessation of Works

- 4 If, in the opinion of a DLWC officer, any work is being carried out in such a manner that it may damage or detrimentally affect protected waters or protected land, or damage or interfere in any way with any work, such work shall cease immediately upon oral or written direction of such officer.
- 5 Should any of the conditions of the Part 3A permit not be complied with, DLWC may issue a Stop Order on Part 3A permit related operations at the Site until the conditions have been complied with.

Work as Executed Plans

- 6 If requested by DLWC, work as executed survey plans of a professional standard, and including information required by DLWC, shall be forwarded to DLWC within 14 calendar days of such request.

Remedial Works

- 7 The part 3A permit holder shall carry out any instructions given by DLWC with a view to preventing damage to the environment of protected waters or protected land.
- 8 If any part 3A permit condition is breached, the permit holder shall follow DLWC directions to address the breach and shall rehabilitate the Site as directed by, and to the satisfaction of, DLWC. If any breach of the permit conditions requires a special site inspection by DLWC, then the permit holder shall pay a fee of \$640 for this inspection and for each and every subsequent inspection until the breach has been rectified.

Disposal of Vegetation

- 9 Any vegetation or other material removed from the area of operations shall be disposed of to an appropriate site where the debris cannot be swept into protected waters during a flood.

Notification of Cessation of Works

- 10 When the works subject to a Part 3A permit are to cease, DLWC must be notified one month in advance of the cessation of the works.

Designation of Riparian Zone

- 11 A riparian zone at least 20 metres wide measured horizontally and at right angles to the flow from the top of the bank(s), consisting of local native plant species, shall be maintained along Blaxland Creek.

Crossing

- 12 The design of all stream crossings must be sensitive to the ecology, wildlife corridor and geomorphic functions of the stream by providing adequate light levels, protection for migrating fauna and minimising erosion. To achieve this the design of all crossings are to consist of a full span bridge with piered approaches of a structure with equivalent corridor functions. The road width is to be as narrow as possible and the bankfull creek flows and floodplain flows are not to be inhibited in any way. The crossings are not to cause scour or erosion to the stream bed or banks in any storm events. The design of all stream crossing are to be prepared and implemented by a person(s) with relevant knowledge, qualifications and experience, in consultation with, and with the approval of DLWC **prior to the issue of the Part 3A Permit.**
- 13 A report is required **prior to the issue of the Part 3A Permit**, giving details of hydraulic conditions before and after the proposed *stream crossing (or other approved structure)* over the watercourse for bankfull discharge and 5, 20, and 100 year storm events.

To be included in the report should be:

- ❖ Hydraulic conditions such as discharge, velocities in the channel and along the banks and shear stresses on the bed and banks (both up and downstream of proposed crossing), extending to a distance upstream and downstream beyond the extent that the works have a hydraulic impact, and
 - ❖ Detail any impacts to the hydraulic and geomorphic characteristics of the stream that may result from the proposed work and any measures designed to counter those impacts such as scour protection.
- 14 The bridge design is to be presented in plan view and cross section. The cross section is to be a right angles to the direction of flow, is to extend for a minimum distance of 20 metres from the top of both banks and is to include the location of all structures associated with the proposed bridge.
 - 15 The location, design and construction technique adopted to establish the road and stream crossings is to ensure that disturbance to soil and native vegetation is kept to an absolute minimum.

Site Rehabilitation - Vegetation

- 16 Site rehabilitation must protect any remnant local native riparian vegetation at the Site and restore any riparian zones, including within the watercourses, disturbed by the development to a state that is reasonably representative of the natural ecotone of the protected waters system and as required in the *Vegetation Management Plan*.
- 17 A *Vegetation Management Plan*, including the cost of implementing the plan, is to be prepared by persons with professional qualifications, knowledge and experience in bushland rehabilitation practices and the preparation of such plans, in consultation with, and with the approval of DLWC **prior to the issue of a Part 3A permit**, the cost estimate will form the basis for a bond. The plan is to be in accordance with, but not limited to, the *How to prepare a Vegetation Management Plan (Version 4) (Attachment A)*. The VMP is to detail the restoration of all disturbed areas within the riparian zone, including but not limited to,
- 18 A *Vegetation Management Plan (VMP)* is to be prepared by a person(s) with relevant knowledge, qualifications and experience, in consultation with, and with the approval of, DLWC **prior to the issue of a Part 3A permit** in accordance with, by not limited to DLWC guidelines on *How to prepare a Vegetation Management Plan (Version 4) (Attachment A)*. The VMP is to detail the protection, establishment and maintenance of a native vegetation riparian zone, including the staging or works, monitoring and performance criteria and who is to undertake the tasks.
- 19 Riparian zones so protected and/or restored must be fully structured and must consist of a mix of native trees, shrub, groundcover and grass species local to the area. The riparian zones must consist of a diverse range of native plant species local to the area and is to be densely vegetated and fully structured (ie trees, shrubs and groundcovers). It is also recommended that trees and shrubs be planted at approximately equal numbers at an average density of one

plant per square metre. It is recommended that groundcover species be planted at an average density of a least four plants per square metre in addition to trees and shrubs.

- 20 The riparian zone is to function as a ecological system and as such all works, access routes, service easements, asset protection zones and any other non-ecologically functioning works or activity are to be located beyond the riparian zone, unless detailed on plans approved by DLWC, **prior to the issue of a Part 3A permit.**
- 21 The person or organisation responsible for implementing the VMP must certify in writing to DLWC that all plantings have derived from stock propagated from seed collected only from native plants from the local botanical provenance in accordance with the DLWC guidelines *how to Collect Native Plant Seed Responsibly (Version 1)* (**Attachment B**).
- 22 DLWC is to be advised of the person or organisation responsible for any seed propagation prior to the commencement of propagation.

Soil Suitability

- 23 For the land that is the subject of this DA, a suitable weed free soil, that is similar to that which occurs naturally in local riparian areas, must form the surface of the riparian zone referred to in these Conditions. Any soil deemed suitable for the purposes of this condition must be suitable for the establishment and on-going viability of riparian vegetation. Prior to the soil being used on the Site, such soil must be tested and certified by a NATA registered soils laboratory as to the soil's similarity to the naturally occurring local soil and for its suitability for the establishment and on-going viability of riparian vegetation. Documentation arising from this testing and certification must be provided to DLWC prior to the placement of any soil.

Soil Structure

- 24 The structure of the soils in the riparian zones must be suitable for the vegetative rehabilitation of the Site. The soils in the riparian zone are therefore not to be proof rolled or subjected to other unsuitable compaction.

Maintenance of Riparian Zone

- 25 The riparian zone must be maintained and monitored for a period of at least two years after final planting. Maintenance must include sediment and erosion control, watering, weed control, replacement of plant losses, disease and insect control, mulching and any other requirements necessary for achieving successful vegetation establishment.

Maintenance Report

- 26 A brief and concise report addressing the performance criteria as specified in the VMP and any problems implementing the plan and means to overcome these shall be forwarded to DLWC every six months for the duration of the maintenance period.

Exotic plant species not to be planted within the riparian zone

- 27 No exotic plant species, other than temporary sterile cover crops, are to be planted within the riparian zone.

Water Quality Protection

- 28 The Applicant must ensure that the amount of dirty water and sediment that enters protected waters from the Site is minimised.

Site Water & Sediment Runoff Management

- 29 The applicant must submit a *Soil and Water Management Plan* indicating how the works at the Site will achieve the outcome required in the previous Condition. The plan must be prepared by a suitably qualified person, to the satisfaction of Council and DLWC, and approved by DLWC, prior to the issue of the part 3A permit. The Plan must cover all works on protected land and in protected waters, and staging and maintenance requirements. The Plan must meet the requirements outlined in the NSW Department of Housing's publication *Managing Urban Stormwater: Soils and Construction (3rd Ed.) (1998)*. The Plan is also to meet an EPA licence requirements.
- 30 The requirements of the *Soil and Water Management Plan* must be implemented prior to any other works commencing at the Site.

Maintenance of Erosion and Sediment Control Measures

- 31 All erosion and sediment control measures at the Site are to be inspected and maintained as required on a weekly basis and immediately following any rainfall events to ensure the efficient operation of these devices. This obligation remains until the Site has been fully stabilised.

Decommissioning of all Sediment and Erosion Controls

- 32 Decommissioning of all sediment and erosion controls must be documented in detail to the satisfaction of DLWC. Decommissioning must meet the requirements outlined in the NSW Department of Housing's publication *Managing Urban Stormwater: soils and Construction (3rd Ed.) (1998)*. The timeframes for the decommissioning of the sediment and erosion controls are to be cross-referenced to the implementation of any riparian zone plantings.

Flooding Issues

- 33 the development is to satisfy all requirements of Council in relation to flooding issues.

Drainage Issues

- 34 The development is to satisfy all requirements of Council in relation to drainage issues.

Water Pollution Issues

- 35 The development is to satisfy all requirements of Council in relation to water pollution issues. Oils and greases, or other contaminants, must not be permitted to pass to protected waters.

Cash Bond or Bank Guarantee

- 36 The applicant for a Part 3A permit is, as a pre-condition to the granting of the Part 3A permit, to provide a cash bond or bank guarantee, **prior to the issue of the Part 3A permit**, to cover the cost of decommissioning any temporary sediment and erosion controls on Protected Land and for the restoration and maintenance of the stream and Riparian Zone as required by these conditions. Costing are to be based on industry standard rates and final estimates are to be approved by DLWC.
- 37 Any bank guarantee is to be provided from a bank licensed pursuant to the Banking Act 1959 (Cth) and is to be provided in favour of DLWC and in a format of **Attachment C** and is to be provided in favour of DLWC. Any cash or bank guarantee will be held until such time as any rehabilitation works and any specified maintenance period are complete. DLWC may at any time, and more than once and without notice on the Part 3A permit holder, utilise any cash provided or demand all or part of the moneys available under a bank guarantee, if in its opinion, the Part 3A permit holder has failed at any time to satisfactorily decommission temporary sediment and erosion controls, or rehabilitate the riparian zone in accordance with these conditions of the VMP.

Resolution of inconsistencies

- 38 In the event that there is any inconsistency between the drawings, other documentation and the conditions herein, the interpretation that will result in the best outcome for the stabilisation of the Site and the subsequent rehabilitation and maintenance of the Site and protected land and protected waters is to prevail. Such interpretation is to be applied in consultation with, and with the approval of, DLWC.

Any Part 3A permit issued to be kept current

- 39 Any Part 3A permit issued for works proposed under this DA must be kept current by payment of the appropriate fee until such time as the Site has been fully stabilised and rehabilitated, and any required maintenance satisfactorily completed and reported on, in accordance with these conditions. Any application for renewal will be lodged at least 1 month prior to the permit expiry date.

General Advice

- (a) A part 3A permit, subject to conditions, will be issued for the proposed works upon application.
- (b) Any Part 3A permit granted for works the subject of this DA will be for a period of one year.
- (c) Prior to the issue of the Part 3A permit the applicant must provide DLWC with the following:
 - ❖ A copy of Council's development consent including all conditions of approval;

- ❖ Three sets of plans and/or other documentation that satisfy the DLWC's General Terms of Approval and recommendations referred to in these General Terms of Approval;
 - ❖ The appropriate permit fee paid to DLWC;
 - ❖ Full details on land ownership of all areas affected by the proposed works, and authorisation for the works by the relevant land owners
- (d) The rehabilitation of the area in accordance with the Part 3A permit conditions and to the satisfaction of DLWC is the responsibility of the Part 3A permit holder and the owner or occupier of the land.
- (e) The Part 3A permit holder and the owner or occupier of the land are responsible for construction of works or any excavation or removal of material undertaken by any other person or company at the Site.
- (f) Any Part 3A permit granted is not transferable to any other person or company without written approval from DLWC and does not allow operations at any other site.
- (g) Any Part 3A permit granted does not give the holder the right to occupy any land without the consent from the owner(s), nor does it relieve the part 3A permit holder of any obligation which may exist to also obtain permission from local government and other authorities who may have some form of control over the Site of the work and/or the activities proposed to be undertaken.
- (h) These General Terms of Approval are issued with the proviso that operations shall be carried out on freehold land. Should operation be on Crown Land, and Part 3A permit is rendered invalid for such Crown Land and has no force or effect on the same, and the occupier of Crown Land should contact the Lands NSW branch of DLWC for their requirements.
- (i) The approval of NSW Fisheries is required for all proposed designs of in-stream works prior to the issue of the Part 3A permit.

**NSW Rural Fire Service
Under Section 100B of the Rural Fires Act 1997**

- 1 The recommendations from the Bushfire Assessment Report prepared by Conacher Travers dated October 2002 be incorporated in the application.
- 2 The proposed right of carriageway and proposed bridge over Blaxland Creek is to be constructed to a standard that complies with Section 4 of the *Planning for Bushfire Protection 2001*.

Name

Andrew Wood

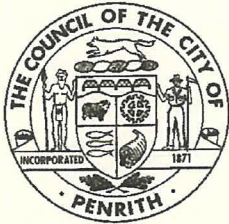
Signature



For the Environmental Planning Manager

Annexure B – Construction Certificate





Penrith City Council

PO Box 60, PENRITH NSW 2751

DX 8017 PENRITH

Phone: 4732 7777

Fax: 4732 7879

CONSTRUCTION CERTIFICATE

Environmental Planning and Assessment Act, 1979, Sections 109C (1) (b) and 81A(4)

Applicant:

William & Tracey Duncan
146D Samuel Marsden Road
ORCHARD HILLS NSW 2748

Development Consent No.

DA: 02/3164

Dated: 16/04/03

S.96(2) Modifications:

Date:

Subject Land:

[Redacted]

Construction Category:

Private Access Road and Bridge

Notes / Attachments:

[Redacted]

Plans & Specifications Approved:

[Redacted]

I certify that the above construction works, as more fully detailed in plans/specifications attached to this certificate, if completed strictly in accordance with these approved documents, will comply with the requirements of Section 81A(5) of the Environmental Planning & Assessment Act, 1979.

Certificate

Date of issue: 3/04/06

Note: The applicant is reminded of his obligation under S81A(4)(c) of the EP&A Act 1979, that two days minimum notice must be given to the Council of an intention to commence works.

...
Do
For the Asser Manager

Annexure C – VM Plan

VEGETATION MANAGEMENT PLAN

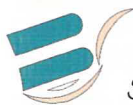
The Rehabilitation and Revegetation of Blaxland Creek

Orchard Hills

14th June, 2004
Issue A

Prepared for Ms Tracey Rook

Prepared by Ken Nakkan of Bio Engineered Solutions



*Bio Engineered
Solutions Pty Ltd*

A.B.N. 83 104965219

TABLE OF CONTENTS

1	INTRODUCTION	3
2	EXISTING CONDITIONS	3
2.1	SITE LOCATION	3
2.2	TOPOGRAPHY	3
2.3	SOILS	4
2.4	CLIMATE	4
2.5	SITE HISTORY	4
2.6	ECOLOGICAL SIGNIFICANCE OF SITE	4
2.7	EXISTING PLANT COMMUNITIES	5
2.8	EXISTING FAUNA	5
3	PROPOSED CONSTRUCTION	6
3.1	SITE WORKS	6
3.2	EXISTING VEGETATION	6
3.3	EROSION AND SEDIMENT CONTROL	6
3.4	WEED ERADICATION	6
4	REVEGETATION WORKS	7
4.1	INTER CREEK ZONE	7
4.2	SLOPE OF BANK	7
4.3	TOP OF BANK / FLOODPLAIN	7
4.4	PLANTING	7
4.4.1	Seed Collection	7
4.4.2	Plant Propagation	8
4.4.3	Planting Specification	8
	Seeding	
	Plant Installation	
4.5	FENCING	9
4.6	BAGGING	9
4.7	PLANTING ESTABLISHMENT	9

5 **SITE MONITORING 10**

6 **PERFORMANCE CRITERIA 11**

7 **APPENDIX 1 – NATIVE PLANT SPECIES LIST 12**

8 **APPENDIX 2 – SITE WEED SPECIES LIST..... 13**

9 **BIBLIOGRAPHY..... 14**

10 **PROJECTED ESTIMATE OF COSTS..... 15**

11 **TIME LINE 16**

1 INTRODUCTION

This report outlines the vegetation restoration and vegetation management measures proposed for the bank and over bank areas at the proposed crossing of Blaxland Creek at [REDACTED] Orchard Hills

It has been prepared for Tracey Rook & William Duncan of the above address, by Bio Engineered Solutions Pty Ltd. This report forms part of the supporting documentation for the part 3a Application required in accordance with Penrith City Councils conditions of consent. The extent of works this report refers to include: an access road and a piered vehicular bridge over Blaxland creek on the subject property. The report will be submitted to the Department of Infrastructure Planning and Natural Resources for comment and approval.

The following plan guidelines aim to:

- Reduce and eliminate weeds in the vicinity of the works.
- Stabilise with suitable vegetation any disturbed areas as a result of the construction activities on the banks and overbank areas of the Creek.
- Protect any existing native vegetation.
- Broaden the floristic diversity of the site.

This plan should be read in conjunction with the landscape rehabilitation plan prepared by Bio Engineered Solutions Pty Ltd Plan No: 1053/1 (A)

2 EXISTING CONDITIONS

2.1 SITE LOCATION

The construction site encompasses the northern and southern bank and overbank areas of Blaxland Creek on the subject property at the proposed bridge crossing. The property is described as 146D Samuel Marsden Road, Orchard Hills. (See site locality sketch on Plan No 1053/1 (A)). The construction area has a water frontage of 10m on both banks. The site to be rehabilitated as part of this plan encompasses an area described as 10m either side of construction works including the creek banks and for a distance of 20m North and south from the top of respective banks, in the over bank area. This covers approximately 1000sq.m. (Refer landscape rehabilitation plan for area extents). Rural properties adjoin the site to the east and west

2.2 TOPOGRAPHY

The site to be rehabilitated is a rural property in the Blaxland Creek Floodplain. The property is typically composed of, steep banks adjoining the creek ranging from 3 to 6m high with 1:1 to 1:2 bank slopes. From the top of the bank the land is relatively flat with the

exception of a steeper hill area to the north of the subject site, with slopes of 5:1 and less. The Creek flows through the property from west to east.

The subject property is not experiencing any form of erosion on the creek banks at present. This is probably due to the good vegetation cover on the banks (some introduced species) and the low velocity of storm events through this system. (Generally less than 1m/s)

2.3 SOILS

The site is situated in the South Creek Soil Landscape. The soil on the site is classed as (Sc) – Deep layered sediments over bedrock on relict soils. Red and yellow podsollic soils (Dr5.11,Dy 2.4, Dr2.2) are most common on terraces with small areas of minimal kraznozems (Gn4.54), leached clays (Uf4.43) and yellow solodioc soils(Dy4.42,Dy5.23). Erosion hazard.

2.4 CLIMATE

The average annual rainfall is approximately 900mm per year – maximum mean temperatures of 28-29°C are recorded in January. The highest monthly mean rainfall occurs through January to March and is approximately 90mm.

2.5 SITE HISTORY

2.5.1 Overbank

The site has been grazed for a long period down to the top of the river bank. This has left only grass pasture and weeds on the flat lands. (No shrub layer) There are scattered trees within this zone, including *Eucalyptus tereticornis* and *Eucalyptus moluccana*.

2.5.2 Bank

The steep banks 3-6m in depth contain a range of native and introduced grasses, pasture and vine weeds. The tree canopy layer is sparse <10% with occasional *Casuarina glauca*, *Melaleuca linariifolia*, *Acacia decurrens*, *Acacia parramattensis* and *Bursaria spinosa*. Below the static water line of the creek very little vegetation was evident.

2.6 ECOLOGICAL SIGNIFICANCE OF SITE

The native vegetation communities located along Blaxland Creek are significant for the health of the river system. The vegetation, stabilises banks and prevents erosion, provides habitat for fauna, provides favourable micro climates for in-stream conditions and helps maintain good water quality.

The vegetation on the subject site is in poor condition. However it is still identified as an example of "Alluvial Woodland" (Unit 11 NPWS) native vegetation community. The vegetation present represents a modified community, except for the few examples of *Casuarina* and

Melaleuca the remainder contains high levels of exotic weeds. (See list in appendix). No threatened flora species were detected on the site.

2.7 *EXISTING PLANT COMMUNITIES*

The site would have once been representative of the Sydney Coastal River Flat Forest / Alluvial Woodland. (NPWS 2001). As such it has the status of "Endangered Ecological communities listed under the threatened species conservation act 1995". (As at the 1st of June 2002). However the site is highly modified and degraded being dominated by introduced weed species. The bank slope supports a few scattered *Casuarina glauca* , *Melaleuca linariifolia* and *Bursaria spinosa*.

2.8 *EXISTING FAUNA*

The site is degraded, and except for the bank and the instream zone has little habitat that would support threatened fauna. The high density of weed species, limits the food supply for native fauna.

3 PROPOSED CONSTRUCTION

3.1 *SITE WORKS*

The civil site works, include

- Construction of a sealed access road and batter works, both sides of the creek.(See JWP plan No's 7434/E1-E7)
- Construction of a road bridge of approximately 32m in length and 5m wide, including abutments and piers. (See bridge plans, by others)

3.2 *EXISTING VEGETATION*

It is proposed to retain and protect all existing native vegetation on the site. A construction zone will be established to minimise impact on surrounding banks and vegetation. Excavation and site disturbance will only occur in the construction zone.

3.3 *EROSION AND SEDIMENT CONTROL*

A Soil and Water Management Plan has been prepared as part of the detailed civil engineering plans for the site. The bridge design will include SWMP for soil disturbance on the bank and in the creek.

3.4 *WEED ERADICATION*

Weeds at the site are to be controlled by the following methods. These methods will only be used in accordance with the timing listed for the revegetation works

- Herbicide application by "cutting and painting" woody weeds that occur on the bank slope zone. Leaving roots and stumps in the ground to protect stability of banks.
- Targeted herbicide application to non woody weeds in the revegetation zone. The herbicide should be environmentally acceptable, such as a non residual glyphosate herbicide (Bi active Roundup) at the recommended maximum rate.
- Herbicide application by "scraping and painting" of exotic vines and scramblers
- Herbicide application by "drilling" large woody weeds such as privet. Leaving roots and stumps in the ground to protect stability of banks

4 REVEGETATION WORKS

The revegetation works are to be carried out in 3 zones.

1. The inter creek zone
2. The slope of bank area
3. The top of bank Floodplain zone. (See plan No 1053/1 for locations.)

This project is best suited to be implemented when all civil and bridge works have been completed and Soil and Water management strategies and devices are in operation.

4.1 *INTER CREEK ZONE*

This area is to be replanted with listed species in Landscape Rehabilitation Plan 1053/1 supplied in Flawra edge strips and tube stock. This is to be installed in accordance with the densities and details on the Landscape Rehabilitation Plan (1053/1) and manufacturers specifications.

4.2 *SLOPE OF BANK*

This area has large areas of weed infestation, including exotic grasses and vines. As these are providing stabilisation to the bank soil, these areas should be treated progressively in small areas at a time. Treatment is with an appropriate herbicide as listed previously. The treated vegetative matter is left in place to aid in soil retention. This is then planted with listed species in Landscape Rehabilitation plan. A combination of tube and cell stock is to be used. Longstem planting with appropriate larger species could be used in this zone. Generally Plant densities should be, 4 ground covers per sq.m and 1 tree or shrub per sq.m .

4.3 *TOP OF BANK / FLOODPLAIN*

This is largest area for revegetation, and is composed of pasture grass species and pasture weed species. The area should be fenced off from grazing stock, then treated with the appropriate herbicide. The vegetative matter should be left and the area deep ripped to 300mm. This area can be seeded and planted with a combination of tube and cell stock listed in the LRP. Generally Plant densities should be, 4 ground covers per sq.m and 1 tree or shrub per sq.m .

4.4 *PLANTING*

4.4.1 Seed Collection

Seed should be collected for direct seeding in planting zones. The seed should be collected from the site or nearest available natural seed sources from a similar riparian vegetation community.

A seed collection record sheet shall be requested with the following items.

- a) Species
- b) Address
- c) Location/habitat
- d) Geology/Soil Type
- e) Plant Association
- f) Position on slope
- g) Frequency on site
- h) Degree of difficulty to collect
- i) Date collected
- j) Collectors name.

4.4.2 Plant Propagation

Propagated plant stock should be supplied from locally provenance seed. (Greening Australia Ph: 02 4570 1375) Plants shall be supplied as 50x50x125 tube stock and "Hikocells".. Early spring or autumn is the recommended time for planting.

4.4.3 Planting specification

Seeding (Refer Plant Schedule for species list).

Seed to be provided as whole seed heads, not wet, mouldy or otherwise impaired.

Submit seed collection record sheet as detailed in Section 4.4.1. Seed should be sowed in autumn and spread manually before installation of jute matting.

Water the seeded area until the growing medium is moistened to full depth. After germination, water to maintain a healthy condition, progressively hardened off to natural climatic conditions.

If germination has not been attained within one month, reseed the same areas. If germination has not been attained after two (2) attempts (within twelve (12) months) then replant areas with cells to achieve final densities of at least 1 per 1m² for shrubs and trees and 4 per 1m² for ground covers.

Plant Installation

For species, quantities and location see Landscape rehabilitation plan.

Generally densities shall be 1 tree or shrub per 1m² and four (4) ground covers per 1m². Plants provided shall be vigorous, well established free from disease and pests, of good form consistent with the species or variety. Plants

shall be supplied as tube stock , "hiko cells",and "Longstem" and planted in accordance with procedures listed on landscape rehabilitation plan. Do not plant in unsuitable weather conditions such as extreme heat, cold and or rain.

The first month after planting is the critical time for watering. Young plants require heavy watering every three (3) days. If very hot or windy days are encountered soon after planting then additional watering will be required. 50mm of water per week as a minimum should be adopted as a general guide.

4.5 FENCING

There are 2 types of fencing proposed for the site rehabilitation works.

1. A construction zone fence, to restrict vehicle and people movements to the designated areas, while construction is taking place. This will consist of temporary protection fence (paraweb or similar)
2. A stock fence, to restrict stock from grazing on the newly planted tubestock, will be installed in location shown on LRP. This can consist of a wire strand and star picket fence, or an electrically charged wire fence and star pickets.

4.6 BAGGING

Use of protective bags is recommended if there is a chance of feral or native animals grazing on planted tubestock or competition from weeds is strong.

Milk cartons or bamboo and plastic bags can be used. Three stakes are to be used for the plastic bag method, with the stakes angled outwards and centred around the plant. The bags should be removed once the plant is established and is in vigorous growth. A minimum of 6 months.

4.7 PLANTING ESTABLISHMENT

Maintenance work including rubbish removal, weeding, pest and disease control and replanting shall be carried out during establishment phase. A two (2) year maintenance and monitoring period is required following the final plantings.

5 SITE MONITORING

A photographic monitoring point will be established before construction works. Photographic monitoring of the site at six (6) monthly intervals from the same point shall be carried out for two (2) years. These photographs along with a brief report and a summary addressing the performance criteria (see following) will be submitted to the Department of Planning Infrastructure and Natural Resources. Weed densities and planting survival should be addressed regularly and appropriate actions undertaken if necessary.

6 PERFORMANCE CRITERIA

TASK	PERFORMANCE	ACTION
<i>Site Management</i>	Sediment and Erosion Control Plan Implemented	Review and update activities to maintain effective function.
	Weeds Controlled Grassy weeds suppressed to max 25% of original coverage	Remove annuals, groundcovers 2 x per year.
	Site Rubbish Cleaned	Rubbish to be removed regularly.
<i>Revegetation</i>	<ul style="list-style-type: none"> • 90% survival rate in the first year. • Final density – 1 per m² for trees and shrubs and 4 per m² for groundcovers. • Plants appear healthy and vigorous 	<ul style="list-style-type: none"> • Disease and pest control every three (3) months if required. • Replacement planting every six (6) months. • Six (6) Monthly reporting.
<i>Soil Stabilisation</i>	<ul style="list-style-type: none"> • Toe and bank stable and no sign of erosion 	Assess after major storm flows, repair and adjust if necessary.

7 APPENDIX 1 – NATIVE PLANT SPECIES LIST

The list is sourced on a base of site visit combined with plant lists published in relevant literature listed in Bibliography.

The plants currently commercially available in reasonable quantities are included in Plant Schedule on Landscape Plan.

BOTANICAL NAME	COMMON NAME
<i>Top of bank and floodplain (zone 3)</i>	
<i>Acacia decurrens</i>	<i>Black Wattle</i>
<i>Acacia parramattensis</i>	<i>Parramatta Green Wattle</i>
<i>Eucalyptus tereticornis</i>	
<i>Eucalyptus ampifolia</i>	
<i>Angophora floribunda</i>	
<i>Casuarina glauca</i>	<i>Swamp Oak</i>
<i>Bursaria spinosa</i>	<i>Blackthorn</i>
<i>Melaleuca linariifolia</i>	
<i>Hardenbergia violacea</i>	<i>Native Sarsaparilla</i>
<i>Lomandra longifolia</i>	<i>Spiny-Headed Mat-Rush</i>
<i>Microlaena stipoides</i>	
<i>Imperata cylindrica</i>	
<i>Oplismenus aemulus</i>	
<i>Echinopogon ovatus</i>	
<i>Pratia purpurascens</i>	<i>Lobelia pratia</i>
<i>Commelina cyanea</i>	
<i>Themeda triandra</i>	<i>Kangaroo grass</i>
<i>Slope of Bank (Zone 2)</i>	
<i>Acacia parramattensis</i>	<i>Parramatta Green Wattle</i>
<i>Casuarina glauca</i>	<i>Swamp Oak</i>
<i>Bursaria spinosa</i>	<i>Blackthorn</i>
<i>Melaleuca linariifolia</i>	
<i>Hardenbergia violacea</i>	<i>Native Sarsaparilla</i>
<i>Lomandra longifolia</i>	<i>Spiny-Headed Mat-Rush</i>
<i>Microlaena stipoides</i>	
<i>Imperata cylindrica</i>	
<i>Oplismenus aemulus</i>	
<i>Echinopogon ovatus</i>	
<i>Pratia purpurascens</i>	<i>Lobelia pratia</i>
<i>Commelina cyanea</i>	
<i>Inter creek zone (Zone 1)</i>	
<i>Bolboschoenus fluviatilis</i>	
<i>Schoenoplectus validus</i>	
<i>Phragmites australis</i>	
<i>Juncus usitatus</i>	

8 APPENDIX 2 – SITE WEED SPECIES LIST

<i>Bidens pilosa</i>	(Cobblers Pegs)
<i>Anoxopus affinis</i>	
<i>Anoxopus compressus</i>	
<i>Lonicera japonica</i>	(Honeysuckle)
<i>Chloris vigata</i>	
<i>Eragrostis curvula</i>	
<i>Pennisetum clandestinum</i>	(Kikuyu)
<i>Rubus ulmifolius</i>	(Blackberry)
<i>Sida rhombifolia</i>	(Pady's Lucerne)
<i>Tradescantia albiflora</i>	(Wandering Jew)
<i>Paspalum dilatatum</i>	
<i>Plantago lanceolata</i>	
<i>Senecio madagascariensis</i>	
<i>Setaria verticillata</i>	
<i>Taraxacum officinale</i>	
<i>Trifolia repens</i>	
<i>Ludwigia peruviana</i>	
<i>Acetosa sagittate</i>	
<i>Feoniculum vulgare</i>	
<i>Myrsiphyllum asparagoides</i>	
<i>Ligustrum lucidus</i>	(large leaf privet)
<i>Ligustrum sinense</i>	(small leaf privet)
<i>Ochna serrulate</i>	(Mickey mouse plant)
<i>Oxalis spp</i>	
<i>Conzuya</i>	

9 BIBLIOGRAPHY

Benson, D., Howell, J. & McDougall, L (1996) Mountain Devil to Mangrove. Royal Botanic Gardens, Sydney.

Howell, J., McDougall, L & Benson, D. (1995) Riverside Plants of the Hawkesbury – Nepean. Royal Botanic Gardens, Sydney.

Bannerman, S.M. and Hazelton, P.A. (1990), Soil landscapes of the Penrith 1:100000 sheet. Soil Conservation Service of N.S.W., Sydney

University of Western Sydney, Hawkesbury. Weather Station. Bureau of Meteorology. Commonwealth of Australia (2002).

www.bom.gov.au/climate/averages/tables/cw_067021.shtml
7/11/2002-

Hawkesbury Nepean Catchment Management Trust (1999). The Hawkesbury – Nepean Riverbank Management Program- Penrith to Wisemans Ferry. Hawkesbury Nepean Catchment Management Trust

NPWS (2000). The Native Vegetation of the Cumberland Plain Penrith LGA map11. NSW National parks and Wildlife Service 1:25000 map series.

LOT [REDACTED]
ORCHARD HILLS
CLIENT: TRACEY ROOK
REVEGETATION WORKS

ESTIMATE

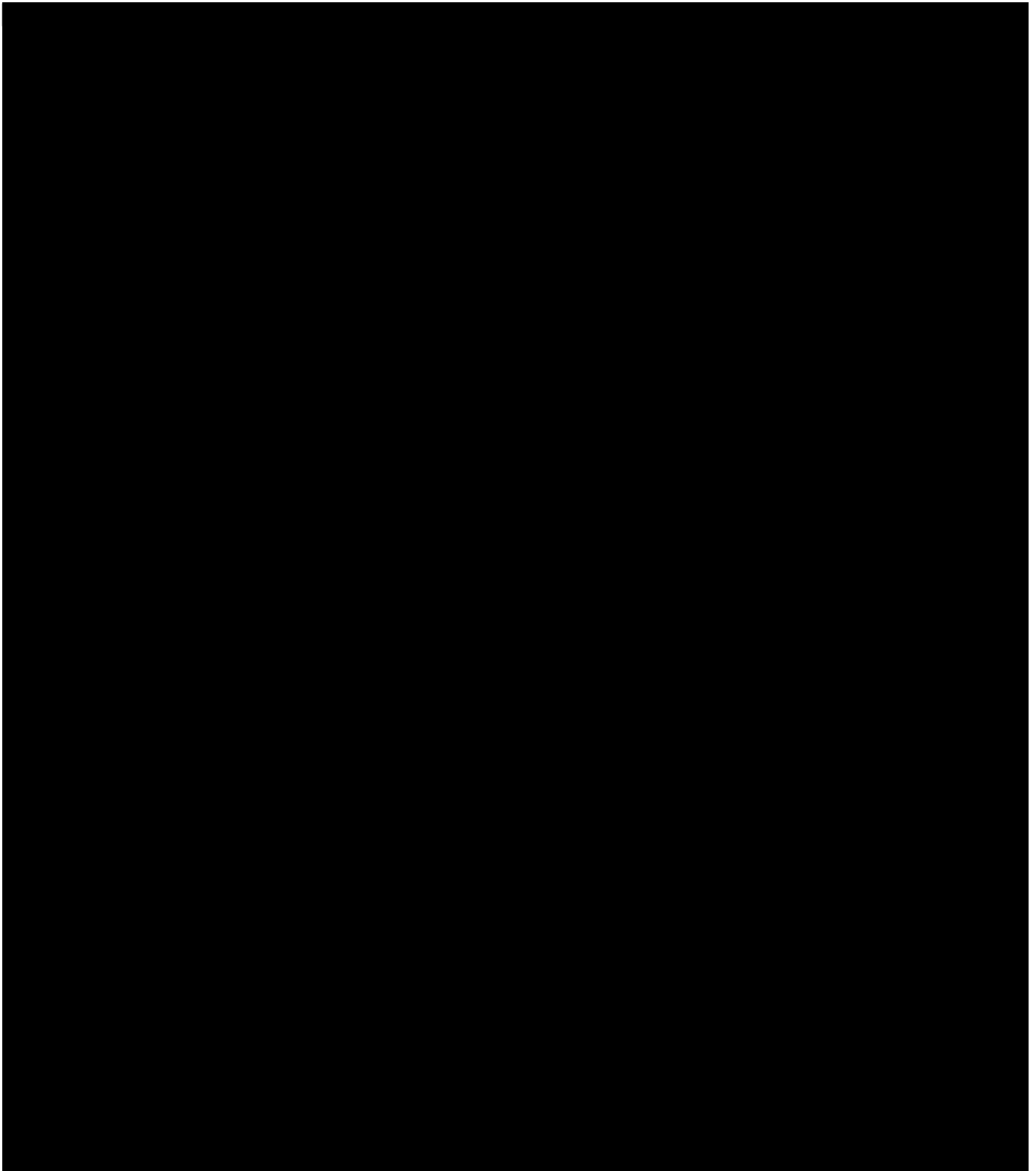
Based on Plans No. [REDACTED]

NO.	ITEM	QTY.	UNIT	RATE \$	AMOUNT \$
<i>Refer to Civil Engineering BOQ for access road and batters, and Bridge BOQ for bridge and piers.</i>					
GENERAL					
1	Weeding , clearing and disposal of material appropriately	1,060	sq.m.	0.40	424.00
2	Seed collection	1	Item	300.00	300.00
3	Soilworks, Deep rip to 300m in zone 3	680	sq.m.	4.00	2,720.00
4	Supply and spread fertiliser at recommended rates.	980	sq.m.	1.00	980.00
5	Direct seeding	980	sq.m.	0.50	490.00
6	Supply and install fencing to detail				
	a) Construction zone fence	130	ln.m	4.00	519.60
	b) Stock fence	116	ln.m	5.00	579.50
7	Supply and install trees and shrubs. (Tubestock)	980	each	4.50	4,410.00
8	Supply, install ground covers and grasses (Hikocells)	3,900	each	1.85	7,215.00
9	Supply and install Flawra EJ as specified	10	each	5.00	50.00
10	Supply and install Macrophyte species as specified. (Tubestock)	150	each	1.85	277.50
11	Maintenance , including re planting, weeding and watering for 2 years.	980	sq.m	15.00	14,700.00
12	6 monthly monitoring and reporting.	4	each	100.00	400.00
TOTAL LUMP SUM, ITEMS 1 - 12 INCLUSIVE				\$	33,065.60

Possible project timeline

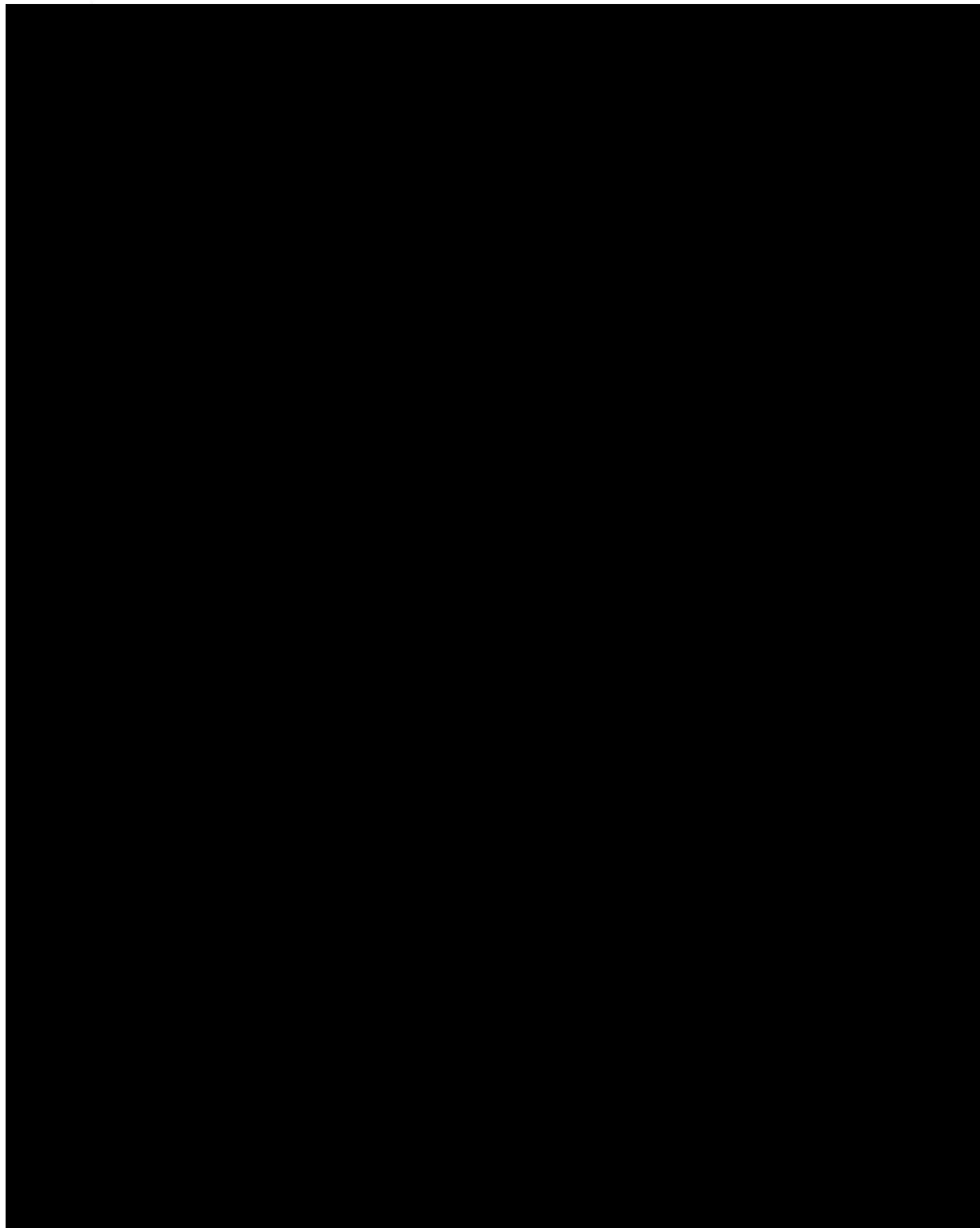
[illegible]





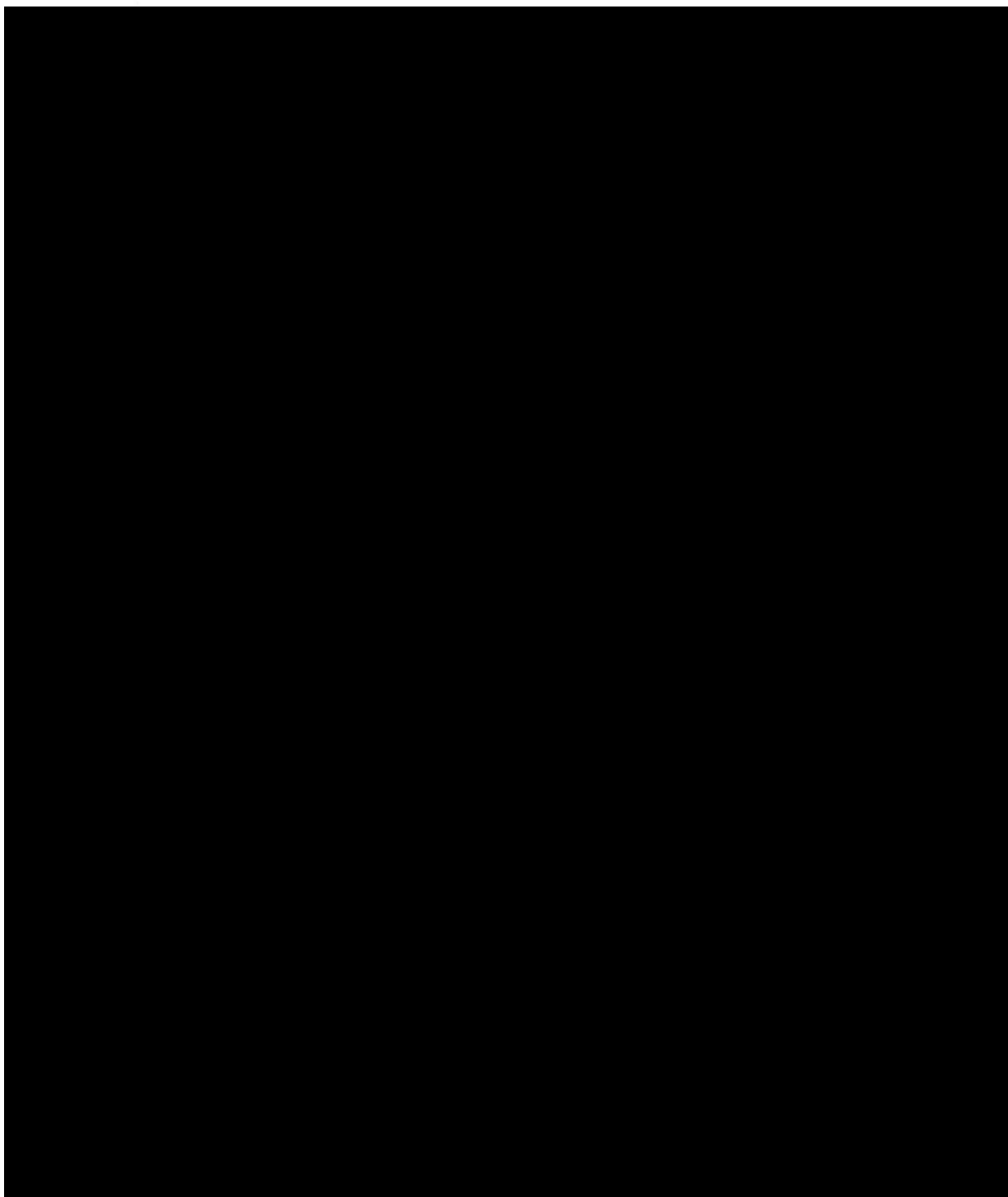
Overlay of the Property depicting the zones proposed by the Draft Plan (Spatial Viewer).

Annexure E – Photos



the

the



e

ehind
ss