

**FURTHER REPORT
JOINT REGIONAL PLANNING PANEL
(Sydney West Region)**

JRPP No	2015SYW092
DA Number	1397/2015/JP
Local Government Area	THE HILLS SHIRE COUNCIL
Proposed Development	MASTERPLAN - BOX HILL NORTH.
Street Address	33 PROPERTIES GENERALLY BOUND BY CATARACT ROAD, OLD PITT TOWN ROAD, RED GABLES ROAD, JANPIETER ROAD, MAGUIRES ROAD & TERRY ROAD, BOX HILL – LOT 1 DP 11126, LOT 1 DP 207750, LOT 1 329953, LOT 1 DP 564211, LOT 1 DP 567785, LOTS 9 & 10 DP 593517, LOTS 15-18, 21, 22, 23, 25, 26, 27, 29, 30, 31, 40, 41, 43, 44, 45, 46, 47 DP 255616, LOTS 2 & 3 DP 11126, LOTS 2 & 4 DP 253552, LOT 4 DP 135301, LOT 5 DP 658286
Applicant	CELLESTINO (FORMERLY EJC PTY LTD)
Number of Submissions	NIL
Regional Development Criteria (Schedule 4A of the Act)	GENERAL DEVELOPMENT WITH A CIV OF OVER \$20 MILLION
List of All Relevant s79C(1)(a) Matters	List all of the relevant environmental planning instruments: s79C(1)(a)(i) • State Environmental Planning Policy (State and Regional Development) 2011 • State Environmental Planning Policy Infrastructure 2008 • State Environmental Planning Policy No 19 — Bushland in urban areas • State Environmental Planning Policy No 55 — Remediation of Land • State Environmental Planning Growth Centres 2006 • The Hills Local Environmental Plan 2012 List any proposed instrument that is or has been the subject of public consultation under the Act and that has been notified to the consent authority: s79C(1)(a)(ii) • Nil List any relevant development control plan: s79C(1)(a)(iii) • The Hills Development Control Plan 2012 List any relevant planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F: s79C(1)(a)(iv) • Nil List any coastal zone management plan: s79C(1)(a)(v) • Nil

	List any relevant regulations: s79C(1)(a)(iv) eg. Regs 92, 93, 94, 94A, 288 Environmental Planning and Assessment Regulation 2000
List all documents submitted with this report for the panel's consideration	Nil
Recommendation	Approval
Report by	Development Assessment Co-ordinator Robert Buckham

HISTORY

16/12/2015

JRPP meeting held to consider the subject application. The report recommended deferral on the basis that concurrence had not been received from the Office of Environment and Heritage.

The JRPP deferred the application with the following resolution:

The Panel determined, by majority of 4:1 (M Taylor, B McDonald, S McDonald and M Edgar, D Walker dissenting) to defer determining the development application as described in Schedule 1 pursuant to section 80 of the Environmental Planning and Assessment Act 1979 until concurrence is provided by the Office of Environment and Heritage and a longer & expanded report is provided to include the following additional information:

- A description of any physical works to be approved in this application;*
- A fuller explanation of the extent of investigation into environmental matters;*
- A fuller explanation of the investigation into the individual elements of the Strategy referred to in this report;*
- An explanation of the implications of approval of this application upon sites within the application area not owned by the application.*

This information is requested prior to next meeting of the panel.

Mr Walker dissented to the deferral of the application as he believes that the application should not be further delayed because of a failure of the Office of Environment and Heritage to provide their response and in the circumstances he would prefer the matter to be decided by a deferred commencement consent.

22/12/2016

Preliminary response from the applicant to the JRPP resolution received.

06/01/2016

Correspondence received from Office of Environment and Heritage (OEH) with draft conditions for concurrence. These were forwarded to the applicant for review.

12/01/2016	Meeting with applicant and their representatives, Office of Environment and Heritage staff and Council staff in relation to concurrence conditions from OEH.
13/01/2016	Correspondence received from applicant with suggested changes to draft concurrence conditions based on meeting of 12 December 2015. Correspondence forwarded to OEH.
15/01/2016	Concurrence received from Office of Environment and Heritage. Refer Attachment 1.
15/01/2016	Final response by applicant received in response to JRPP resolution of 16 December 2015. Refer Attachment 2.

REPORT

As identified in the history section of this report, at the JRPP meeting on 16 December 2015 the panel resolved to defer the development application.

Concurrence from the Office of Environment and Heritage was received on 15 January 2016 (refer Attachment 1).

The applicant has provided additional information on 15 January 2016 in response to the JRPP resolution (refer Attachment 2).

This further report is supplementary to the previous report considered by the JRPP on 16 December 2015 (refer Attachment 3). A specific response to the matters raised in the resolution has been provided below and has also been addressed in detail by the applicant.

Response to Joint Regional Planning Panel Resolution:

1. A description of any physical works to be approved in this application

The DA does not seek consent for any physical works to be carried out on site. The Masterplan application is a concept development application pursuant to section 83B of the Environmental Planning & Assessment Act 1979. Section 83B of the Act States;

83B Staged development applications

- 1) *For the purposes of this Act, a **staged development application is a development application that sets out concept proposals for the development of a site, and for which detailed proposals for separate parts of the site are to be the subject of subsequent development applications (emphasis added).** The application may set out detailed proposals for the first stage of development.*
- 2) *A development application is not to be treated as a staged development application unless the applicant requests it to be treated as a staged development application.*
- 3) *If consent is granted on the determination of a staged development application, the consent does not authorise the carrying out of development on any part of the site concerned unless:*
 - (a) *consent is subsequently granted to carry out development on that part of the site following a further development application in respect of that part of the site, or*
 - (b) *the staged development application also provided the requisite details of the development on that part of the site and consent is granted for that first stage of development without the need for further consent.*
- 4) *The terms of a consent granted on the determination of a staged development application are to reflect the operation of subsection (3).*

Planning circular PS10-008 (New definition of capital investment value) states;

“When calculating the CIV for a staged development, the CIV of the separate applications comprising the overall staged development must be considered in determining the CIV for that development”. The development of the precinct infrastructure alone has a CIV of approximately \$350 million, and therefore the JRPP is the appropriate determining authority.

The application seeks approval for specific strategies for the precinct including Flooding, Ecology, Contamination, Aboriginal Heritage, Landscaping and Open Space including concept proposals (masterplans) linked to these studies primarily comprising infrastructure works throughout the precinct including but not limited to future road works, open space embellishment, flood mitigation and riparian works.

Significantly the application deals with the assessment of the ecology impacts across the precinct and is classified Threatened Species Development requiring concurrence of OEH. This masterplan is considered an appropriate application for this assessment. Consent for the specific physical vegetation removal works will be captured by future earthworks, subdivision and infrastructure development applications.

The development of the precinct primarily involves:

- the layout of development into nine (9) precincts;
- location of a new town centre and central parkland;
- vehicular access from Boundary, Old Pitt Town, Cataract, Red Gables, Maguires and Janipeter Roads and collector road hierarchy;
- land uses across the site including future primary school site;
- housing types and development controls;
- landscape concept including location of sporting fields and parks, integrated passive recreation area within a riparian corridor network and street tree strategy;
- 4,100 residential dwellings; and
- maximum of 10,000 m² GFA of retail/commercial space.

All abovementioned works are subject to separate future development applications to be lodged.

Twelve development applications have been lodged with Council, primarily relating to bulk earthworks and subdivisions primarily across Precincts A and H (southern portion of the site). A further six pre-lodgement meetings have occurred recently for further applications to be lodged shortly by the applicant. The determinations of these applications are subject to the approval of the subject Masterplan development application by virtue of a clause contained within the associated Voluntary Planning Agreement applying to the site.

The relevant clause reads:

5. Operation of this Agreement

5.1 This agreement operates when:

- a) *the Land is rezoned in order to allow for the Proposed Development to be carried out and the amending Local Environmental Plan is published on the NSW Legislation website; and*
- b) *the Concept Development Consent is granted and implemented by way of and Detailed Development Consent and a Notice of Commencement pursuant to section*

81A of the Act for that Detailed Development Consent has been submitted to Council notifying that a Principal Certifying Authority has been appointed and the work is to commence.

2. A fuller explanation of the extent of investigation into environmental matters

This section of the report primarily addresses the ecology matters reviewed during the assessment of the application. Matters relating to Flooding, Contamination, Aboriginal Heritage, Landscaping and Open Space are addressed in the next section of the report.

This application deals with the assessment of the ecology impacts across the precinct and is classified as Threatened Species Development requiring concurrence of OEH. This masterplan is considered an appropriate application for this assessment rather than assessment throughout the various subdivision applications. Consent for the specific physical vegetation removal works will be captured by future earthworks, subdivision and infrastructure development applications.

Lodgement of the Masterplan DA included the following documentation prepared by the applicant's ecologist Cumberland Ecology in relation to addressing environmental matters:

- Species Impact Statement (SIS) – dated May 2015; and
- Vegetation Management Plan (VMP) – dated May 2015.

Since lodgement of the application and continued discussions with Council staff the following documentation has been prepared:

- Amended Species Impact Statement – dated November 2015; and
- Species Impact Statement – Response to The Hills Shire Council – dated November 2015.

The SIS prepared by Cumberland Ecology details the occurrence of, and impacts to threatened species, populations and ecological communities, listed under the NSW Threatened Species Conservation Act 1995 (TSC Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) that would result from the development. The SIS also outlined the mitigation and amelioration measures proposed to minimise and offset these impacts.

The conceptual works proposed under the Masterplan DA and subject to future approval included the clearing of some Cumberland Plain Woodland and Shale Sandstone Transition Forest, which are threatened ecological communities (TECs) listed under the TSC Act and EPBC Act, an offset strategy was required. The SIS included details of an offset strategy that applied to the entire subject site. It was intended that the offset strategy would provide for the mitigation and offsetting requirements of future development applications foreshadowed by the Masterplan.

There has been on-going consultation since lodgement of the development application between the proponent's ecologist, Council's Ecology team and recently OEH to achieve a positive ecological outcome across the site throughout the development lifespan.

3. A fuller explanation of the investigation into the individual elements of the Strategy referred to in this report

The application seeks approval for specific strategies for the precinct including Flooding, Ecology, Contamination, Aboriginal Heritage, Landscaping and Open Space. The Ecology strategy has been addressed in the previous section of this report. The application also seeks approval for some built form controls not addressed within the precinct Development Control Plan. Again, no construction works are proposed as part of this Development Application. All future buildings and roadworks will be subject to a further Development Applications.

The applicant has provided the following response to the various strategies outlined in the initial report;

Design Guidelines

The purpose of the proposed design guidelines is to provide current and potential land owners a more comprehensive guide into the desired built form of individual lots as well as an insight into the desired future outcomes of the development site as a whole.

These design guidelines are consistent with those implemented in the Development Control Plans (DCP) for surrounding suburbs such as Kellyville and Rouse Hill and therefore considered reasonable without impacting upon future dwelling densities and yields which are capped by The Hills Local Environmental Plan 2012 and the Box Hill North Voluntary Planning Agreement. The level of detail and extent of built form controls provided in these DCPs are absent in Box Hill North DCP. The developer therefore feels reasonable for providing current and potential land owners the necessary guidance and assurance for dwelling construction.

The intension of the design guidelines is not to create an additional layer of assessment for the development of individual lots throughout the site. The design guidelines will be used as a guide for current and potential land owners who wish develop their property. These guidelines will be imposed by the developer who will be required to review and sign off on the proposed development plans prior to the issue of development consent or a complying development certificate.

In light of the above, the proposed design guidelines are considered to be a necessary component in determining the Masterplan DA to ensure direction and transparency for future development of the site.

Water Cycle Management and Flood Impact

Three water courses enter the site along the western boundary. Two of these water courses merge within the site with the third draining through the north-west corner of the site. The combined water course flows in a northerly direction and forms a tributary to Cataract Creek. Another water course enters the site at the eastern boundary, toward the northern extents of the precinct. This water course joins the main water course at the site's northern boundary. A small portion of the site drains to the eastern boundary and forms a tributary to Cattai Creek.

The site also includes a number of farm dams, associated diversion embankments and channels, both online and offline to the main water courses. Several of these online dams are significant in area (up to approximately 15 hectares), resulting in a significant change to the hydrology and flooding that would have occurred prior to any development of the catchment.

A Water Cycle and Flood Management Strategy dated July 2013 was prepared by J.Wyndham Prince to inform the Precinct planning process and support the rezoning of the site. The strategy has been prepared to conform to the statutory requirements and industry best practice for stormwater management in this catchment.

The objective of this investigation was to identify the stormwater and flood management issues to be considered in the future development of the Box Hill North Precinct and to identify flood impacts, an appropriate evacuation strategy, appropriate options and locations for the control of the quantity and quality of stormwater leaving the site and to identify the land areas required to implement the recommended management options. The Water Cycle and Flood Management Strategy consists of a treatment train consisting of street level treatment and subdivision / development treatment measures. The structural elements proposed for the development consist of:

- *Proprietary GPT units at each stormwater discharge point.*
- *Four (4) swales with a total length of approximately 925m.*
- *Twenty (20) proposed bio-retention systems and raingardens of total area 23,210m²*
- *Six (6) proposed detention basins (including two specifically configured to attenuate the 2 year ARI flow only) of approximate total volume 183,700 m³.*

Provision of the proposed water quality treatment devices within the development will ensure that the post development stormwater discharges will meet the Office of Environment and Heritage's water quality objectives for the Box Hill North development. The provision of WSUD elements within the Box Hill North development will assist in minimising the impact of urbanisation on the waterway stability of South Creek and comply with the Office of Environment and Heritage's Stream Erosion Index and water quality targets.

Existing and post development case hydrology models have been prepared for the Box Hill North development, which incorporate all upstream catchments draining to the site and also including catchments up to approximately 2km downstream. The hydrologic modelling indicates that inclusion of the proposed detention basins within the Precinct will attenuate peak post development flows to less than existing levels.

A comparison of flood model results for the catchment, with and without development has shown that urbanisation will result in only minor increases in flood levels outside the Precinct boundary of less than 50mm. The increases are within downstream riparian corridors and in areas where no development is located.

A number of significant farm dams are located within the release area and on line to the major water courses. The area of flood affectation is greatly exacerbated by these farm dams. All dams are to be removed and the water courses re-established in accordance with NSW Office of Water guidelines.

Since the planning proposal was lodged, an alternate hydrologic and flood modelling technique has been discussed and agreed to with The Hills Shire Council resulting in the preparation of an additional Flood Impact Assessment report dated April 2015.

The alternate modelling will provide a more detailed assessment of the impact of development on the existing flood regime, particularly with regards to the attenuation provided by the existing farm dams within the site and their ultimate removal as part of this development.

The objective of this investigation is to assess the impact of the proposed Box Hill North development on the existing flood regime and determine the infrastructure required to safely manage and attenuate stormwater flows for the ultimate development case to minimise the impacts external to the site to an acceptable level.

The investigation included the following specific tasks:

- *Liaise with The Hills Shire Council to determine their specific requirements and objectives for the assessment.*
- *Prepare rainfall hyetographs for the 50%, 20%, 10%, 5% and 1% AEP events.*
- *Prepare a digital terrain model representing the existing surface levels, including all existing farm dams.*
- *Prepare a two dimensional TUFLOW flood model for the Precinct and assess flood behaviour for the above AEP storm events for the existing conditions.*
- *Modify the existing case digital terrain model to represent the ultimate development scenario, including removal of the farm dams and reinstatement of the riparian corridor.*
- *Analyse the flood behaviour and impacts for the ultimate development case and determine the extent of infrastructure required to manage stormwater flows and impacts to an acceptable level.*

- Prepare a Flood Impact Assessment Report detailing the investigations, results, flood mapping and the stormwater quantity management infrastructure required for the development.

The investigation demonstrates that impacts of Box Hill North development on the flooding regime can be managed to acceptable levels. The provision of detention basins within the development will offset the impacts of urbanisation and the removal of the existing farm dams.

Flood levels in the 1% AEP event are reduced at the downstream boundary of the site. There are minor increases in flood levels further downstream at the confluence of other tributaries, however this is due to timing of flows and are considered to be acceptable.

There are also some increases in the 1% AEP developed case flood levels at the upstream boundary of the site, caused by varying levels at the interface of different survey and design surfaces. The modelling will be refined at future stages to resolve these differences to an acceptable level.

Flood velocities generally do not increase by more than 0.5 m/s in the more frequent 50% and 20% AEP events in the area of existing creeks that won't be modified as part of the development. Where flood velocities increase, they are generally still less than 1.5 m/s. Where velocities exceed 1.5 m/s, erosion control measures will be incorporated to ensure there is no degradation to the creeks.

J Wyndham Prince updated the MUSIC model in September 2015 to account for minor changes to the Indicative Layout Plan and the redistribution of large lot residential zones. The updated model sizes water quality devices appropriately to achieve the prescribed pollutant reduction targets.

The proposed Water Cycle and Flood Management Strategy for the developed site provides a basis for the detailed design and development of the site to ensure that the environmental, urban amenity, engineering and economic objectives for stormwater management and site discharge are achieved.

The modelling has demonstrated an appropriate approach for flood mitigation and management in the precinct. The flood modelling will be an ongoing, iterative process as development of the Precinct proceeds. Future bulk earthworks applications and subdivisions will be required to demonstrate consistency with the adopted principles.

Contamination

A Detailed Site Investigation (DSI) of the site was undertaken by JBS&G Environmental Pty Ltd in August 2014 as part of the planning proposal. The DSI concluded that whilst the potential for widespread contamination across the site is low and the potential areas of 'environmental concern' as identified below would not prevent planning and development of the land for the proposed uses, a detailed site investigation was recommended. Subsequently, a sampling, analysis and quality plan (SAQP) was prepared and implemented, consistent with relevant NSW Environment Protection Authority (EPA) made and endorsed guidelines.

The conclusions of this detailed site investigation are as follows:

- Fill material was encountered from the ground surface at all sampling locations and generally comprised silty clay.
- Stockpiles were observed in 20 locations in 18 Lots, generally comprising soil matrices with various proportions and types of anthropogenic material including ACM, metal, building materials;

- Concentrations of arsenic, chromium and/or lead were reported in some fill soil samples exceeding the adopted health criterion in five separate lots. These are potentially associated with machinery, sheds and drum storage on specific lots.
- Concentrations of heavy metals were reported exceeding the adopted health based criteria within one stockpile at the site and was likely associated with a machinery stockpile.
- Concentrations of heavy metals including zinc and lead were reported exceeding the adopted ecological criteria within six stockpiles across the site. These are potentially associated with machinery and other anthropogenic materials within these stockpiles.
- Concentrations of carcinogenic PAHs (including B(a)P) were reported to exceed the adopted health criterion in one soil sample collected from one stockpile of material.
- A total of eight soil samples exceeded the ecological criterion for TRH fractions, with these located in four lots and within the fill materials and likely associated with hydrocarbon storage at the site.
- A total of five soil samples exceeded the Management Limits for TRH fractions, with these located within two lots and within the fill materials and likely associated with hydrocarbon storage at the site.
- Non-friable ACM was observed at 11 locations within five lots, with 5 locations being within the surface fill materials (<0.1 m) and 6 locations within stockpiled material. The asbestos observed is likely associated with former building materials at the site. It should be noted that lots with heavy vegetation may obscure the occurrence of additional potential ACM fragment impacts. These pose a potential future risk to site users and if weathered could pose a potential migration risk from the site. Free asbestos (FA) fibres or asbestos fines (AF) were also reported in seven soil samples collected from four lots.
- Aesthetic impacts have been identified including ACM on ground surfaces and in surface soils (as noted above), friable asbestos in soil, as well as minor isolated surface staining and odorous soils. These areas will require management as part of future development works at the site.
- Groundwater monitoring wells were installed at five locations across the site, with three being sampled. Two of the groundwater monitoring wells were found to be dry.
- Concentrations of COPCs were either not detected or below adopted investigation levels within the groundwater samples collected, which indicates that identified soil impacts are not impacting groundwater.
- The ASTs currently present at the site require management to prevent further impacts to the site.

The DSI report did not identify any widespread or gross soil contamination, with potentially unacceptable risks from soil contamination typically localised, limited in extent, and able to be readily managed to enable all proposed land uses at the site. The DSI recommended that a management strategy including preparation of a Remedial Action Plan (RAP) be developed in accordance with the relevant regulatory requirements to address the identified contamination issues to render the site suitable for the proposed land uses.

An RAP was prepared by JBS&G in April 2015 by JBS&G which includes a strategy which includes a framework for delineating identified impacts within relevant lots, an appropriate material classification methodology for waste soils and stockpiles, safety and environmental protection controls, unexpected finds protocol and contingency measures to be implemented during remediation, and validation requirements.

JBS&G concluded in the RAP that subject to the successful implementation of the measures detailed in this RAP and subject to the limitations in Section 15, it is considered that the identified impacted soils can be remediated and validated without the need for further management.

Given the findings and recommendations of the DSI and RAP, the future earthworks within the site are considered acceptable subject to the application of the suggested remedial actions.

Aboriginal Heritage

A Cultural Heritage Assessment Report (CHAR), prepared by Kelleher Nightingale Consulting Pty Ltd. The assessment included background research and an archaeological field survey conducted in accordance with the Office of Environment and Heritage (OEH) requirements including:

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales; and*
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.*

The CHAR has been prepared to assist in applying for a post-rezoning land-based Aboriginal Heritage Impact Permit (AHIP) for the Box Hill North lands and for Aboriginal objects that will be harmed by the proposed development.

Seven (7) Aboriginal archaeological sites were identified in the study area:

- Box Hill North 1 (BHN 1) – grinding groove site of ‘high significance’;*
- Box Hill North 2 (BHN 2) – open artefact scatter of ‘high significance’;*
- Box Hill North 3 (BHN 3) – open artefact scatter of ‘moderate significance’;*
- Box Hill North 4 (BHN 4) – isolated find of ‘low significance’;*
- Box Hill North 5 (BNH 5) – open artefact scatter of ‘moderate significance’;*
- Box Hill North 6 (BNH 6) – open artefact scatter of ‘moderate significance’; and*
- Box Hill North 7 (BNH 7) – isolated find of ‘low significance’*

Six of the Aboriginal sites (BHN 2-7) within the study area will be impacted by construction activities.

A mitigation program comprising archaeological salvage, undertaken prior to construction, is to be carried out where portions of significant Aboriginal sites would be impacted by the proposal. Significant Aboriginal sites are identified as exhibiting at least moderate archaeological value. Four sites within the study area require salvage excavation: BHN 2, BHN 3, BHN 5 and BHN 6.

As part of the approvals process through OEH the applicant applied for an Aboriginal Heritage Impact Permit (AHIP). The AHIP for the development site was granted on 13 July 2015 (Permit No. C0001213). This AHIP relates to the entire development site. The AHIP enables the developer to appropriately salvage the site in accordance with OEH's and Kelleher Nightingale Consulting recommendations and strategy.

Given the findings and assessment carried out by Kelleher Nightingale Consulting, it is considered reasonable to conclude that by adopting the relevant salvage strategy specified by Kelleher Nightingale Consulting, the future development of the site will not result in significance harm to the overall archaeological significance of the Box Hill North Precinct.

Landscaping and Open Space

A Landscape Masterplan was prepared by Oculus and lodged with the development application which outlines the key principles for future landscaping throughout Box Hill North and details the landscape treatments that will be applied to the site.

The Landscape Masterplan draws together the information from the numerous studies that have been undertaken on the site including the Aboriginal Heritage Assessment, Bushfire Assessment, Environmental Assessments, Cultural Heritage Assessment, Ecological

Assessment, Flora and Fauna Assessment and Social Infrastructure Assessment. The findings from these studies have assisted in generating a Landscape Masterplan for the site that is site specific and responds to the future needs of the Box Hill North residents and visitors.

The Landscape Masterplan considers the a number matters throughout the development site to which future landscaping development applications will be required to provide detailed assessment of, these include but are limited to:

- *Riparian Open Space Corridor;*
- *Open Space;*
- *Town Centre;*
- *Lake;*
- *Major Vehicle Connections;*
- *Bioretention Zones;*
- *Cycleways; and*
- *Shared pathways;*

It is noted that the above matters are commitments specified under the Box Hill North Voluntary Planning Agreement which all future development application for the site will need to consider. Furthermore, future development applications for open space areas will require agreement between the developer and Council's staff in relation to the long term maintenance of these areas.

The intention of the Landscape Masterplan was to provide an insight to the desired landscaping and open space outcomes across the development site. The ultimate design and landscaping treatment for each throughout each precinct and open space area is subject to separate development applications.

The strategies identified above have been reviewed by Council staff and the relevant external authorities. The recommended conditions of consent have captured these elements of the masterplan which will provide direction for the ultimate design of future applications.

4. An explanation of the implications of approval of this application upon sites within the application area not owned by the application

Consideration has been given by the applicant to the interface of lots not under the control of the applicant. Until such time as these sites are developed, temporary fencing and landscape boundary treatments adjacent to these properties will be provided. Included as Attachment 11 of the original report was a boundary treatment plan that has identified indicative fencing and landscaping treatment locations throughout the precinct. Given the uncertainty around the final lot and road layouts, final boundary/interface treatments will be subject to individual precinct subdivision development applications.

Current applications before Council staff such as the proposed subdivision for Precinct H (Stage 1) illustrate the easements (turning heads) for public access to be incorporated into the development of each precinct along those sites not in ownership until such time as they are developed. Further to the interface treatment of those lots not in ownership, each subdivision application will provide separate plans showing indicative road layouts throughout these properties which demonstrate future orderly development of these sites. These matters will be assessed in detail by Council staff during the assessment of each application.

Recommended Conditions of Consent

The recommended conditions included in this report are primarily those conditions included in the previous report to the JRPP and have been provided in their entirety below.

OFFICE OF ENVIRONMENT AND HERITAGE COMMENTS

Concurrence was received from Office of Environment and Heritage on 15 January 2016. The terms of the concurrence of OEH include:

- *Two of the areas zoned E4, as shown in Appendix 5, are to be protected as Biobank sites. These Biobank sites must be approved prior to issue of a Construction Certificate for the 2000th lot.*
- *Any changes to ecological impacts above or below impacts predicted in the SIS are to be reflected through the purchase and retirement of the appropriate number of ecosystem credits, as calculated by an accredited Biobanking assessor, and in consultation with OEH. Increased impacts (resulting from modifications that increase the developable area) will require purchase and retirement of additional credits, whereas decreased impacts (resulting from modifications that reduce the developable area), will require purchase and retirement of lower numbers of credits.*
- *All "Ecology Requirements" as stated in the recommended conditions of consent received by OEH on 14 December 2015, and attached as Appendix 6, must be included as conditions of consent.*

The land to be bio banked includes land identified in the VPA to be embellished and dedicated to Council. This land is located in the north-western corner of the site and is zoned E4. Bio-banking will ensure on site vegetation retention. This land may be considered to have some limited development potential however has been identified for conservation and passive open space purposes and it's protection through bio banking will provide on-going funding for the management of this land, therefore limiting any future costs to Council on this land to administration purposes only.

CONCLUSION

Given the concurrence of the Office of Environment and Heritage has now been obtained, the application is now recommended for approval subject to the recommended conditions.

GENERAL MATTERS

1. Development in Accordance with Submitted Plans

The development being carried out in accordance with the following approved plans and details, stamped and returned with this consent except where amended by other conditions of consent.

REFERENCED PLANS AND DOCUMENTS

DESCRIPTION	Dated
Box Hill Master Plan (9 Pages)	23 September 2015
Box Hill North Design Guidelines (7 pages)	Submitted 4 November 2015

No work (including excavation, land fill or earth reshaping) shall be undertaken prior to the issue of the Construction Certificate, where a Construction Certificate is required.

2. Compliance with Masterplan

Approval is granted for the proposed Masterplan in accordance with the plans and details provided with the application to provide guidance for future development of the site. All Stages of works the subject of the Masterplan will require the submission and approval by the relevant authority of an application as required by the relevant legislation including all external authorities with the exception of the Office of Environment and Heritage in relation to flora and fauna impacts which have been assessed as part of this application.

3. Planning Agreement

Payment of any Monetary Contributions shall be payable in accordance with the Box Hill North Planning Agreement dated January 2015.

4. Design Guidelines

The Design Guidelines attached to the consent marked as Appendix A are endorsed.

5. Office of Environment and Heritage Requirements

Compliance with the requirements of the NSW Office of Environment and Heritage attached as Appendix B to this consent and dated 15 January 2016.

6. Ecology Requirements

i. Biodiversity Offsetting Requirements

To offset the loss of biodiversity from the site, including the removal of Cumberland Plain Woodland (CPW) and Shale Sandstone Transition Forest (SSTF), the development must purchase and retire the appropriate number of credits for each precinct as set out in the table below.

Prior to issue of a Construction Certificate for each precinct a retirement certificate from the NSW BioBanking Office to demonstrate compliance with this condition is to be provided to The Hills Shire Council's Manager – Environment and Health.

Precinct	Credits Required	
	CPW (HN528)	SSTF (HN556)
A	0	0
B	0	0
C	0	0
D	0	0
E	5	53
F	0	3
G	1	420
H	0	0
I	579	1
Total	585	477

Note: Changes to development proposal may alter offsetting requirements.

ii. Vegetation Management Plan

Prior to issue of a Construction Certificate for each precinct a Vegetation Management Plan is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment and Health.

The Vegetation Management Plan must contain details for vegetation rehabilitation and management relevant to each precinct. The plan must be prepared strictly in accordance with Council's *Vegetation Management Plan Guideline* (available on Council's website www.thehills.nsw.gov.au). The Plan must be prepared by a suitably qualified bush regenerator or restoration ecologist with a minimum Certificate IV in Conservation Land Management.

The Vegetation Management Plan is to include restoration planting as outlined in table 4.2 of the Species Impact Statement – Response to Hills Shire Council prepared by Cumberland Ecology dated November 2015.

iii. Dam Decommissioning Plan (ecological requirements)

Prior to issue of a Construction Certificate for each precinct a Dam Dewatering Report is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment and Health.

The Dam Dewatering Report must provide details required for the rescue and relocation of native fauna and the destruction of exotic pest species residing within farm dams. The plan must be prepared strictly in accordance with Council's *Guidelines for Dewatering Farm Dams* (available on Council's website www.thehills.nsw.gov.au). This report must be prepared by a suitable qualified ecologist with expertise in aquatic ecology and amphibians.

iv. Fauna Action Plan

Prior to issue of a Construction Certificate for each precinct a Fauna Action Plan is to be submitted to be to the satisfaction of The Hills Shire Council's Manager – Environment & Health.

The fauna action plan must contain relevant details for preclearance surveys and fauna protection, rescue and relocation relevant to each precinct. In addition, the Fauna Action Plan is to include actions for the protection of the White-bellied Sea-eagle nest during the construction period. The plan must be prepared by a suitably qualified and experienced ecological consult with relevant experience in flora and fauna survey and rescue.

v. Maguire's Road Realignment

The partial width reconstruction of Maguires Road fronting Precinct G, including the creek crossing here, must include the realignment of this road/ formation further south into the development site to protect the endangered *Dillwynia tenuifolia* population located along the northern verge of Maguires Road. A plan must be provided with any development application relating to this portion of the site/ precinct to the satisfaction of Council's Manager – Subdivision and Development Certification and Manager – Environment and Health. The plan must provide a sufficient buffer between the endangered population and Maguires Road (accounting for the eventual/ possible full width reconstruction) to ensure long-term protection and survival of the population.

7. Landscape Masterplan

The principles identified within the masterplan are generally supported however all public areas will need to be embellished to a standard that will provide suitable recreation activities consistent with Council's general public domain embellishment hierarchy standards across the Shire. Detailed plans are required to accompany all Development Applications.

The Street Tree Masterplan is generally supported with the following amendments:

- Street tree substitutes:
 - o *Fraxinus griffithi* – suggested replacement: *Fraxinus excelsior* 'Aurea' or alternative approved species
 - o *Quercus rubra* – suggested replacement: *Magnolia grandiflora* 'Little Gem' or alternative approved species
- Minimum width of tree pit in verge 1.3m. To be noted on Typical Street Tree Planting Detail.

8. Riparian Corridor Plan – Precinct H

With respect to the Riparian Corridor Plan, the open space link/ watercourse within Precinct H needs to be designed and constructed to the same standard/ riparian corridor width as the other first order watercourses within the precinct, without being formally labelled as such, as this would otherwise increase the categorisation of the downstream receiving first order watercourse to a second order watercourse.

9. Road Hierarchy/ Formation

Roads are to be provided as per the Road Network Plan and Voluntary Planning Agreement, contrary to the Development Control Plan, and the following additional requirements:

- a) With respect to collector roads, the 3.5m wide footpath verge on both sides, including adjacent to open space/ creek corridors, required by the Development Control Plan must be provided.
- b) Old Pitt Town Road and Maguires Road, fronting the development site/ release area, need to be reconstructed (partial width) in line with the following/ ultimate configuration:

Road Name:	Formation: (Footpath/ Carriageway/ Footpath) (m)
Old Pitt Town Road/ Maguires Road	Road Type: 3.5m/ 13m/ 3.5 (20m) Pavement Design: Sub-arterial/ Enhanced Collector (Design Guidelines 3.12)

- c) With the development of each precinct, consideration should be given to providing "local roads with parking on both sides" in areas with higher density residential development.

10. Waterways Requirements

All future development applications are to generally comply with the following, along with any other requirements of Council at the time:

- Flood Impact Assessment prepared by J. Wyndham Prince dated April 2015
- Water Cycle and Flood Management Strategy Report prepared by J. Wyndham Prince dated July 2013, as amended by the following:
- Updated MUSIC Water Quality Assessment prepared by J. Wyndham Prince dated 14 September 2015
- Water Cycle and Flood Management Strategy Report (update) prepared by J. Wyndham Prince dated 28 November 2014

The following design requirements also apply:

- a) Waterway design to be in accordance with the requirements of Section 2.11 Stormwater Management, sub-clauses (x), (xi) and (xii) of Council's Development Control Plan Part D Section 17, Box Hill North.
- b) In summary, these sections require the creation of a naturally functioning, geomorphically stable channel and floodplain form which replicates the characteristics of the naturally occurring waterways in the catchment.
- c) Creation of a trapezoidal channel form is to be avoided.
- d) A stable, meandering low-flow channel is to be designed to convey up to a 5 year ARI design flood. The 5 year ARI design flood is considered to be at the upper end of the naturally occurring channel forming flows.
- e) River engineering principles, supported by geomorphic understanding is to be the principal driver for all design and construction methodologies.
- f) Hydraulic modelling to determine threshold velocities is to be undertaken to predict erosive forces requiring hard engineering intervention.
- g) Upper floodplain benches are encouraged to reduce edge depths, sustaining safety principles and maximising passive usage of the waterway corridor.
- h) Vegetative techniques for bed and bank stabilisation in the upper floodplain benches are to utilise deep rooted species of local provenance.
- i) Safe, regular all-weather vehicular maintenance accesses are to be designed for strategic locations throughout the waterway corridor.

Bridge and culvert design and construction are to have regard to the following:

- j) Design to be substantially in accordance with the principles set out in the publications “Australian Standard Bridge Design Part 1: Scope and General Principles” (AS 5100.1-2004 (Incorporating Amendment No.1)), and “AUSTROADS Guide to Bridge Technology Part 4: Design Procurement and Concept Design”.
- k) Minimum freeboard to the underside of the bridge structure is to be in accordance with the requirements of the abovementioned publications, having regard for carriageway cross-falls.
- l) Bridge clear opening to be a minimum of 50% of the overall width of the riparian corridor, measured from toe of abutments, and allowing for bridge pier widths.
- m) Piers are to be designed to be streamlined in the direction of flow. Other than in unavoidable circumstances, no piers are to be constructed so as to obstruct the primary waterway area (between low banks).
- n) Bridges are to be low energy style structures, minimising afflux at the design flood (100 year ARI, post-development case).
- o) Allowance for blockage is to be in accordance with the requirements of the publication “Australian Rainfall and Runoff Revision Project 11: Blockage of Hydraulic Structures - Blockage Guidelines” (February 2015).
- p) Consideration may be made for the construction of “relief” culverts through each abutment to account for the allowance of blockage in the bridge design.
- q) Hydraulic modelling is to be undertaken to determine the two dimensional (2-D) flow behaviour for channel forming flows (consider the 2 year and 5 year ARI floods) and the design flood (100 year ARI) to enable the design of any bed, bank and abutment scour protection works.

11. Site Remediation and Validation

All works associated with future Subdivision applications are to be remediated in general accordance with the Remediation Action Plan (dated 15 April 2015, Report 43376/59205 (Rev 5)).

Any contaminated material that is proposed to be encapsulated and/or buried on site shall be subject to an Environmental Management Plan which identifies:

- the material;
- risks associated with the material;
- justification as to why the material cannot be removed/remediated;
- details for a long-term monitoring program;
- Safe Work Method Statement for working in the vicinity of the material.

Prior to the encapsulating and/or burying of any contaminated material on site, prior approval of Council’s Manager – Environment & Health is to be obtained.

Validation report

A validation report shall be submitted to the Principal Certifying Authority for each subdivision. The report shall include:

- The degree of contamination originally present;
- Rationale and justification for the validation strategy, including the clean-up criteria and statistically based decision-making methodology;
- Validation sampling and analysis plan;
- Verification that remediation carried out renders the site suitable for the proposed uses.

12. Consistency with Aboriginal Heritage Impact Permit

All proposed works are to be consistent with Aboriginal Heritage Impact Permit (AHIP) C0001213.

ATTACHMENTS

1. Concurrence – Office of Environment and Heritage
2. Applicant's response to JRPP Resolution
3. Previous JRPP Report 16 December 2015

ATTACHMENT 1 – OEH CONCURRENCE



Office of
Environment
& Heritage

DOC15/518891
1397/2015/JF

Mr Robert Buckham
Development Assessment Coordinator
The Hills Shire Council
PO Box 7064
BAULKHAM HILLS BC NSW 2153

Dear Mr Buckham

Masterplan - Box Hill North

I refer to your request dated 18 November 2015 for the concurrence of the Office of Environment and Heritage (OEH) to the proposed Masterplan for Box Hill North. I also refer to your email of 14 December 2015 with Council's draft consent conditions and notification that there were no submissions received by Council on the proposal. I note that Council provided an extension on the concurrence application to OEH until 15 January 2016.

I have considered your request and have decided to grant concurrence, for the reasons given in the attached concurrence report.

If you have any further questions in relation to this matter, please contact Sarah Burke, Regional Biodiversity Conservation Officer, on phone 9995 6848 or sarah.burke@environment.nsw.gov.au

Yours sincerely

15/1/16

DAYLAN CAMERON
A/Regional Manager, Greater Sydney
Regional Operations

As delegate to the Director-General

Contact officer: SARAH BURKE
9995 6848

Enclosure

PO Box 644 Parramatta NSW 2124
Level 6, 10 Valentine Ave Parramatta NSW 2150
Tel: (02) 9995 5000 Fax: (02) 9995 6900
ABN 30 841 387 271
www.environment.nsw.gov.au

CONCURRENCE REPORT – MASTERPLAN BOX HILL NORTH

EXECUTIVE SUMMARY

On 14 December 2015, the Office of Environment and Heritage (OEH) received a complete concurrence application from The Hills Shire Council pursuant to Section 79B(3) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Concurrence was sought for a subdivision application under Part 4 of the EP&A Act.

I have considered the application from The Hills Shire Council in accordance with Section 79B(5) of the EP&A Act and I have decided to grant concurrence to this development for the reasons set out in Section 6 of this report and subject to the conditions set in section 7 of this report.



DAYLAN CAMERON
A/Regional Manager, Greater Sydney
Regional Operations
as delegate to the Director-General

1 DESCRIPTION OF THE PROPOSAL AND THE ENVIRONMENT

The proposal considered by OEH for the purpose of deciding whether or not to grant concurrence is The Hills Shire Council development application reference 1397/2015/JP, as described by the following documents supplied by The Hills Shire Council with the request for concurrence, on 18 November and 14 December 2015:

- Statement of Environmental Effects (APP May 2015);
- Species Impact Statement (SIS) (Cumberland Ecology, May 2015);
- Amended SIS (Cumberland Ecology, November 2015);
- Council's Recommended Ecological Conditions of Consent (14 December 2015); and
- Vegetation Management Plan (VMP) (Cumberland Ecology, May 2015);

The land is private freehold, in the ownership of over 30 landholders, and totals 380 hectares. The site is currently used for low intensity farming and a small number of market gardens. An aerial photo is shown at Appendix 1.

The most significant ecological issues on site are the remnants of two critically endangered ecological communities (CEECs), Cumberland Plain Woodland (CPW) and Shale/Sandstone Transition Forest (SSTF). The SIS also identifies two other native communities on site, ('Acacia regrowth' and 'Scattered trees'), which are very degraded, such that they don't qualify as a native vegetation type. There are also large areas of cleared land (approximately 356 ha).

The areas of these vegetation communities, and their Plant Community Type (PCT), are shown in Figure B.3 from the SIS (Appendix 2) and are tabled below:

Vegetation Community	PCT	Area (hectares)
CPW	HN528	12.75
SSTF	HN556	13.47
Acacia regrowth and scattered trees	n/a	10.61

• Planning Proposal

In 2015, approval was given to a Planning Proposal for Box Hill North, for a new residential community comprising 4,100 dwellings, a 5.5 hectare town centre, active and passive open space, a school site, new roads and infrastructure. Drafts of the Planning Proposal included protection of some of the remnant CPW patch as E2, and zoning of the SSTF as E3 and RE1. OEH's comments on the draft Planning Proposals included concerns about the potential losses on these CEECs from the proposed zonings. OEH recommended protection of more of the CPW in an E2 zoning, and protection of the SSTF as E2.

When the draft LEP amendment for Box Hill North was gazetted in February 2015, all areas of E2 and E3 had been rezoned to E4. Other zonings include residential (R1, R2, R3, R4, B2), RE1 and APZs. The zoning map is shown in Figure B.1 of the SIS and attached (Appendix 3).

• Development Application

The development application that is the subject of this concurrence application is in accordance with the Planning Proposal. In the assessment of the application, Council has assumed that the zoning provides no long term protection for the CEECs on site and the remnants will become lost from the site. OEH agrees with this assessment.

2 THE PUBLIC SUBMISSIONS

Section 79B(5)(c) of the EP&A(A) Act requires that the Director-General consider any submissions or objections received concerning the development application.

Council publicly exhibited the development application for a period of 30 days which ended on 11 December 2015. No submissions were received.

3 CONSIDERATION OF THREATENED SPECIES ISSUES

Section 79B(5) of the EP&A(A) Act requires that the Director-General consider:

- any species impact statement prepared in relation to the activity,
- any assessment report prepared by or on behalf of the proponent,
- any relevant recovery plan or threat abatement plan,
- whether the activity is likely to reduce the long-term viability of the species, population or ecological community in the region, and
- whether the activity is likely to accelerate the extinction of the species, population or ecological community or place it at risk of extinction.

This section of this assessment report addresses these statutory considerations, using information from the SIS, and other documents to assess the likely impact of the proposal at the local and regional levels, and whether the proposal is likely to accelerate the extinction of any of the threatened species and endangered ecological communities affected by the development.

The SIS concludes that there is likely to be a significant effect on CPW as a result of the proposal, but not on SSTF or any threatened species on site.

Cumberland Plain Woodland (CPW)

As stated above, the SIS identifies 12.75 ha of CPW (sub-category Shale Plains Woodland) on site. This mapping is consistent with the 'Native vegetation of the Cumberland Plain, Western Sydney' (NPWS 2002) mapping and 'SCIVI' mapping (Tozer et al. 2010), and OEH agrees with this classification. As stated above, Council has required the SIS to be prepared on the basis that all 12.75 ha of CPW on site will be lost. The proposal includes a commitment to offset the loss with the purchase of 585 Biobanking credits for Shale Plains Woodland (HN528).

As shown in the vegetation map for the site (Appendix 2), CPW occurs on site as four patches in the north-west corner and one smaller patch in the centre of the study area. The SIS states that the CPW on site is of low to moderate quality and is regenerating following prior clearing. The data in the SIS supports this conclusion. For example, the plot data demonstrates that the species diversity is generally low. One quadrat recorded 25 native species but for the remainder, only 11-17 native species were observed, whereas the benchmark value for the community is 29 species. Also, the percent cover of native overstorey species is quite low, at an average of 13% across all plots, whereas the benchmark is 21-26%. Conversely, the cover of exotics is also quite low, with figures of between 7-33% cover for the six plots. The SIS also states the habitat quality of the CPW on site is low, with few tree hollows or other habitat features. In summary, OEH agrees with the assessment that the remnant patches show low to moderate quality habitat.

CPW in the Sydney Basin Bioregion is listed as a critically endangered ecological community (CEEC) under the *Threatened Species Conservation Act* 1995. It is found in Western Sydney on soils derived from Wianamatta Shale. About 9% of the original extent remains intact, with the remnants scattered widely across the Cumberland Plain. The main threat to CPW is clearing for urban or rural development (which is clearly relevant to this proposal). Other threats include grazing, mowing, increased nutrients and sedimentation, weed invasion and inappropriate fire regimes. CPW is also listed as a CEEC under *Commonwealth Environment Protection & Biodiversity Conservation Act* 1999. Therefore, although the remnant patches of CPW on site are of low to moderate condition, the status of CPW increases their conservation significance.

The recovery of CPW is addressed in the Cumberland Plain Recovery Plan. Actions in the Recovery Plan include building a protected area network of the larger sites, delivering best practice management particularly for public land and priority conservation areas, developing a greater knowledge and awareness in the community, and increasing knowledge of threats. This proposal is not relevant to any of these actions.

This assessment must consider whether the proposal is likely to reduce the long term viability of CPW in the region, and whether it is likely to accelerate the extinction of CPW. The SIS argues that the CPW on site is of low to moderate condition and in the absence of management measures, the remnants would be expected to continue to degrade, and in the long term will be lost from the site. As stated above, OEH agrees that the development is likely to have a significant impact on CPW. Despite this, it is difficult to argue that this loss will reduce the viability of CPW at the regional scale. Given that the current extent of CPW across the region (with a canopy cover of >10%), is approximately 11,055 ha, then the loss of 12.75 ha on site (approximately 0.11% of its total distribution) is unlikely to reduce the long term viability of CPW at a regional scale. It can also be assumed that at the regional scale, the loss of a small proportion of the total area of low to moderately degraded CPW will not accelerate the extinction of CPW. In addition, the proposal to offset the losses through the purchase of Biobank credits of this CEEC, further supports the conclusion that this proposal will not accelerate the extinction of CPW.

Shale/Sandstone Transition Forest (SSTF)

The SIS identifies that there are 13.47 ha of SSTF on site. This mapping is consistent with the 'Native vegetation of the Cumberland Plain, Western Sydney' (NPWS 2002) mapping and 'SCIVI' mapping (Tozer et al. 2010), and OEH agrees with this classification. Some of the SSTF is to be retained within the RE1 zone along the riparian corridor, but as with the CPW, Council has required the consultants to assume that any vegetation within an RE1 zone will not be protected. Therefore, it is assumed that the proposal will lead to the loss of all 13.47 ha of SSTF on site. The proposal includes a commitment to offset the loss with the purchase of 477 Biobanking credits for SSTF (HN556).

As shown in the vegetation map for the site (Appendix 2), the main area of SSTF is along the tributary of Cataract Creek in the north of the study area. The SIS states that the SSTF is of mostly moderate quality. The plot data for the eight SSTF quadrats supports this, as the species diversity is generally quite low. One quadrat recorded 40 native species, which is above the benchmark figure for SSTF of 36 species, but the remainder of plots generally have less than half the benchmark figure, with figures varying from 7-19 native species. The average percent cover of native overstorey species across all eight plots is 16%, which is almost at the benchmark figure of 18.5-23.5%. Conversely, the cover of exotics is also quite low, with figures of between 8-29% cover for the eight plots. Therefore, OEH agrees with the assessment that the SSTF on site is of moderate quality.

SSTF is listed as a CEEC under the *Threatened Species Conservation Act 1995*. It is found on the fringes of the Cumberland Plain, on the intergrade between the shale soils of the Plain and the surrounding sandstone areas, as the name suggests. Although 60-80% of the original extent is estimated to have been cleared, the amount of SSTF remaining is still relatively high at 9700 ha (Scientific Committee 2014). However, these remnants are subject to a number of threats, the most significant of which is clearing for urban development (which is relevant to this proposal). Other threats include physical damage from recreational activities, rubbish dumping, grazing, mowing and weed invasion (Scientific Committee 1998). SSTF is also listed as a CEEC under *Commonwealth Environment Protection & Biodiversity Conservation Act 1999*.

The recovery of SSTF is addressed in the Cumberland Plain Recovery Plan. Actions in the Recovery Plan include building a protected area network of the larger sites, delivering best practice management particularly for public land and priority conservation areas, developing a greater knowledge and awareness in the community, and increasing knowledge of threats. None of these actions are particularly relevant to the site, given it isn't one of the priority conservation lands nor is it public land.

This assessment must consider whether the proposal is likely to reduce the long term viability of SSTF in the region, and whether it is likely to accelerate the extinction of SSTF. The SIS argues that the SSTF on site is in a moderate condition and in the absence of management measures, the remnants would be expected to continue to degrade, and in the long term will be lost from the site. The SIS has concluded that the development is not likely to have a significant impact on SSTF. However, OEH considers that a significant impact on SSTF is likely, particularly given that the development will lead to SSTF becoming locally extinct. Despite this, it is difficult to argue that this loss will reduce the viability

of SSTF at the regional scale. Given that the current extent of SSTF across the region (with a canopy cover of >10%), is approximately 9700 ha, then the loss of 13.47 ha on site (approximately 0.14% of its total distribution) is unlikely to reduce the long term viability of SSTF at the regional scale. It can also be assumed that at the regional scale, the loss of a small proportion of the total area of moderately degraded SSTF will not accelerate the extinction of SSTF. In addition, the proposal to offset the losses through the purchase of Biobank credits of this CEEC, further supports the conclusion that this proposal will not accelerate the extinction of SSTF.

Other native vegetation communities

As stated above, the SIS states that there are 10.61 ha of 'Acacia regrowth' and 'Scattered Trees' on site. The Amended SIS includes a detailed assessment of the areas identified as 'Scattered Trees', which demonstrates that none of these areas qualify as CPW or SSTF, given there is no or little native understorey in these patches. OEH agrees with this assessment. The proposal is to offset the loss of these areas through replanting and revegetation, in accordance with the VMP. The proposed areas to be replanted are shown in Figure 5.10 of the Amended SIS and include CPW, SSTF and other locally endemic tree and shrub species along the riparian corridor. The ratio of the areas of replanting to the areas of 'Acacia regrowth' and 'Scattered Trees' to be removed is 1.93:1. The Amended SIS argues that replanting at this ratio is appropriate, given the highly fragmented, degraded state of the scattered trees and shrubs, and the lack of viability of such occurrences long term. OEH agrees with this assessment and considers this a reasonable outcome for these scattered remnants.

Threatened species

It appears that no threatened flora species occur on site, from the information provided in the SIS. It also appears that adequate surveys were undertaken to reach this conclusion. Subject species considered in the SIS included all threatened flora species recorded post-1980 within 10 km of the subject site and all threatened flora species listed the Director General's requirements (DGRs). Flora surveys were undertaken on four occasions, in August and December 2012, and in January and December 2013. A total of 22 hours were spent on flora surveys. None of these surveys detected any threatened flora species. There are also no records in the Wildlife Atlas of threatened flora species recorded from within the study area.

The SIS recognises that although no threatened flora species were recorded on site, a number of species have the potential to occur due to suitable habitat being present. The threatened flora species considered in the SIS to potentially occur include: *Acacia pubescens*, *Dillwynia tenuifolia*, *Grevillea juniperina* ssp. *juniperina* and *Pultenaea parviflora*. Appendix I of the SIS includes assessments of significance for these species. All these assessments conclude that the proposal is unlikely to have a significant impact on the species, given all species are unlikely to occur in large numbers in the study area, and given the measures proposed to avoid, mitigate and offset impacts. OEH agrees with these conclusions.

It should be noted that there is a significant site of over 300 individuals of the vulnerable plant species *Dillwynia tenuifolia*, immediately adjacent to the site on the northern boundary along Maguires Road, in a patch of vegetation of 46 ha identified as one of the Cumberland Plain Priority Conservation Lands (OEH 2010). Council's proposed conditions of consent include that Maguires Road must be realigned further south into the development site in order to protect the *D. tenuifolia* population. The conditions also state that a plan must be provided with any development application relating to this portion of the site to the satisfaction of Council. The plan must provide a sufficient buffer between the endangered population and Maguires Road to ensure long-term protection and survival of the population. OEH considers that this measure should provide adequate protection for the species.

The SIS states that fauna surveys were conducted in spring 2013 in accordance with OEH's fauna survey guidelines (OEH 2004). Survey methods included call playback and spotlighting for amphibians, opportunistic surveys for reptiles and birds, transects and habitat searches for birds, mammal trapping, infrared cameras, ultrasonic call recording for microbats, and active habitat searches for snails at 63 sites. The surveys did not include lands not owned by or under the control of EJ Cooper Pty Ltd, though

the SIS states that these areas are extensively cleared of native vegetation. OEH considers this level of survey effort to be adequate.

The SIS states that the habitats of value to native fauna in the study area are generally associated with the woodland that occurs in the north along the creek line that drains to Cataract Creek. The SIS also states that the following threatened fauna were recorded on site: Spotted Harrier (*Circus assimilis*), Eastern Bent-wing Bat (*Miniopterus schreibersii oceanensis*), Eastern Freetail-bat (*Mormopterus norfolkensis*), Yellow-bellied Sheathtail-bat (*Saccolaimus flaviventris*) and Grey-headed Flying-fox (*Pteropus poliocephalus*). A single empty shell of the Cumberland Land Snail (*Meridolum corneovirens*) was located along the northern boundary of the study area. There are no records in the Wildlife Atlas of threatened fauna species recorded from within the study area. Figure 4.6 from the SIS shows the location of the threatened fauna records from the study area (attached as Appendix 4).

The SIS includes the following impact assessment for threatened fauna species recorded on site:

- Spotted Harrier: the species is transient in the area, with only one record in The Hills LGA. Due to the loss of only a small proportion of habitat in the locality and the high mobility of this species, the significance of the site to the species is low;
- Eastern Bentwing-bat: the site is likely to provide foraging habitat only, as the species is likely to roost in caves in the locality. The proposal will remove only a small area of habitat for the species in relation to the habitat in the study area.
- Eastern Freetail-bat: the site provides foraging habitat and potentially roosting habitat. The proposal will result in the loss of a very small proportion of foraging habitat in comparison with the amount of foraging habitat available in the locality.
- Yellow-bellied Sheathtail-bat: the proposal will remove only a small area of habitat for the species in relation to the habitat within the study area. The hollow bearing trees along the SSTF corridor provide potential roosting habitat, and these trees are to be conserved.
- Grey-headed Flying-fox: the site provides foraging habitat only. Given the species can travel up to 50 km from camps to forage, the study area provides a very small area of potential foraging habitat for the species as part of a much larger foraging range. Therefore, the loss of foraging habitats in the study area are not considered to be a significant loss for the species.
- Cumberland Land Snail: habitat in the study area is limited to the patches of CPW in the north, which is highly degraded. The proposal will remove a small area of low quality, degraded habitat for the species in relation to more extensive habitats within the locality. Given that only one empty shell was found, the habitats on site are not considered to support a viable population.

The SIS considers that although the following threatened fauna species were not recorded on site, they potentially occur on site: Regent Honeyeater (*Anthochaera phrygia*), Little Lorikeet (*Glossopsitta pusilla*), Swift Parrot (*Lathamus discolor*), Turquoise Parrot (*Neophema pulchella*), Speckled Warbler (*Chthonicola sagittata*), Brown Treecreeper (*Climacteris picumnus victoriae*), Diamond Firetail (*Stagonopleura guttata*), Varied Sittella (*Daphoenositta chrysoptera*), Scarlet Robin (*Petroica boodang*), Flame Robin (*Petroica phoenicea*), Glossy Black-cockatoo (*Calyptorhynchus lathami*), Gang-gang Cockatoo (*Callocephalon fimbriatum*), Little Eagle (*Hieraaetus morphnoides*), Black Falcon (*Falco subniger*), Barking Owl (*Ninox connivens*), Powerful Owl (*Ninox strenua*), Masked Owl (*Tyto novaehollandiae*), Sooty Owl (*Tyto tenebricosa*), Yellow-bellied Glider (*Petaurus australis*), Eastern False Pipistrelle (*Falsistrellus tasmaniensis*), Greater Broad-nosed Bat (*Scoteanax rueppellii*) and Southern Myotis (*Myotis macropus*). Appendix I of the SIS includes assessments of significance for all these species. None of these assessments conclude that the species are likely to be significantly affected by the proposal, based on the fact that the species are highly mobile and are likely to utilise numerous habitat resources within the locality, and based on the proposed measures to avoid, mitigate and offset impacts. These assessments are considered valid. As such, the proposal is considered unlikely to reduce the long term viability of any threatened species or accelerate their extinction.

Consideration of alternative options

In considering alternatives, the amended SIS states that a range of impact avoidance, mitigation and compensation measures were implemented, but it doesn't provide any details on these measures. As stated above, Council has assumed that all native vegetation on site will be lost, as the zonings provide

no long term protection, as they do not require landowners to actively manage remnants for conservation purposes and OEH agrees with this assumption.

In response to the planning proposal in September 2014, OEH recommended that the high conservation areas, including CPW, should be protected at the planning proposal stage. However, this advice was not acted upon and the remnants of CPW and SSTF are currently zoned as R3, R2, RE1 and E4. This zoning makes conservation of these areas difficult.

Given the conservation status of CPW and SSTF, OEH considers that all efforts should be made to avoid impacts and retain at least some of the CPW and SSTF on site. OEH considers that the loss of over 26 ha of CEECs will result in a significant impact on these CEECs. To avoid a significant impact, at least some of the CPW and SSTF must be protected on site. The most effective method for ensuring long term protection of the remnants is through the establishment of a Biobank site. Therefore, it is proposed that two of the E4 zoned areas, one containing CPW and one with SSTF, become Biobank sites. These areas are shown on Appendix 5.

The Biobank sites should ideally be of a minimum size of 4 ha each, not including the building envelope and any required asset protection zones. A minimum size of 4 ha is considered necessary to reduce edge impacts and maintain ecological function and viability. The E4 patch of CPW in the north-west corner is approximately 5 ha. However, the E4 patch of SSTF in the north-east corner is approximately 3.9 ha. The size of the patch cannot be increased as the adjoining lands to the south are required for water management purposes. However, given that these adjoining lands to the south are to be revegetated and managed for a purpose that is not unsympathetic to conservation, and given the lot is connected to extensively vegetated lands to the north, then it is not considered critical that this E4 patch is slightly less than 4 ha. The dedication of these patches as Biobank sites has been informally agreed to by Council and the applicant.

The protection of a 4 ha patch of CPW and a patch of approximately 4 ha of SSTF and their active management as a Biobank site will ensure that the viability of some of the CPW and SSTF on site is retained in the long term. Given the current zoning of the lands with CPW and SSTF, and given the low to moderate condition of the remnants, the protection of around 9 ha of CEECs is considered a reasonable outcome. The remaining CPW and SSTF to be cleared will be offset via the purchase of Biobank credits, as already agreed by the applicant. The number of credits that will be required to be purchased will be reduced, given the impacts have been reduced.

Consideration of proposed ameliorative measures

Chapter 9 of the SIS proposes a number of ameliorative measures to reduce impacts on threatened flora and fauna and their habitats, including:

- preparation of a VMP, to retain and restore areas of CPW and SSTF within designated management zones (as shown in Figure 5.1 of the VMP).
- fauna management protocols, including pre-clearance surveys
- planned and staged decommissioning of dams
- preparation of a Landscape Management Plan

Through the conditions of consent, Council is requiring that a VMP is to be submitted for each precinct and prepared to the satisfaction of Council, in accordance with Council's Vegetation Management Plan Guidelines. The Plan must be prepared by a suitably qualified bush regenerator or restoration ecologist with a minimum Certificate IV in Conservation Land Management.

Council is also requiring as an additional ameliorative measure, that a Fauna Action Plan must be prepared. Council is to include a condition that prior to the issue of a Construction Certificate for each precinct, a Fauna Action Plan is to be submitted to the satisfaction of Council. The Fauna Action Plan must contain relevant details for pre-clearance surveys and fauna protection, rescue and relocation relevant to each precinct. The plan must be prepared by a suitably qualified and experienced ecological consultant with relevant experience in flora and fauna survey and rescue.

These ameliorative measures are supported, although it is noted that the E4 zoned area in the north-west of the site, which is included as one of the areas proposed to be managed through the VMP, is now also proposed to be protected as a Biobank site.

Consideration of proposed offsetting measures

Council's proposed conditions of consent state that to offset the losses of CPW and SSTF on site, the development must purchase and retire 585 CPW (HN528) credits and 477 SSTF (HN556) credits. It is noted that given OEH's proposal that some CPW and SSTF is to be retained on site, credits will only need to be purchased to offset the remaining impacts on site, though the quantum of credits required is unclear at this stage and will need to be recalculated by the ecological consultant. Once these credits are purchased and retired, it is considered that the impacts of the proposal on CPW and SSTF will be adequately offset.

Conclusions

It is considered that the current proposal will have a significant impact on CPW and SSTF. Therefore, an alternative outcome is proposed that one patch of each of CPW and SSTF that are currently zoned E4, are to be protected and managed as Biobank sites. It is considered that this will not reduce the viability of CPW or SSTF across their range, or lead to their extinction. It is also considered that the proposal will not reduce the viability of, or accelerate the extinction of any threatened species. The proposal meets OEH's offsetting principles, as all reasonable measures have been applied to avoid and ameliorate impacts, and any remaining impacts are to be offset through the purchase and retirement of ecosystem credits. This is considered a reasonable outcome given the zoning of the land and the current and future surrounding land uses.

Prior to issuing concurrence, discussions were held with the applicant and Council to discuss the proposed concurrence conditions, including the timing of the creation of the Biobank sites. It was negotiated that this will occur prior to issuing of the construction certificate for the 2000th lot.

4 ECOLOGICALLY SUSTAINABLE DEVELOPMENT

Section 79B(5)(g) of the EP&A(A) Act requires that the Director-General consider the principles of ecologically sustainable development as defined in the objects of the *Protection of the Environment Administration Act 1991*. The principles of ecologically sustainable development, and how these principles have been applied in the assessment of this proposal, are as follows:

a) *The precautionary principle - namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.*

There is no scientific uncertainty regarding this development proposal. The development will result in the loss of over 26 ha of native vegetation and fauna habitats.

b) *Inter-generational equity - namely, that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.*

The protection and active management of the CEECs within onsite and offsite Biobank sites in perpetuity, should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

c) *Conservation of biological diversity and ecological integrity.*

Similarly, the retirement of an adequate number of BioBanking credits should ensure conservation of biological diversity and should enhance ecological integrity.

d) *Improved valuation and pricing on environmental resources*

The principle of improved valuation and pricing of resources seeks to overcome the inefficient allocation of environmental resources that occurs due to market failure by ensuring that the appropriate value of these resources is recognised and considered in decision making. In this respect, it should be recognised that environmental resources have economic values and that there is a trade-off between the economic benefits associated with the development and the economic benefits provided by the natural environment that will be foregone. The economic benefits associated with the natural environment include use values, together with non-use values such as option values, bequest values and existence values.

The conditions of consent and concurrence represent an explicit recognition of the values of the environmental resource impacted by the proposal, whether these values are considered in biological or economic terms.

5 SOCIAL AND ECONOMIC CONSEQUENCES

Section 79B(5)(h) of the EP&A(A) Act requires the Director-General to consider the likely social and economic consequences of granting or not granting concurrence. Granting concurrence can include granting concurrence with or without conditions. To facilitate this assessment, it is necessary to clearly identify the distinction between the social and economic impacts of particular activities, policies and programs.

Economic

Economic consequences refers to the net effect of the development proposal on the local or regional economy. The proposal will lead to the development of a residential community which is consistent with the desired future character of the locality in the gazetted amendment to The Hills Shire Local Environment Plan. The Statement of Environmental Effects states that the proposal will have a number of positive economic benefits, including the provision of a major retail destination with the town centres, employment opportunities through the provision of non-residential floor space, increased employment opportunities during the roll out and construction phase. The economic consequences of not granting concurrence to the proposal would primarily impact the developer and, to a lesser extent, the local economy.

Social

Social consequences refers to the net effect of the development proposal on community well-being. The Statement of Environmental Effects states that the proposal will deliver a number of positive social impacts, including delivery of residential and employment lands, provision of housing diversity, public open space and community facilities, and physical and social infrastructure. The proposed development is adjacent to existing and developing residential areas and as such it will not result in any major adverse impacts on the local community in terms of amenity. It is noted that there were no submissions received on the proposal.

6 REASONS FOR THE DIRECTOR-GENERAL'S DECISION

Following consideration of the species impact statement and the other matters provided for under Section 112D(1) of the EP&A Act, I have decided to grant concurrence subject to the conditions in Section 7 of this report, for the following reasons:

- the proposed outcome provides for the retention of some of the CEECs on site and so avoids a significant impact on these CEECs at the site;
- the retained patches of CEECs are proposed to be dedicated as Biobank sites which will ensure their protection and management in perpetuity;
- any remaining impacts on CEECs will be offset through the purchase and retirement of an adequate number of Biobank ecosystem credits;
- given the current zoning of the land and the low to moderate condition of the native vegetation on site, the retention of approximately 9 hectares of CEECs is considered a reasonable outcome.

7 CONDITIONS OF CONCURRENCE

This concurrence is granted subject to the following conditions:

- two of the areas zoned E4, as shown in Appendix 5, are to be protected as Biobank sites. These Biobank sites must be approved prior to issue of a Construction Certificate for the 2000th lot.
- any changes to ecological impacts above or below impacts predicted in the SIS are to be reflected through the purchase and retirement of the appropriate number of ecosystem credits, as calculated by an accredited Biobanking assessor, and in consultation with OEH. Increased impacts (resulting from modifications that increase the developable area) will require purchase and retirement of additional credits, whereas decreased impacts (resulting from modifications that reduce the developable area), will require purchase and retirement of fewer credits.
- all "Ecology Requirements" as stated in the recommended consent conditions received by OEH on 14 December 2015, and attached as Appendix 6, must be included as conditions of consent.



Coordinate System: MGA Zone 56 (GDA 94)

- Legend**
- Study Area (Box Hill North)
 - National Park
 - Cumberland Pedia Priority Conservation Land
 - Waterway

Image Source:
SIX Maps (13 04 2011)

Data Source:
© Copyright Commonwealth of Australia
(Geoscience Australia) 2005

NPWS (2012)
NPWS Estate Data - Version 22012
DECCW (2011), The Cumberland
Priority Conservation Lands.

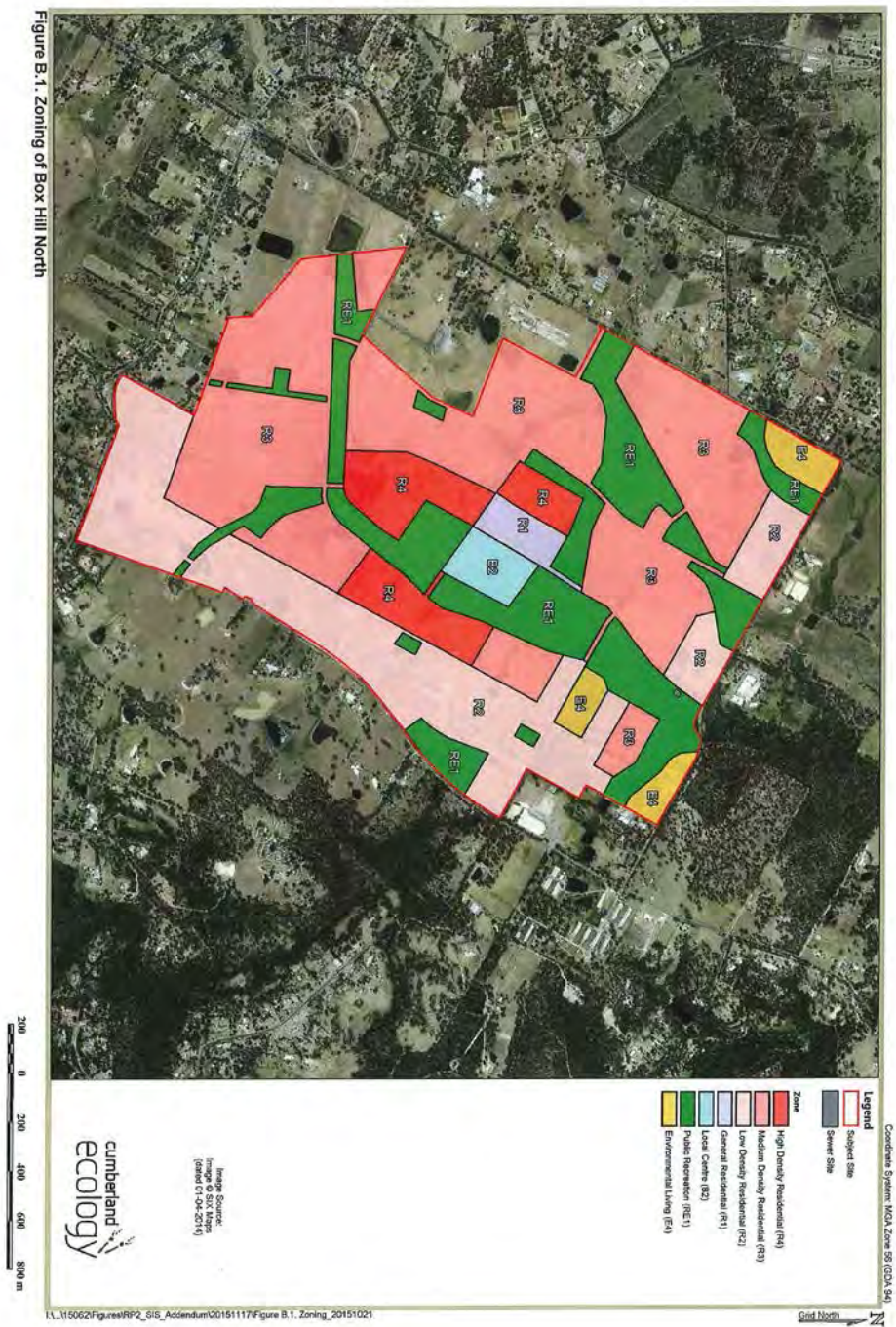


500 0 500 1000 1500 2000 m



Figure B.3. Native Vegetation at the Subject Site

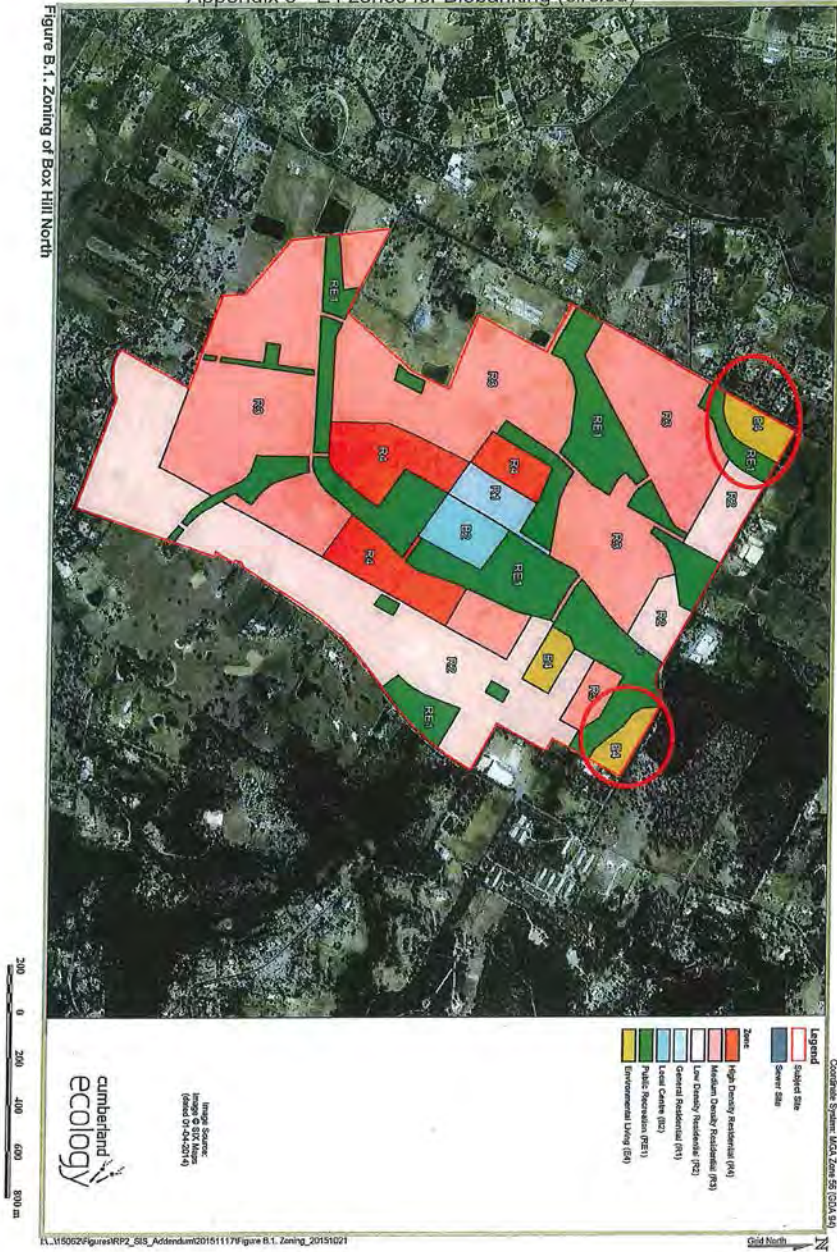
Figure B.1. Zoning of Box Hill North





Appendix 5 - E4 zones for Biobanking (circled)

Figure B.1. Zoning of Box Hill North



Sarah Burke

From: Robert Buckham <rbuckham@thehills.nsw.gov.au>
Sent: Monday, 14 December 2015 8:31 AM
To: Sarah Burke
Cc: Mark Chidel
Subject: Masterplan Box Hill North DA 1397/2015/JF - Draft Council Conditions

Follow Up Flag: Follow up
Flag Status: Flagged

Sarah,

I refer to my letter dated 18 November 2015, seeking concurrence from your Department under the Threatened Species Conservation Act 1995.

As identified in my referral letter, when the application when originally received and notified to adjoining residents, no submissions were received.

The amended application has been renotified and advertised to residents in accordance with the advertising requirements for 'Threatened Species Development'. The submission period closed on the 11 December 2015. No submissions have been received.

I have also enclosed Council's recommended conditions of consent. Conditions Nos. 5 and 6 primarily relate to ecology matters, however I have included all the recommended conditions to provide context.

GENERAL MATTERS

1. Development in Accordance with Submitted Plans

The development being carried out in accordance with the following approved plans and details, stamped and returned with this consent except where amended by other conditions of consent.

REFERENCED PLANS AND DOCUMENTS

DESCRIPTION	Dated
Box Hill Master Plan (9 Pages)	23 September 2015
Box Hill North Design Guidelines (7 pages)	Submitted 4 November 2015

No work (including excavation, land fill or earth reshaping) shall be undertaken prior to the issue of the Construction Certificate, where a Construction Certificate is required.

2. Compliance with Masterplan

Approval is granted for the proposed Masterplan in accordance with the plans and details provided with the application to provide guidance for future development of the site. All Stages of works the subject of the Masterplan will require the submission and approval by the relevant authority of an application as required by the relevant legislation including all external authorities with the exception of the Office of Environment and Heritage in relation to flora and fauna impacts which have been assessed as part of this application.

3. Planning Agreement

Payment of any Monetary Contributions shall be payable in accordance with the Box Hill North Planning Agreement dated January 2015.

4. Design Guidelines

The Design Guidelines attached to the consent marked as Appendix A are endorsed.

5. Office of Environment and Heritage Requirements

Compliance with the requirements of the NSW Office of Environment and Heritage attached as Appendix B to this consent and dated X

6. Ecology Requirements

i. Biodiversity Offsetting Requirements

To offset the loss of biodiversity from the site, including the removal of Cumberland Plain Woodland (CPW) and Shale Sandstone Transition Forest (SSTF), the development must purchase and retire the appropriate number of credits for each precinct as set out in the table below.

Prior to issue of a Construction Certificate for each precinct a retirement certificate from the NSW BioBanking Office to demonstrate compliance with this condition is to be provided to The Hills Shire Council's Manager – Environment and Health.

Precinct	Credits Required	
	CPW (HN528)	SSTF (HN556)
A	0	0
B	0	0
C	0	0
D	0	0
E	5	53
F	0	3
G	1	420
H	0	0
I	579	1
Total	585	477

Note: Changes to development proposal may have additional offsetting requirements.

ii. Vegetation Management Plan

Prior to issue of a Construction Certificate for each precinct a Vegetation Management Plan is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment and Health.

The Vegetation Management Plan must contain details for vegetation rehabilitation and management relevant to each precinct. The plan must be prepared strictly in accordance with Council's *Vegetation Management Plan Guideline* (available on Council's website www.thehills.nsw.gov.au). The Plan must be prepared by a suitably qualified bush regenerator or restoration ecologist with a minimum Certificate IV in Conservation Land Management.

The Vegetation Management Plan is to include restoration planting as outlined in table 4.2 of the Species Impact Statement – Response to Hills Shire Council prepared by Cumberland Ecology dated November 2015.

iii. Dam Decommissioning Plan (ecological requirements)

Prior to issue of a Construction Certificate for each precinct a Dam Dewatering Report is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment and Health.

The Dam Dewatering Report must provide details required for the rescue and relocation of native fauna and the destruction of exotic pest species residing within farm dams. The plan must be prepared strictly in accordance with Council's *Guidelines for Dewatering Farm Dams* (available on Council's website www.thehills.nsw.gov.au). This report must be prepared by a suitable qualified ecologist with expertise in aquatic ecology and amphibians.

iv. Fauna Action Plan

Prior to issue of a Construction Certificate for each precinct a Fauna Action Plan is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment & Health.

The fauna action plan must contain relevant details for preclearance surveys and fauna protection, rescue and relocation relevant to each precinct. In addition, the Fauna Action Plan is to include actions for the protection of the White-bellied Sea-eagle nest during the construction period. The plan must be prepared by a suitably qualified and experienced ecological consult with relevant experience in flora and fauna survey and rescue.

v. Maguire's Road Realignment

The partial width reconstruction of Maguires Road fronting Precinct G, including the creek crossing here, must include the realignment of this road/ formation further south into the development site to protect the endangered *Dillwynia tenuifolia* population located along the northern verge of Maguires Road. A plan must be provided with any development application relating to this portion of the site/ precinct to

the satisfaction of Council's Manager – Subdivision and Development Certification and Manager – Environment and Health. The plan must provide a sufficient buffer between the endangered population and Maguires Road (accounting for the eventual/ possible full width reconstruction) to ensure long-term protection and survival of the population.

7. Landscape Masterplan

The principles identified within the masterplan are generally supported however all public areas will need to be embellished to a standard that will provide suitable recreation activities consistent with Council's general public domain embellishment hierarchy standards across the Shire. Detailed plans are required to accompany all Development Applications.

The Street Tree Masterplan is generally supported with the following amendments:

- Street tree substitutes:
 - Fraxinus griffithi – suggested replacement: Fraxinus excelsior 'Aurea' or alternative approved species
 - Quercus rubra – suggested replacement: Magnolia grandiflora 'Little Gem' or alternative approved species
- Minimum width of tree pit in verge 1.3m. To be noted on Typical Street Tree Planting Detail.

8. Riparian Corridor Plan – Precinct H

With respect to the Riparian Corridor Plan, the open space link/ watercourse within Precinct H needs to be designed and constructed to the same standard/ riparian corridor width as the other first order watercourses within the precinct, without being formally labelled as such, as this would otherwise increase the categorisation of the downstream receiving first order watercourse to a second order watercourse.

9. Road Hierarchy/ Formation

Roads are to be provided as per the Road Network Plan and Voluntary Planning Agreement, contrary to the Development Control Plan, and the following additional requirements:

- a) With respect to collector roads, the 3.5m wide footpath verge on both sides, including adjacent to open space/ creek corridors, required by the Development Control Plan must be provided.
- b) Old Pitt Town Road and Maguires Road, fronting the development site/ release area, need to be reconstructed (partial width) in line with the following/ ultimate configuration:

Road Name:	Formation: (Footpath/ Carriageway/ Footpath) (m)
Old Pitt Town Road/ Maguires Road	Road Type: 3.5m/ 13m/ 3.5 (20m) Pavement Design: Sub-arterial/ Enhanced Collector (Design Guidelines 3.12)

- c) With the development of each precinct, consideration should be given to providing "local roads with parking on both sides" in areas with higher density residential development.

10. Waterways Requirements

All future development applications are to generally comply with the following, along with any other requirements of Council at the time:

- Flood Impact Assessment prepared by J. Wyndham Prince dated April 2015
- Water Cycle and Flood Management Strategy Report prepared by J. Wyndham Prince dated July 2013, as amended by the following:
- Updated MUSIC Water Quality Assessment prepared by J. Wyndham Prince dated 14 September 2015
- Water Cycle and Flood Management Strategy Report (update) prepared by J. Wyndham Prince dated 28 November 2014

The following design requirements also apply:

- a) Waterway design to be in accordance with the requirements of Section 2.11 Stormwater Management, sub-clauses (x), (xi) and (xii) of Council's Development Control Plan Part D Section 17, Box Hill North.

- b) In summary, these sections require the creation of a naturally functioning, geomorphically stable channel and floodplain form which replicates the characteristics of the naturally occurring waterways in the catchment.
- c) Creation of a trapezoidal channel form is to be avoided.
- d) A stable, meandering low-flow channel is to be designed to convey up to a 5 year ARI design flood. The 5 year ARI design flood is considered to be at the upper end of the naturally occurring channel forming flows.
- e) River engineering principles, supported by geomorphic understanding is to be the principal driver for all design and construction methodologies.
- f) Hydraulic modelling to determine threshold velocities is to be undertaken to predict erosive forces requiring hard engineering intervention.
- g) Upper floodplain benches are encouraged to reduce edge depths, sustaining safety principles and maximising passive usage of the waterway corridor.
- h) Vegetative techniques for bed and bank stabilisation in the upper floodplain benches are to utilise deep rooted species of local provenance.
- i) Safe, regular all-weather vehicular maintenance accesses are to be designed for strategic locations throughout the waterway corridor.

Bridge and culvert design and construction are to have regard to the following too:

- j) Design to be substantially in accordance with the principles set out in the publications "Australian Standard Bridge Design Part 1: Scope and General Principles" (AS 5100.1-2004 (Incorporating Amendment No.1)), and "AUSTROADS Guide to Bridge Technology Part 4: Design Procurement and Concept Design".
- k) Minimum freeboard to the underside of the bridge structure is to be in accordance with the requirements of the abovementioned publications, having regard for carriageway cross-falls.
- l) Bridge clear opening to be a minimum of 50% of the overall width of the riparian corridor, measured from toe of abutments, and allowing for bridge pier widths.
- m) Piers are to be designed to be streamlined in the direction of flow. Other than in unavoidable circumstances, no piers are to be constructed so as to obstruct the primary waterway area (between low banks).
- n) Bridges are to be low energy style structures, minimising afflux at the design flood (100 year ARI, post-development case).
- o) Allowance for blockage is to be in accordance with the requirements of the publication "Australian Rainfall and Runoff Revision Project 11: Blockage of Hydraulic Structures - Blockage Guidelines" (February 2015).
- p) Consideration may be made for the construction of "relief" culverts through each abutment to account for the allowance of blockage in the bridge design.
- q) Hydraulic modelling is to be undertaken to determine the two dimensional (2-D) flow behaviour for channel forming flows (consider the 2 year and 5 year ARI floods) and the design flood (100 year ARI) to enable the design of any bed, bank and abutment scour protection works.

11. Site Remediation and Validation

All works associated with future Subdivision applications are to be remediated in general accordance with the Remediation Action Plan (dated 15 April 2015, Report 43376/59205 (Rev 5)).

Any contaminated material that is proposed to be encapsulated and/or buried on site shall be subject to an Environmental Management Plan which identifies:

- the material;
- risks associated with the material;
- justification as to why the material cannot be removed/remediated;
- details for a long-term monitoring program;
- Safe Work Method Statement for working in the vicinity of the material.

Prior to the encapsulating and/or burying of any contaminated material on site, prior approval of Council's Manager – Environment & Health is to be obtained.

Validation report

A validation report shall be submitted to the Principal Certifying Authority for each subdivision. The report shall include:

- The degree of contamination originally present;
- Rationale and justification for the validation strategy, including the clean-up criteria and statistically based decision-making methodology;
- Validation sampling and analysis plan;
- Verification that remediation carried out renders the site suitable for the proposed uses.

12. Consistency with Aboriginal Heritage Impact Permit

All proposed works are to be consistent with Aboriginal Heritage Impact Permit (AHIP) C0001213.

Should you wish to discuss the matter further please contact me on 9843 0267 or Council's Senior Biodiversity Officer Mark Chidel on 9843 0455.

Regards

THE HILLS
Sydney's Garden Shire

Robert Buckham | Development Assessment Coordinator
THE HILLS SHIRE COUNCIL
Administration Centre, 3 Columbia Court BAULKHAM HILLS NSW
2153
PO Box 7064 BAULKHAM HILLS BC NSW 2153 | DX 9966 Norwest
NSW
Tel: 61298430267 | **Fax:** 61298430409 | **Mobile:** 61421852468
www.thehills.nsw.gov.au |  | 



CONFIDENTIALITY NOTICE

The information contained in this email is strictly confidential and prepared solely for the use of the intended recipient(s).
The copyright of this communication belongs to The Hills Shire Council.
If you are not the intended recipient, please do not read, use, disseminate, distribute or copy this message or attachments.
If you have received this message in error, please notify the sender immediately and delete this message.
Views expressed in this message are those of the individual sender, and are not necessarily the views of The Hills Shire Council

DISCLAIMER

Before opening any attachments, please check them for viruses and defects.
The sender does not accept liability for any viruses, errors or omissions in the contents of this message or attachment, which arise as a result of email transmission.

ATTACHMENT 2 – APPLICANT’S RESPONSE TO JRPP RESOLUTION

15 January 2016



The Hills Shire Council
3 Columbia Court,
Baulkham Hills NSW 2153

Attention: Robert Buckham

BOX HILL NORTH MASTERPLAN DA (2015SYW092) – RESPONSE TO JRPP MEETING MINUTES FROM 16 DECEMBER 2015

In response to the questions raised by the JRPP at the meeting held on 16 December 2015 and meeting minutes provided by The Hills Shire Council on 14 January 2016 in relation to the Masterplan Development Application for Box Hill North (2015SYW092) the following is provided.

Since the JRPP meeting on 16 December 2015 concurrence has been received from the NSW Office of Environmental & Heritage (OEH) on 15 January 2016. OEH do not object to the Masterplan Development Application subject to a number of conditions being imposed.

It is noted that the majority of the content below has previously been provided as part of the application lodgement and assessment process and that this response primarily provides clarification on these matters and a summary of the investigations and studies previously out.

A description of any physical works to be approved in this application;

The Masterplan DA does not seek consent for any physical works to be carried out on site. The DA seeks consent for the conceptual approval of the following pursuant to section 83B of the *Environmental Planning & Assessment Act 1979*:

- the layout of development into nine (9) precincts;
- location of a new town centre and central parkland;
- vehicular access from Boundary, Old Pitt Town, Cataract, Red Gables, Maguires and Janpieter Roads and collector road hierarchy;
- land uses across the site including future primary school site;
- housing types and development controls;
- landscape concept including location of sporting fields and parks, integrated passive recreation area within a riparian corridor network and street tree strategy;
- 4,100 residential dwellings; and
- maximum of 10,000 m2 GFA of retail/commercial space.

All abovementioned works are subject to separate future development applications to be lodged with Council.

Several development applications have been lodged with The Hills Shire Council, primary across Precincts A and H (southern portion of the site), for bulk earthworks; provision of open space and parks; construction of roads; and subdivision of existing lots.

The determination of these current development applications are subject to the approval of the Masterplan development application.

A fuller explanation of the extent of investigation into environmental matters;

Lodgement of the Masterplan DA (12 May 2015) included the following documentation prepared by Cumberland Ecology in relation to addressing environmental matters:

- Species Impact Statement (SIS) – dated May 2015; and
- Vegetation Management Plan (VMP) – dated May 2015.

Since lodgement of the application and continued discussions with Council the following documentation has been prepared:

- Amended Species Impact Statement – dated November 2015; and
- Species Impact Statement – Response to The Hills Shire Council – dated November 2015.

The below largely summarises Cumberland Ecology's response to Council in relation to their questions raised during the assessment process and the adopted strategies.

Overview

The SIS prepared by Cumberland Ecology details the occurrence of, and impacts to threatened species, populations and ecological communities, listed under the NSW Threatened Species Conservation Act 1995 (TSC Act) and the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) that would result from the development. The SIS also outlined the mitigation and amelioration measures proposed to minimise and offset these impacts.

The conceptual works proposed under the Masterplan DA and subject to future approval included the clearing of some Cumberland Plain Woodland and Shale Sandstone Transition Forest, which are threatened ecological communities (TECs) listed under the TSC Act and EPBC Act, an offset strategy was required. The SIS included details of an offset strategy that applied to the entire subject site. It was intended that the offset strategy would provide for the mitigation and offsetting requirements of future development applications foreshadowed by the Masterplan.

There has been ongoing consultation since lodgement of the development application between the proponent's ecologist, Cumberland Ecology, and Council's Ecology team to achieve a positive ecological outcome across the site throughout the development lifespan. The key issues raised by Council, as listed in the formal response document, included:

1. Site inspection to be organised for Council Biodiversity Officers;
2. Updated Green and Golden Bell Frog surveys and further information on survey conditions;
3. Updated microchiropteran bat surveys;
4. Properties not assessed (not owned by the applicant) to be excluded from approval;
5. Small patches still likely to be considered Cumberland Plain Woodland by Council officers and must be included in the BioBanking credit calculations (paragraph 4 of the final determination);
6. All E4 and RE1 zones where vegetation is present are required to be offset. Alternatively, rezoning and provision of secured funding in perpetuity can be provided for these areas (such as via BioBanking);
7. Updated Assessments of Significance for Threatened Ecological Communities (TECs) given they currently rely on the retention of vegetation that has not been secured for conservation purposes in perpetuity;
8. Additional documentation is required as suggested within the SIS (including a Dam Dewatering Strategy; amended Vegetation Management Plan; and Bushfire Report);
9. Land along Maguires Road adjacent to the Dillwynia tenuifolia patch is to be dedicated to a road realignment;
10. White-bellied Sea Eagle buffer required;
11. An assessment of fire management requirements; and
12. Vegetation Management Plan (VMP) review.

It was agreed that the following additional surveys would be undertaken at the subject site to address Issues 2, 3 and 5 (as listed in Section 1.3):

- Updated native vegetation mapping;
- Targeted Green and Golden Bell Frog surveys; and
- Targeted microchiropteran bat surveys.

In addition to targeted surveys, additional rapid assessments of vegetation and updated BioBanking calculations would be undertaken to address additional offsetting requirements (Issues 5 and 6) with Assessments of Significance updated accordingly (Issue 7). It is noted that during negotiations, Council accepted replanting and revegetation (in accordance with the VMP) as an appropriate offset for scattered native trees that were verified during the surveys as not conforming to a defined native vegetation unit.

Further agreements were reached with regard to the submission of additional documentation (Issue 8 and 11), land management (Issue 9) and Commonwealth matters (Issue 10) which are addressed further in this document. It was also agreed that properties that were not assessed in detail in the SIS (Issue 4) would be excluded from the approval.

Vegetation Communities and BioBanking

Updated Vegetation Mapping

Additional assessment of the vegetation of the subject site was undertaken to address Issues 5 and 6 and included further site-based assessment and detailed analysis of this field data against the Final Determination for Cumberland Plain Woodland and Shale Sandstone Transition Forest.

Updated BioBanking Assessment

The updated BioBanking assessment included all areas previously assessed for the SIS as well as additional areas such as some E4 zones and APZs that were excluded from the BioBanking analysis conducted for the SIS. The updated BioBanking assessment also excluded properties that were not assessed (as per requirements of Issue 4). The resultant analysis provides for significantly more offsetting of endangered ecological communities on the subject site than was initially allowed for in the SIS.

The additional credits will be purchased and retired for Cumberland Plain Woodland in the north west of the subject site, and for Shale Sandstone Transition Forest within a number of E4 zones in the north-east of the site.

Biodiversity Credits

The BioBanking assessment results in a total of 1,062 ecosystem credits, specifically:

- 585 ecosystem credits for 12.75 ha of Cumberland Plain Woodland (HN528); and
- 477 ecosystem credits for 13.47 ha of Shale Sandstone Transition Forest (HN556).

A total of 250 ecosystem credits, including 210 ecosystem credits for Cumberland Plain Woodland (HN528) and 477 ecosystem credits for Shale/Sandstone Transition Forest (HN556), have been purchased for the project. Additional BioBanking credits, as calculated in this current assessment will be purchased and retired as required to a maximum of 585 HN528 credits and 477 HN556 credits.

The credits for HN528 will need to be purchased for a BioBank Site with the same vegetation community, within the same catchment area, within the same or an adjacent IBRA subregion.

The 477 credits for HN556 have been purchased for a BioBank Site with one of the following vegetation communities:

- HN556 (Narrow-leaved Ironbark - Broad-leaved Ironbark - Grey Gum open forest of the edges of the Cumberland Plain, Sydney Basin Bioregion);

Threatened Fauna Species

Green and Golden Bell Frog Surveys

Additional surveys for the Green and Golden Bell Frog were conducted within the subject site to address Issue 2, whereby Council requested additional surveys to be conducted to demonstrate the level of detail required for a site of this size, and to conform to the Threatened Species Survey and Assessment Guidelines – Amphibians (DECCW, 2009).

Habitat assessment was undertaken for the Green and Golden Bell Frog at all dams and water bodies across the subject site. Habitat assessment was undertaken at 66 sites across 62 dams. Larger dams such as dam 34 were sampled multiple times and the average score was taken to determine the condition of the site.

The majority of water bodies across the subject site are artificial farm dams which contain little habitat for Green and Golden Bell Frogs. No Green and Golden Bell Frogs were recorded within the subject site. Frog species recorded during targeted surveys included Peron's Tree Frog (*Litoria peronii*), Striped Marsh Frog (*Limnodynastes peronii*), and Common Eastern Froglet (*Crinia signifera*).

Microchiropteran Bat Surveys

Additional surveys for threatened microchiropteran bats were conducted within the subject site to address Issue 3, whereby the initial level of detail and range of techniques utilised were not deemed suitable to detect all species at the subject site.

Habitat assessment recorded 15 hollow bearing trees within vegetation that is proposed to be cleared. Given the large number of water bodies on the subject site, all hollows identified are within 200 m of water bodies and are therefore considered to be suitable habitat for Southern Myotis. There are no caves or culverts suitable for utilisation by bats across the subject site.

The Southern Myotis was not recorded, although given the habitat available within the subject site, it is likely to occur, and has been addressed as a subject species within the SIS and the Assessments of Significance have assumed the species to be present. No new species of microchiropteran bats were detected in 2015 that were not detected in 2013.

Impact and Offset Assessment

Impact Areas

The direct impacts of the development are guided by the condition of the vegetation, which is divided into the following categories:

- Viable Woodland: vegetation that comprises a functioning ecological community; and
- Scattered trees and Acacia regrowth: vegetation that is in a highly degraded state, represents remnants of ecological communities and is not viable in the long term.

Offset Strategy

The offset strategy for the project was guided by the two categories of vegetation within the subject site and includes provision of the following.

Impacts to areas identified as viable woodland will be offset through the purchase and retirement of BioBanking ecosystem credits at offsite locations. The impacts to the viable woodland within the subject site have been quantified through the use of BioBanking Assessment Methodology (BBAM) (OEI 2014) and the BioBanking Credit Calculator Version 2.0. The requirement of BioBanking ecosystem credits for the viable woodland within the subject site.

Impacts to areas identified as scattered trees or Acacia regrowth will be offset through the replanting of trees and shrubs typical of Cumberland Plain Woodland and Shale/Sandstone Transition Forest within designated sections of the RE1 zoned land. Additionally, other locally endemic tree and shrub species typified by River-flat Eucalypt Forest will be planted within the core riparian zone within designated sections of the RE1 zoned land.

The total of area of impact to scattered trees and Acacia regrowth is 10.61ha. The proposed areas to be replanted include the following:

- 8.84 ha of Cumberland Plain Woodland tree and shrub species;
- 4.74 ha of Shale/Sandstone Transition Forest tree and shrub species; and
- 6.99 ha of locally endemic tree and shrub species appropriate to revegetate the core riparian corridor.

The suitability of these offset areas has been calculated by using a ratio of impact to offset as an approximate measure of the adequacy of the quantum of plantings. The offset strategy provides a ratio of 1.93:1 for plantings within the RE1 zoned land. This is an appropriate ratio given the highly fragmented, degraded state of the scattered trees and shrubs, and the lack of viability of such occurrences long term.

A total of 250 ecosystem credits, including 210 ecosystem credits for Cumberland Plain Woodland (HN528) and 477 ecosystem credits for Shale/Sandstone Transition Forest (HN556), have been purchased for the project. Additional BioBanking credits, as calculated in this current assessment will be purchased and retired as required to a maximum of 585 HN528 credits. The increased amount of offsetting proposed via purchase and retirement of BioBanking credits is due to the assumption that all Cumberland Plain Woodland in the north western area of the site will be cleared and that areas of Shale Sandstone Transition Forest outside the creek corridor will be effectively lost as habitat for flora and fauna as the development proceeds.

Offset Staging

The offset will be provided on a precinct by precinct basis. Precincts A, B, C, D, and H will be offset by replanting in open space corridors, Precincts I and G will be offset by Biobanking of E4 zoned land and retiring ecosystem credits for Cumberland Plan Woodland and/or Shale Sandstone Forest and Precincts E and F will be offset by a combination of the two conservation outcomes.

A breakdown of the credit requirement on a pro-rata basis per precinct of the development is shown in Table 4.1 while the breakdown of the planting requirements per precinct is shown in Table 4.2 below.

Summary

In light of the above it is considered reasonable to conclude the Masterplan DA has adequately addressed all relevant ecological matters for the site. Furthermore Cumberland Ecology have provided comprehensive assessments/surveys of all flora and fauna species required to be addressed and presented strategies and mitigation measures in relation to future works in accordance with the relevant legislation and Council's requests. As such the proposal is considered to have present adequate information on ecological ground for determination of the application.

Table 4.1 Credit Requirement per Precinct

Precinct	Area (ha)		Credits Required	
	CPW	SSTF	CPW (HN528)	SSTF (HN555)
A	0	0	0	0
B	0	0	0	0
C	0	0	0	0
D	0	0	0	0
E	0.11	1.31	5	53
F	0	0.00	0	3
G	0.0003	12.10	1	420
H	0	0	0	0
I	12.64	0.003	579	1
Total	12.75	13.47	585.00	477.00

Key: CPW = Cumberland Plain Woodland, SSTF = Shale/Sandstone Transition Forest

Table 4.2 Planting Requirement Per Precinct

Precinct	Approximate Replanting Area (ha)		Total
	CPW planting	Riparian Planting SSTF planting	
A	1.11	2.25	3.37
B	0.38	0.07	0.46
C	1.22	0.85	2.07
D	2.19	1.32	3.50
E	0.01	0.05	0.06
F		0.47	2.18
G		1.35	2.54
H	2.85	0.62	3.47
I	1.07		1.07
Total	8.84	6.69	20.57

A fuller explanation of the investigation into the individual elements of the Strategy referred to in this report;

Design Guidelines

The purpose of the proposed design guidelines is to provide current and potential land owners a more comprehensive guide into the desired built form of individual lots as well as an insight into the desired future outcomes of the development site as a whole.

These design guidelines are consistent with those implemented in the Development Control Plans (DCP) for surrounding suburbs such as Kellyville, Rouse Hill and Box Hill and therefore considered reasonable without impacting upon future dwelling densities and yields which are capped by The Hills Local Environmental Plan 2012 and the Box Hill North Voluntary Planning Agreement. The level of detail and extent of built form controls provided in these DCPs are absent in Box Hill North DCP. The developer therefore feels responsible for providing current and potential land owners the necessary guidance and assurance for dwelling construction and will do so through project design guidelines.

The intention of the design guidelines is not to create an additional layer of assessment for the development of individual lots throughout the site, but to be used as a guide for current and potential land owners who wish build their home.

In light of the above, the proposed design guidelines are considered to be a necessary component in determining the Masterplan DA to ensure direction and transparency for future development of the site.

Ecology

The investigations carried out and strategies implemented in relation to ecology have been addressed above.

Water Cycle Management and Flood Impact

Three water courses enter the site along the western boundary. Two of these water courses merge within the site with the third draining through the north-west corner of the site. The combined water course flows in a northerly direction and forms a tributary to Cataract Creek. Another water course enters the site at the eastern boundary, toward the northern extents of the precinct. This water course joins the main water course at the site's northern boundary. A small portion of the site drains to the eastern boundary and forms a tributary to Cattai Creek.

The site also includes a number of farm dams, associated diversion embankments and channels, both online and offline to the main water courses. Several of these online dams are significant in area (up to approximately 15 hectares), resulting in a significant change to the hydrology and flooding that would have occurred prior to any development of the catchment.

A Water Cycle and Flood Management Strategy dated July 2013 was prepared by J.Wyndham Prince to inform the Precinct planning process and support the rezoning of the site. The strategy has been prepared to conform to the statutory requirements and industry best practice for stormwater management in this catchment.

The objective of this investigation was to identify the stormwater and flood management issues to be considered in the future development of the Box Hill North Precinct and to identify flood impacts, an appropriate evacuation strategy, appropriate options and locations for the control of the quantity and quality of stormwater leaving the site and to identify the land areas required to implement the recommended management options.

The Water Cycle and Flood Management Strategy consists of a treatment train consisting of street level treatment and subdivision / development treatment measures. The structural elements proposed for the development consist of:

- Proprietary GPT units at each stormwater discharge point.
- Four (4) swales with a total length of approximately 925m.
- Twenty (20) proposed bio-retention systems and raingardens of total area 23,210m²
- Six (6) proposed detention basins (including two specifically configured to attenuate the 2 year ARI flow only) of approximate total volume 183,700 m³.

Provision of the proposed water quality treatment devices within the development will ensure that the post development stormwater discharges will meet the Office of Environment and Heritage's water quality objectives for the Box Hill North development.

The provision of WSUD elements within the Box Hill North development will assist in minimising the impact of urbanisation on the waterway stability of South Creek and comply with the Office of Environment and Heritage's Stream Erosion Index and water quality targets.

Existing and post development case hydrology models have been prepared for the Box Hill North development, which incorporate all upstream catchments draining to the site and also including catchments up to approximately 2km downstream. The hydrologic modelling indicates that inclusion of the proposed detention basins within the Precinct will attenuate peak post development flows to less than existing levels.

A comparison of flood model results for the catchment, with and without development has shown that urbanisation will result in only minor increases in flood levels outside the Precinct boundary of less than 50mm. The increases are within downstream riparian corridors and in areas where no development is located.

A number of significant farm dams are located within the release area and on line to the major water courses. The area of flood affectation is greatly exacerbated by these farm dams. All dams are to be removed and the water courses re-established in accordance with NSW Office of Water guidelines.

Since the planning proposal was lodged, an alternate hydrologic and flood modelling technique has been discussed and agreed to with The Hills Shire Council resulting in the preparation of an additional Flood Impact Assessment report dated April 2015.

The alternate modelling will provide a more detailed assessment of the impact of development on the existing flood regime, particularly with regards to the attenuation provided by the existing farm dams within the site and their ultimate removal as part of this development.

The objective of this investigation is to assess the impact of the proposed Box Hill North development on the existing flood regime and determine the infrastructure required to safely manage and attenuate stormwater flows for the ultimate development case to minimise the impacts external to the site to an acceptable level. The investigation included the following specific tasks:

- Liaise with The Hills Shire Council to determine their specific requirements and objectives for the assessment.
- Prepare rainfall hyetographs for the 50%, 20%, 10%, 5% and 1% AEP events.
- Prepare a digital terrain model representing the existing surface levels, including all existing farm dams.
- Prepare a two dimensional TUFLOW flood model for the Precinct and assess flood behaviour for the above AEP storm events for the existing conditions.
- Modify the existing case digital terrain model to represent the ultimate development scenario, including removal of the farm dams and reinstatement of the riparian corridor.
- Analyse the flood behaviour and impacts for the ultimate development case and determine the extent of infrastructure required to manage stormwater flows and impacts to an acceptable level.
- Prepare a Flood Impact Assessment Report detailing the investigations, results, flood mapping and the stormwater quantity management infrastructure required for the development.

The investigation demonstrates that impacts of Box Hill North development on the flooding regime can be managed to acceptable levels. The provision of detention basins within the development will offset the impacts of urbanisation and the removal of the existing farm dams.

Flood levels in the 1% AEP event are reduced at the downstream boundary of the site. There are minor increases in flood levels further downstream at the confluence of other tributaries, however this is due to timing of flows and are considered to be acceptable.

There are also some increases in the 1% AEP developed case flood levels at the upstream boundary of the site, caused by varying levels at the interface of different survey and design surfaces. The modelling will be refined at future stages to resolve these differences to an acceptable level.

Flood velocities generally do not increase by more than 0.5 m/s in the more frequent 50% and 20% AEP events in the area of existing creeks that won't be modified as part of the development. Where flood velocities increase, they are generally still less than 1.5 m/s. Where velocities exceed 1.5 m/s, erosion control measures will be incorporated to ensure there is no degradation to the creeks.

J Wyndham Prince updated the MUSIC model in September 2015 to account for minor changes to the Indicative Layout Plan and the redistribution of large lot residential zones. The updated model sizes water quality devices appropriately to achieve the prescribed pollutant reduction targets.

The proposed Water Cycle and Flood Management Strategy for the developed site provides a basis for the detailed design and development of the site to ensure that the environmental, urban amenity, engineering and economic objectives for stormwater management and site discharge are achieved.

The modelling has demonstrated an appropriate approach for flood mitigation and management in the precinct. The flood modelling will be an ongoing, iterative process as development of the Precinct proceeds. Future bulk earthworks applications and subdivisions will be required to demonstrate consistency with the adopted principles.

Contamination

A Detailed Site Investigation (DSI) of the site was undertaken by JBS&G Environmental Pty Ltd in August 2014 as part of the planning proposal. The DSI concluded that whilst the potential for widespread contamination across the site is low and the potential areas of 'environmental concern' as identified below would not prevent planning and development of the land for the proposed uses, a detailed site investigation was recommended. Subsequently, a sampling, analysis and quality plan (SAQP) was prepared and implemented, consistent with relevant NSW Environment Protection Authority (EPA) made and endorsed guidelines.

The conclusions of this detailed site investigation are as follows:

- Fill material was encountered from the ground surface at all sampling locations and generally comprised silty clay.
- Stockpiles were observed in 20 locations in 18 lots, generally comprising soil matrices with various proportions and types of anthropogenic material including ACM, metal, building materials;
- Concentrations of arsenic, chromium and/or lead were reported in some fill soil samples exceeding the adopted health criterion in five separate lots. These are potentially associated with machinery, sheds and drum storage on specific lots.
- Concentrations of heavy metals were reported exceeding the adopted health based criteria within one stockpile at the site and was likely associated with a machinery stockpile.
- Concentrations of heavy metals including zinc and lead were reported exceeding the adopted ecological criteria within six stockpiles across the site. These are potentially associated with machinery and other anthropogenic materials within these stockpiles.
- Concentrations of carcinogenic PAHs (including B(a)P) were reported to exceed the adopted health criterion in one soil sample collected from one stockpile of material.
- A total of eight soil samples exceeded the ecological criterion for TRH fractions, with these located in four lots and within the fill materials and likely associated with hydrocarbon storage at the site.
- A total of five soil samples exceeded the Management Limits for TRH fractions, with these located within two lots and within the fill materials and likely associated with hydrocarbon storage at the site.
- Non-friable ACM was observed at 11 locations within five lots, with 5 locations being within the surface fill materials (<0.1 m) and 6 locations within stockpiled material. The asbestos observed is likely associated with former building materials at the site. It should be noted that lots with heavy vegetation may obscure the occurrence of additional potential ACM fragment impacts. These pose a potential future risk to site users and if weathered could pose a potential migration risk from the site. Free asbestos (FA) fibres or asbestos fines (AF) were also reported in seven soil samples collected from four lots.
- Aesthetic impacts have been identified including ACM on ground surfaces and in surface soils (as noted above), friable asbestos in soil, as well as minor isolated surface staining and odorous soils. These areas will require management as part of future development works at the site.
- Groundwater monitoring wells were installed at five locations across the site, with three being sampled. Two of the groundwater monitoring wells were found to be dry.
- Concentrations of COPCs were either not detected or below adopted investigation levels within the groundwater samples collected, which indicates that identified soil impacts are not impacting groundwater.
- The ASTs currently present at the site require management to prevent further impacts to the site.

The DSI report did not identify any widespread or gross soil contamination, with potentially unacceptable risks from soil contamination typically localised, limited in extent, and able to be readily managed to enable all proposed land uses at the site. The DSI recommended that a management strategy including preparation of a Remedial Action Plan (RAP) be developed in accordance with the relevant regulatory requirements to address the identified contamination issues to render the site suitable for the proposed land uses.

A RAP was prepared by JBS&G in April 2015 by JBS&G which includes a strategy for delineating identified impacts within relevant lots, an appropriate material classification methodology for waste soils and stockpiles, safety and environmental protection controls, unexpected finds protocol and contingency measures to be implemented during remediation, and validation requirements.

JBS&G concluded in the RAP that *subject to the successful implementation of the measures detailed in this RAP and subject to the limitations in Section 15, it is considered that the identified impacted soils can be remediated and validated without the need for further management.*

Given the findings and recommendations of the DSI and RAP, the future earthworks within the site are considered acceptable subject to the application of the suggested remedial actions.

A site auditor has been appointed to oversee the RAP.

Aboriginal Heritage

A Cultural Heritage Assessment Report (CHAR) was prepared by Kelleher Nightingale Consulting Pty Ltd. The assessment included background research and an archaeological field survey conducted in accordance with the Office of Environment and Heritage (OEH) requirements including:

- Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales; and
- Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.

The CHAR has been prepared to assist in applying for a post-rezoning land-based Aboriginal Heritage Impact Permit (AHIP) for the Box Hill North lands and for Aboriginal objects that will be harmed by the proposed development.

Seven (7) Aboriginal archaeological sites were identified in the study area:

- Box Hill North 1 (BHN 1) – grinding groove site of 'high significance';
- Box Hill North 2 (BHN 2) – open artefact scatter of 'high significance';
- Box Hill North 3 (BHN 3) – open artefact scatter of 'moderate significance';
- Box Hill North 4 (BHN 4) – isolated find of 'low significance';
- Box Hill North 5 (BHN 5) – open artefact scatter of 'moderate significance';
- Box Hill North 6 (BHN 6) – open artefact scatter of 'moderate significance'; and
- Box Hill North 7 (BHN 7) – isolated find of 'low significance'

Six of the Aboriginal sites (BHN 2-7) within the study area will be impacted by construction activities.

A mitigation program comprising archaeological salvage, undertaken prior to construction, is to be carried out where portions of significant Aboriginal sites would be impacted by the proposal. Significant Aboriginal sites are identified as exhibiting at least moderate archaeological value. Four sites within the study area require salvage excavation: BHN 2, BHN 3, BHN 5 and BHN 6.

As part of the approvals process through OEH the applicant applied for an Aboriginal Heritage Impact Permit (AHIP). The AHIP for the development site was granted on 13 July 2015 (Permit No. C0001213). This AHIP relates to the entire development site. The AHIP enables the developer to appropriately salvage the site in accordance with OEH's and Kelleher Nightingale Consulting recommendations and strategy.

Given the findings and assessment carried out by Kelleher Nightingale Consulting, it is considered reasonable to conclude that by adopting the relevant salvage strategy specified by Kelleher Nightingale Consulting, the future development of the site will not result in significance harm to the overall archaeological significance of the Box Hill North Precinct.

Landscaping and Open Space

A Landscape Masterplan was prepared by Oculus and lodged with the development application which outlines the key principles for future landscaping throughout Box Hill North and details the landscape treatments that will be applied to the site.

The Landscape Masterplan draws together the information from the numerous studies that have been undertaken on the site including the Aboriginal Heritage Assessment, Bushfire Assessment, Environmental Assessments, Cultural Heritage Assessment, Ecological Assessment, Flora and Fauna Assessment and Social Infrastructure Assessment. The findings from these studies have assisted in generating a Landscape Masterplan for the site that is site specific and responds to the future needs of the Box Hill North residents and visitors.

The Landscape Masterplan considers the a number matters throughout the development site to which future landscaping development applications will be required to provide detailed assessment of, these include but are limited to:

- Riparian Open Space Corridor;
- Open Space;
- Town Centre;
- Lake;
- Major Vehicle Connections;
- Bioretention Zones;
- Cycleways; and
- Shared pathways;

It is noted that the above matters are commitments specified under the Box Hill North Voluntary Planning Agreement which all future development application for the site will need to consider. Furthermore, future development applications for open space areas will require agreement between the developer and Council's staff in relation to the long term maintenance of these areas.

The intention of the Landscape Masterplan was to provide an insight to the desired landscaping and open space outcomes across the development site. The ultimate design and landscaping treatment for each throughout each precinct and open space area is subject to separate development applications.

An explanation of the implications of approval of this application upon sites within the application area not owned by the applicant.

The approval of this application does not consent to physical works or development of the site without consideration of those sites not in ownership by the proponent. Consideration has already been given for the interface of these lots until such time as they are formally developed. The conceptual plans provided in **Appendix 1** demonstrate the temporary fencing and landscape boundary treatments along these properties as well as those on the outskirts of the precinct.

Given the uncertainty around the final lot and road layouts, final boundary/interface treatments will be subject to individual precinct subdivision development applications.

The Plan of Subdivision for Precinct H (Stage 1) (**Appendix 2**) illustrates the easements (turning heads) for public access to be incorporated into the development of each precinct along those sites not in ownership until such time as they are developed.

Further to the interface treatment of those lots not in ownership, each subdivision application will provide separate plans showing indicative road layouts throughout these properties which demonstrate future orderly development of these sites. This is shown in the Precinct H Dwelling Yield Plan (**Appendix 3**) which illustrates how the proposed internal road layout may continue through these adjoining lots in the future.

As demonstrated above and in the attached plans, every effort is to be made at time of the development of each precinct to ensure there are no detrimental impacts to the sites not in ownership by the proponent and orderly development of these sites can be achieved in the future.

Further to the above it must be noted that all neighbouring properties not owned by the developer have been consulted with during the early stages of the approval process to provide assurance that future development of the site will not adversely impact these properties during construction or hinder development potential of these properties in the future. To date all neighbouring properties (within and external to the development area) have supported the Masterplan DA proposal which is evident through no objections being received during two (2) public exhibition periods by Council. As such it is considered reasonable to conclude that the proposal has adequately demonstrated that future development of the site will have no adverse impact on the properties not owned by the developer.

In light of the above, this Masterplan DA will have no implication upon those sites which are not in ownership by the developer. Any potential implication resulting from physical works will be subject to, and addressed in, separate development applications.

Based on the information provided, we trust that the matters raised by the JRPP have been adequately addressed and the application can be supported in its current form.

Should you require further information, please contact the undersigned.

Yours Faithfully,

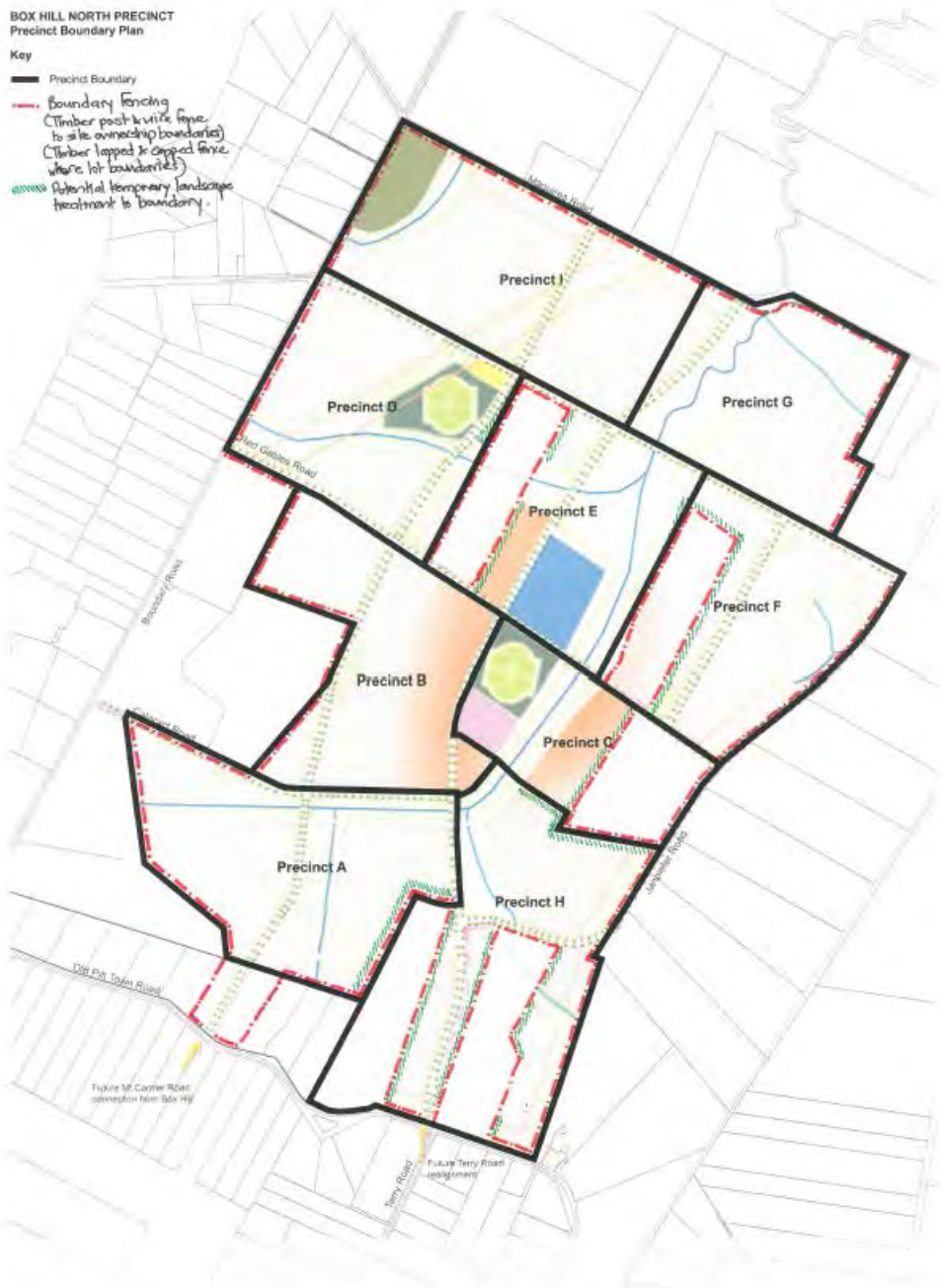


Thomas Cook
Senior Associate
Willowtree Planning Pty Ltd
ACN 146 035 707

BOX HILL NORTH PRECINCT
Precinct Boundary Plan

Key

- Precinct Boundary
- Boundary Fencing
(Timber post & wire fence to site ownership boundaries)
(Timber lapped & capped fence where lot boundaries)
- Potential temporary landscape treatment to boundary.



DATE: 10/10/10
NOTE: PLAN SUBJECT TO FURTHER REFINEMENT THROUGH
DESIGN DEVELOPMENT STAGE
SCALE: 1:1000

LEGEND

DA Boundary

Greenpace

Integrates Super-lots

LEP Min. Lot Size Boundary

Indicative Lot Boundary

PRECINCT H - PRELIMINARY YIELD SUMMARY

LOT TYPE	AREA	TOTAL LOTS
Traditional Lots	45,712	88,588
Traditional L&A	5,012	10,024
Large Lots	15,012	30,024
Small Lots	2,012	4,024
PRECINCT YIELD		133,660
RECOMMENDED MAXIMUM YIELD		133,660
TOTAL RECOMMENDED YIELD		133,660
LEP YIELD TARGET		133,660



Sydney
Town & Land 25, 26 & 27
201 Sydney NSW 2000
180 000 0000
www.townandland.com.au

The Gables - Precinct H

Preliminary Concept Plan

Scale: 1:500 @ A3



This plan is a preliminary concept plan and is not intended to be used for any other purpose. It is not a legal document and does not constitute an offer of any financial product. It is for information only and should not be relied upon for any other purpose. It is not a legal document and does not constitute an offer of any financial product. It is for information only and should not be relied upon for any other purpose.

PROJECT NO: 102140
DATE: 10/1/10
DRAWING NO: 102140
REV: 00

ATTACHMENT 3 –JRPP REPORT 16 DECEMBER 2015

JOINT REGIONAL PLANNING PANEL (Sydney West Region)

JRPP No	2015SYW092
DA Number	1397/2015/JP
Local Government Area	THE HILLS SHIRE COUNCIL
Proposed Development	MASTERPLAN - BOX HILL NORTH.
Street Address	33 PROPERTIES GENERALLY BOUND BY CATARACT ROAD, OLD PITT TOWN ROAD, RED GABLES ROAD, JANPIETER ROAD, MAGUIRES ROAD & TERRY ROAD, BOX HILL – LOT 1 DP 11126, LOT 1 DP 207750, LOT 1 329953, LOT 1 DP 564211, LOT 1 DP 567785, LOTS 9 & 10 DP 593517, LOTS 15-18, 21, 22, 23, 25, 26, 27, 29, 30, 31, 40, 41, 43, 44, 45, 46, 47 DP 255616, LOTS 2 & 3 DP 11126, LOTS 2 & 4 DP 253552, LOT 4 DP 135301, LOT 5 DP 658286
Applicant	CELLESTINO (FORMERLY EJC PTY LTD)
Number of Submissions	NIL
Regional Development Criteria (Schedule 4A of the Act)	GENERAL DEVELOPMENT WITH A CIV OF OVER \$20 MILLION
List of All Relevant s79C(1)(a) Matters	List all of the relevant environmental planning instruments: s79C(1)(a)(i) • State Environmental Planning Policy (State and Regional Development) 2011 • State Environmental Planning Policy Infrastructure 2008 • State Environmental Planning Policy No 19 — Bushland in urban areas • State Environmental Planning Policy No 55 — Remediation of Land • State Environmental Planning Growth Centres 2006 • The Hills Local Environmental Plan 2012 List any proposed instrument that is or has been the subject of public consultation under the Act and that has been notified to the consent authority: s79C(1)(a)(ii) • Nil List any relevant development control plan: s79C(1)(a)(iii) • The Hills Development Control Plan 2012 List any relevant planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F: s79C(1)(a)(iv) • Nil List any coastal zone management plan: s79C(1)(a)(v) • Nil

	List any relevant regulations: s79C(1)(a)(iv) eg. Regs 92, 93, 94, 94A, 288 Environmental Planning and Assessment Regulation 2000
List all documents submitted with this report for the panel's consideration	Nil
Recommendation	Status Report - Deferral
Report by	Development Assessment Co-ordinator Robert Buckham

EXECUTIVE SUMMARY

The land subject to this application includes 33 sites generally bound by Boundary Road, Cataract Road, Old Pitt Town Road, Red Gables Road, Janpieter Road, Maguires Road and Terry Road, Box Hill.

On 8 October 2015 the land within the precinct was rezoned from RU2 to R1, R2, R3, R4, B2, E4 and RE1. A precinct specific Development Control Plan came into force at the same time. This application is required by a provision of the Voluntary Planning Agreement applying to the majority of the site. The masterplan is intended to guide future subdivisions and built form development applications.

The application seeks approval for specific strategies for the precinct including Flooding, Ecology, Contamination, Aboriginal Heritage, Landscaping and Open Space. The application also seeks approval for some built form controls not specifically provided within the precinct Development Control Plan.

The Masterplan seeks approval for the removal of approximately 9.8 ha of Cumberland Plain Woodland and 6.2 ha of Shale Sandstone Transition Forest. Without amelioration, this vegetation clearance would have a significant impact. However, when weighed against the conservation benefits that will be derived from on-site retention, on-site replanting and off site retiring of BioBanking credits and preserving a larger contiguous stand of CPW and SSTF in perpetuity, the long term impacts are sustainable.

Given the impacts of the development of the precinct, the application was considered to be "Threatened Species Development" under Section 79B of the Environmental Planning and Assessment Act 1979. Accordingly, concurrence from the Office of Environment and Heritage is required under the Threatened Species Conservation Act 1995.

Concurrence has not been provided to date from the Office of Environment and Heritage. It is recommended that determination of the application be deferred until concurrence is provided by the Office of Environment and Heritage. With the exception of any requirements of the OEH, conditions have been recommended in this report to enable the JRPP to determine the matter if concurrence is obtained from the OEH prior to the JRPP panel meeting.

The application was notified and advertised to adjoining property owners and no submissions were received.

In absence of the JRPP process, this matter would be determined under Delegated Authority.

BACKGROUND**MANDATORY REQUIREMENTS**

Owner:	Numerous	1.	<u>Section 79C (EP&A Act) - Satisfactory</u>
Zoning:	RU6 Transition, R1 General Residential, R2 Low Density Residential, R3 Medium Density Residential, R4 High Density Residential, B2 Local Centre, E4 Environmental Living, RE1 Public Recreation	2.	<u>The Hills LEP 2012 - Satisfactory</u>
Area:	335 Hectares	3.	<u>SEPP Growth Centres 2006 - Satisfactory</u>
Existing Development:	Agricultural uses and Rural Residential development.	4.	<u>State Environmental Planning Policy No 19 — Bushland in urban areas - Satisfactory</u>
		5.	<u>State Environmental Planning Policy No 55 — Remediation of Land - Satisfactory</u>
		6.	<u>State Environmental Planning Policy Infrastructure 2008 - Satisfactory</u>
		7.	<u>SREP No. 20 - Hawkesbury Nepean River - Satisfactory</u>
		8.	<u>The Hills DCP 2012 - Complies</u>
		9.	<u>Capital Investment Value: \$350,000,000</u>

SUBMISSIONS**REASONS FOR REFERRAL TO JRPP**

1. Exhibition:	Yes, 31 days	1.	Capital Investment Value (CIV) exceeds \$20 million.
2. Notice Adj Owners:	Yes, 31 days		
3. Number Advised:	120		
4. Submissions Received:	Nil		

HISTORY

12/05/2015	Subject Development Application lodged.
02/06/2015	Amended Masterplan and Boundary Treatment Plan submitted.
25/06/2015	Briefing of Joint Regional Planning Panel.
07/08/2015	Correspondence sent to applicant in relation to ecological matters.
18/08/2015	Correspondence sent to applicant in relation to plan anomalies and road layouts.
21/08/2015	Correspondence sent to applicant in relation to flood report and water management.

24/08/2015	Meeting with applicant to discuss ecological matters.
07/09/2015	Preliminary response provided by applicant in response to ecological matters raised with the applicant.
09/09/2015	Response provided to requested flood and water management information request.
10/09/2015	Further meeting with applicant in relation to ecological matters.
21/10/2015	Response provided to Council's letter dated 18 August 2015.
29/10/2015	Further meeting with applicant in relation to ecological matters.
18/11/2015	Amended Species Impact Statement lodged. The application was formally referred to the Office of Environment and Heritage for concurrence.

PROPOSAL

The land subject to this application includes 33 sites generally bound by Boundary Road, Cataract Road, Old Pitt Town Road, Red Gables Road, Janpieter Road, Maguires Road and Terry Road, Box Hill (See Attachment No. 7 - Ownership Plan). The land included in this masterplan includes the land rezoned with the exception of seven sites not in the control of the applicant and also includes two sites outside the precinct that are associated with the main road concepts into the precinct.

The application is required by a provision of the Voluntary Planning Agreement applying to the majority of the site. The masterplan is intended to guide future subdivisions and built form development applications.

The application seeks approval for specific strategies for the precinct including Flooding, Ecology, Contamination, Aboriginal Heritage, Landscaping and Open Space. The application also seeks approval for some built form controls not addressed within the precinct Development Control Plan. No construction works are proposed as part of this Development Application. All future buildings and roadworks will be subject to a further Development Applications.

ISSUES FOR CONSIDERATION

1. Zoning, Development Control Plan and Voluntary Planning Agreement

On 13 May 2014, Council considered a report on the public exhibition of the planning proposal and resolved in part that the planning proposal to facilitate the development of Box Hill North precinct for urban purposes.

On the 8 October 2014, the draft LEP amendment for Box Hill North was gazetted and the DCP Part D Section 17 Box Hill North came into force.

On 29 April 2015, Council and the applicant entered into a Voluntary Planning Agreement for the delivery of infrastructure, services and utilities that are required to meet the future demands of Box Hill North.

Voluntary Planning Agreement

The Masterplan application has primarily been lodged to meet the requirements of the Voluntary Planning Agreement. The relevant clause reads:

5. Operation of this Agreement

5.1 This agreement operates when:

- a) the Land is rezoned in order to allow for the Proposed Development to be carried out and the amending Local Environmental Plan is published on the NSW Legislation website; and*
- b) the Concept Development Consent is granted and implemented by way of and Detailed Development Consent and a Notice of Commencement pursuant to section 81A of the Act for that Detailed Development Consent has been submitted to Council notifying that a Principal Certifying Authority has been appointed and the work is to commence.*

The draft Voluntary Planning Agreement provides for the delivery of the local infrastructure (and dedication of associated land) needed to facilitate the release of the Box Hill North Precinct for urban development. It will deliver the following infrastructure and facilities to meet the needs of an expected 13,500 persons to Council's standard's and but at no cost to Council:

- Open space facilities including local active and passive open space (playing fields, playgrounds and pedestrian and cycle paths);
- Community facilities (a multi-purpose community facility);
- Transport and traffic facilities (new roads, intersection upgrades and public transport facilities); and
- Water cycle management facilities as a result of the extra stormwater runoff generated by impervious surfaces associated with urban development.

As addressed in this report, the applicant has also sought to address precinct-wide issues primarily related to flood management and flora and fauna impacts.

2. Design Guidelines

The purpose of the development controls set out in Attachment 12 are to establish further guidelines to achieve the desired future character, built form and streetscape character of Box Hill North and to provide built form controls for development not addressed within the precinct Development Control Plan Part D Section 17 Box Hill North. The proposed controls are not dissimilar to the controls found within Council's development control plans for Kellyville or Rouse Hill. Those areas have similar zoning and lot size requirements. The new controls do not provide opportunities for further densities, as these are capped via dwelling numbers in the voluntary planning agreement.

The controls specifically relate to small lot or integrated housing developments, 450m² lots and provide further clarification of controls relating to large lots (2,000m²) and secondary dwelling controls.

The controls have been reviewed and are considered to be reasonable and generally consistent with Council's adopted planning controls for other similar localities within the Shire. This application provides for the formal endorsement of those controls.

3. Ecology

The proposed development of Box Hill North will remove approximately 9.8 ha of Cumberland Plain Woodland and 6.2 ha of Shale Sandstone Transition Forest. Without amelioration, this vegetation clearance would have a significant impact. However, when weighed against the conservation benefits that will be derived from onsite retention, on site replanting and off site retiring of BioBanking credits and preserving a larger contiguous stand of CPW and SSTF in perpetuity, the long term impacts are sustainable.

Given the impacts of the development of the precinct, the application was considered to be "Threatened Species Development" under Section 79B of the Environmental Planning and Assessment Act 1979. Accordingly, concurrence from the Office of Environment and Heritage is required under the Threatened Species Conservation Act 1995.

The application is currently awaiting concurrence.

Council's Ecology Assessment

Council staff reviewed the originally lodged Species Impact Statement and the Vegetation Management Plan by Cumberland Ecology both dated May 2015. Council staff raised a number of issues with the application. These are summarised below.

- Updated Green and Golden Bell Frog surveys and further information on survey conditions.
- Updated Microchiropteran Bat surveys required.
- Small stands of vegetation still likely to be considered CPW by Council officers and must be included in the BioBanking credit calculations (paragraph 4 of the final determination).
- All E4 and RE1 zones where vegetation is present are required to be offset. Alternatively, rezoning and provision of secured funding in perpetuity can be provided for these areas (such as via BioBanking).
- Updated Assessments of Significance for Threatened Ecological Communities given they currently rely on the retention of vegetation that has not been secured for conservation purposes in perpetuity.
- Additional documentation is required as suggested within the SIS.
- Land along Maguires Road adjacent to the *Dillwynia tenuifolia* patch is to be dedicated to a road realignment.
- White-bellied Sea Eagle buffer required.
- An assessment of fire management requirements to be provided in the SIS.

The applicant has subsequently amended the Species Impact Statement and Council staff are generally satisfied with the outcomes, specifically the offsets provided. Conditions of consent have been formulated to provide for the staged retirement of credits as development occurs.

4. Flooding

Three water courses enter the site along the western boundary. Two of these water courses merge within the site with the third draining through the north-west corner of the site. The combined water course flows in a northerly direction and forms a tributary to Cataract Creek. Another water course enters the site at the eastern boundary, toward the northern extents of the precinct. This water course joins the main water course at the site's northern boundary. A small portion of the site drains to the eastern boundary and forms a tributary to Cattai Creek.

The site also includes a number of farm dams, associated diversion embankments and channels, both online and offline to the main water courses. Several of these online dams are significant in area (up to approximately 15 hectares), resulting in a significant change to the hydrology and flooding that would have occurred prior to any development of the catchment.

A Water Cycle and Flood Management Strategy dated July 2013 was prepared by J. Wyndham Prince. An additional Flood Impact Assessment report dated April 2015 was prepared using an alternative hydrologic and flood modelling technique as agreed to with Council staff.

The modelling has demonstrated an appropriate approach for flood mitigation and management in the precinct. Future bulk earthworks applications and subdivisions will be required to demonstrate consistency with the adopted principles.

5. Contamination

A Detailed Site Investigation has been prepared by JBS Environmental. The report identified heavy metal, hydrocarbon and asbestos impacts to the soils at the site. Additionally, aesthetic impacts associated with asbestos and building rubble were identified at the site. Concentrations of contaminants of potential concern (COPCs) were not reported within the groundwater samples collected and analysed at the site. A Remediation Action Plan (RAP) has been developed to address the identified impacts at the site to render the site suitable for the proposed land uses.

Council's Environmental Health Section have reviewed the submitted documentation and have recommended a condition to guide future developments.

6. Aboriginal Heritage

The subject application identified a number of Aboriginal sites within the precinct and identified a general program of mitigation of impacts through salvage where the site were identified to be of moderate value. There are seven known sites within the precinct. All but one of the sites will be impacted during development. Four of the sites are of moderate value and will be salvaged. The remaining two are considered to be of low significance and will be destroyed.

The applicant applied for a Aboriginal Heritage Impact Permit separate to this Development Application which has been granted on 13 July 2015 (Permit No. C0001213). The permit relates to the entire precinct, and as such this issue has been resolved.

7. Landscaping and Open Space

The masterplan identifies key principles relating to open space and public domain functions, materials selections and planting schedules.

The principles identified within the masterplan are generally supported however will need to be embellished to a standard that will provide suitable recreation activities consistent with Council's general public domain embellishment standards across the Shire. Concern is raised with the potential long term maintenance burden of some of the proposed embellishment works. This has been conveyed to the applicant. Council's Infrastructure staff will be provided an opportunity to comment on final designs to ensure that Council will have the resources to maintain the landscape.

8. Government Authority Comments

The proposal was referred to the following Government Authorities for review: Office of Environment and Heritage, Office of Water, Sydney Water, Castle Hill Police, Transgrid, Transport NSW, Office of Water, Department of Primary Industries (Fisheries), Transport for NSW, Roads and Maritime Services, and Rural Fire Service.

The following comments were received. The Office of Environment and Heritage is yet to provide concurrence to the application.

a. Office of Water Comments

The Office of Water has previously recommended as part of comments to the planning proposal that the riparian corridors at the site are zoned E2 instead of RE1. The Office of Water repeats that its preference is for riparian corridors to be zoned E2 and recommends:

- the open space areas surrounding the riparian corridors are zoned RE1.
- encroachments into the riparian corridors are zoned RE1 to distinguish between the riparian areas that are to be protected and those areas that are to be used for a recreational facility
- any riparian offset areas are zoned E2.

Zoning of Areas adjacent to Riparian Corridors

There are various figures within the document where there is a lack of consistency in treatment of a parcel of land in the north-western corner of the site. Figure 17 (pg. 44) Proposed Concept Plan, shows this area as Environmental Conservation and it abuts a riparian corridor. Figure 18 (pg. 46) Location of Open Space, describes it as Bushland, while Figure 19 (pg. 47) Master Plan Concept has it marked as CPW Conservation Area and Environmental Living. Figure 32 (pg. 70) Proposed Management Zones, has this area marked as Vegetation management zones 1 & 2 which are to be restored or revegetated. This area in Figure 33 (pg. 75) Extract of Zoning Map distinctly shows it as E4 – Environmental Living. This seems to be at odds with previous information within the document. The proponent needs to demonstrate that the operation of the 10/50 Clearing Code of Practice will not affect the establishment and long term protection of fully vegetated riparian corridors along the creek in the north-west portion of the precinct, or the tributary of Cataract Creek in the north east portion of the site, in accordance with the Office of Water Guidelines for Controlled Activities on Waterfront Land (2012). The proponent must show that asset protection zones and building setbacks are not maintained on the adjoining private properties to ensure that there will be no impacts to the vegetated riparian corridors.

Online basins

The SEE indicates six online basins are proposed (pg. 63). It is the Office of Water's understanding and this was noted in responses back to EJC following a meeting with EJC that detention basin 1 was to be the only on line wet basin, with appropriate work approvals and access licences to account for the volume of water held.

The Office of Water encourages that all other basins are built as per the Office of Water's Controlled Activity Guidelines (2012) for Riparian Corridors on Waterfront land. These guidelines permit detention basins on 1st and 2nd order creeks but the guidelines outline that the online basins must:

"be dry and vegetated, be for temporary flood detention only with no permanent water holding, have an equivalent VRZ for the corresponding watercourse order, not be used for water quality treatment purposes"

However if the basins are to be maintained as wet basins, EJC will be required to apply for the appropriate approvals and hold sufficient entitlement in Water Access Licences to account for the volume of water held in these basins.

Comment: The Office of Water's comments in relation to zoning have been addressed as part of the rezoning. All future applications required to be referred to The Office of Water in accordance with legislative requirements.

b. Rural Fire Service Comments

The Rural Fire Service advised as follows:

The service is not in a position to properly assess the application. A revised bush fire assessment report with consideration to the potential bush fire threat of riparian corridor(s) is to be submitted. The report is to then clearly demonstrate compliance with the minimum requirements of 'Planning for Bush Fire Protection 2006' accordingly.

Comment: The application is not a Special Fire Protection Purpose and therefore does not require concurrence from the RFS. All future applications required to be referred to The Rural Fire Service will be referred in accordance with legislative requirements.

c. Roads and Maritime Services Comments

Roads and Maritime Services (RMS) advised as follows:

Traffic Impacts and Proposed Mitigation Measures:

Roads and Maritime has reviewed the traffic study submitted in support of the Masterplan DA. And provides the following comments:

1. The Traffic Study for the Masterplan DA suggests that the RMS Guide to Traffic Generating Development Updated Traffic Surveys (TOT2013104a) has been used to estimate residential traffic generation for the development. Trip containment and mode shift have already been accounted for in Roads and Maritime's traffic generation rates. These rates were derived from external boundary surveys (only external trips undertaken by private motor vehicles). Applying 20% trip containment is likely to underestimate traffic generation of the future development.

Applicant's Response:

The traffic generation rates used in the Master Plan DA traffic assessment were based on the traffic generation rates used in the Planning Proposal (rezoning) Transport Assessment. The traffic generation rates used in the Planning Proposal assessment were developed in consultation with and approved by Transport NSW and RMS. This included the allowance for trip containment but no allow for a mode shift which will occur. The rates were updated from the assessments used for Box Hill and Box Hill Industrial Precincts to accommodate updated survey data in TDT2013/04a. In summary the traffic generation used in the DA Master Plan assessment are consistent with the agreed rates used for the approved Planning Proposal.

2. Council is advised that Roads and Maritime recently provided comment on the proposed traffic signals at the intersection of Terry Road and Old Pitt Town Road under separate correspondence in relation to a separate DA (Council Ref 1147/2015/ZA). A copy of the latest Roads and Maritime correspondence on this matter is attached.

Applicant's Response:

It is noted that the RMS has provided Council with comments on the separate development application for the proposed signalisation of the Old Pitt Town Road / Terry Road intersection.

As requested by RMS, GTA prepared an assessment of the warrants for the future signalisation of the Old Pitt Town Road / Terry Road intersection. The assessment determined that in the ultimate development scenario signalisation was warranted, however, the timing of signalisation would be dependent on traffic generation associated with a number of non Box Hill North developments. As such the timing of the warrants being met is currently uncertain.

Notwithstanding the above, it was proposed (and agreed to) that the Old Pitt Town Road / Terry Road intersection would be constructed with an appropriate geometric layout such that signalisation could be easily implemented in the future when warrants would be met. This approach to assessing the future warrants and signal implementation would be implemented for other intersections identified in the Master Plan DA as ultimately requiring signalisation.

3. Roads and Maritime notes that a number of alternate ultimate intersection layouts on the local road network have been identified in the Masterplan Traffic Study. A number of these intersection treatments propose signalisation (ie Boundary Road/Old Pitt Town Road). As Council would be aware, traffic control signals on any road requires the consent

of Roads and Maritime in accordance with Section 87 of the Roads Act, 1993. The approval and installation of traffic signals is largely dependent on general warrants in accordance with Roads and Maritime requirements for Traffic Signal Design - Section 2 Warrants.

It must be emphasised that the warrants in the abovementioned publication are a guide only. If the site satisfies the warrants, it does not necessarily mean that traffic signals are the best solution. All traffic data should be analysed and alternative treatments considered to determine the optimum solution.

4. To assist Roads and Maritime in providing an informed comment on the suitability of the proposed traffic signals, it is recommended that the warrant assessment identifies the development threshold/future year at which the warrant criteria will be met (with consideration to the development uptake of adjoining precincts), based on the four one hour periods of an average day. Following this, Roads and Maritime would also require electronic copies of the detailed intersection analysis to demonstrate how the signals would operate (geometric layout and phasing), and modelling of any alternative treatments considered for comparison. (Note: page 10 of the traffic study suggests an operational assessment of the intersection layout is provided in Section 3. It does not appear that any modelling has been provided in Section 3).

5. Although signals may not be installed until such time that the warrants are met, consideration should be given to ensure that the geometry of any concept layout of interim intersection treatments is in accordance with the relevant design guidelines to facilitate potential future upgrade to traffic signals. In this regard, Roads and Maritime is willing to assist the developer in ensuring that the geometric layout of the intersection/s is designed and constructed to accommodate traffic signals in the future. The developer is to submit civil and signal design plans of the proposed intersection works to Roads and Maritime for review and approval, prior to approval from the road authority and the commencement of the road works.

Applicant's Response:

The Master Plan DA traffic assessment has considered the road network and intersection upgrades required to accommodate the ultimate develop scenario not only of Box Hill North but also Box Hill and Box Hill Industrial precinct and other developments in the locality.

The Master Plan DA which utilised the extensive traffic analysis presented in the rezoning traffic assessment¹ and supplemented with specific Master Plan DA arrangements. The Master Plan identified the need for significant intersection capacity improvements at the following intersections:

- Boundary Road / Old Pitt town Road
- Old Pitt Town Road / Mt Carmel Road
- Old Pitt Town road / Terry Road

For each intersection, consideration was given to improving capacity with a roundabout or a traffic signal treatment. Separate signal warrant assessments have been prepared for the Old Pitt Town Road / Terry Road and Old Pitt town Road / Mt Carmel Road intersections. These demonstrated that the warrants for signalisation would be met on the basis of "traffic demand". The "traffic demand" warrants would also be met for the Boundary Road / Old Pitt Town Road intersection which will carry higher traffic flows than the other Old Pitt Town Road intersections.

The Master Plan DA has recommended that traffic signals be implemented at each of three intersections to address the traffic demands of the ultimate development scenario. The implementation of traffic signals provides significant improvements over roundabout treatments, namely:

- Superior intersection performance and greater intersection capacity;
- Preferred treatment to facilitate bus movements;
- Superior pedestrian and cyclist movement and safety; and

- Ability to be accommodated within existing road reserves or within properties under the control of Box Hill North.

Importantly traffic signals were considered to be a preferred treatment due to the potential for unbalanced traffic flows which would not be able to be controlled with a roundabout treatment. It is noted however that the warrants for intersection signalisation will need to be met prior to the installation of traffic lights. Thus the timing of signalisation will be dependent on the traffic and pedestrians flows generated by Box Hill North, Box Hill and other developments in the locality. It is unknown as to the timing of the cumulative traffic for all of these developments. Hence the allocation of Box Hill North lot threshold triggers for signalisation is not particularly correlated to the warrants being met. To address the above, it is recommended that the warrants for signalisation be reviewed every 5 years to determine if signalisation is warranted. The review would include surveys of traffic and pedestrian flows at each of the intersections under consideration. The funding arrangements relative to timing of signalisation are discussed below.

As per the recent correspondence referred to by RMS for the signalisation of the Old Pitt Town Road and Terry Road Intersection, it is proposed that intersections identified for signalisation will be initially constructed with a design compatible with signalisation. However signals would not be installed until the warrants are met.

6. Roads and Maritime understands that the proposed signalised intersections were not accounted for in the Contributions Plan (5.94) or Planning Agreement for Box Hill North at the rezoning stage. In the absence of this, however, agreement with the proponent that a lot threshold/trigger point for the upgrade/s could be identified so that an appropriate condition for the provision of signals it/when the warrants are met can be placed on the Masterplan DA.

Applicant's Response:

The applicant and Council have entered into a Voluntary Planning Agreement (VPA) within which developer contributions have been included for intersection improvements along Council roads, namely for intersections along Boundary Road and Old Pitt Town Road. Thus arrangements are in place to fund intersection improvements. To provide RMS certainty regarding funding of intersection treatments, the applicant (Celestino) is seeking to lodge bank guarantees (one per intersection) as security. These guarantees would cover the total costs of signalisation less any works in kind undertaken in interim intersection works that were consistent with the ultimate intersection layout designs. Celestino is prepared to activate these guarantees immediately with subsequent release being subject to the warrants being met and ultimate intersection works being completed.

In the unlikely event that the last residential lot within Box Hill North is developed prior to warrants being met, the bank guarantees would be replaced with a cash contribution to RMS to complete the ultimate intersection works at a later date.

7. Council is advised that the future functional hierarchy of roads in the North West Growth Centre is currently under review by Transport for NSW and DP&E, which includes consideration to the future function of Boundary Road at the NW site frontage and in particular the intersection at Windsor Road.

8. Roads and Maritime's current access management practice is that direct access points to classified roads (or proposed/future higher order roads) are to be avoided wherever possible, and no new access points are to be permitted to any classified road/higher order road for individual developments where an alternative access is available via a local road. In this regard, given the current uncertainty of the future function of Boundary Road at the Precinct boundary, the subdivision design should ensure that access points for individual developments are provided via local streets (Le. lots should be oriented towards local streets).

9. Any proposed non-frangible landscaping along the Boundary Road site boundary should be located outside of the clear zone in accordance with Ausroads Guide to Road Design Part 6 and 6B requirements, and Roads and Maritime's supplements to the Guide.

10. Proposed streetscaping/landscaping and furnishings should not obstruct driver sightlines to other road users, regulatory signposting, traffic signals etc. Particular care should be taken to ensure appropriate selection and placement of landscaping/furnishings adjacent to intersections, driveways and pedestrian crossing facilities.

Applicant's Response:

It is acknowledged that RMS's current access management practice is that direct access points to classified roads (ie. private property driveways) are to be avoided. In this regard and with consideration of the future function of Boundary Road, direct property access for Box Hill North lots shall be via local roads. The Master Plan DA includes internal local roads to facilitate access from non-classified roads. This will be detailed in the separate Precinct DA's to be lodged with Council. Furthermore, landscaping and street scaping shall be designed so as not to obstruct driver sightlines.

11. It is advisable to refer the Masterplan DA to Transport for NSW (TfNSW) for consideration and comment on the potential impacts of the proposal on pedestrians, cyclists and public transport infrastructure and services.

Applicant's Response:

Considerable consultation with TfNSW has been undertaken through the rezoning process for Box Hill North. This consultation has guided the development of the internal road network layout and its access to the external road network in a manner which facilitates and benefits public transport access (bus routes) and pedestrian and cyclist linkages to, from and through the Box Hill North development area.

Comment: The applicant's response to the matters raised by Roads and Maritime Services is noted. Separate applications will be received for road works and where required will be referred to the RMS for comment. Council's Traffic Section have reviewed the subject application and raise no objection.

d. NSW Fisheries Comments

NSW Fisheries reviewed the proposal and identified that:

No key fish habitat is situated within this development site. That said, the Department is supportive of the proposed riparian buffer zones and Water Sensitive Urban Design treatment train for stormwater. These measures will alleviate flow on impacts to downstream key fish habitat. It is important that water sensitive urban design measures are maintained over time.

Comment: There are no further requirements to be imposed.

e. Sydney Water Comments

Sydney Water advised that:

Drinking water will be supplied to the precinct from the Parklea water supply system via a water pumping station, pressure main and associated lead-in mains.

Wastewater will be transferred from the precinct to the Riverstone system via a trunk carrier, wastewater pumping station, rising main, and associated lead-in mains. Sydney Water's preferred strategy does not include recycled water to this precinct and assumes BASIX requirements will be met by other options.

Sydney Water is working with the developer on detailed planning and they will be responsible for delivering the infrastructure required to service the site. There are no conditions to be imposed.

Comment: It should be noted that the applicant is undertaking investigations into a private waste water and water recycling plant that is currently before Council as part of a current planning proposal application. This plant is proposed to replace Sydney Waters waste water service.

f. NSW Police Service Comments

Castle Hill Police advised that they had no concerns with the proposal and indicated that future applications will be required to comply with the provisions of Safer by Design. There are no conditions to be imposed. It may be noted that future applications will be referred to NSW Police, where applicable, under the memorandum of understanding (MOU) between Police and Council.

g. Transgrid

Transgrid reviewed the subject application and advised:

TransGrid owns and operates the high voltage transmission line network in NSW, being State significant infrastructure. TransGrid's Vales Point - Sydney West 330kV Transmission Line (Feeder 25 & 26, Structures 238 - 245) traverses the subject land within an 85.35 metre wide easement. Attached is a TransGrid plan identifying our easement on the land.

Referring to the Box Hill North Precinct Boundary Plan, TransGrid advises that our transmission line easement only impacts Precinct 0 and Precinct I. It is recommended the developer consult with TransGrid as early in the design process as possible so that any prohibitive design or easement encroachment issues may be raised and resolved, therefore preventing the need for a redesign at a later stage, causing corresponding delays.

Comment: All future applications within the vicinity of Transgrid infrastructure will be referred for comments under the provisions of SEPP Infrastructure 2008.

IMPACTS

Financial

This matter has no direct financial impact upon Council's adopted budget or forward estimates.

The Hills Future Community Strategic Plan

The proposed development is consistent with the planning principles, vision and objectives outlined within the Hills 2026 – "Looking Towards the Future" as the social and environmental impacts have been considered satisfactory as detailed within the body of this report. The proposal is not considered to detrimentally impact upon the character of the locality or the shire as a whole.

CONCLUSION

Given the Office of Environment and Heritage are yet to grant concurrence, the application is recommended for deferral but is otherwise satisfactory.

With the exception of the Office of Environment and Heritage requirements, the following conditions would be recommended once concurrence is granted.

GENERAL MATTERS

1. Development in Accordance with Submitted Plans

The development being carried out in accordance with the following approved plans and details, stamped and returned with this consent except where amended by other conditions of consent.

REFERENCED PLANS AND DOCUMENTS

DESCRIPTION	Dated
Box Hill Master Plan (9 Pages)	23 September 2015
Box Hill North Design Guidelines (7 pages)	Submitted 4 November 2015

No work (including excavation, land fill or earth reshaping) shall be undertaken prior to the issue of the Construction Certificate, where a Construction Certificate is required.

2. Compliance with Masterplan

Approval is granted for the proposed Masterplan in accordance with the plans and details provided with the application to provide guidance for future development of the site. All Stages of works the subject of the Masterplan will require the submission and approval by the relevant authority of an application as required by the relevant legislation including all external authorities with the exception of the Office of Environment and Heritage in relation to flora and fauna impacts which have been assessed as part of this application.

3. Planning Agreement

Payment of any Monetary Contributions shall be payable in accordance with the Box Hill North Planning Agreement dated January 2015.

4. Design Guidelines

The Design Guidelines attached to the consent marked as Appendix A are endorsed.

5. Office of Environment and Heritage Requirements

Compliance with the requirements of the NSW Office of Environment and Heritage attached as Appendix B to this consent and dated X

6. Ecology Requirements

i. Biodiversity Offsetting Requirements

To offset the loss of biodiversity from the site, including the removal of Cumberland Plain Woodland (CPW) and Shale Sandstone Transition Forest (SSTF), the development must purchase and retire the appropriate number of credits for each precinct as set out in the table below.

Prior to issue of a Construction Certificate for each precinct a retirement certificate from the NSW BioBanking Office to demonstrate compliance with this condition is to be provided to The Hills Shire Council's Manager – Environment and Health.

Precinct	Credits Required	
	CPW (HN528)	SSTF (HN556)
A	0	0
B	0	0
C	0	0
D	0	0
E	5	53
F	0	3
G	1	420
H	0	0
I	579	1
Total	585	477

Note: Changes to development proposal may have additional offsetting requirements.

ii. Vegetation Management Plan

Prior to issue of a Construction Certificate for each precinct a Vegetation Management Plan is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment and Health.

The Vegetation Management Plan must contain details for vegetation rehabilitation and management relevant to each precinct. The plan must be prepared strictly in accordance with Council's *Vegetation Management Plan Guideline* (available on Council's website www.thehills.nsw.gov.au). The Plan must be prepared by a suitably qualified bush regenerator or restoration ecologist with a minimum Certificate IV in Conservation Land Management.

The Vegetation Management Plan is to include restoration planting as outlined in table 4.2 of the Species Impact Statement – Response to Hills Shire Council prepared by Cumberland Ecology dated November 2015.

iii. Dam Decommissioning Plan (ecological requirements)

Prior to issue of a Construction Certificate for each precinct a Dam Dewatering Report is to be submitted to the satisfaction of The Hills Shire Council's Manager – Environment and Health.

The Dam Dewatering Report must provide details required for the rescue and relocation of native fauna and the destruction of exotic pest species residing within farm dams. The plan must be prepared strictly in accordance with Council's *Guidelines for Dewatering Farm Dams* (available on Council's website www.thehills.nsw.gov.au). This report must be prepared by a suitable qualified ecologist with expertise in aquatic ecology and amphibians.

iv. Fauna Action Plan

Prior to issue of a Construction Certificate for each precinct a Fauna Action Plan is to be submitted to be to the satisfaction of The Hills Shire Council's Manager – Environment & Health.

The fauna action plan must contain relevant details for preclearance surveys and fauna protection, rescue and relocation relevant to each precinct. In addition, the Fauna Action Plan is to include actions for the protection of the White-bellied Sea-eagle nest during the construction period. The plan must be prepared by a suitably qualified and experienced ecological consult with relevant experience in flora and fauna survey and rescue.

v. Maguire's Road Realignment

The partial width reconstruction of Maguires Road fronting Precinct G, including the creek crossing here, must include the realignment of this road/ formation further south into the development site to protect the endangered *Dillwynia tenuifolia* population located along the northern verge of Maguires Road. A plan must be provided with any development application relating to this portion of the site/ precinct to the satisfaction of Council's Manager – Subdivision and Development Certification and Manager – Environment and Health. The plan must provide a sufficient buffer between the endangered population and Maguires Road (accounting for the eventual/ possible full width reconstruction) to ensure long-term protection and survival of the population.

7. Landscape Masterplan

The principles identified within the masterplan are generally supported however all public areas will need to be embellished to a standard that will provide suitable recreation activities consistent with Council's general public domain embellishment hierarchy standards across the Shire. Detailed plans are required to accompany all Development Applications.

The Street Tree Masterplan is generally supported with the following amendments:

- Street tree substitutes:
 - Fraxinus griffithi – suggested replacement: Fraxinus excelsior 'Aurea' or alternative approved species
 - Quercus rubra – suggested replacement: Magnolia grandiflora 'Little Gem' or alternative approved species
- Minimum width of tree pit in verge 1.3m. To be noted on Typical Street Tree Planting Detail.

8. Riparian Corridor Plan – Precinct H

With respect to the Riparian Corridor Plan, the open space link/ watercourse within Precinct H needs to be designed and constructed to the same standard/ riparian corridor width as the other first order watercourses within the precinct, without being formally labelled as such, as this would otherwise increase the categorisation of the downstream receiving first order watercourse to a second order watercourse.

9. Road Hierarchy/ Formation

Roads are to be provided as per the Road Network Plan and Voluntary Planning Agreement, contrary to the Development Control Plan, and the following additional requirements:

- With respect to collector roads, the 3.5m wide footpath verge on both sides, including adjacent to open space/ creek corridors, required by the Development Control Plan must be provided.
- Old Pitt Town Road and Maguires Road, fronting the development site/ release area, need to be reconstructed (partial width) in line with the following/ ultimate configuration:

Road Name:	Formation: (Footpath/ Carriageway/ Footpath) (m)
Old Pitt Town Road/ Maguires Road	Road Type: 3.5m/ 13m/ 3.5 (20m) Pavement Design: Sub-arterial/ Enhanced Collector (Design Guidelines 3.12)

- With the development of each precinct, consideration should be given to providing "local roads with parking on both sides" in areas with higher density residential development.

10. Waterways Requirements

All future development applications are to generally comply with the following, along with any other requirements of Council at the time:

- Flood Impact Assessment prepared by J. Wyndham Prince dated April 2015
- Water Cycle and Flood Management Strategy Report prepared by J. Wyndham Prince dated July 2013, as amended by the following:
- Updated MUSIC Water Quality Assessment prepared by J. Wyndham Prince dated 14 September 2015
- Water Cycle and Flood Management Strategy Report (update) prepared by J. Wyndham Prince dated 28 November 2014

The following design requirements also apply:

- Waterway design to be in accordance with the requirements of Section 2.11 Stormwater Management, sub-clauses (x), (xi) and (xii) of Council's Development Control Plan Part D Section 17, Box Hill North.
- In summary, these sections require the creation of a naturally functioning, geomorphically stable channel and floodplain form which replicates the characteristics of the naturally occurring waterways in the catchment.

- c) Creation of a trapezoidal channel form is to be avoided.
- d) A stable, meandering low-flow channel is to be designed to convey up to a 5 year ARI design flood. The 5 year ARI design flood is considered to be at the upper end of the naturally occurring channel forming flows.
- e) River engineering principles, supported by geomorphic understanding is to be the principal driver for all design and construction methodologies.
- f) Hydraulic modelling to determine threshold velocities is to be undertaken to predict erosive forces requiring hard engineering intervention.
- g) Upper floodplain benches are encouraged to reduce edge depths, sustaining safety principles and maximising passive usage of the waterway corridor.
- h) Vegetative techniques for bed and bank stabilisation in the upper floodplain benches are to utilise deep rooted species of local provenance.
- i) Safe, regular all-weather vehicular maintenance accesses are to be designed for strategic locations throughout the waterway corridor.

Bridge and culvert design and construction are to have regard to the following too:

- j) Design to be substantially in accordance with the principles set out in the publications "Australian Standard Bridge Design Part 1: Scope and General Principles" (AS 5100.1-2004 (Incorporating Amendment No.1)), and "AUSTROADS Guide to Bridge Technology Part 4: Design Procurement and Concept Design".
- k) Minimum freeboard to the underside of the bridge structure is to be in accordance with the requirements of the abovementioned publications, having regard for carriageway cross-falls.
- l) Bridge clear opening to be a minimum of 50% of the overall width of the riparian corridor, measured from toe of abutments, and allowing for bridge pier widths.
- m) Piers are to be designed to be streamlined in the direction of flow. Other than in unavoidable circumstances, no piers are to be constructed so as to obstruct the primary waterway area (between low banks).
- n) Bridges are to be low energy style structures, minimising afflux at the design flood (100 year ARI, post-development case).
- o) Allowance for blockage is to be in accordance with the requirements of the publication "Australian Rainfall and Runoff Revision Project 11: Blockage of Hydraulic Structures - Blockage Guidelines" (February 2015).
- p) Consideration may be made for the construction of "relief" culverts through each abutment to account for the allowance of blockage in the bridge design.
- q) Hydraulic modelling is to be undertaken to determine the two dimensional (2-D) flow behaviour for channel forming flows (consider the 2 year and 5 year ARI floods) and the design flood (100 year ARI) to enable the design of any bed, bank and abutment scour protection works.

11. Site Remediation and Validation

All works associated with future Subdivision applications are to be remediated in general accordance with the Remediation Action Plan (dated 15 April 2015, Report 43376/59205 (Rev 5)).

Any contaminated material that is proposed to be encapsulated and/or buried on site shall be subject to an Environmental Management Plan which identifies:

- the material;
- risks associated with the material;
- justification as to why the material cannot be removed/remediated;
- details for a long-term monitoring program;

- Safe Work Method Statement for working in the vicinity of the material.

Prior to the encapsulating and/or burying of any contaminated material on site, prior approval of Council's Manager – Environment & Health is to be obtained.

Validation report

A validation report shall be submitted to the Principal Certifying Authority for each subdivision. The report shall include:

- The degree of contamination originally present;
- Rationale and justification for the validation strategy, including the clean-up criteria and statistically based decision-making methodology;
- Validation sampling and analysis plan;
- Verification that remediation carried out renders the site suitable for the proposed uses.

12. Consistency with Aboriginal Heritage Impact Permit

All proposed works are to be consistent with Aboriginal Heritage Impact Permit (AHIP) C0001213.

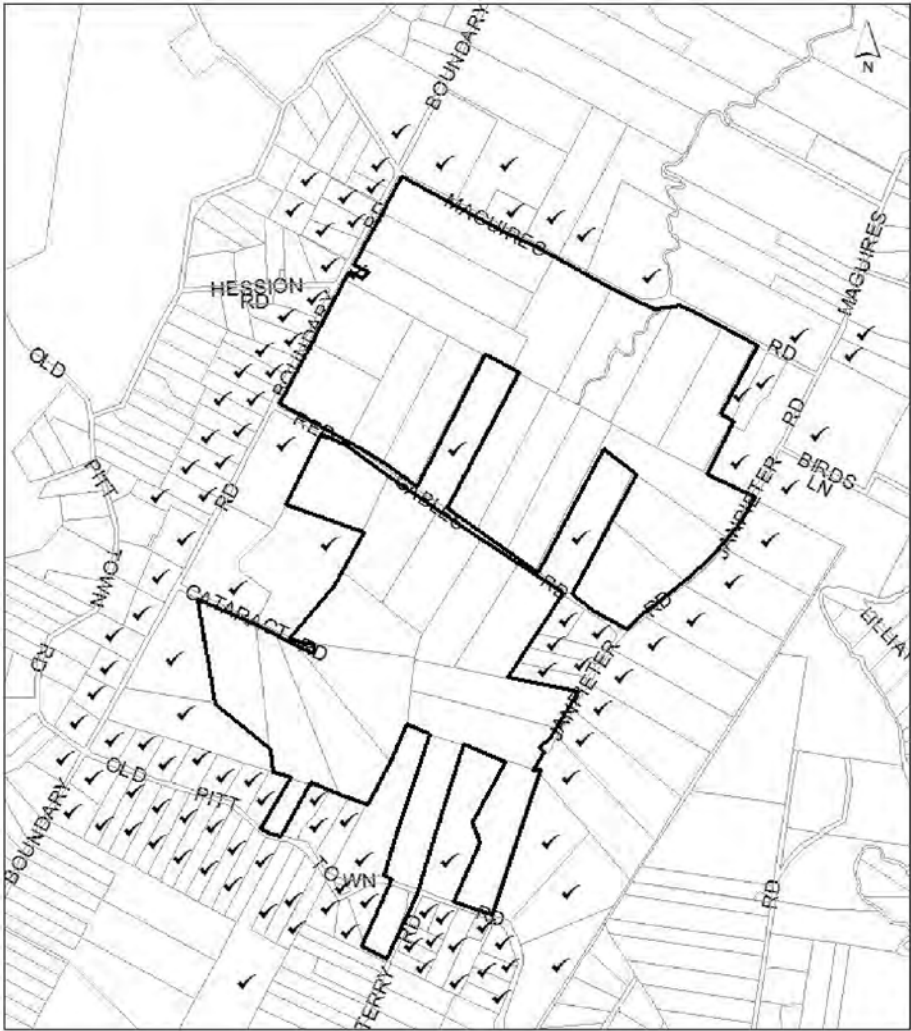
RECOMENDATION

The application be deferred until concurrence is provided by the Office of Environment and Heritage. At this time a further report will be provided to the Joint Regional Planning Panel.

ATTACHMENTS

1. Locality Plan
2. Aerial Photograph
3. Zoning Map
4. Lot Size Map
5. Vegetation Maps
6. General Masterplan
7. Ownership Plan
8. Precinct Plan
9. Road Layout Plan
10. Open Space Plan
11. Boundary Treatment Plan
12. Design Guidelines

ATTACHMENT 1 – LOCALITY PLAN



- SUBJECT SITE
- ✓ PROPERTIES NOTIFIED

NOTE: HAWKESBURY CITY COUNCIL ALSO NOTIFIED

THE HILLS
Sydney's Garden Shire

THE HILLS SHIRE COUNCIL

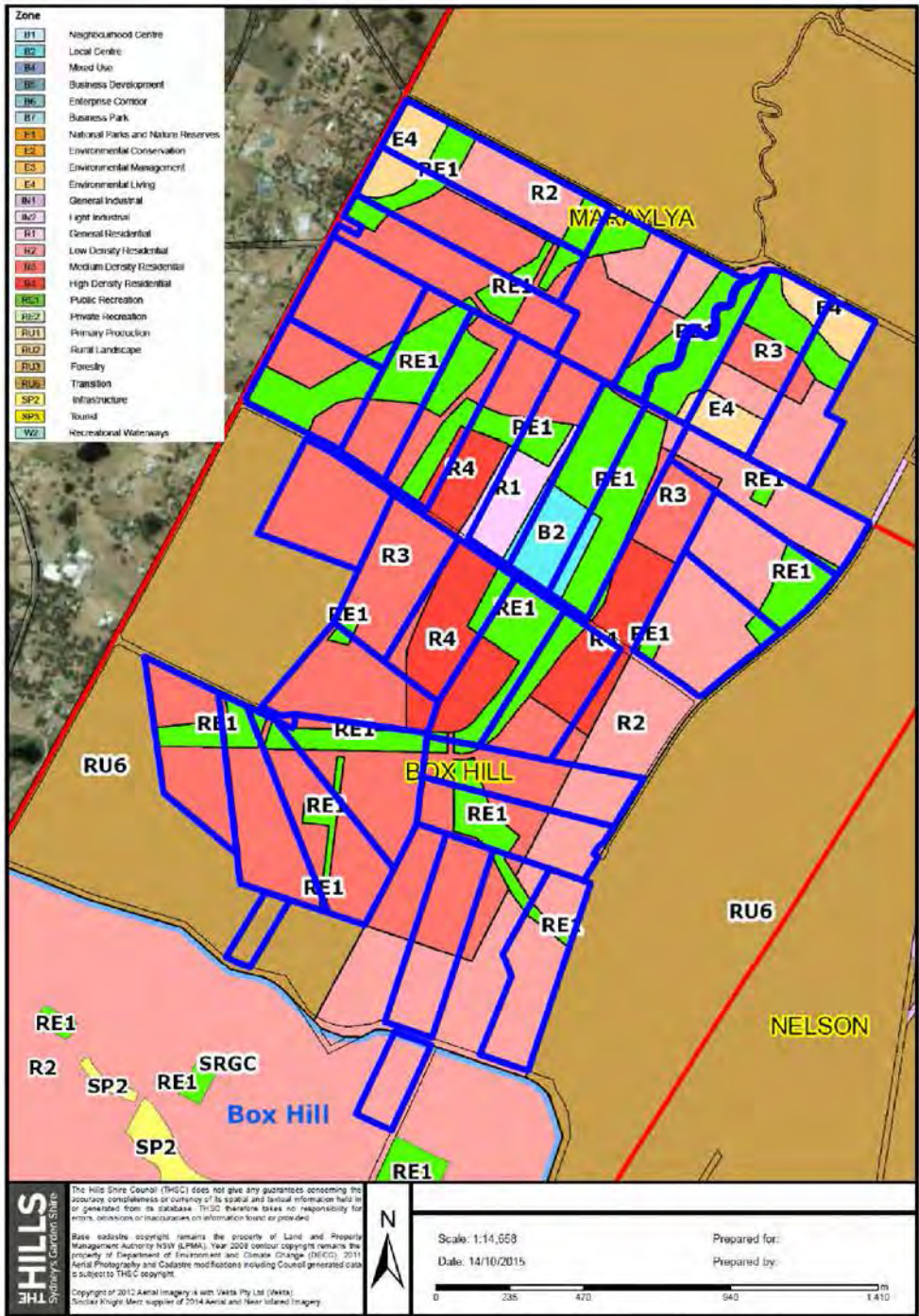
THE HILLS SHIRE COUNCIL DOES NOT GIVE ANY GUARANTEES CONCERNING THE ACCURACY, COMPLETENESS OR CURRENCY OF THE TEXTUAL INFORMATION HELD IN OR GENERATED FROM ITS DATABASE.

BASE CADASTRE COPYRIGHT LAND & PROPERTY INFORMATION NSW (LP1), CADASTRE UPDATE (INCLUDING COUNCIL GENERATED DATA) IS SUBJECT TO THIS COPYRIGHT

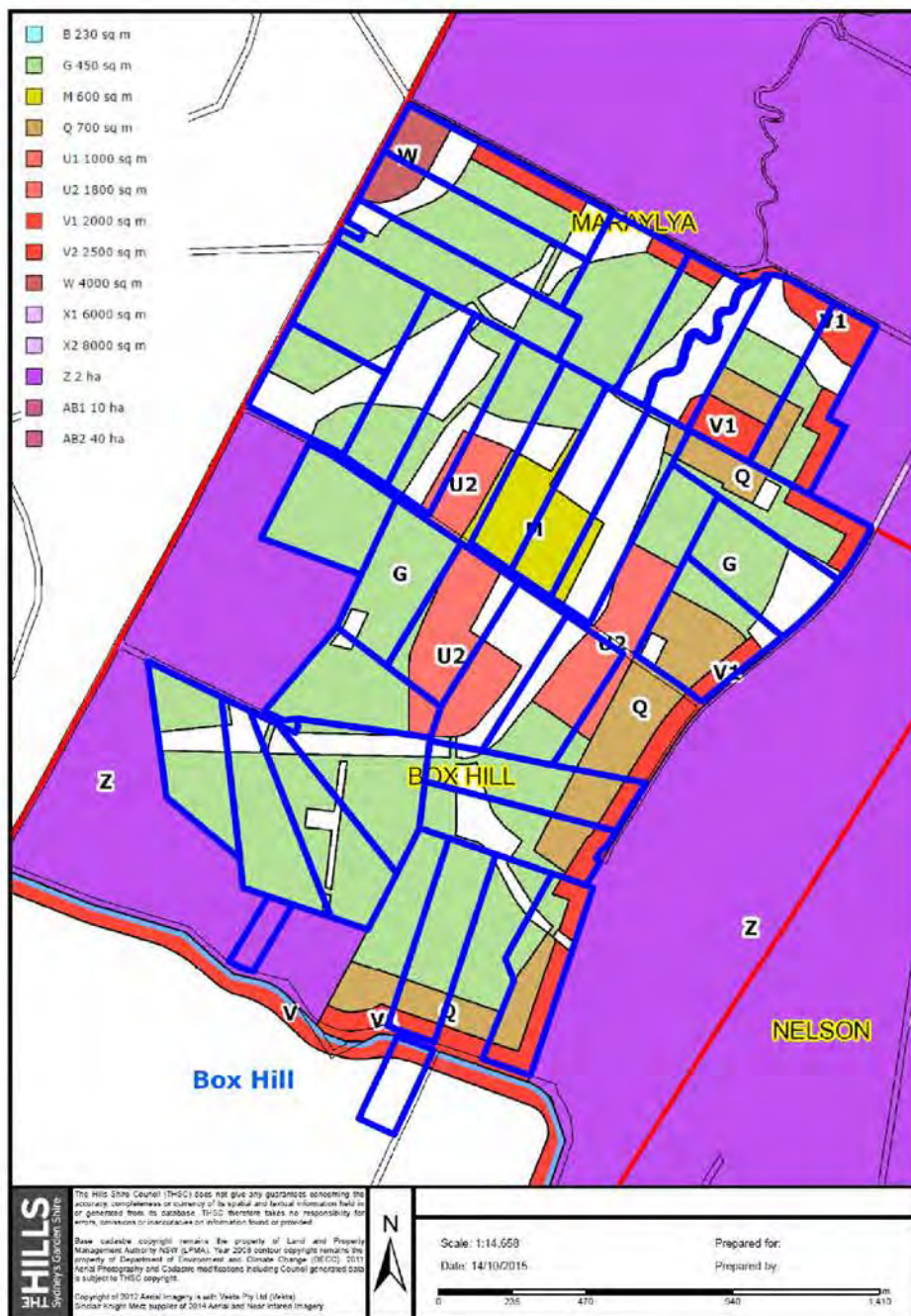
ATTACHMENT 2 – AERIAL PHOTOGRAPH



ATTACHMENT 3 – ZONING MAP



ATTACHMENT 4 – LOT SIZE MAP



ATTACHMENT 5 – VEGETATION MAPPING



Figure B.3. Native Vegetation at the Subject Site

ATTACHMENT 6 – MASTERPLAN

BOX HILL NORTH PRECINCT Indicative Layout Plan

Key

- Project Boundary
- Retail / Mixed Use
- School
- Community Facilities
- Large Lot Residential
- Low/Medium Density Residential
- High Density Residential
- Environmental Conservation
- Open Space
- Sports Fields
- Creeks / Drainage
- Transmission Easement
- Future Link Roads
- Associated Works to Project



DATE: 02/09/15
 NOTE: PLAN SUBJECT TO REFINEMENT THROUGH
 DETAILED DESIGN AT THE DEVELOPMENT STAGE.
 SCALE: 1:1000 (A2)
 NO COPYRIGHT INFRINGEMENT POSSIBLE FOR COMMERCIAL USE

ATTACHMENT 7 – OWNERSHIP PLAN



ATTACHMENT 8 – PRECINCT BOUNDARY PLAN

BOX HILL NORTH PRECINCT
Precinct Boundary Plan
Key
— Precinct Boundary



DATE: 01/09/18
NOTE: PLAN SUBJECT TO REFINEMENT THROUGH
DETAILED DESIGN AT THE DEVELOPMENT STAGE.
SCALE: 1:1000 (A3)
PROJECT: BOX HILL NORTH PRECINCT BOUNDARY PLAN

ATTACHMENT 9 – ROAD LAYOUT PLAN

Box Hill North Precinct
Road Network Plan

Key

- Precinct Boundary
- Collector Road
- Collector Road with Median
- Riparian Edge Road
- Local Road With Parking Both Sides



DATE: 15/05/14
SITE PLAN SUBJECT TO REFINEMENT THROUGH
DETAILED DESIGN AT THE DEVELOPMENT STAGE.
SCALE: 1:1000 (A3)
© EJC, urbis, Box Hill North Precinct

ATTACHMENT 10 – OPEN SPACE PLAN



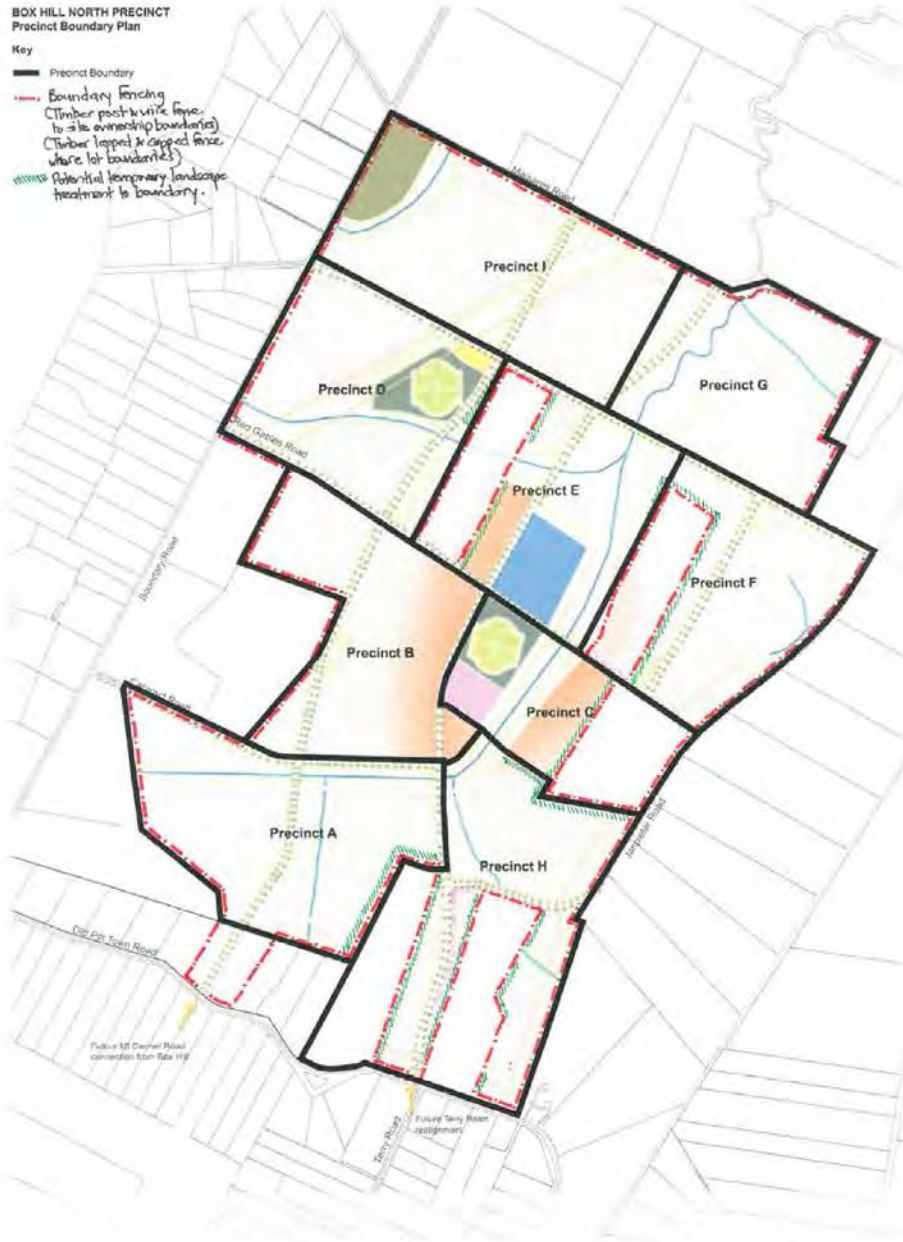
DATE: (or ON:)
NOTE: PLAN SUBJECT TO REFINEMENT THROUGH
DETAIL DESIGN AT THE DEVELOPMENT STAGE.
SCALE: 1/4" = 1'-0"

ATTACHEMNT 11 – BOUNDARY TREATMENT PLAN

BOX HILL NORTH PRECINCT Precinct Boundary Plan

Key

- Precinct Boundary
- Boundary fencing
(Timber post & wire fence to site ownership boundaries)
(Timber topped & capped fence where lot boundaries)
- Potential temporary landscape treatment to boundary.



DATE: 01/06/15
 PREPARED BY: SUBJECT TO APPROVAL THROUGH
 DETAIL DESIGN AT THE DEVELOPMENT STAGE
 SCALE: 1:1000 (A3)
 OR OTHERWISE INDICATED OTHERWISE OTHERWISE OTHERWISE

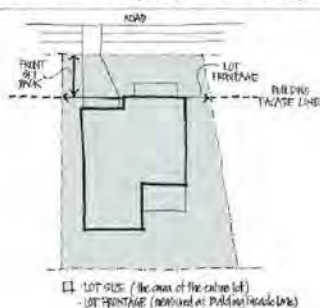
ATTACHMENT 12 – DESIGN GUIDELINES



Development Controls for Integrated Housing

Element	Control
Lot Width	≥6m for rear accessed dwellings
Minimum Allotment Size	240m ²
Front setback (min)	4.5m to building facade line, 3.5m to building facade fronting open space 3.0m to articulation zone, 2.0m to articulation zone fronting open space.
Side setback (min)	Zero Lot, Attached or Abutting Boundary (benefited lot) : - Ground floor: 0m - Upper floor: 0m Detached Boundary 0.9m. If lot burdened by zero lot boundary, side setback must be outside easement: 0.9m (single storey zero lot wall) 1.2m (double storey zero lot wall)
Maximum length of zero lot line on boundary	15m (excludes rear loaded garages)
Corner lots secondary street setback (min)	1.0m
Building height, massing and siting	2 storeys maximum. 3 storeys will be considered on dwelling's site characteristics and the architectural merit of the proposal.
Site Coverage	Upper limit no more than 70% of lot area.
Soft landscaped area	Minimum 15% lot area. The first 1m of the lot measured from the street boundary (excluding paths) is to be soft landscaped.
Principal Private Open Space (PPOS)	Min 16m ² with minimum dimension of 3m. 10m ² per dwelling if provided as balcony or rooftop with a minimum dimension of 2.5m. Open space at the front of the dwelling can be defined as PPOS where this is the only means of achieving the solar access requirements.
Solar access	At least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to at least 50% of the required PPOS of both the proposed development and the neighbouring properties that form part of the proposed development. Should the orientation of a lot not meet the requirements, then the front yard can be used to contribute to the solar access.
Garages and car parking	Rear loaded garage or car space only for lots of this type. Carport and garage minimum internal dimensions: 2.4m x 5.5m. Maximum garage door width 3.0m (single) and 6.0m (double). 1-2 bedroom dwellings will provide at least 1 car space. 3 bedroom or more dwellings will provide at least 2 car spaces.

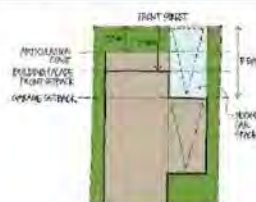
Figure 1: Lot Size





Element	Control
Lot Width	≥7m and <9m for front accessed dwellings
Minimum Allotment Size	240m ²
Front setback (min)	4.5m to building facade line; 3.5m to building facade fronting open space 3.0m to articulation zone; 2.0m to articulation zone fronting open space 5.5m to garage line and minimum 1m behind the building line
Side setback (min)	Zero Lot, Attached or Abutting Boundary Ground floor: 0m Upper floor: 0m Detached Boundary 0.9m. If lot burdened by zero lot boundary, side setback must be outside easement: 0.9m (single storey zero lot wall) 1.2m (double storey zero lot wall)
Maximum length of zero lot line on boundary	15m
Rear setback (min)	4m (ground level) and 6m (upper levels)
Corner lots secondary street setback (min)	1.0m
Building height, massing and siting	2 storeys maximum. 3 storeys will be considered on dwelling's site characteristics and the architectural merit of the proposal.
Site Coverage	Upper limit no more than 70% of lot area.
Soft landscaped area	Minimum 15% lot area. The first 1m of the lot measured from the street boundary (excluding paths) is to be soft landscaping
Principal Private Open Space (PPOS)	Min 16m ² with minimum dimension of 3m. 10m ² per dwelling if provided as balcony or rooftop with a minimum dimension of 2.5m. Open space at the front of the dwelling can be defined as POS where this is the only means of achieving the solar access requirements.
Solar access	At least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June) to at least 50% of the required PPOS of both the proposed development and the neighbouring properties.
Garages and car parking	Single width garage or car space only. Carport and garage minimum internal dimensions: 2.4m x 5.5m. Maximum Garage Door width 3.0m (single) 1-2 bedroom dwellings will provide at least 1 car space. 3 bedroom or more dwellings will provide at least 2 car spaces. For single garages second car space can be provided in the garage setback.
Layout	Driveway locations must be paired to preserve on-street parking spaces in front of lots. Total lot frontage of this lot type not to exceed 50% of the block length due to garage dominance and on-street parking impacts.

Figure 2: Second Car Space





Element	Control	
Lot Width	≥9m and ≤15m for front accessed dwellings	
Minimum Allotment Size	240m²	
Front setback (min)	4.5m to building facade line; 3.5m to building facade fronting open space 3.0m to articulation zone; 2.0m to articulation zone fronting open space 5.5m to garage line and minimum 1m behind the building line	
Side setback (min)	Zero Lot, Attached or Abutting Boundary Ground floor: 0m Upper floor: 0m	Lots with zero lot boundary (side A) Ground Floor: 0m (side A), 0.5 (side B) Upper Floor: 1.5m (side A), 0.9 (side B)
Length of zero lot line on boundary	11m	
Rear setback (min)	4m (ground level) and 6m (upper levels)	
Corner lots secondary street setback (min)	2.0m	
Building height, massing and siting	2 storeys maximum. 3 storeys will be considered on dwelling's site characteristics and the architectural merit of the proposal.	
Site Coverage	Single storey dwellings: 65%. Lot ≤375sqm, upper level no more than 40% of lot area. Lot >375sqm, upper level no more than 35% of lot area.	
Landscaped area	Minimum 25% of allotment area.	
Principal Private Open Space (PPOS)	Minimum 20m² with minimum dimension of 4.0m. 50% of the area of the required PPOS (of both the proposed development and adjoining properties) should receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June). Open space at the front of the dwelling can be defined as PPOS where this is the only means of achieving the solar access requirements.	
Garages and car parking	Lots ≥9m and <10m: Where front accessed, single width garages only. Garage minimum internal dimensions: 2.4m x 5.5m. Rear lane or side street accessed double garages permitted. Max. carport and garage door width not to exceed 3m (single) or 6m (double)	Lots ≥12.5m and ≤15m: Double garages are permitted. Triple garages are not permitted.
	Lots ≥10 m and <12.5m: - Front accessed, double width garages: are permitted where the dwelling has a minimum of 3 of the following design features adopted: 1. Upper floor or roof element projected forward of the garage to cast a shadow and take prominence. 2. Colours and textures to ensure garage door subservience. 3. Verandah or pergola provided across the face of the garage. 4. Utilisation of vertical elements to mitigate the horizontal emphasis of the garage	
	1-2 bedroom dwellings will provide at least 1 car space. 3 bedroom or more dwellings will provide at least 2 car spaces. For lots ≥9 m and ≤15m, for single garages second car space can be provided within garage setback	



Development Controls for Standard Detached Dwellings

Element	Control
Lot Width	≥8m for front accessed dwellings
Minimum Allotment Size	450m ²
Front setback (min)	4.5m to building facade line 3.5m to building facade fronting open space or drainage land 3.0m to articulation zone 2.0m to articulation zone fronting open space or drainage 5.5m to garage line and 1m behind the building line
Side setback (min)	Ground Floor: 0.9m (Side A), 0.9m (Side B)
Rear setback (min)	4m (ground level) and 6m (upper levels)
Corner lots secondary street setback (min)	2.0m
Building height, massing and siting	2 storeys maximum. 3 storeys will be considered on dwelling's site characteristics and the architectural merit of the proposal.
Site Coverage	Single storey dwellings: 65%
Soft landscaped area	Minimum 30% of the allotment area
Principal Private Open Space (PPOS)	Minimum 24m ² with minimum dimension 4m 50% of the area of the required principal private open space (of both the proposed development and adjoining properties) should receive at least 3 hours of sunlight between 9am and 3pm at the winter solstice (21 June).
Garages and car parking	Front or rear loaded double and tandem garages permitted Carport and garage minimum internal dimensions: 2.4m x 5.5m. Maximum garage door width 3m (Single) and 6m (Double) Triple garages are not permitted 1-2 bedroom dwellings will provide at least 1 car space. Frontages of ≥20m, triple garages permitted 3 bedroom or more dwellings will provide at least 2 car spaces. For lot frontages ≥8 m and ≤15m, for single garages second car space can be provided within garage setback.

Figure 3: Principal private open space and soft landscaped area

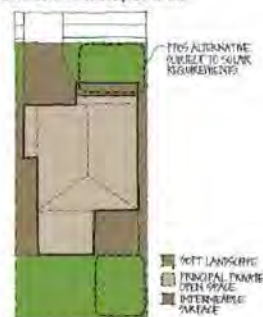




Figure 4: Minimum front setback distances

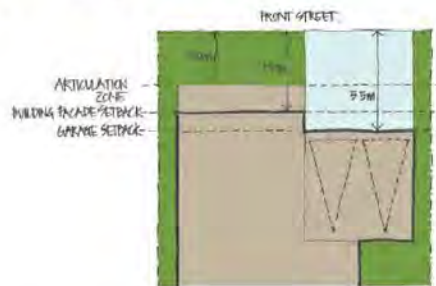


Figure 5: Minimum front setbacks for dwellings fronting open space or drainage land

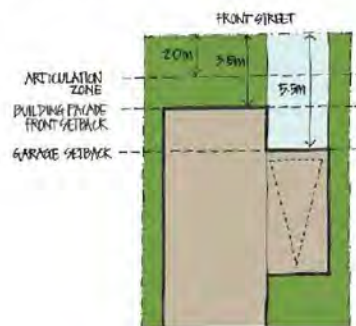


Figure 6: Minimum setbacks for corner lot dwellings

