SECTION 4.55 (2) MODIFICATION

Environmental Planning and Assessment Act 1979 (as amended)

Development Application No.	MODDA024/23 of DA021/18 (PAN-344616)
Subject Site	Lot 22 DP1301637, 74 Hillcrest Avenue, Bowenfels NSW 2790 (previously known as Lot 1 DP1230208, 43 Hillcrest Avenue, Bowenfels NSW 2790) <u>Additional properties involved with Modification:</u> Lot 4 DP 1230208 is proposed to contain three bioretention basins.
Proposal	Modification of DA021/18 as follows: • From 86 Residential Lots to 98 Residential Lots, • Relocation of three drainage reserves to three new lots, • Alteration to Layout, • Straightening of Road.
Zoning	R2 Low Density Residential and C4 Environmental Living – Lithgow Local Environmental Plan 2014 (LEP2014)
Applicant	Anthony Daintith Town Planning
Owner	• Lot 22 DP1301637: The Trustee for Hillcrest Developments NSW Unit Trust, • Lot 4 DP 1230208: Lightweight Pty Ltd.
Notification	26 July 2023 to 11 August 2023 as per the Lithgow Community Participation Plan
Submissions	Nil.
Variations	Nil.
Responsible Officer	Lauren Stevens-Development Planner Will Cherington- Team Leader Development Sandra Politi- Development Manager
Recommendation	Approval subject to attached conditions

Executive Summary

Objective of Report: To assess and recommend determination of Section 4.55 (2) Modification of Consent MODDA024/23 of DA021/18 with recommendation for approval subject to conditions.

The subject Modification Application was lodged with Council on 27 June 2023. The applicant is seeking consent for a modification to the original approval as follows:

- From 86 Residential Lots to 98 Residential Lots,
- Relocation of three drainage reserves to three new lots,
- Alteration to Layout,
- Straightening of Road.

The application relates to the following land descriptions:

- Lot 1 DP 1230208, 43 Hillcrest Avenue Bowenfels - Subdivision allotments,
- Lot 4 DP 1230208, 13A Thornton Avenue - is proposed to contain the bioretention basins.

A Subdivision Certificate in relation to Stage 1 was registered on 11 April 2024. Stage 1 created the first 20 residential allotments, Lot 21 DP1301637 being a drainage reserve in council ownership and Lot 22 DP1301637 being the residual allotment.

The modification triggers an amendment to the original Planning Agreement to allow for the additional allotments should the application be approved.

Pursuant to the Lithgow Community Participation Plan, the Application was notified commencing 26 July 2023 and concluded 11 August 2023. No known written submissions were received during the notification period.

Description of Site and Surrounds

The subject site Lot 22 DP1301637, 74 Hillcrest Avenue, Bowenfels NSW 2790.

Additional properties involved with Modification:
Lot 4 DP 1230208 is proposed to contain three bioretention basins.

Lot 22 DP1301637 contains an area of 9.27ha and is situated along two ridgelines, bordering the Hillcrest Estate to the South. Minimal vegetation exists on the property with all of the proposed allotments containing areas above 800m^2. Two loop roads were previously approved (and will remain as part of the modification) to provide access from Hillcrest Avenue and Thornton Avenue.

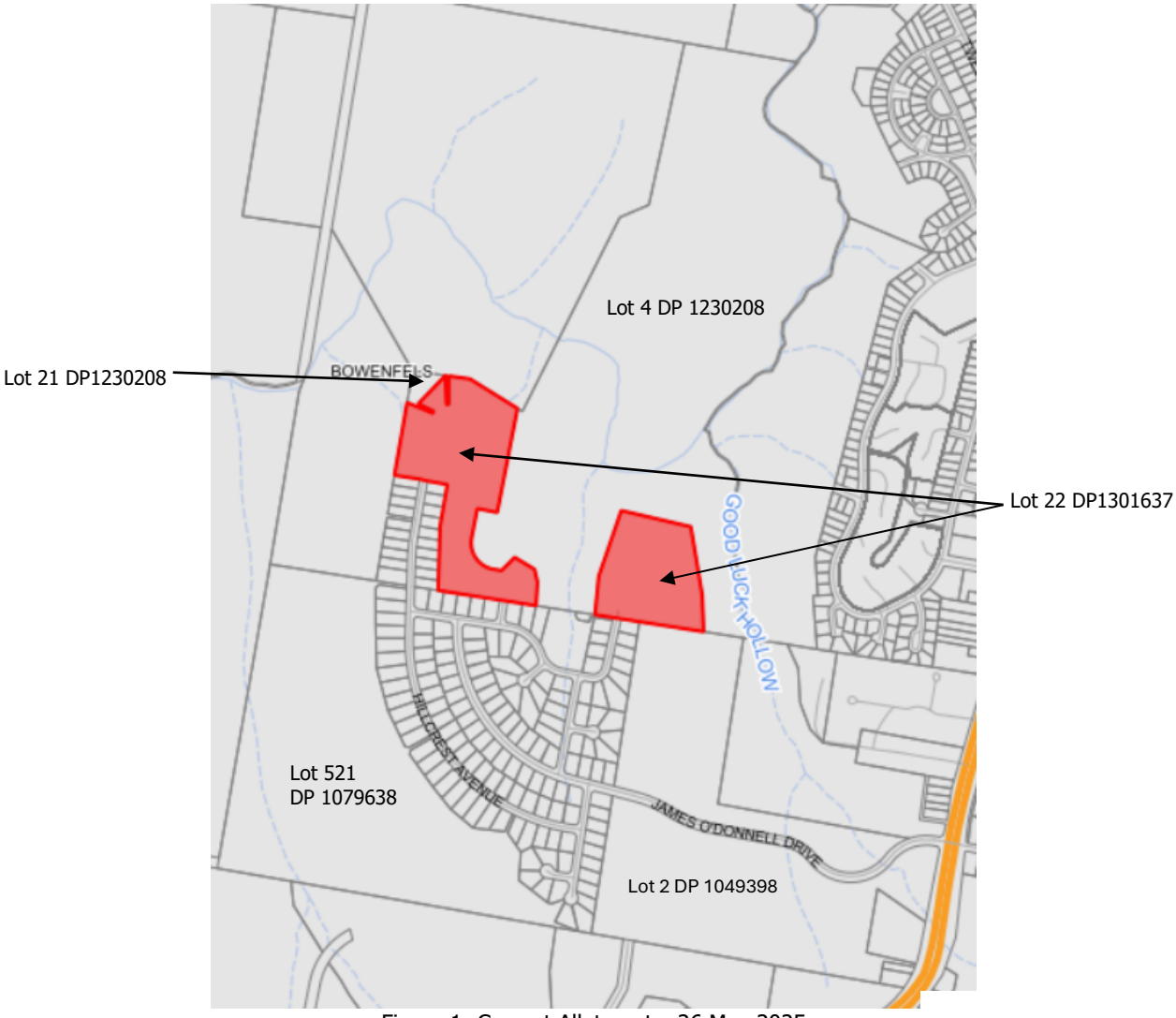

Figure 1: Current Allotments; 26 May 2025

Development History

Application No.	Date of consent	What was approved	Land affected
DA021/18	29 October 2018 Council Min.18-279	Two (2) stage subdivision for 86 residential lots of greater than 800m^2 and one drainage lot comprising four drainage reserves. The approval also included, two loop roads providing access from Hillcrest Avenue and Thornton Avenue, one pathway and one temporary right of way, all to be dedicated to Council. The development stages are: Stage 1= 20 lots and one drainage reserve (Lots 1 to 10 & 50 to 59 & Pt Lot 87). Stage 2= 66 lots and three drainage reserves (Lots 11 to 49 & 60 to 86 & remaining Part Lot 87).	Lot 1 in DP1230208 (now known as Lots 1 to 22 in DP1301637
MOD039/19	24 May 2021 Council Min. 21-115	Remove the consent condition requiring the developer to construct a link road from Col Drewe Drive to James O'Donnell Drive and amend the Voluntary Planning Agreement to make provision for a contribution towards the link road.	• Lot 1 in DP1230208 (now known as Lots 1 to 22 DP1301637. • Lot 2 DP 1049398 in relation to the link road.
MODDA049/22	23 January 2023, Council Min. 23-9	Change to the stormwater discharge point for Lots 1 to 6 to an outlet on Council land, located to the west of the development.	• Part of Lot 1 in DP1230208 (now known as Lots 1 to 6 in DP1301637. • Lot 521 DP1079638 in relation to the stormwater discharge point.

Proposed Development

Council is in receipt of a Modification Application (MODDA024/23) to modify DA021/18. The application seeks consent to amend the following:

- Increase the amount of allotments from 86 Residential allotments to 98 allotments (increase in 12 new allotments),
- Relocation of three drainage reserves to three new lots,
- Alteration to Layout,
- Straightening of Road.

Staging
The development is proposed to be undertaken in the following stages:

- Stage 1 – Lots 1 to 21 (including one (1) basin lot), (Lots 13 and 14 to be consolidated into proposed Lot 403),
- Stage 2 – Lots 201 to 213,
- Stage 3 – Lots 301 to 317,
- Stage 4 – Lots 401 to 421 (including the basin lot),
- Stage 5 – Lots 501 to 516 (including the basin lot),
- Stage 6 – Lot 601 to 615.

The approved plan and the proposed plan are shown below:

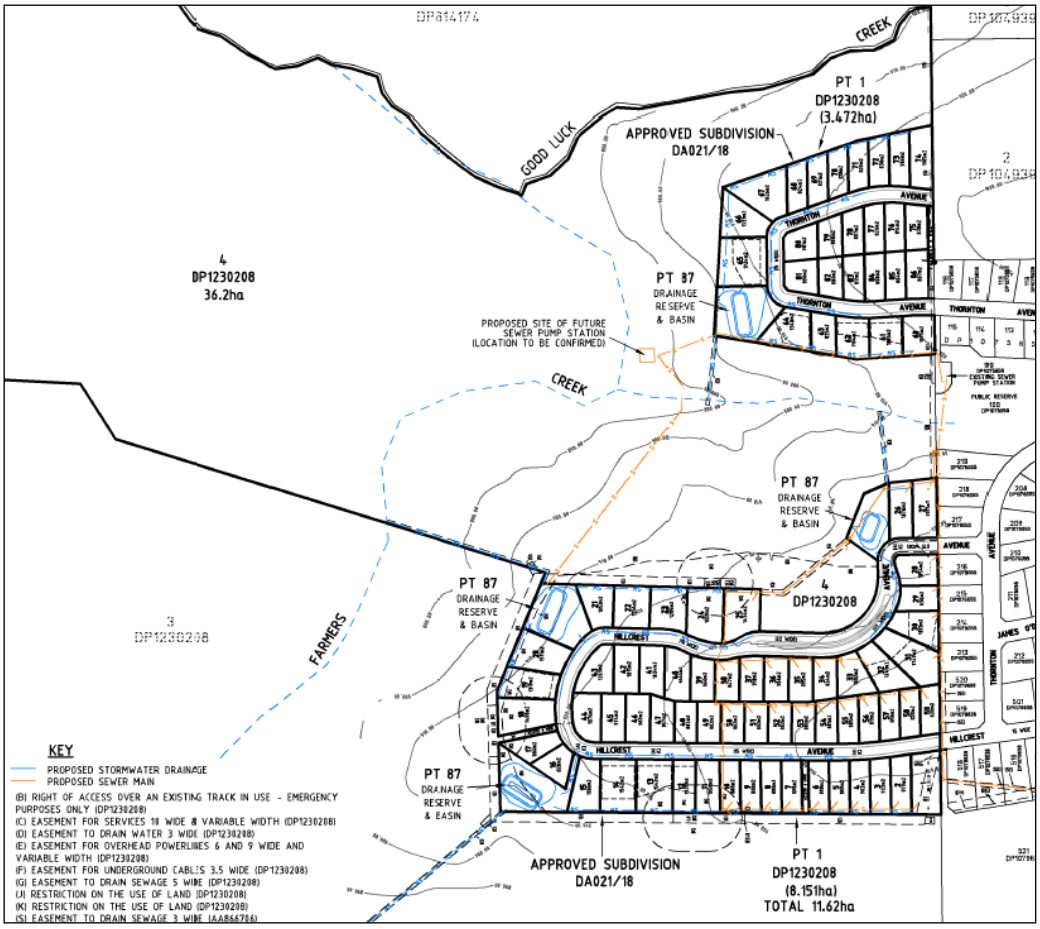

Figure 2: Previously Approved Lot Layout as per DA021/18

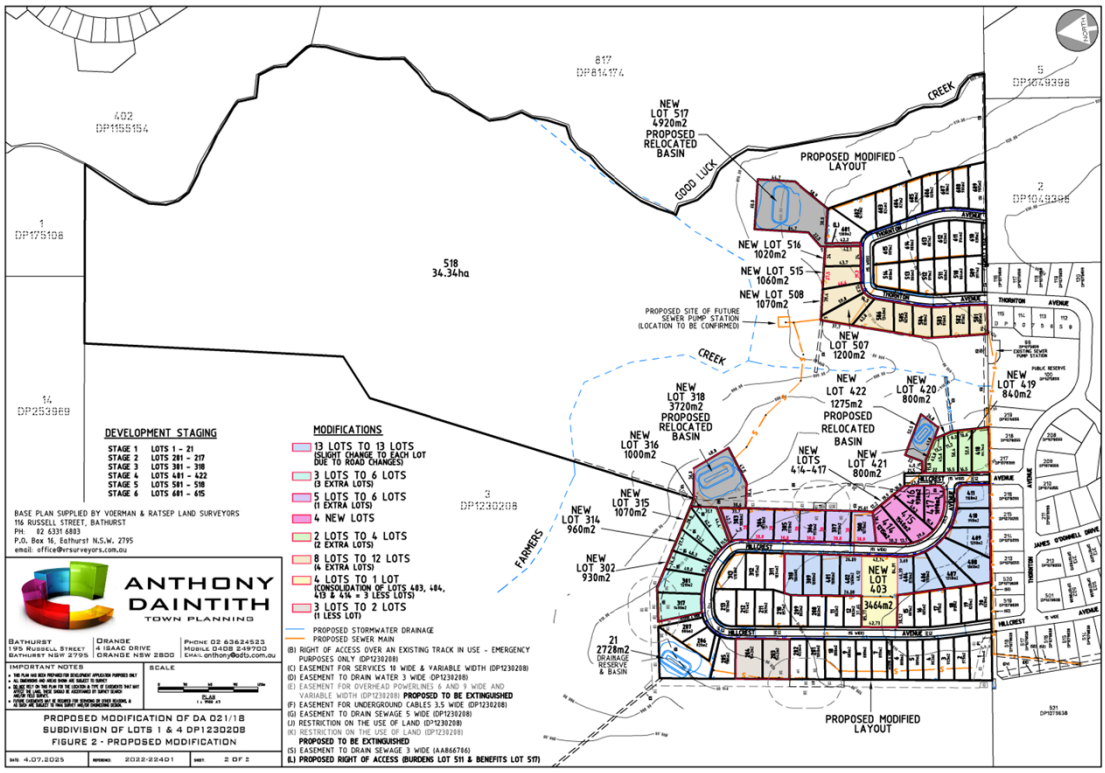

Figure 3: Proposed Lot Layout as per Modda024/23

Due to the topography of the land, the allotments with potential steepness, contains area sizes above 1000m^2. This is considered adequate for the development.

Referrals

Internal Referrals

Branch	Comment
Building	NA.
Infrastructure Department	Yes - Reference is made to Council's Infrastructure Services referral received 13 February 2024 in response to Council's Planner's referrals dated 24 July 2023 and 29 November 2023. Council's Infrastructure Services has no objection to the application subject to the original conditions remaining on the consent.
Water and Wastewater Department	Yes - Reference is made to Council's Water and Wastewater Department referral received 14 July 2025 in response to Council's Planner's referrals dated 24 July 2023 and 29 November 2023. Council's Water and Wastewater Department has no objection to the application subject to the original conditions remaining on the consent.

External Referrals

Agency	Comment
Department of Planning and Environment – Water	Yes – The development was referred to the Department as the application requires approval under Section 91 Controlled Activity Approval under the Water Management Act 2000. Reference is made to the Department of Planning and Environment – Water Division referral received 28 August 2023 in response to Council's Planner's referral.

	The Department of Planning and Environment – Water Division has no objection to the application subject to conditions on the consent. The conditions are detailed under Schedule A.
Rural Fire Service	Yes – The development is defined as being integrated development and therefore was required to be referred to the NSW Rural Fire Service as per Section 100B of the Rural Fires Act 1997. The Rural Fire Service has no objection to the application subject to conditions placed on the consent. Refer to the Rural Fire Service correspondence dated 15 May 2025.
Subsidence Advisory	NA – The development is not located within the Subsidence Advisory area.
WaterNSW	Yes – WaterNSW has no objection to the application subject to conditions on the consent. Refer to WaterNSW response received 26 June 2025.
Endeavour Energy	NA – The original application was referred to Endeavour Energy for comment. Given that the proposed modification would have no additional impact on the original assessment by Endeavour Energy, the modification was not re-referred. Endeavour Energy's original conditions will remain on the consent.
Transport for NSW	Yes – The development was referred to Transport for NSW as per the EP&A Regulation 2021, S38 (Amendment of development application). Transport for NSW have no objection to the modification subject to the original conditions remaining on the consent. Refer to Transport for NSW correspondence dated 26 July 2024.

Statutory Assessment

Section 4.15(1)(a)(i) of the EP&A Act requires the consent authority to consider the provisions of environmental planning instruments (EPIs), which includes State Environmental Planning Policies (SEPPs). SEPPs applicable to this assessment are addressed in the following sections:

- Environmental Planning and Assessment Act 1979,
- Biodiversity Conservation Act 2016,
- Roads Act 1993,
- Rural Fire Service Act 1997,
- Water Management Act 2000,
- Local Government Act 1993,
- State Environmental Planning Policy (Resilience and Hazards) 2021,
- State Environmental Planning Policy (Biodiversity and Conservation) 2021,
- Lithgow Local Environmental Plan (LEP) 2014,
- Lithgow Development Control Plan (DCP) 2021.

Section 4.55(2) Modifications

Section 4.55(2) of the Environmental Planning and Assessment Act 1979 (EPA Act 1979) reads as follows:

Relevant Provision	Comments
(2) Other modifications A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if—	
(a) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified (if at all), and	Complies - Council is satisfied that the modification is substantially the same development as DA021/18. The development is similar to what was previously approved, with the only modifications being increase in the number of residential lots, relocation of three (3) basin lots to three newly created lots and minor lot/layout reconfiguration.

	All of the proposed residential lots are within the residential zone with the approved road network. The stormwater system and relocated basins will be created on new allotments within the Environmental zone.
(b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 4.8) in respect of a condition imposed as a requirement of a concurrence to the consent or in accordance with the general terms of an approval proposed to be granted by the approval body and that Minister, authority or body has not, within 21 days after being consulted, objected to the modification of that consent, and	Complies –Council has consulted with the following authorities for comment and concurrence: •DPE-Water, •WaterNSW, •NSW Rural Fire Service.
(c) it has notified the application in accordance with— (i) the regulations, if the regulations so require, or (ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and	Complies - Notification of the modification was undertaken in accordance with the regulations.
(d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.	Complies – Council has considered all submissions made relating to the application and included relevant conditions on the consent.

Biodiversity Conservation Act 2016

The original assessment of the application took into consideration the Biodiversity Conservation Act 2016. The assessment detailed the following:

"This Act is applicable where development involves clearing of native vegetation in non-rural zones. It establishes a framework to avoid, minimise and offset impacts for all types of development that are likely to have a significant impact on biodiversity.

The BC Act commenced in full on 25 February 2018. As this application was lodged prior to this date, it becomes a "*pending or interim planning application*" for the purposes of this Act and therefore must be considered under the former provisions being the Threatened Species Conservation Act.

Council has undertaken a desktop assessment using the BioNet Atlas and found that there were no known threatened species or endangered ecological communities found on the site or in nearby proximity.

The land was also not indicated on the Biodiversity Values Map of the BC Act, 2016.

The development site is predominantly overcleared landscape in the urban context and therefore it is considered that the impact of the development on either threatened species or any endangered ecological community is insignificant."

A recent assessment was undertaken for the current modification and identified Lot 4 DP 1230208 to be located on the Biodiversity Values Map. A desktop assessment of threatened species using the BioNet Atlas has also been undertaken and did not identify any threatened species to be located in the vicinity

of the development. Given that no species have been identified in the area and minimal clearing is proposed, the development would have no impact on Biodiversity.

Council officers have assessed that the modification application does not trigger the area or map thresholds of the Biodiversity Offset Scheme (BOS) due to the following:

- The area of land to be cleared does not exceed 0.5ha (i.e. minor earthworks for the access driveways, asset protection zones and infrastructure),
- There will be no construction activity or clearing within the areas marked on the map.
- The mapped biodiversity area is located around the water courses.

The water courses and mapped biodiversity areas are located on the adjoining allotment being Lot 4 DP 1230208. Lot 4 is proposed to be used for the three (3) new drainage reserves only. Other than the three (3) lots to be created for drainage reserves, this lot will remain in separate ownership to the residential allotments.

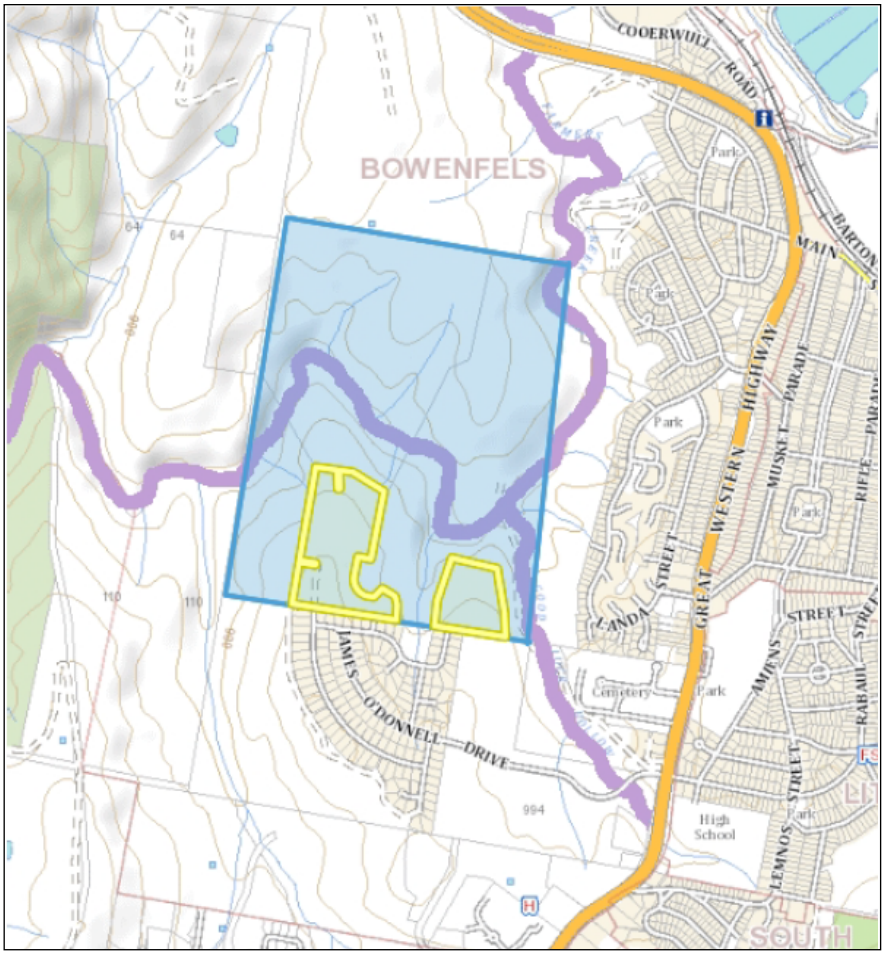

Figure 4: The Biodiversity Values Map

Roads Act 1993
As per the original assessment of the application, the proposed roads within this subdivision are to be dedicated to Council under this Act. Council will become the controlling authority for the roads once construction works are satisfactory and the Subdivision Certificate is released. The proposal will meet the requirements of the Act subject to conditions of consent.

These conditions will remain on the consent and not be impacted by the modification.

Rural Fires Act 1997

The development is integrated under this Act (via Section 91 of the EP & A Act 1979). Accordingly, the approval of the Rural Fire Service (RFS) is required.

The original approval did not receive general terms of approval from the Rural Fire Service and as such RFS were unable to assess this application as a modification.

After numerous meetings and written correspondences with Council, the applicant and the RFS, the RFS has no objection to the application subject to conditions being included on the consent.

Telecommunications Act 1997
As per the original assessment of the application and subsequent modifications, it was recommended that the consent authorities adopt the following model condition when issuing development consents for subdivision as per Planning Circular 17-005 (17.11.17) -Conditions of consent for fibre-ready facilities and telecommunications infrastructure, as below:

- *Prior to the issue of the Subdivision or Construction Certificate in connection with a development, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Certifying Authority that arrangements have been made for:*
  (i) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose.
  and
  (ii) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.
  (Note real estate development project has the meanings given in section 372Q of the Telecommunications Act).

The above condition will remain on the consent and not be impacted by the modification.

Water Management Act 2000
The development proposes works within a watercourse for proposed sewer services for the development. Therefore, a Controlled Activity Approval is required from NSW Department of Planning and Environment - Water as per the below:

91 Activity approvals
(1) There are two kinds of activity approvals, namely, controlled activity approvals and aquifer interference approvals.
(2) A controlled activity approval confers a right on its holder to carry out a specified controlled activity at a specified location in, on or under waterfront land.
(3) An aquifer interference approval confers a right on its holder to carry out one or more specified aquifer interference activities at a specified location, or in a specified area, in the course of carrying out specified activities.

The original application was referred to the Department of Planning and Environment - Water for an Integrated Approval under this Act as per Section 4.46 of the *Environmental Planning & Assessment Act 1979.* Given that the plans are proposed to be amended as part of the modification, the approved Schedule from the Department is required to be amended. As such the application was re-referred to the Department for comment. Comments provided by the Department on the matter are detailed further in this report and provide compliance with the Act.

Local Government Act 1993
As per the original approval and subsequent modifications, if this application is approved, the applicant must obtain a Section 68 application for connection to Council's water and sewerage supply. This must be lodged and approved prior to commencement of any work on site and shall be at full cost to the applicant.

The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicably supporting information for the proposed works. All conditions of the Section 68 Approval must be complied with prior to the release of the Subdivision Certificate for each Stage.

As such the above condition would remain as a condition on the consent.

Conveyancing Act 1919
The original assessment and subsequent modifications contained the following conditions of consent in accordance with the Act as proposed by Council:

No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the Conveyancing Act 1919 with Council having the right to vary, modify or release this restriction.

Additionally, the Rural Fire Service requires covenant restrictions.

These will be included as additional conditions on the consent.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 4 – Koala Habitat Protection 2021	
Relevant Provisions	**Comment**
Part 4.1 Preliminary	
4.4 Land to which Chapter applies	
(1) This Chapter applies to each local government area listed in Schedule 2.	The City of Lithgow is specified in Schedule 2 and is within the Central and Southern Tablelands Koala Management Area.
Part 4.2 Development control of koala habitats	
4.8 Development assessment process – approved koala plan of management	
(1) This section applies to land to which this Chapter applies and to which an approved koala plan of management applies.	Not applicable.
4.9 Development assessment process—no approved koala plan of management for land	
(1) This section applies to land to which this Chapter applies if the land— (a) has an area of at least 1 hectare (including adjoining land within the same ownership), and (b) does not have an approved koala plan of management applying to the land.	Given that the proposed development does not require the removal of trees, it is considered koala habits will not be impacted or impede movement between koala habitats. Because of this, the proposal is categorised as Tier 1 development having (low impact) under the Koala Habitat Protection Guidelines and development consent can be granted in accordance with the clause above.
(2) Before a council may grant consent to a development application for consent to carry out development on the land, the council must assess whether the development is likely to have any impact on koalas or koala habitat.	Refer to above comments.

Chapter 6 – Water Catchments	
Relevant Provisions	**Comment**
6.1 Land to which this Chapter applies	

Chapter 6 – Water Catchments	
Relevant Provisions	**Comment**
This Chapter applies to land in the following catchments- (a) the Sydney Drinking Water Catchment, (b) the Sydney Harbour Catchment, (c) the Georges River Catchment, (d) the Hawkesbury-Nepean Catchment.	The subject site is located within the Sydney Drinking Water Catchment and as such the provisions of Chapter 6 apply.
Division 2 Controls on development generally	
6.6 Water quality and quantity	The proposed development provides appropriate onsite stormwater management via the existing water management infrastructure. Based on the information submitted, the proposed development is considered unlikely to result in adverse impacts on water quality and quantity.
6.7 Aquatic ecology	Not applicable.
6.8 Flooding	Not applicable – the subject site is not mapped as being flood prone land.
6.9 Recreation and public access	Not applicable.
6.10 Total catchment management	The proposed development has been referred to WaterNSW for comment. WaterNSW has no objection to the application subject to conditions on the consent.
6.5 Sydney Drinking Water Catchment	
The objectives of this Part are— (a) to provide for healthy water catchments that will deliver high quality water to the Sydney area while also permitting compatible development, and (b) to provide for development in the Sydney Drinking Water Catchment to have a neutral or beneficial effect on water quality.	The proposed development is considered to be in keeping with the objectives of this Part.
6.63 Requirement of consistency with NorBE Guideline	
Development consent must not be granted to development on land in the Sydney Drinking Water Catchment unless the consent authority is satisfied the development is consistent with the NorBE Guideline.	Based on aerial imagery and the information provided including that previously provided, Water NSW is satisfied that the proposed modification can achieve a neutral or beneficial effect (NorBE) on water quality provided appropriate conditions are included in any development consent and are subsequently implemented.
6.64 Concurrence of Regulatory Authority	
(1) Development consent must not be granted to development on land in the Sydney Drinking Water Catchment unless the consent authority has obtained the concurrence of the Regulatory Author	The application was referred to WaterNSW who has no objection to the application subject to conditions on the consent.
(2) For the Act, section 3.18(3), the Regulatory Authority must consider the following matters in deciding whether to grant concurrence— (a) the NorBE Guideline, (b) whether the development will have a neutral or beneficial effect on water quality.	

Chapter 6 – Water Catchments	
Relevant Provisions	**Comment**
(4) This section does not apply if the consent authority is satisfied the development has no potential impact on water quality.	

State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 4 Remediation of Land	
Relevant Provisions	**Comment**
4.6 Contamination and remediation to be considered in determining development application	
(1) A consent authority must not consent to the carrying out of any development on land unless— (a) it has considered whether the land is contaminated, and, (b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and (c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.	Council is satisfied that the land is not contaminated under Chapter 4 as the property is utilised for residential and grazing purposes and surrounded by residential uses. The location of the development has not previously or is currently being used by any activities as specified under Table 1 of the contaminated land planning guidelines.

Assessment

Lithgow Local Environmental Plan 2014

The subdivision of land requires development consent under clause 2.6 and 4.1 of the *Lithgow Local Environmental Plan 2014* (LEP).

As per the original assessment of DA021/18, the development being a subdivision of land in the R2 Low Density Residential zone is permissible under Clause 4.1 as each residential allotment meets the minimum lot size (MLS) of 800m^2 as per the Lot Size Map under LEP 2014. It is noted that various lots will have slivers within the C4 Environmental Living zone, with the proposed new lots for the bioretention basins will be located wholly within the C4 zoned land in which the 20ha MLS would be applicable.

It is considered that this does not need to preclude the proposed lot layout, shape and size of lots and should not change the overall design proposal of the development. However, the proposed lots created for the bioretention basins do not meet the MLS of 20ha as per the Lot Size Map under Clause 4.1 of LEP 2014. Therefore, the entire proposal would be prohibited apart from Clause 4.1B for split zones below which states:

4.1B Minimum subdivision lot size for certain split zones

(1) The objectives of this clause are as follows:

(a) to provide for the subdivision of lots that are within more than one zone but cannot be subdivided under clause 4.1, 4.1AA or 4.2C,

(b) to ensure that the subdivision occurs in a manner that promotes sustainable land uses and development.

(2) This clause applies to any lot (an original lot) that contains:

(a) land in Zone RU5 Village or in a residential, business or industrial zone, and

(b) land in a rural zone or environment protection zone.

(3) Development consent may be granted to the subdivision of an original lot to create other lots if:

(a) one of the resulting lots will contain:

(i) all of the land of the original lot that is in a rural zone or environment protection zone, and

(ii) land in Zone RU5 Village, or in a residential, business or industrial zone, that has an area not less than the minimum size shown on the Lot Size Map in relation to that land, and

(b) each of the other resulting lots will have an area that is not less than the minimum size shown on the Lot Size Map in relation to that land.

(4) Development consent may be granted to the subdivision of an original lot to create another lot that:

(a) contains land in an environment protection zone, and

(b) is less than the minimum size shown on the Lot Size Map in relation to that land,

but only if the consent authority is satisfied that the resulting lot will be used for a public purpose.

(5) Subclauses (3) and (4) have effect despite clauses 4.1, 4.1AA and 4.2C.

(6) Land identified as "Area 1" or "Area 2" on the Lot Size Map may not be subdivided under this clause.

(7) Development consent may only be granted under this clause if the consent authority is satisfied that the subdivision:

(a) is not likely to have a significant adverse impact on the environmental values of the land, and

(b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and

(c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.

(8) In this clause, rural zone means Zone RU1 Primary Production, Zone RU2 Rural Landscape or Zone RU3 Forestry.

The land has two zonings (residential and environmental) and cannot be subdivided under Clause 4.1, 4.1AA or 4.2C, however the current plan for subdivision promotes suitable land uses as per Clause 4.1B(1) & (2). Lot 21, and proposed Lots 317, 417 and 522 will incorporate the C4 Environmental Living zones. It is proposed that these allotments will be dedicated to Council for stormwater infrastructure. This proposal will therefore comply with the provisions of Clause 4.1B (4)(b) as the allotments for stormwater infrastructure are for a public purpose.

Having determined that the proposed Lots are for a public purpose Council must also be satisfied that the subdivision will comply with Clause 4.1B(7) as follows:

(a) is not likely to have a significant adverse impact on the environmental values of the land, and

(b) will not compromise the continued protection or long-term maintenance of any land in an environment protection zone, and

(c) is not likely to have a significant adverse impact on the primary production value of land in a rural zone.

The proposal will not have a significant impact on the environmental values of the land or compromise the long-term maintenance of the land in these areas subject to conditions of consent, if approved. The development will not impact on the environmental values of the land, given the split zoning areas would not allow for viable development. The proposal will ensure appropriate use of the land given the split zoning and is permissible as per Clause 4.1B of LEP2014.

As such, Lot 21 bioretention basin and drainage reserve is as par the original approval, that being within both zones. Lot 317 and Lot 415 were approved to be partially within each zone, with the modification having the allotment completely within the Environmental zone. Lot 522 was approved to be completely within the residential zone and has now been modified to be within the environmental zone.

Therefore, given that Council has previously approved the bioretention basins to be partially within the environmental zone and that these lots are for public purposes, the development is permissible in the zone.

Zone of Land R2 Low Density Residential and C4 Environmental Living.

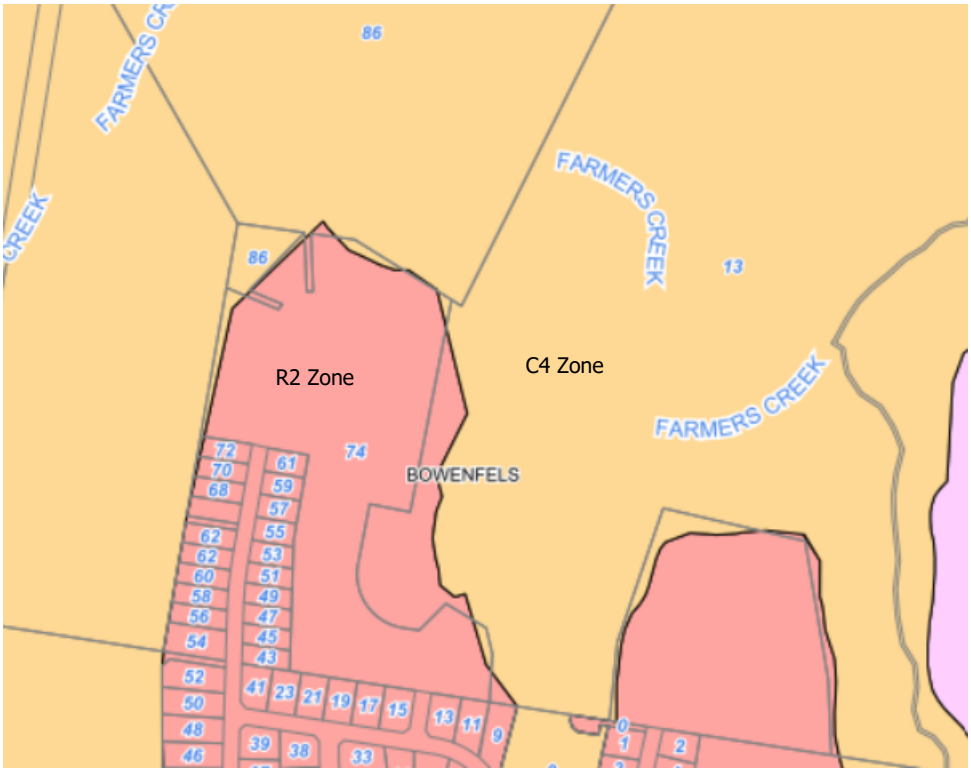

Figure 4: Zoning Map, LEP 2014

LEP Clauses		
Relevant Provisions		**Comment**
Part 2 Permitted or prohibited development		
2.3	Zone objectives and Land Use Table	Complies – Subdivisions are permissible with consent within the prescribed land zones and is in keeping with the objectives.
2.4	Unzoned land	Not applicable.
2.5	Additional permitted uses for particular land	Not applicable.
2.6	Subdivision – consent required	Complies - The Development Application has been submitted.
2.7	Demolition – consent required	Not applicable – demolition is not proposed.
2.8	Temporary use of land	Not applicable – temporary use of land not proposed.
Part 4 Principal development standards		
4.1	Minimum subdivision lot size	Complies – The minimum allotment size identified under Council's LEP 2014 is: R2 Zone- 800m^2, C4 Zone- 20ha. Refer to previous comments under LEP assessment.
4.1B	Minimum subdivision lot size for certain split zones	Complies – refer to previous comments under LEP assessment.
4.2	Rural subdivision	Not applicable – subdivision not proposed.
4.3	Height of buildings	Not adopted.

LEP Clauses		
Relevant Provisions		**Comment**
4.4	Floor space ratio	Not adopted.
4.6	Exceptions to development standards	No exceptions to the development standards have been applied for as part of this Development Application.
Part 5 Miscellaneous provisions		
5.3	Development near zone boundaries	Not applicable.
5.4	Controls relating to miscellaneous permissible uses	Not applicable.
5.5	Controls relating to secondary dwelling on land in a rural zone	Not applicable.
5.9	Dwelling house or secondary dwelling affected by natural disaster	Not applicable.
5.10	Heritage conservation	Not applicable.
5.16	Subdivision of, or dwellings on, land in certain rural, residential or conservation zones	Not applicable.
5.21	Flood planning	Not applicable- The residual allotment is not located within the flood prone mapped area. The watercourse through the middle of Lot 4 DP 1230208 is mapped as being flood prone. Given that a small section of Lot 4 will be utilised for the retention basins and that will be located outside of the flood prone area, no further assessment is required.
Part 7 Additional local provisions		
7.1	Earthworks	Complies – The proposed development will include earthworks for services and road construction which will change the drainage patterns of the area. The road network and stormwater infrastructure proposed has been designed to allow for the diversion of stormwater to be captured within bio-retention basin systems and treated before being naturally dispersed in the area. There will be conditions of consent imposed to ensure dust, noise and erosion is minimised during works and in perpetuity as a result of earthworks. The development has been assessed by appropriate authorities in relation to potential impacts from earthworks on water courses and found to be satisfactory subject to conditions of consent, if approved. It is unlikely that the development will disturb relics on the site given the site history is grazing land. The development will comply with the requirements of the earthworks provisions.
7.3	Stormwater management	The proposal has been designed to maximise water permeable surfaces with minimal road networks and stormwater infrastructure. The development will have minimal runoff to adjoining properties as it will be retained onsite and dispersed adequately into adjoining water catchments as per existing arrangements. The development has been assessed by appropriate authorities with no objection to the

LEP Clauses		
Relevant Provisions		**Comment**
		stormwater management proposals subject to appropriate conditions of consent being imposed, if approved.
7.4	Terrestrial biodiversity	As a very minimal section of the land is within this mapping it was not required that any further reports on flora or fauna be supplied. The land is generally devoid of native vegetation and contains mostly grassland. The removal of three trees is not expected to have an adverse effect on the habitat or survival of native fauna and the ecological value and significance is minimal. The development will be required to implement tree planting along roads and vegetation within drainage reserves to offset the minimal clearing proposed.
7.5	Groundwater vulnerability	Not applicable - The land is not within the groundwater vulnerability overlay.
7.6	Riparian land and watercourses	Complies – All proposed development works are greater than 40 metres from the top of any watercourse bank of Farmers Creek, however future sewer infrastructure will be within the riparian area. DPE Water has consented to the application.
7.7	Sensitive lands	Complies - The entire property is within the sensitive lands overlay of the LEP. The development has slopes of over 25% and shallow soils which could be subject to high erosion potential. The applicant showed building envelopes, on the original plans, for the proposed lots with slopes of greater than 20% to demonstrate that areas with a slope of greater than 20% could be avoided for future building footprints. During the assessment of the original application Council's Planner considered that some of the steepest lots proposed would still prove problematic for the construction of a dwelling without the need for significant earthworks for either a building pad or driveways. The applicant agreed to enlarge a number of proposed lots on these areas by creating larger building envelopes in these steep locations. Additionally, a split level carriageway for the Hillcrest Avenue extension has been proposed to avoid excess cut and fill and to better control one steep area into the future. This has been assessed as part of the application and considered suitable. The proposed design seeks to minimise the impact on the most sensitive land which will be further controlled through conditions of consent if approved. WaterNSW has determined the site to be highly erodible and have provided their concurrence for approval.

LEP Clauses		
Relevant Provisions		**Comment**
7.8	Development within a designated buffer area	Not applicable – the site is not mapped as being located within a designated buffer area.
7.10	Essential services	Complies - The development will provide reticulated water, underground electricity, sewerage management/disposal, stormwater drainage and suitable vehicular access through the design and via conditions of consent, if approved.

Lithgow Development Control Plan (DCP) 2021

The original application was approved prior to the implementation of the Lithgow Development Control Plan 2021. The DCP is therefore not required to be considered under this modification given the changes involve increasing the amount of allotments from 86 Residential allotments to 98 allotments, plus 4 basin lots (new allotments/relocation), and minor lot/layout reconfiguration.

Environmental Planning and Assessment Regulation 2021

Section 4.15(1)(a)(iv) of the EP&A Act requires the consent authority to consider any prescribed matters under the Environmental Planning and Assessment Regulation 2021 (the Regulation). Council has assessed the development in accordance with all relevant matters prescribed by the Regulation.

Likely Impacts of That Development

Section 4.15(1)(b) of the EP&A Act requires the consent authority to consider the likely impacts of that development including environmental impacts on both the natural and built environments, and the social and economic impacts in the locality.

Head of Consideration	Comment
Adjoining Land use	As per the original assessment of the application, the proposed revised subdivision pattern, road configuration and lot sizes largely reflect that of the neighbouring subdivision to the south. As such minimal impact to the surrounding area is envisaged to occur beyond the scope of the original assessment.
Services	As per the original assessment of the application, all modern services will be made available to the development. Sewer provision is currently not yet fully available however. The conditions relating to services will remain on the consent and not be impacted by the proposed modification.
Access/traffic	As per the original assessment of the application, Council's Engineers have examined the proposal and have no concerns with access or traffic generation apart from the intersection of James O'Donnell Drive with the Great Western Highway. Transport for NSW previously expressed the same concern for safety. As such the conditions relating to access and traffic will remain on the consent and will not be impacted by the modification.
Social and Economic Impact	As per the original assessment, the social impact of additional population is considered to be negligible. Some economic growth is envisaged as a result of this land release. As such the modification will not create any additional impacts to the original assessment.

Noise and Vibration	As per the original assessment, there will be impacts to existing neighbours during construction. These are considered to be within reason and relatively short lived in duration.

Site Suitability

The surrounding land uses to the south are for residential pursuits with the size and nature of the development to be consistent with those in the surrounding area. The proposal is compatible with the objectives of the zone and is considered to have minimal impact on the surrounding amenity subject to conditions of consent, if approved. Therefore, the site is considered to be suitable for the proposed development.

Policy Implications (Other Than DCP's)/Public Participation

Lithgow Community Participation Plan

Pursuant to the Lithgow Community Participation Plan, the Application was notified commencing 26 July 2023 and concluded 11 August 2023. No known written submissions were received during the notification period.

Section 7.4 Planning Agreements (EP&A Act 1979) and Council's Policy 7.8 Voluntary Planning Agreements

As part of the original approval DA021/18, the developer agreed to make a contribution of $3,200 per lot to go towards Council's provision of a link road between James O'Donnell Drive and Col Drewe Drive Bowenfels (refer to Modification of Consent MOD039/19-Land and Environmental Court Resolution).

The VPA provisions also includes the installation of a concrete island and 'No Tight Turn' signage on the James O'Donnell Drive approach to the Great Western Highway.

The details of the VPA were incorporated and assessed in the original and previous modification applications. As such the VPA is required to be amended should the application be recommended for approval to include the additional allotments.

Council's Policy 7.6 – Development Applications By Councillors And Staff Or On Council Owned Land

The policy states:

1. *That, subject to the exemptions in Part 2 of this Policy, the following development applications shall be referred to Council for consideration and determination:*

   c. Where the development application is on Council owned land

   …

   e. Any application that proposes to dedicate land or an asset to Council if the recommendation is for approval of that application.

The development is to be reported to Council as per Council's Policy 7.6 'Development Applications by Councillors And Staff (including immediate relatives), Or On Council Owned Land & Conflicts of Interest'. given that part of the land (existing drainage reserves) are owned by Council and as land will be dedicated to Council (roads and bioretention basins), the modification is to be determined by the elected Councillors.

The development further involves amending the original Planning Agreement to allow for the additional allotments should the application be approved.

As per the original assessment of the development, the dedication of assets includes:

Road Extension: The development requires an extension to Hillcrest Avenue and Thornton Avenue. As a result, these road extensions will be dedicated to Council. Therefore, Council is required to be satisfied that this will be at an acceptable standard.

Sewer: The development requires additional connections to Council's reticulated sewer and sewer upgrades (including a new pumping station by Council) to allow for the additional loadings. The cost of these of upgrades will be borne by the developer; however the ongoing maintenance of the services will be the responsibility of Council. It is important for Council to ensure that these services are properly provided to minimise potential unnecessary maintenance in the future. However, contributions through the Water Management Act 2000 will be applicable and will provide support to Council's ongoing maintenance of this utility.

Water: The development requires additional connections to the reticulated water services. The cost of these of upgrades will be borne by the developer; however the ongoing maintenance of the services will be the responsibility of Council. It is important for Council to ensure that these services are properly provided to minimise potential unnecessary maintenance in the future.

Associated Assets: The development proposes to dedicate land to Council which retains the stormwater infrastructure within four constructed bio-retention basins. These lands will require ongoing maintenance once the land is dedicated to Council.

Although the above dedication of assets and Council owned land for infrastructure were previously approved by the elected Councillors, the modification involves the increase in the number of allotments and alterations to the subdivision layout. This therefore is considered to be above the minor amendments for modifications to be determined under delegated authority. Therefore, the modification of development consent is referred to the elected Councillors for determination.

The original and previous modification references in Council's Business Papers include:

DA021/18 - Original Approval
Council Meeting held on 29 October 2018, Min.18-279.

MOD039/19- Modification 1
Council Meeting 24 May 2021, Min. 21-115.

MODDA049/22- Modification 2
Council Meeting held on 23 January 2023, Min. 23-9.

The Public Interest

The public interest is best served by the orderly and economic use of land for permissible uses and that does not impact unreasonably on the use and development of surrounding land. Based on the information submitted and an assessment of the proposal, the development is considered to be in the public interest.

Discussions and Conclusions

The proposal is considered to generally comply with the relevant provisions of the applicable Environmental Planning Instruments. The proposal is not considered likely to have any significant negative impacts upon the environment or upon the amenity of the locality. As such it is recommended that development consent is issued subject to the conditions outlined below.

Attachments

Schedule A- Conditions of consent,
Schedule B- General Terms of Approval: Department of Planning and Environment – Water,
Schedule C- General Terms of Approval: NSW Rural Fire Service,

Schedule D- General Water and Sewer Requirements.

Recommendation

THAT the Section 4.55 Modification of Consent application MODDA024/23 associated with DA021/18 be approved subject to the following and as outlined in Schedule A.

Amended Conditions
Conditions 1 to 3
Conditions 9 to 13
Condition 20
Condition 52
Conditions 58 to 69 (WaterNSW Requirements)

Additional Conditions
Condition 11. a)

Assessment Prepared By: Lauren Stevens
Development Planner

REASONS FOR CONDITIONS

The conditions in Schedule A have been imposed for the following reasons:

- To ensure compliance with the terms of the relevant Planning Instruments
- To ensure no injury is caused to the existing and likely future amenity of the neighbourhood
- Due to the circumstances of the case and the public interest.
- To ensure that adequate road and drainage works are provided.
- To ensure the structural integrity of the development.
- To protect the environment.
- To prevent, minimise, and/or offset adverse environmental impacts.
- To ensure there is no unacceptable impact on the water quality.
- To ensure compliance with the requirements of the Rural Fire Services.
- To ensure adequate soil conservation and protect against movement of soil and sediments.

Schedule A
Conditions of Consent (Consent Authority) and General Terms of Approval (Integrated Approval Body)

DA021/18 Approved 29 October 2018,
MOD039/19 Approved 24 May 2021,
MODDA049/22 Approved 23 January 2023,
MODDA024/23 Subject to Approval

ADMINISTRATIVE CONDITIONS

1. That the development be carried out in accordance with the application, Statement of Environmental Effects, accompanying information, plans listed in the approval, ~~and~~ any further information provided during the process and amended plans/documents as per MODDA049/22 and MODDA024/23 unless otherwise amended by the following conditions.

The plans and documents approved as part of this application include:

Plan No.	Plan Name	Rev	Date
~~16083~~	~~Subdivision Plans, Soil & Water Plan, Staging Plan & Contours & Slope Plan prepared by Voerman & Ratsep Land Surveyors~~		~~28/11/2017~~
~~2016.0617A~~	~~Conceptual Stormwater Management Plan prepared by Calare Civil~~		~~May 2018~~
2016.0617A-SWMP-Stg1	Stormwater Management Plan prepared by Calare Civil (Stage 1)		September 2022
2016.0617A-SWMP-Stg2	Stormwater Management Plan prepared by Calare Civil (Stage 2)	C	09 July 2025
2016.0617A – SW01 & SW11	Stormwater Layout Plan prepared by Calare Civil	I	2 September 2022
	Bushfire Assessment Report prepared by ~~Voerman & Ratsep Land Surveyors~~ Australian Bushfire Consulting Services (ref: 23-402)		~~2017~~ 27 April 2025
	Typical Cross Section for a Split-level Carriageway prepared by Voerman & Ratsep Land Surveyors		2017
~~16083~~	~~Statement of Environmental Effects prepared by Voerman & Ratsep Land Surveyors~~		~~5/2/2017~~
	General Notes for Modification- Stage 1 prepared by Central West Project Management		27/10/2022
2022-224D~~3~~1	Figure 2- Proposed Modification ~~No.1~~ Plan prepared by Anthony Daintith Town Planning		~~21/09/2022~~ 04/07/2025
2016.0617	Civil Plans, including: -General Arrangement Plan,	P7	09/07/2025

		-Concept Earthworks Plan, -Basin 02 Access, -Basin 03 Access, -Basin 04 Access Prepared by Calare Civil		
	N244134A	Traffic and Parking Impact Assessment	1a	June 2024

Amended as per MODDA049/22

Amended as per MODDA024/23

2. This development consent is for a **staged approval** being ~~two stages in total. Stage 1 comprises 20 lots and one drainage reserve (Lots 1 to 10 & 50 to 59 & Pt Lot 87). Stage 2 comprises 66 lots and three drainage reserves (Lots 11 to 49 & 60 to 86 & remaining Part Lot 87). Construction of Stage 2 is not to commence until a sewer connection is made available.~~ ~~on Lot 4 DP 1230208 and a road link between James O'Donnell Drive and Col Drewe Drive is constructed, dedicated as a public road and open to traffic.~~

- Stage 1 – Lots 1 to 21 (including the basin lot),
- Stage 2 – Lots 201 to 213,
- Stage 3 – Lots 301 to 318 (including the basin lot),
- Stage 4 – Lots 401 to 422 (including the basin lot),
- Stage 5 – Lots 501 to 517 (including the basin lot),
- Stage 6 – Lot 601 to 615.

Amended as per MOD039/19

Amended as per MODDA024/23

3. That a Subdivision Certificate Application, release fee, Registered Surveyors Plans ~~(original & 11 copies)~~ along with associated 88B instrument if applicable, be submitted to Council via the NSW Planning Portal for finalisation following the compliance with all conditions of this consent.

Amended as per MODDA024/23

4. No coal burning appliances are to be installed on the residential allotments. A restrictive covenant shall be placed on each lot created through an 88(b) Instrument of the *Conveyancing Act 1919* with Council having the right to vary, modify or release this restriction.

5. A street tree planting plan is to be submitted to Council and approved for the overall subdivision prior to Subdivision Certificate release of Stage 1. The street trees are to be implemented within each stage prior to Subdivision Certificate release of those stages respectively.

6. A street lighting plan is to be provided with adequate street lighting in accordance with AS/NZS and be to the satisfaction of the relevant electricity supplier prior to release of Stage 1. Such lighting shall have regard to its visual impact and be designed to complement the streetscape. Street lighting is to be implemented for each stage prior to the Subdivision Certificate Release of each stage respectively.

Utilities

7. The applicant shall consult with an Authorised telecommunications, Electricity and Gas Authorities for the provision of telephone, electricity and gas to each allotment. Confirmation of connection to each allotment or a 'Notification of Arrangement' shall be lodged from each authority, with Council prior to the issue of a Subdivision Certificate.

8.	Prior to the issue of the Subdivision Certificate, the developer (whether or not a constitutional corporation) is to provide evidence satisfactory to the Council that arrangements have been made for: (i) the installation of fibre-ready facilities to all individual lots and/or premises in a real estate development project so as to enable fibre to be readily connected to any premises that is being or may be constructed on those lots. Demonstrate that the carrier has confirmed in writing that they are satisfied that the fibre ready facilities are fit for purpose. and (ii) the provision of fixed-line telecommunications infrastructure in the fibre-ready facilities to all individual lots and/or premises in a real estate development project demonstrated through an agreement with a carrier.
Voluntary Planning Agreement	
9.	That the Voluntary Planning Agreement (VPA) be endorsed by all parties as proposed by Voerman & Ratsep Land Surveyors on 06/02/2018 prior to the Subdivision Certificate release of Stage 1 and the amended VPA be endorsed by all current parties prior to the second stage of the development as per the Modification MODDA024/23. Additionally, the contribution agreed to within the VPA is to be paid at a rate of $6200.00 per lot for community facilities ($6000) and public open space ($200) prior to the Subdivision Certificate release of the relevant stages or as stipulated within the VPA ~~Stages 1 & 2~~: • ~~Stage 1= $124,000 for 20 lots~~ • ~~Stage 2= $409,200 for 66 lots~~ Further, the contribution agreed to within the additional VPA (2021) for the provision of a link road is to be paid at a rate of: • pay an amount of ~~$275,200~~ $313,600 being $3,200 for each of the ~~86~~ 98 residential lots created, to go towards Council's provision of a link road between James O'Donnell Drive and Col Drew Drive, Bowenfels; and • Install a concrete island and "No Right Turn" signage on the James O'Donnell Drive approach to the Great Western Highway • The payment is to be paid prior to the release of the subdivision certificate for the 21st lot to be created under DA021/18 and subsequent modifications. • The intersection works are to be completed prior to the release of the subdivision certificate for the 30th lot to be created under DA021/18 and subsequent modifications. Amended as per MOD039/19 Amended as per MODDA024/23
Section 64 Contributions	
10.	An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act for each Stage. A Subdivision Certificate shall not be issued until such time as the contributions applicable to release the Certificate of Compliance are paid in full to Council. Each Stage requires payment for the ~~following~~ allotments created ~~being: Stage 1= 20 lots, Stage 2=66 lots~~. The rate of contribution per lot/ET ~~is $2,921~~ for water and ~~$14,213 for~~ sewer ~~as~~ are set by *Lithgow City Council Development Servicing Plan for water supply and sewerage, August 2018* or the rate adopted by any subsequent Development Servicing Plan, annually adjusted for CPI (Sydney) applicable at the time of payment. Amended as per MODDA024/23

Bushfire	
11.	~~At the issue of subdivision certificate, and in perpetuity, the entire property of each residential lot shall be managed as an inner protection area (IPA) as outlined within Section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW RFS's document 'Standards for asset protection zones'.~~ **Asset Protection Zones** 1) At the issue of a subdivision certificate, and in perpetuity to ensure ongoing protection from the impact of bush fires, the entirety of the proposed residential Lots 301, 302, 303, 314, 315, 316, 317, 505, 506, 507, 508, 515 and 516 must be managed as an inner protection area (IPA) in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*. When establishing and maintaining an IPA the following requirements apply: • tree canopy cover should be less than 15% at maturity; • trees at maturity should not touch or overhang the building; • lower limbs should be removed up to a height of 2 metres above the ground; • tree canopies should be separated by 2 to 5 metres; • preference should be given to smooth barked and evergreen trees; • large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings; • shrubs should not be located under trees; • shrubs should not form more than 10% ground cover; and • clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation. • grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and • leaves and vegetation debris should be removed. 2) At the issue of a subdivision certificate, if the land immediately to the north of proposed Lots 301, 302, 314-317, to the northwest of proposed Lots 504-508 and north of proposed Lot 515 has not been developed and the bush fire hazard removed, a suitably worded instrument(s) must be created pursuant to section 88 of the *Conveyancing Act 1919* over these lots for provision of asset protection zones (APZs) which prohibit the construction of buildings other than class 10b structures within the lots as shown in Images 2 and 3 of the Bush fire Assessment Report prepared by Australian Bushfire Consulting Services (ref: 23-402, dated 27 April 2025). The instrument may be lifted upon commencement of any future development on the adjoining land, but only if the bush fire hazard is removed as part of the proposal. The name of authority empowered to release, vary or modify the instrument shall be Lithgow Council. The APZs must be managed as an Inner Protection Area (IPA) in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*. When establishing and maintaining an IPA the following requirements apply: • tree canopy cover should be less than 15% at maturity; • trees at maturity should not touch or overhang the building; • lower limbs should be removed up to a height of 2 metres above the ground; • tree canopies should be separated by 2 to 5 metres; • preference should be given to smooth barked and evergreen trees; • large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings; • shrubs should not be located under trees; • shrubs should not form more than 10% ground cover; • clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

	• grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and • leaves and vegetation debris should be removed. 3) At the issue of a subdivision certificate, if the land within Lot 4 DP 1230208 has not been developed and the bush fire hazard removed, a suitably worded instrument(s) must be created pursuant to section 88 of the *Conveyancing Act 1919* over the lot for provision of asset protection zones (APZs) as shown in Images 2 and 3 of the Bush fire Assessment Report prepared by Australian Bushfire Consulting Services (Ref: 23-402, dated 27 April 2025). The instrument must clearly identify the entity responsible for the maintenance of this APZ. The instrument may be lifted upon commencement of any future development on the lot, but only if the bush fire hazard is removed as part of the development. The name of authority empowered to release, vary or modify the instrument shall be Lithgow Council. The APZs must be managed as an Inner Protection Area (IPA) in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*. When establishing and maintaining an IPA the following requirements apply: • tree canopy cover should be less than 15% at maturity; • trees at maturity should not touch or overhang the building; • lower limbs should be removed up to a height of 2 metres above the ground; • tree canopies should be separated by 2 to 5 metres; • preference should be given to smooth barked and evergreen trees; • large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings; • shrubs should not be located under trees; • shrubs should not form more than 10% ground cover; • clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation. • grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and • leaves and vegetation debris should be removed. Amended as per MODDA024/23
11.a)	**Construction Standards** Fences and gates must comply with Section 7.6 of *Planning for Bush Fire Protection 2019*. Any new fences within Lots 301-303, 314-317, 505-508, 515 and 516 must be constructed with non-combustible materials. Where a fence or gate is constructed within 6m of a dwelling or in areas of BAL-29 or greater, they must be made of non-combustible material only. Additional as per MODDA024/23
12.	~~Water, electricity and gas are to comply with section 4.1.3 of 'Planning for Bush Fire Protection 2006'.~~ **Water and Utility Services** The provision of any new water, electricity and gas for proposed Lots 301, 302, 303, 314, 315, 316, 317, 505, 506, 507, 508, 515 and 516 must comply with Section 4.1.3 of *Planning for Bush Fire Protection 2006.* Additional as per MODDA024/23
13.	~~Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.~~ **Access – Public Roads** Public access roads must be in accordance with the proposed Subdivision Plan prepared by Anthony Daintith Town Planning (reference 2022-2240, dated 13 September 2024) and comply

	with section 4.1.3 (1) of *Planning for Bush Fire Protection 2006,* including the following requirements: • are two-way sealed roads; • a minimum vertical clearance of 4 metre to any overhanging obstructions, including tree branches, is provided. • parking is provided outside of the carriageway width; • are through roads, and these are linked to the internal road system at an interval of no greater than 500 metre; • the maximum grade road is 15 degrees and average grade of not more than 10 degrees; • the road crossfall does not exceed 3 degrees; • traffic management devices are constructed to not prohibit access by emergency services vehicles; • dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end; • the capacity of perimeter and non-perimeter road surfaces is sufficient to carry fully loaded firefighting vehicles; • hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; and • hydrants are provided in accordance with the relevant clauses of *AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning.* Amended as per MODDA024/23
ENGINEERING REQUIREMENTS	
14.	A Construction Certificate must be obtained prior to the commencement of any Civil Works.
15.	Plans are to be lodged to Council for the issue of a Construction Certificate prior to the commencement of any Civil Works.
16.	All engineering works are to be to the standard specified in Council's "Guidelines for Civil Engineering Design and Construction for Development". This document is available on Council's website or upon request from Council's administration desk.
17.	That a Geotechnical Report be provided for all proposed roads, including subgrade design prior to a Construction Certificate being issued. Geotechnical compaction tests and visual deflection tests are to be undertaken and to be approved by Council prior to the application of seal. Such tests are to be included with the Construction Certificate Engineering Drawings.
18.	The road crossfall must not exceed a maximum of 3% at any point.
19.	The footpath crossfall must not exceed a maximum of 4% at any point.
20.	All batters must not exceed a maximum gradient of 1:~~5~~ 4. Amended as per MODDA024/23
21.	The road grade must not exceed a maximum of 12% at any point. All internal roads shall have a minimum of 150mm (subject to testing) of DGB-20 road base applied and compacted providing a smooth transitional surface. The road surface is to be constructed to an 8m wide formation within a 15m wide minimum road reserve.
22.	All internal residential roads are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Layers of asphaltic concrete may be included in the total design pavement depth, but should not be assigned a layer equivalency of greater than unity.

	Where variation to this condition is required, approval may be granted subject to discussion with Council.
23.	All cul-de-sacs/turning circles are to be surfaced with a minimum 40mm thickness of Asphaltic Concrete (AC) laid upon a sprayed bituminous prime coat, designed in accordance with the RTA publication "Sprayed Sealing Guide". Cul-de-sacs/turning circles are to be constructed so that a minimum kerbline radius of 9.5 metres is achieved from the centre of the cul-de-sac/turning circle. The boundary of the road reserve should be curved with a minimum radius of 14 metres to provide for a 4.5 metre wide footpath. Where the head of the cul-de-sac is located on the low side of the road, special provision should be made to convey overland storm water flows through easements or drainage reserves.
24.	Roll top kerb and guttering is to be provided on both sides of all internal roads.
25.	2 x 3.5m wide footways are to be provided adjacent to all internal roads. Footpaths must continue to all intersections.
26.	Traffic signs, traffic signals, pavement markings, guide posts, delineators, safety barriers and the like, whether permanent or temporary, are to be designed and installed at all roads in accordance with guidelines contained within the Austroads publication, "Guide to Traffic Engineering Practice – Part 8: Traffic Control Devices", Australian Standard 1742 – Manual of Uniform Traffic Control Devices and the Roads and Traffic Authority "Road Design Guide". All traffic control devices and signage are to be detailed in the engineering drawings submitted with the construction certificate. The consent of Lithgow City Council's Executive Manager of Operations or appointed officer will be required prior to the installation of any traffic control devices on existing roads.
27.	Two street trees per lot are to be planted within the road reserve. The developer shall consult with and seek approval from Council regarding the species to be used. Only non-frangible trees, having a mature diameter of less than 100mm, shall be planted near road verges and medians. A landscaping plan showing, but not limited to, plant species and estimated height and spread of mature trees is to be provided to Council with the construction certificate.
28.	Street lighting shall be provided on all internal access roads in accordance with Australian Standard 1158 – Road Lighting. Energy absorbing columns may be required where fallen columns would be particularly hazardous. The use of energy-saving lighting fixtures is encourages, however no rebate will be issued to the developer if these types of lamps are approved.
29.	A fully certified traffic control plan and road works signage will be required where machinery may obstruct traffic on any Public Road whilst construction work is being undertaken. A traffic control plan and certification of fully qualified contractors/persons will be required to be submitted to Council prior to any work commencing on the shoulder of any Public Road. Failure to comply may result in Work Cover Intervention and may also include Council stopping all work immediately until such time the developer complies with suitable traffic management procedures.
30.	A maintenance bond of 5% of final construction costs shall be paid to Council upon final inspection and approval of all civil works. The value of the maintenance bond shall be approved by Council after witnessing a certified copy of the contract documentation showing all civil construction costs for the subdivision. The maintenance period will start from the date of final inspection for a period of 12 months. At the conclusion of the 12 month period a final inspection is to be undertaken by Council at the request of the developer to determine if any defects have arisen during this time. All deficiencies are to be rectified by the developer, should outstanding works remain Lithgow City Council reserves the right to expend bond monies on rectification works.
31.	A site investigation is to be performed which is to include logging of test holes to a depth not less than one metre below design subgrade levels (unless rock is encountered). Soil tests shall be taken at the design depth and samples taken for CBR testing in accordance with Australian

	Standard 1289. The design California Bearing Ratio (CBR) shall be selected following a careful assessment of the materials encountered in the site investigation and the variability of subgrade moisture and density conditions likely in service. The design CBR value should assume poor drainage and shall be determined from soaked CBR. A copy of the site investigation, including test results, is to be included with the Engineering Drawings. Where the design subgrade CBR is below 3, the subgrade shall be chemically stabilised to a minimum depth of 150mm, and the pavement design based on a CBR of 3.
32.	Each layer of pavement shall be tested for compaction and deflection as detailed below. The Executive Manager of Operations or his delegate must approve each layer prior to the placing and compaction of subsequent layers. (a) Compaction Testing: The subgrade, and all pavement layers, shall be density tested in-situ at the start and finish of the work (within the first/last five metres), and thereafter at intervals of no more than 50 metres, or as indicated by Council's Development Engineer. A minimum of two tests will be required for road pavements less than 50 metres in length. At cul-de-sacs, additional testing will be required at the turning head. The test sites selected should be representative of the likely minimum pavement compaction levels achieved. Density testing must be undertaken by an authorised representative of a laboratory registered by the National Association of Testing Authorities (NATA). Density testing may be conducted using either the sand replacement test, nuclear gauge, or other NATA approved method. Where a nuclear gauge in direct transmission mode is used to determine pavement density, the test method shall comply with RTA Test Method T173. Results of density testing shall be forwarded directly to Council for approval. No pavement layer shall be covered by a subsequent layer until the results of the density testing have been delivered to and approved by Council's Development Engineer. Table 1 below sets out the minimum compaction requirement for each pavement layer.

Layer	Compaction Requirement	Standard
Subgrade	98% standard maximum dry density California Bearing Ratio (CBR) test	AS 1289.E1.1 AS 1289.F1.1
Sub-Base	100% standard maximum dry density	AS 1289.E1.1
Base	100% standard maximum dry density • *Unbound Materials* • *Cemented Materials* Density in place test California Bearing Ratio (CBR) test	 AS 1289.E2.1 AS 1289.E3.1 AS 1289.E3.1 AS 1289.F1.1

Laboratory determination of maximum dry density for pavement materials which have been modified with cement must be undertaken within 4 hours of the cement being added to the material. Materials tested outside this time will be subject to an adjustment to correctly determine the maximum dry density of the sample. For either natural or modified material, the laboratory determination of maximum dry density shall be undertaken at a frequency of no less than one determination for each days production of material.

(b) Deflection Testing:

All pavement layers must be proof-rolled, and approved by Council's Development Engineer prior to the placement of subsequent pavement layers.

The proof-rolling will be conducted using either:

(i) a roller having a load intensity of seven (7) tonnes per metre width of roller.

	(ii) a tandem axle rigid vehicle, having a maximum load of 15 tonnes per axle group (8 tyres), 12 tonnes per axle group (6 tyres), or 10 tonnes per axle group (4 tyres). Single axle vehicles should have maximum loads of 8.5 tonnes (dual tyres), or 5.4 tonnes (single tyres). Any movement of the pavement layer under loading will be deemed a failure. Although not a subdivision requirement at this stage, Council strongly encourages Developers to specify in their contracts the use of Benkelman Beam tests to test for any deflection in the pavement layers, and as a means of quality assurance (c) Final Road Profile: The mean construction tolerance on pavement surface crossfalls should be within ±5% of the design crossfall. The maximum allowable construction tolerance is ±5%, and the maximum standard deviation of crossfalls is 5%.The vertical alignment should not deviate by more than 25mm from the value shown on the drawings.
33.	All road, drainage, kerb and gutter, water and sewerage reticulation works associated with a development shall be inspected by Council's Operations Department. The whole of the works are to be carried out to the satisfaction of the Executive Manager of Operations. Council shall inspect engineering works at the following stages as a minimum: i. Following site regrading and shaping, and prior to installation of footway services; ii. Installation of erosion and sedimentation control measures; iii. Storm water drainage lines prior to backfill; iv. Water and sewer lines prior to backfill; v. Testing of water and sewer lines; vi. Subgrade preparation, before placing pavement; vii. Establishment of line and level for kerb and gutter placement; viii. Completion of each pavement layer ready for testing; ix. Road pavement surfacing; x. Completion of works The developer or contractor shall give Council a minimum 24 hours' notice when requesting an inspection to ensure that development works are not delayed. The developer shall, if required by a Council Engineer, submit delivery dockets for all materials used, and all material and performance test results obtained in the development.
34.	Works as Executed (WAE) Plans detailing all services and infrastructure are to be prepared by a registered surveyor or professional engineer, and submitted to Council. The WAE plans shall be lodged prior to the release of the linen plan. The applicant is required to submit three complete sets of hard copy plans (one A1-sized, two A3-sized) and one set of electronic plans in AUTOCAD format.
35.	A "Work-As-Executed" (WAE) plan is required to be prepared by a Registered Surveyor or professional engineer and forwarded to Council prior to the final inspection. The WAE is to include, as a minimum: • certification that all works have been completed generally in accordance with the approved plans and specification, • any departure from the approved plans, • any additional/deleted work, • the location of conduits, subsoil lines, stub mains and inter-allotment drainage lines, • pipeline long sections showing the constructed invert levels of each pipe at each pit and pipe dimensions, • details of overland flow provisions, • site regrading areas by new contours, and

	• all other details which have a bearing on the extent of works and their acceptance by Council.
36.	All Engineering Drawings submitted to Council for approval are to have a title block showing the following: • Applicant's Name, • Consultant's Name, Address, Phone No. and Contact Name, • Drawing Number, Sheet Number and Amendment Number, • Schedule showing Date and Nature of Amendments, • Site Address, including Lot and Deposited Plan (DP) Number, • Council's File Reference, • Stage Number, • Drawing Title, • Scale with Scale Bar, and • Signature of Authorised Person
37.	Construction noise shall be in accordance with the 'Noise Control Guidelines for Construction Noise Standards'. Hours of operation shall be permitted between 7am and 6pm Monday to Friday and 8am and 1pm Saturdays. No heavy machinery work or usage shall be permitted on Sundays or Public Holidays.
38.	The applicant shall submit a soil erosion and sedimentation control plan with the engineering design for Council approval. Such shall address both short and long term management of all disturbed areas and specified methods and structures to be employed to minimise any impact.
39.	Prior to and during the commencement of works the applicant shall erect soil erosion and sedimentation controls for the following purposes: • control of soil erosion and sedimentation movement during the bulk earthworks stage • control of run off and diversion of the sedimentation trap prior to the development of land • method of stabilising the land from erosion and sediment movement after the completion of works and prior to the development of the land
40.	The applicant is to comply with all reasonable requests from Council with regard to any complaints received during construction works.
41.	The following conditions apply to Stormwater Drainage design and construction: a) Stormwater Drainage plans shall submitted to Council as part of the construction certificate, drawn at a scale sufficient to show all necessary details, nominally 1:200, 1:500, 1:1000 or 1:2000. The following data is to be included with a contoured catchment area plan: i. Catchment areas and sub-areas, watershed (catchment boundary), overland flow paths, existing and proposed pipe layout. For large catchments, the total catchment area should be shown at a large scale on a separate plan or inset. ii. All sub-areas, drainage lines and pits are to be logically numbered.

iii. A schedule of pipe details, including pipe number, size, class, bedding type, joint type, invert levels at inlet and outlet, slope, and length.

iv. A schedule of pit details, including pit number, type, road chainage, surface level to the Australian Height Datum (AHD), invert level to AHD, depth, and lintel length.

v. North point and legend.

vi. Setout information.

vii. Accurate position and level of all services and utilities which cross underground drainage pipelines.

viii. Identify those building allotments adjacent to channels and major storm flow paths which may be liable to flooding in major flood events, and the minimum design habitable floor level adjacent to prevent flooding in the design flood event.

ix. Inlet and outlet treatments.

x. Measures for the prevention of erosion and sedimentation.

b) Stormwater pit construction:

i. Pits shall be provided in drainage lines at all changes in grade, level, and direction, and at all pipe junctions and shall be spaced at no more than 85m apart.

ii. Drainage pits are to conform to Council's standard Drawings, or RTA standards for Classified Roads. Non-standard structures shall be constructed as detailed in the design drawings. Such designs shall comply with AS3600 –Concrete Code, AS4100 – Steel Structures, AS1657 – SAA code for fixed platforms, walkways, stairways and ladders; and any other relevant standard.

iii. Pits used for storm water drainage shall be fitted with square lids to distinguish them from sewer manholes.

iv. Junction pits shall be fitted with reinforced lids and approved lifting eyes.

v. Grated inlet pits shall not be used for street or roadway drainage.

vi. Precast pits, incorporating insitu bases, may be used if the prior approval of the pit type and design are approved by the Group Manager of Operations.

vii. Every endeavour shall be made to maintain flow velocities through pits. Excessive drops will not be permitted.

viii. Pipe grading across pits should be designed on the following basis:

- No change in direction or diameter - minimum 50mm;
- Direction change but no change in diameter - minimum 70mm;
- Changes in pipe diameter should be graded from obvert to obvert;

ix. At pit connections, a 3 metre length of approved subsoil drainage pipe enclosed in a geofabric sock shall be placed alongside the main pipe so as to enter the pit at the same invert level and adequately drain the main trench, in accordance with Council's standard drawing EN 1016 (copy attached).

c) Location of pits in roadways, for the adopted minor drainage system annual exceedance probability:

	i. Inlet pits shall be located so as to restrict the maximum gutter flow width to 2.5 metres. ii. Maximum spacing between any two consecutive pits is 85 metres. iii. Pit bypass flows should be limited to 15% of the gutter flow at that location. iv. At intersections, kerb inlet pits shall be constructed adjacent to the upstream kerb return tangent point where flows exceed 20 litres per second or gutter flow width is more than 1 metre. v. The minimum clearance from the top of the manhole to the design pit water level should be 150mm. vi. The product of flow velocity and depth of flow in the kerb and gutter should not exceed 0.4 m2/s. vii. Kerb inlet pits should be located clear of horizontal curves, pedestrian desire lines, and vehicle driveways. viii. Inlet conditions shall be designed so that the potential for blockage by silt and debris is minimised. This may require special treatment of the inlet sump under some conditions. d) Hydraulic Design i. Pit inlet capacities shall be estimated from design charts and formulae, based on lintel size for on-grade pits and depth of ponding for sag pits. The calculated inlet capacity shall be reduced by a factor of 50% for sag pits, and 20% for on-grade pits, on the assumption that debris is preventing some inflow. ii. Standard lintel sizes of 1.8, 2.4, 3.0, or 3.6 metres should be used when possible. iii. The minimum internal lintel size on a sag should be 2.4 metres. iv. The head loss through pits shall be determined from Missouri Charts or other recognised methods.
42.	~~Prior to the release of the stage 2 sub-division certificate (prior to the release of the 21st allotment) a linkage road is to be constructed linking Col Drewe Drive to James O'Donnell Drive. The road is to be constructed to a collector road standard as defined in Council's Guidelines for Civil Engineering Design and Construction for Development. Conditions 14 – 22, 24, 40 and 41 are to be met during the design and construction of the linkage road.~~ *Deleted as per MOD039/19*
43.	The engineering designs of Bio-Retention 1, 2, 3 & 4 must be consistent with Water by Design, 2014, "Bio-Retention Technical Design Guidelines", Healthy Waterways Ltd, Brisbane. The designs must incorporate an impermeable liner when located in close proximity to Sewer and/or Water infrastructure. In coordination with the engineering designs an Operational and Maintenance Plan for the assets is to be developed and submitted to Council for approval.
44.	Bio-Retention Basin 1 is to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for stage 1. Bio-Retention Basin 2 is to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for stage 2.
45.	Bio-Retention Basin 3 are to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for Stage 4.

	Bio-Retention Basin 5 is to be constructed to sedimentation basin stage prior to the release of the subdivision certificate for Stage 5.
46.	Staged Bio-Retention Basin assets are to be handed over to Council prior to release of the subdivision certificate for stage 1, 2, 4 & 5. The following conditions must be met prior to asset handover: a) Certification that the asset has been constructed in accordance with approved plans. b) Work as executed drawings and engineering certifications have been provided. c) All required sediment and water management controls as outlined in the soil and water management plan are in place and functioning as intended. d) Details of any incidents including Work Health and Safety incidents, public safety and complaints received are documented and provided to Council.
47.	Legal access is to be maintained to the Bio-Retention Basins through all stages of the development. Prior to the stage 1 subdivision certificate release details of proposed access to Bio-Retention Basin 2, 3, 4 is to be provided to Council for approval.
48.	A 2.5m shared path is to be constructed within the 6m pathway reserve. The shared path is to be constructed in accordance with Council's standard engineering drawing EN1009. A bollard terminating system is to be installed at both ends of the pathway to prevent the access of unauthorised vehicles. The system is to be designed and installed in accordance with part 7.5.3 of "Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling (2017)" including the following requirements: • The centre bollard is to be removable, • The bollards are to restrict the travel path to between 1.4m and 1.6m on each side of the central bollard.
ROADS AND MARITIME SERVICES	
49.	~~Prior to the issuance of a subdivision certificate for/or including, the twentyfirst (21st) allotment, the following road works are to be completed:~~ ~~○ A road link between the proposed subdivision and Col Drewe Drive is to be constructed, dedicated as a public road and open to traffic.~~ ~~○ Right turn and cross flow vehicular movements from Rabual Street and James O'Donnell Drive into and/or across the Great Western Highway are to be prevented by way of signage and concrete islands.~~ *Deleted as per MOD039/19*
50.	A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the developer and Roads and Maritime for the developer to undertake "private financing and construction" of any works on the Great Western Highway. This agreement is necessary for works in which Roads and Maritime has a statutory interest.
51.	Prior to the commencement of road construction works, the proponent is to contact Roads and Maritime's Field Traffic Manager to determine if a Road Occupancy Licence (ROL) is required. In the event that an ROL is required, the proponent is to obtain the ROL prior to works commencing within three (3) metres of the travel lanes on the Great Western Highway.
WATER AND WASTEWATER REQUIREMENTS	
52.	1. Section 68 Approval is required for all Water and Sewer works prior to release any subdivision works or a Construction Certificate. Each stage will require a separate Section 68 Approval for construction.

	2. The application must be accompanied with all drawings of site showing council infrastructure, proposed connections to infrastructure and appurtenance such as meters and boundary connections for each proposed property and allotment. 3. The S68 application must include the details of the proposed connection points to Council water system and sewer system designed in accordance with all WSAA regional codes and Australian Standards. 4. The S68 application must be accompanied with all drawings and reports showing that the site can handle the hydraulic loading for pressure and flow at completion and full buildout of the proposed development. Amended as per MODDA024/23
53.	Stage 1, being 20 Lots, are to connect to the existing sewer reticulation system at MH 1/1 located at the rear of Lot 219 DP 1076055 that discharges to the existing pump station located in Thornton Avenue as per Voerman & Ratsep Land Surveyors Revision Plan 14/08/2018.
54.	Stage 2 sewer connections will connect to a sewer trunk main provided by Council at a point of connection nominated by Council. This will conincide with the construction of new sewerage pump station to service this area in accordance with Councils Development Servicing Plans and the West Bowenfels Sewerage Strategy.
55.	The applicant shall provide a full Water and Sewer Design Plan for approval prior to the release of the Construction Certificate/Subdivision Works Certificate. Design to include, longitudinal sections for each main, minimum depth and cover, maximum depth, grade, chainage, inverts, size, depths, manholes, manhole numbers, manhole depths, pipe velocity, proposed material and positions of junctions and dead ends for all Lots.
DEPARTMENT OF PRIMARY INDUSTRIES- WATER REQUIREMENTS	
56.	That the development be undertaken in accordance with the General Terms of Approval for work requiring a Controlled Activity Approval under Section 91 of the *Water Management Act 2000* as per Schedule B. If a controlled activity approval is not required for works, a letter from DPI Water detail such is to be provided to Council.
57.	The Construction Certificate will not be issued over any part of the site requiring a Controlled Activity Approval until a copy of the approval has been provided to Council.
WATER NSW REQUIREMENTS ***General***	
58.	~~The lot layout, staging and subdivision works shall be as per:~~ • ~~The Statement of Environmental Effects (dated 5 February 2017); a letter to Council (dated 17 September 2018) and as shown on the Proposed Lot Layout Plan (Job Ref: 16083; Rev 1; dated 3.08.2018); Staging Plan (Job Ref: 16083; Rev 1; dated 17.09.2018) and Soil and Water Plan (Job Ref: 16083; Rev 2; dated 14.08.2018), all prepared by Voerman & Ratsep Land Surveyors and as modified in the General Notes for Modification for Stage 1 (dated 27 October 2022) prepared by Central West Project Management, and~~ • ~~Lot Layout Plan (Drawing No. Figure 2- Proposed Modification No.1 Reference:2022/224D3, Sheet 2 of 2, dated 21 September 2022 prepared by Anthony Daintith Town Planning.~~ The development layout, works and staging shall be implemented in accordance with the plans and supporting documents set out in the following table.

Plan Title	Reference	Vers/ Issue	Prepared By	Dated

	Subdivision Plan	Ref: 2022-224D1 Sheet: 1 - 2	-	Anthony Daintith Town Planning	04.07.2025
	General Arrangement Plan	Job:2016.0617 Drawing: SK1	P7	Calare Civil Pty Ltd	09/07/25
	Concept Earthwork Plan	Job:2016.0617 Drawing: SK2	P7		09/07/25
	Basin 02 Access	Job:2016.0617 Drawing: SK3	P7		09/07/25
	Basin 03 Access	Job:2016.0617 Drawing: SK4	P7		09/07/25
	Basin 04 Access	Job:2016.0617 Drawing: SK5	P7		09/07/25
	Supporting Documents				
	Statement of Environmental Effects	-	5.0	Anthony Daintith Town Planning	18/9/2024
	Bushfire Assessment Report	Ref: 23-402	-	Australian Bushfire Consulting Services	27th April 2025
	Stormwater Management Plan	Ref: 2016.0617ASWMP-Stg2-6	C	Calare Civil Pty Ltd	09 July 2025
	Operational Environmental Management Plan (OEMP)	Ref: 2016.0617-OEMP-Stage 2-6	B		13/06/25

No revisions to lot layout or staging of the subdivision that will impact on water quality shall be permitted without the agreement of Water NSW.

Amended as per MODDA049/22

Amended as per MODDA024/23

Subdivision Roads

59. The subdivision roads shall be located and constructed as shown on the Proposed Modification of DA 01/18 and General Arrangement Plan set out in the table above. ~~Lot Layout Plan (Drawing No. Figure 2 – Proposed Modification No.1 Reference:2022/224D3, Sheet 2 of 2, dated 21 September 2022) prepared by Anthony Daintith Town Planning.~~ ~~Proposed Lot Layout Plan prepared by Voerman & Ratsep Land Surveyors (Job Ref: 16083; Rev 1; dated 3.08.2018), but with the following specifications and requirements~~ The subdivision roads shall:

- be sealed and otherwise constructed in accordance with Council's engineering standards, and
- incorporate a suitable cross fall with runoff to be collected via a series of pits and pipes and directed to various water quality treatment measures detailed in the following conditions.

Amended as per MODDA049/22

Amended as per MODDA024/23

Stormwater Management

60.	All stormwater structures and drainage works associated with the proposed subdivision roads shall be wholly included in the road or drainage reserve or within suitably defined easements.
61.	All stormwater management measures ~~as specified in the~~ shall be implemented as per the Stormwater Management Plans and shown on the General Arrangement Plan and Basin 02, 03 and 04 Access plans set out in the table. ~~following documents all prepared by Calare Civil Pty Ltd:~~ • ~~Conceptual Stormwater Management Plan (dated 10 May 2018) and shown on the as modified for Stage 1 in the Stormwater Management Plan (Job Bo.2016.0617, Ref:2016.0617A-SWMP-Stg1. Rev A, dated 02/09/22), and~~ • ~~Catchment Plan (Job No 2016.617A; Dwg No. P01; Iss P1; dated 10/05/18) both prepared by Calare Civil Pty Ltd, shall be implemented in particular as elaborated or varied in the following conditions. And as modified in Catchment Plan- Stage 1, Basin 01 Details, Bio-retention Basin Details, Outfall Details (Job No.2016.0617, Dwg Nos.C01 tp C04, Issue A, dated 02/09/22)~~ Final stormwater management measures shall include: • pits and pipes, • appropriate stormwater discharge outlet on Lot 521 DP 1079638 (public reserve) to discharge runoff from Lots 1-6, and • bioretention basins with appropriate discharge ~~points~~ easements as relevant to each stage. ○ ~~Bioretention Basin 01 as per the Basin 01 Details Plan (Job No. 2016.0617, Dwg No. C02, Issue A, dated 02/09/22).~~ ○ Bioretention Basins 02 to 04 as per the Basin 02 to 04 Details Plans (Job No. 2016.617A, Dwg Nos. ~~P03 to P05, Issue P1, dated 10/05/18~~) ○ Discharge points as per the ~~Outfall Details Plan (Job No. 2016.0617, Dwg No. C04, Issue A, dated 02/09/22).~~ *Amended as per MODDA049/22* *Amended as per MODDA024/23*
62.	~~Four~~ Each bioretention basin shall**:** • ~~be designed, constructed and located as per the Conceptual Stormwater Management Plan (dated 10 May 2015), the Catchment Plan (Job No 2016.617A; Dwg No. P01; Iss P1; dated 10/05/18), Bio-retention Basin Details Plan (Job No. 2016.617A; Dwg No. P06; Iss P1; dated 10/05/18), all prepared by Calare Civil Pty Ltd to capture and treat all runoff from all subdivision roads and residential areas. Each bioretention basin shall incorporate the following specifications and requirements:~~ • ~~**For Stage 1**: a bioretention basin shall be designed, constructed and located as per the Basin 01 Details Plan (Job No. 2016.617A; Dwg No. P02; Iss P1; dated 10/05/18) prepared by Calare Civil Pty Ltd~~ • ~~**For Stage 2**: three bioretentions basin shall be designed, constructed and located as per the Basin 02 to 04 Details Plans (Job No. 2016.617A; Dwg No. P03, P04 and P05; Iss P1; dated 10/05/18) all prepared by Calare Civil Pty Ltd~~ • ~~be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems Version 2 (Payne *et al*, 2015, Melbourne, CRC for Water Sensitive Cities) and shall~~ • be designed consistent with the Adoption Guidelines for Stormwater Biofiltration Systems Version 2 (Payne et al, 2015, Melbourne, CRC for Water Sensitive Cities). • ~~also~~ incorporate the following ~~specifications~~: ○ For Stage 2 - bioretention basin 2 shall have a minimum surface area of 86.4 square metres and a minimum filter area of 48 square metres. ○ For Stage 4 bioretention basin 3 shall have a minimum surface area of 38.4 square metres and a minimum filter area of 19.2 square metres. ○ For Stage 5 bioretention basin 4 shall have a minimum surface area of 46.4 square metres and a minimum filter area of 24 square metres. ○ an extended detention depth of 270mm.

	○ a filter depth (excluding transition layers) of 400 mm above the underdrain. ○ a filter media consisting of a clean sandy loam with a certified median particle diameter of 0.5 mm, a maximum orthophosphate concentration of 40 mg/kg and a maximum total nitrogen concentration of 400 mg/kg. • be planted with appropriate deep-rooted, moisture-tolerant vegetation protected by rock mulch (grass and turf is not appropriate vegetation and organic mulch is not suitable). • direct all discharge and overflow to 7.5-metre drainage easements and then to the unnamed tributaries of Farmers Creek via armoured discharge points such that discharge does not cause erosion, ~~as per the Outfall Details Plan (Job No. 2016.617A; Dwg No. P07; Iss P1; dated 10/05/18) prepared by Calare Civil Pty Ltd~~ • be accessible from the subdivision roads by machinery to facilitate cleaning, monitoring and maintenance of the structures. • ensure the discharge outlets are consistent with the requirements of any Controlled Activity Approval under the *Water Management Act* (*2000*) from the Department of ~~Industry-Water~~ Planning and Environment (DPE) – Water. • be permanently protected from vehicular damage by bollards, fences, castellated kerbs or similar structures, with a sign to be erected to advise of its nature and purpose in water quality management, and • be protected by sediment and erosion control measures during any construction and post-construction phase until the ground surface is revegetated or stabilised. *Amended as per MODDA049/22* *Amended as per MODDA024/23*
63.	The bioretention basins for each stage of the subdivision shall be constructed after ~~all hardstand areas i.e.~~ road construction, has been completed and all ground surfaces have been stabilised for that stage of the subdivision. *Amended as per MODDA049/22* *Amended as per MODDA024/23*
64.	No changes to stormwater treatment and management that will impact on water quality shall be permitted without the agreement of Water NSW.
65.	A suitably qualified stormwater consultant or engineer shall certify in writing to Water NSW and ~~Council~~ Principal Certifying Authority (PCA) prior to the issuance of a Subdivision Certificate for each stage of the subdivision that all stormwater management structures have been installed as per these conditions of consent and are in a functional state. *Amended as per MODDA049/22*
Operational Environmental Management Plan	
66.	An Operational Environmental Management Plan (OEMP) for each stage of the subdivision shall be prepared ~~in consultation with Water NSW and Council~~ by a person with knowledge and experience in the preparation of such plans. ~~Each~~ The OEMP shall**:** • be based on the Operational Environmental Management Plan (OEMP) set out in the approved document table. • be prepared in consultation with Water NSW and Council prior to the issuance of a Subdivision Certificate for that stage of the subdivision, and may be updated from the OEMP for the previous stage. ~~The OEMP shall~~ • be provided to Council when the management and maintenance of the bioretention basins is handed over to Council. ~~The OEMP as a minimum shall include but not be limited to:~~ • include details on the location, description and function of stormwater management measures such as pits, pipes, bioretention basins and any other stormwater measures and drainage/easement works. • ~~an identification of~~ outline the responsibilities and detailed requirements for the inspection, monitoring and maintenance of all stormwater management structures, before and after handing over to Council, including the frequency of such activities.

	• an operational monitoring program that shall include, but not be limited to: o quarterly and annual sampling of all stormwater management measures, and inspections following rainfall events, and o monitoring and performance reports, prepared by a person with knowledge and experience in the preparation of such reports, shall be submitted to Council and Water NSW. These reports shall be submitted on an annual basis for first two years with future requirements to be determined by system performance. • ~~the identification of~~ identify the individuals or positions responsible for inspection and maintenance activities, before and after handing over to Council, including a reporting protocol and hierarchy. • ~~the identification of~~ identify detailed requirements and measures for the protection of bioretention basins from future upstream construction works i.e. construction of dwellings on future lots, and • ~~and~~ include checklists for recording inspections and maintenance activities particularly for bioretention basins. *Amended as per MODDA049/22* *Amended as per MODDA024/23*
67.	All stormwater ~~treatment devices~~ management measures, particularly bioretention basins, shall be monitored, maintained and managed as per the Operational Environmental Management Plan, after all comments made by Water NSW and Council during the consultation process have been appropriately resolved and incorporated in the final Operational Environmental Management Plan. ~~referred in Condition 66 above.~~ *Amended as per MODDA024/23*
Construction Activities	
68.	A ~~Erosion and Sediment Control~~ Soil and Water Management Plan shall be prepared for all works proposed or required as part of each stage of the subdivision, including the subdivision road, by a person with knowledge and experience in the preparation of such plans. ~~The Plan shall:~~ This shall include a Soil and Water Management Plan to remediate the existing erosion issues at the site related to the Stage 1 completed works. Each Plan shall: • ~~be based on the Erosion and Sediment Control Plan and Notes for Stage 1 (Job No.2016.0617, Dwg Nos. ES01 to ES03, Issue I, dated 02/09/22) prepared by CalareCivil Pty Ltd.~~ • be developed in consultation with Water NSW prior to the issuance of a Subdivision Works Certificate for that stage and be to the satisfaction of the Principal Certifier. • meet the requirements outlined in Chapter 2 of NSW Landcom's Soils and Construction: Managing Urban Stormwater (2004) ~~manual - the "Blue Book"~~. ~~The Plan shall be developed in consultation with Water NSW and~~ • ~~be prepared prior to Council issuance of a Construction Certificate for that stage of the subdivision and shall to be to the satisfaction of PCA and Council.~~ • include controls to prevent sediment or pollutant water leaving the construction site or entering any natural drainage lines or stormwater drain. *Amended as per MODDA049/22* *Amended as per MODDA024/23*
69.	A suitably qualified, certified professional shall**:** • oversee the implementation of the ~~Erosion and Sediment Control~~ Soil and Water Management Plan for each stage of the subdivision and effective erosion and sediment controls at the site prior to and during any construction activity including site access and works within waterways and

	• certify in writing to Water NSW and Council that erosion and sediment controls have been installed and maintained at the site in accordance with Condition ~~60~~ 68 above. ~~The controls shall prevent sediment or polluted water leaving the site or entering any stormwater drain or natural drainage system.~~ The controls shall be regularly maintained and retained until works have been completed and ground surface stabilised or groundcover re-established. *Amended as per MODDA049/22* *Amended as per MODDA024/23*
ENDEAVOUR ENERGY REQUIREMENTS	
70.	The applicant will need to submit an application for connection of load via Endeavour Energy's Network Connections Branch to carry out the final load assessment and the method of supply will be determined. Depending on the outcome of the assessment, any required padmount substation will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling) by an easement and associated restrictions benefiting and gifted to Endeavour Energy. As part of the application, the proposed undergrounding of the existing overhead power lines and the release of easement should also be addressed. Please see Endeavour Energy's Mains Design Instruction MDI 0044 'Easements and Property Tenure Rights'. Further details are available by contacting Endeavour Energy's Network Connections Branch via Head Office enquiries on telephone: 133 718 or (02) 9853 6666 from 8am - 5:30pm or on Endeavour Energy's website under 'Home > Residential and business > Connecting to our network' via the following link: http://www.endeavourenergy.com.au/
71.	The planting of large trees in the vicinity of electricity infrastructure is not supported by Endeavour Energy. Suitable planting needs to be undertaken in proximity of electricity infrastructure. Only low growing shrubs not exceeding 3.0 metres in height, ground covers and smaller shrubs, with non-invasive root systems are the best plants to use. Larger trees should be planted well away from electricity infrastructure and even with underground cables, be installed with a root barrier around the root ball of the plant. Landscaping that interferes with electricity infrastructure may become subject to Endeavour Energy's Vegetation Management program and/or the provisions of the *Electricity Supply Act 1995* (NSW) Section 48 'Interference with electricity works by trees' by which under certain circumstances the cost of carrying out such work may be recovered.

Schedule B- General Terms of Approval: Department of Planning and Environment - Water
Amended as per MODDA024/23

NSW GOVERNMENT

General Terms of Approval

for proposed development requiring approval under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS-2023-10496
Issue date of GTA:	28 August 2023
Type of Approval:	Controlled Activity
Location of work/activity:	Lot 1, DP1230208, 43 HILLCREST AVENUE BOWENFELS 2790 Lot 4, DP1230208, GREAT WESTERN HIGHWAY BOWENFELS 2790
Waterfront Land:	Farmers Creek
DA Number:	MODDA024/23
LGA:	LITHGOW CITY

The GTA issued by Department of Planning and Environment-Water do not constitute an approval under the *Water Management Act 2000.* The development consent holder must apply to the Department of Planning and Environment-Water for the relevant approval **after development consent** has been issued by Council **and before** the commencement of any work or activity.

Condition Number	Details
TC-G001	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to Department of Planning and Environment-Water, and obtained, for a controlled activity approval under the Water Management Act 2000.
TC-G004	A. This General Terms of Approval (GTA) only applies to the proposed controlled activity described in the plans and associated documents found in Schedule 1, relating to Development Application MODDA024/23 provided by Council to Department of Planning and Environment-Water. B. Any amendments or modifications to the proposed controlled activity may render the GTA invalid. If the proposed controlled activity is amended or modified, Department of Planning and Environment-Water, must be notified in writing to determine if any variations to the GTA will be required.
TC-G005	A. The application for a controlled activity approval must include the following plan(s): • Site plans • Construction streamworks plans • Erosion and sediment control plans • Construction detailed drainage plans • Construction stormwater drainage outlet plan • Vegetation management plan • Construction detailed basin design plans B. The plan(s) must be prepared in accordance with Department of Planning and Environment-Water 's guidelines located on the website https://www.dpie.nsw.gov.au/water/licensing-and-trade/approvals/controlled-activity-approvals/what/guidelines

SCHEDULE 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by Department of Planning and Environment-Water for integrated development associated with IDAS-2023-10496 as provided by Council:

Bushfire Risk Assessment Report, prepared by Voerman & Ratsep dated 21 March 2023

Statement of environmental effects, prepared by Anthony Daintith dated July 2023

Civil plans, Dwg No. SK1-SK5 prepared by CalareCivil dated 4 April 2023

Stormwater management plan, prepared by Calare Civil dated May 2023

Schedule C- General Terms of Approval: NSW Rural Fire Service
Additional as per MODDA024/23

RFS

NSW GOVERNMENT

BUSH FIRE SAFETY AUTHORITY

Subdivision – Torrens Title Subdivision
43 Hillcrest Avenue Bowenfels NSW 2790, 20//DP1301637
RFS Reference: DA20250505001679-Original-1

This Bush Fire Safety Authority is issued on behalf of the Commissioner of the NSW Rural Fire Service under s100b of the Rural Fires Act (1997) subject to the attached General Terms of Approval.

This authority confirms that, subject to the General Terms of Approval being met, the proposed development will meet the NSW Rural Fire Service requirements for Bush Fire Safety under *s100b of the Rural Fires Act 1997*.

Nika Fomin
Manager Planning & Environment Services
Built & Natural Environment

Thursday 15 May 2025

Schedule D- General Water and Sewer Requirements

Please find attached general design requirements in relation to the servicing requirements for water and sewerage as part of the abovementioned Development Application based on Preliminary Design drawing received by Council.

The attached conditions do not constitute approval under *section 68, Local Government Act 1993*. Prior to the commencement of any works as described below;

- Undertaking of water supply works
- Undertaking of sewerage works
- Installation, alteration, disconnection or removal of a meter connected to a service pipe
- Connect a private drain or sewer with a public drain or sewer under the control of a council or with a drain or sewer which connects with such a public drain or sewer
- The developer must obtain written Section 68 approval from Council; this will be required prior to the issue of the Construction Certificate. The Section 68 application requires the submission of all detailed engineering drawings/design, specifications and any applicable supporting information for the proposed works.

If your Section 68 application is approved, Council will issue you with a Section 68 approval containing conditions that must be complied with during construction.

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1. Maximum Grade of 20% is permitted for gravity sewer design purposes. Applicant is to provide details of addressing hydraulic jump, odour suppression and the use of energy dissipaters and sewer vents.

2. The maximum allowable sewer flow velocity shall be 3.0 m/s.

3. Applicant to gain full approval for any easements required for water and sewer works prior to release of construction certificate.

4. The design shall include Gravity sewer connections for each proposed Lot. Privately owned Low Pressurised Sewer Systems and Package Pump Stations shall not be accepted.

5. Sewer mains located within lots adjacent to stormwater drainage lines shall be a minimum of 750 mm clear of the stormwater pipe.

6. Plans showing all easements to be created over water and sewer infrastructure shall be submitted to Council prior to the release of the Construction Certificate.

7. All Water and Sewer works, including minimum and maximum flows and velocities, shall be designed in accordance WSAA code.

8. Manholes that have been elevated for flood zone requirements shall require work platforms for WHS purposes.

9. Full vehicular access shall be provided to all sewer man holes to allow for servicing and maintenance.

10. The applicant shall provide detailed water design details to include a ring main design. The new water supply network shall connect into the Council reticulation network via two points of connection, being Hillcrest & Thornton Avenue.

11. The design of water reticulation shall generally be in accordance with the latest version of the Water Services Association of Australia (WSAA) "Water Supply Code of Australia" (WSA 03).

12. The applicant shall provide fire flow analysis for all water supply networks prior to the release of the Construction Certificate, to ensure that the network is capable of providing the performance for the design of pressure for spring hydrants. Maximum spacing of hydrants shall be 60 metres. (Residential).

13. Construction Certificate design drawings and specifications shall clearly address the following:
    a. Location of pipelines, valves, hydrants, pipe materials, size, pressure class, jointing methods and corrosion protection measures.
    b. Specifications for products, materials, site investigation, excavation / trench details and other technical matters.
    c. Documentation of design assumptions, constraints and issues relevant to the design and not otherwise noted in the Concept Plan.

14. Water supply design to provide Desirable Minimum Static Pressure of 350kpa. Static Pressure shall not to exceed 500kpa at each house hold boundary.

15. Stop (dividing and isolating) and control valves shall be positioned to give required control of the system and to provide an alternative means of supply when a distribution main is taken out of service.

16. Minimum and maximum allowable service pressures will not be exceeded in each zone.

17. Minimum and maximum flows and velocities shall be in accordance with the WSAA Code.

18. A geotechnical report shall be submitted to Council prior to the release of the Construction Certificate. All Pipe and fitting materials must be suitable for application and environment.

19. The spacing and positioning of valves shall allow for isolation of individual zones.

20. Water mains shall only be installed in undisturbed ground.

21. All stop valves shall be anticlockwise closing and be positioned at a minimum of every 300 metres. Valves shall be positioned adjacent to branch take offs.

22. Each lot shall have an individual water meter, which shall be purchased from Council at the applicants full cost and held at Council store.

23. Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.

24. Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will installed the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

ADVISORY NOTES

Sewerage

1. General Design Considerations

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162*

1.1 Objectives

The sewerage objectives are seen as being achieved when:

i. The planning, design and construction of new facilities are adequate in servicing new and future developments.
ii. there is compatibility with the existing facilities, methods of operation, and maintenance techniques; and
iii. The facilities provide public health, environmental, and asset protection consistent with the accepted design and construction requirements set out in this document and with developments in technology as approved from time to time.

The pipe system may, on occasions, be subject to "surcharge" (where the hydraulic grade line is higher than the pipe obvert) or "overflows" (where sewage overflows out of maintenance holes). These situations may be the result of blockages and/or flows in excess of the design flows. In establishing the layout of the pipe network, designers should take care to ensure that any overflows are likely to cause only minimal nuisance or damage.

1.2 Maintenance Aspects

1.2.1 General

The sewerage system is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

Maintenance holes located in readily identifiable locations (e.g. opposite a building line), and not within leased properties, are an aid to rapid clearance of sewer blockages.

1.2.2 Special equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

1.3 Discharges from stormwater systems to sewers

Unless approved otherwise, under the specific *Trade Waste Agreement*, no stormwater discharge will be accepted into sewers.

2. Location of Sewers

2.1 Sewer Locations

2.1.1 Sewers located outside privately owned lands

The design of a sewer system should take into account the fact that there is a significant increase in the risk of tree root blockages after a period of about 20 years. Further, the access to sewers for maintenance is a major problem in the Lithgow despite the use of sewerage reserves for this purpose.
Therefore minimising the use of sewer alignments and reserves in leased land is an important feature of good sewer design. Where there is public land at the rear or the side of privately owned block the sewer should be located within the public land rather than within the leased/privately owned block.

i. Diversion of principal carrier sewers around leased lands

Blockages in the sewer system have the potential to result in sewage overflows into leased properties. To minimise problems caused by blockages, wherever practicable, sewers, particularly main carriers, shall be located in public areas rather than within leases.

ii. Other situations

Where a sewer is to be constructed across open areas it is to be sited to;
(1) Maximise its use for future development, and
(2) Minimise its impact on possible future use of the site.

Wherever possible sewers under playing fields are to be sited so that maintenance holes are not located within the playing area.

2.1.2 Sewers located within leased lands

Where a sewer is to be constructed within privately owned properties a 3m wide easement is to be created in favour of Council, with the pipe(s) centrally located within the easement and in a location that minimises the impact on the future development potential of the leased/ privately owned land(s).

2. Hydraulic Design

2.1 General Hydraulic Aspects

All sewer works in connection with the application are to be of a size no less then 150mm to the service tie or buried vertical riser

i. Minimum grades for DN150 pipes

Minimum permissible grades of the uppermost reaches of sewers are to be no less than 1.00%

This is the absolute minimum grades that shall be used. In general, it is not considered good practice to use a minimum grade on a short intermediate section of sewer when the upstream and downstream sections are laid at steeper grades.

ii. Maximum grades for sewers

Restrictions are placed on the maximum grades of sewers to limit internal erosion of pipe material, and/or pipe movement (due to trench flows causing loss of bedding).

The maximum pipe grade for sewers larger than DN150 is 15%. Where grades steeper than 15% are planned the circumstances are to be referred to Lithgow City Council for assessment.

To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, scour stops or trench stops may be required. To enable easy location, scour and trench stops shall be placed at intervals of equal length with spacing not exceeding that which is specified. The actual spacing and number of stops shall be nominated on layout drawings.

iii. Grade changes between pipe reaches

It is essential in the lower reaches of the sewerage system, where sewage may have low dissolved oxygen levels, that turbulence leading to the release of hydrogen sulphide from solution be avoided. In these areas, conditions such as a rapid change from steep to flat pipe slope, which favors the formation of a hydraulic jump at dry weather flows, must be avoided.

3. Structural Design

3.1 Sewer pipe materials and construction methods

3.1.1 Types of pipe

Sewers shall be constructed from materials proven to be structurally sound and durable, and shall have satisfactory jointing systems. The use of two or more types of pipe material on a single run of pipe between adjacent maintenance holes is not acceptable.

Materials approved for use in sewers are:

- Vitrified Clay - VC
- Reinforced Concrete - RC, see notes 1, 2 and 3
- Ductile Iron - DICL, see notes 1, 2
- Unplasticised Poly Vinyl Chloride – uPVC (Equivalent to class SEH, solid wall or approved structured wall), **150mm x 3m RRJ SN8 pipes and junctions are Councils preferred material**
- Glass Reinforced Plastics - GRP, see note 4 (Polyester Based)
- Polyethylene – HD-PE, see note 4

Notes

1. Not to be used within, nor up to 1 km downstream of industrial areas or hospitals.
2. Concrete shall be made with Type "SR" sulphate resisting cement with a tri-calcium aluminate content not greater than 5%, or Type "LH" low heat cement. Concrete pipes intended for other than trunk sewers shall be manufactured with a minimum 10mm sacrificial layer on the inside of the pipe.
3. Concrete pipes are not acceptable for DN150 and DN225 sewers.
4. Subject to special conditions and only with written approval of Lithgow City Council.

Proposals for the use of other materials will be considered if supported by adequate technical and performance data.

Where the pipe material is known it shall be shown on the drawings. Where the pipe material is not known prior to submission for detailed design acceptance, the drawings are to contain notes ensuring that the above requirements are satisfied.

4.1.2 Class of pipes

- Sewerage pipes must be of adequate strength to meet overburden and traffic loads. Loads are to include loads created from likely construction and maintenance activities;
- VC pipes shall be Class 4 or stronger;
- Class 2 (X), 3 (Y) and 4 (Z) reinforced concrete pipes manufactured in accordance with the latest version of AS 4058 are acceptable if used in accordance with the requirements of AS 3725;
- uPVC pipes shall be of grade Sewer Extra Heavy (SEH) or of equivalent SN grade in accordance with AS/NZS 1260;
- Classes for Ductile Iron, Glass Reinforced Plastics, Polyethylene, or ABS pipes shall be approved by Lithgow City Council prior to use.

Notes

1. Where load limits apply the locations shall be clearly designated on drawings.
2. During the construction phase specific load provision shall be made for heavy construction equipment where required.
3. No more than one type of pipe material will be used between successive maintenance holes or sewer maintenance shafts.

4.1.3 Pipe jointing

The sewer pipes are to be capable of excluding groundwater, resisting root intrusion, and withstanding pressure loading, both internal and external. Sewer systems must also have some flexibility, either through controlled deflection at joints (rigid materials) or pipe bending (flexible materials).

Acceptable pipe jointing systems are:

i. VC pipes with rubber ring jointing comprising:
   - Spigot - Socket system;
   - Spigot - Spigot system utilising approved Socket-Socket coupler.

ii. Reinforced Concrete Pipes, Spigot-Socket, with rubber ring jointing.

iii. PVC pipes:
   - DN100: solvent welded;
   - DN150: rubber ring jointed or solvent welded; *
   - Larger than DN150: rubber ring jointed. *

Note: For proclaimed mine subsidence areas, the Mine Subsidence Board should be referred to for advice of subsidence design parameters for proposed drainage systems.

4.2 Depth of sewer and cover

i. Depth of Cover

Sewers shall be laid with a depth of cover, measured from the top of the pipe socket or inspection opening to the ground surface as per section 3.7 of AS/NZS 3500.2, unless the product specific Standard specifies, or the manufacturer recommends, a greater depth.

ii. Maximum Depth

Sewer mains are to be designed for a maximum depth to invert of 5.0 metres. In special cases (e.g. to avoid a pump station or for a short length of line through a ridge) specific approval may be sought from Council to exceed this limit.

4.3 Sewer main junctions

Within a sewerage system it is mandatory that all sewer main junctions occur within maintenance holes. However, DN150 sewer tie connections can be connected by means of maintenance holes or sloped junctions. For connection of service ties see section 4.4.

4.4 Sewer Service Connections

Service ties (house junctions)

A sewerage service is to be provided for each property; joint sewerage services are prohibited under the *Local Government (General) Regulation 2005, Part 6, Division 3, section 162.*

4.4.1 Location

A service tie connecting to a sewer outside a residential block should generally be at right angles to the sewer. Where a service is a maintenance hole (manhole) or "dead-end", the service shall be at an angle between 90° and 180° from the downstream sewer to ensure a smooth flow of entry into the main line.

Service ties shall be located clear of all authorities easements, driveways and retaining walls.

Where the sewer main is located outside of the residential block, the service tie shall extend inside the property boundary and an inspection shaft extended vertically upward to the surface ground level to form a shaft. The tie should generally be located on the sewer main line at 1.0 metre from the lowest corner of the property and extend 1 metre into the boundary.

The upstream end of any "dead-end" sewer shall extend to at least 1 metre past the boundary to accommodate a service tie within a maintenance hole.

4.4.2 Size of Tie

Sewer service ties are normally 150mm solvent welded pipes or rubber ring (in mine subsidence areas). For multiple dwellings a single tie is to be provided per property.

4.4.3 Depth of Tie

A service tie is required to serve the entire leased block. However where building restrictions do not permit part of the block to be developed (e.g. set back distances from the front building line), then depths need to make allowance for this limitation.

In calculating the depth the designer should be familiar with the requirements for grade and depth provided in *AS/NZS 3500.2 sections 3.4 and 3.7.*

An acceptable design will have the following minimum depths of tie:

- For residential blocks: calculated on the basis of minimum cover with a property of 300mm and a maximum possible length of house drain at a grade of 1 in 60
- For residential blocks: calculated on the basis of minimum cover with in the property, if subject to vehicular traffic, of 500mm and a maximum possible length of house drain at a grade of 1 in 60.

4.4.4 Grades

The service tie shall have a minimum grade of 1.0 % and a maximum of 20 %. For ties to deep sewers, a buried vertical riser is to be used (refer section 4.4.5)

4.4.5 Buried Vertical Risers (BVR)

On deep sewers that are near boundaries it may be necessary to use a BVR. These are to be noted on work-as-executed drawings

It is absolutely critical that BVR's are installed on a compacted trench base with suitable concrete support

4.4.6 Manholes

Manholes shall be located along a sewer main at all changes in grade, level and direction and at the intersections with other mains or dead-ends. Manholes will not be accepted within the carriageway of public roads.

The maximum permissible spacing between adjoining manholes is 80 metres.

Manholes are to be designed so that sewage is not forced to deflect by an angle of more than 90 degrees.

Manholes shall be constructed using 20 MPa concrete cast in-situ base. Either Type C or Type D cement shall be used in the concrete mix.

Chamber and covers shall be constructed from precast concrete components of a type authorised by Council.

Drop manholes or Jump-ups may only be used to avoid underground services, or at the intersection of shallow and deep mains where the difference in the invert level exceeds 450mm. The maximum difference in invert levels is 2.0 metres. Drop manholes or Jump-ups are to be constructed as per the requirements of *section 4.10* of *AS/NZS 3500.2*

5. Testing

All drainage work is subject to testing and shall comply with the with the requirements of *section 12 of AS/NZS 3500.2*

Water

1.1.1 General

Lithgow's Water Supply System is to be designed with due regard to the continuing maintenance requirements after the works have been constructed. A system that can be easily and economically maintained is essential.

1.1.2 Special Equipment

The purchase of special maintenance equipment and plant requires considerable lead times, special approvals and funding. As a consequence, no design incorporating the need for special or unusual equipment should be prepared without the prior written approval of Lithgow City Council.

This requirement also extends to the need to use special techniques or hired equipment. To ensure that maintenance personnel can respond and overcome operational problems

consistent with service objectives, it is essential that maintenance of the system is not dependent on non-standard techniques or equipment

2 Location of Water Mains

Water mains shall be constructed within road or public reserves or require the creation of a 3 metre wide easement for water supply, in favour of Council and subject to approval by Council. The pipe is to be centrally located within that easement should approval be given.

Easements across privately owned lands should be avoided.

Marking tape to *AS 2648* shall be laid in a continuous length on top of the pipe embedment material, 150mm above all water mains.

2.1 Provision of branches for future connection

Many branches provided for future development turn out to be either the wrong size, in the wrong place, or not eventually required. Temporary end caps on such branches are often not satisfactorily anchored, and become a liability if the branch is not subsequently used. To avoid this, the following is required:

- branches for future development shall not be provided unless the alignment and diameter of the future connecting mains are confidently known, and the extension is to occur within a short time span (less than 12 months);
- To avoid anchorage problems and future shut downs of the main, a flanged branch with a stop valve is preferred to a branch with an end cap. Valves shall be blank flanged. Where an end cap is necessary a full and adequate thrust block shall be provided;
- Where a branch is proposed to be laid across a road, the section across the road should be end capped at both ends rather than connected at one end initially (to avoid future road openings). If the pipes are not to be connected within 24 months, consideration should be given to charging it via a DN20 service connection and then flushing periodically.

3 Material, Size and Cover Requirements

Unless specifically approved otherwise by Lithgow City Council, pipes for water supply shall be selected from the following approved materials:

- Ductile iron, cement lined and rubber ring jointed, produced in standard lengths of 5.5 metres to AS 2280, having sizes of DN100, 150, 225, 300, 375, 450, 500, 600 and 750. For pipes up to DN300 an approved seal coating on the internal cement mortar lining is applied to reduce leaching. Class K9 shall be used for general application and class K12 where additional structural capability is required;
- PVC Class 16 to AS/NZS 1477 Series 2, having sizes of DN100, 150, 225, 300 and 375.
- **Modified PVC (PVC-M) Class 16 to AS/NZS 4765 (Int) Series 2**, having sizes **DN100,** 150, 225, 300, 375 and 450.
- Molecular Oriented PVC (PVC-O) Class 16 to AS/NZS 4441 (Int) Series 2, having sizes DN100, 150, 225, 300 and 375.
- for sizes above DN750, steel pipe to AS 1579, cement mortar lined to AS 1281, and externally coated with fusion bonded polyethylene;
- PE, pressure class PN16, to AS/NZS 4130 having size DN63. Direct tapping not permitted.

The minimum **cover to water mains** shall normally be **750mm** in roadways or traffic areas and 600mm elsewhere. The minimum **cover to water services** shall be 450mm in roadways or traffic areas and 375mm elsewhere. Provision shall be made for transient loads such as construction equipment where cover is reduced during the construction phase.

A pipeline shall be lowered when cover is removed from existing pipelines for new works (such as roads). If this is physically impossible then consideration shall be given to protection by a suitably designed reinforced concrete relieving slab; extending at least 500mm into natural ground beyond existing pipe trench lines. This slab shall be segmented by construction joints into maximum l.0 metre long easily removed segments, and separated from the pipe obvert by no less than 25mm of granular or compressible material.

Thrust or anchor blocks of plain or reinforced concrete, which have been designed to resist unbalanced hydraulic forces, shall be provided at all bends, tees, tapers, in-line stop valves and dead ends.
To limit the scouring effect arising from water flow within the pipe bedding material, and also to anchor the pipe, special bedding, trench stops and scour stops may be required. Scour stops shall be provided along inclined mains where the slope is 5 to 30%. Trench stops can be regarded as an alternative to scour stops and may be provided along inclined mains where the slope is 5 to 15%. To enable easy location, trench and scour stops shall be placed at intervals of equal length with spacing not exceeding that which is specified.

4. Service Connections

Water service connections works are to be undertaken under the provisions of *section 152 of the Local Government (General) Regulations 2005*

Water services should be of single service drawn **copper pipe, Type A,** manufactured in accordance with *AS 1432*. Services are to be a minimum of 20mm diameter, with 1.4mm wall thickness.

Right angled 90 degree brass lockable meter ball valves to be used as meter control valves and a type approved by the Water and Wastewater Manager. Council will secure the water meter valve with a stainless steel locking device prior to the subdivision certificate being released.

Water meters to be purchased by the owner after submitting to Council an Application for Work at Owners Cost Payment Authority Application and the completion of a Water Service Connection Application. Council will installed the meter when a Development Application has been approved for the new allotment and a S68 Approval granted for connection to draw water.

Brass or copper capillary fittings are to be installed at all joints, branches, and bends. Meter boxes, meters, maincocks and elbows are to be of a type approved by the Water and Wastewater Manager or alternatively these fitting can be provided by Council at full cost recovery.

Separate metered water services are to be provided to every allotment, as well as parks, reserves and landscaped roundabouts.

The meter box for each lot should be located approximately **500mm outside the front and side property boundaries**. Services should be located in pairs at side property boundaries. Note that the stop valve should be located no more than 450mm from the water meter, measured from the road alignment.

All service connections should cross the road perpendicular to the road centreline. Non-detectable marking tape to *AS 2648* shall be laid 150mm above all water services. Such connections should be marked on each kerb with a "W"

A Work as Executed plan (WAE) **MUST** be submitted to council prior to the release of the linen plan, outlining the following:

- Service meter location
- All main isolation valves hydrants and scours
- Water mains lay out and property services

5. Pipe Fittings

Fire hydrants of an approved type are to be installed along the water main at such convenient distances, and at such places, as may be necessary for the ready supply of water to extinguish fires accordance with AS/NZS 2419.

On water mains without hydrants (e.g. generally bulk supply mains), scour (or drain) outlets, with isolating valve control, shall be provided at all low points. Wherever possible, on water mains with hydrants (e.g. reticulation), a hydrant should be located at or near all low points, and are to be discharged via a pipe to a storm water drainage pit.

Stop valves are generally located adjacent to tees, and so that no more than 25 properties are isolated at any one time, by closing no more than four valves. To close a valve, the spindle will turn anticlockwise, as viewed, when facing the spindle cap

Provision shall be made concerning air release from all high points on water mains. This should normally be achieved in reticulation mains by means of a fire hydrant, a branch, or a service pipe located at the high point. Where this cannot be achieved a DN25 single orifice air valve should be provided

All maincocks, tees, hydrants, stop valves, scour valves, and air valves should be located within the public footway and shall be of type approved by Council.

All gibaults are to be long sleeved.

At road intersections, two forty-five degree (45o) bends should be used to negotiate the corner.

Thrust blocks shall be provided at all bends, tees, and dead-ends.

All valves and hydrants shall be enclosed within valve chambers.

Markings and indicator posts shall be provided at all hydrants and valves.

6. Testing

Prior to acceptance of the water reticulation network, all pipelines shall be inspected and pressure testing will be carried out.

7. Mains in Cul-de-Sacs

Where the cul-de-sac incorporates an adjacent street connected by a pathway, or ends in a public reserve, the water main shall extend through the pathway or reserve so that a dead-end is not created in the main.
In all other cases, the main is to be looped around the cul-de-sac.

Work as Executed Plans

Following the satisfactory completion of works, 'Works-As-Executed' (W.A.E.) plans prepared by a registered surveyor or professional engineer shall be submitted to Council's Group Manager of Operations. Such plan must be lodged prior to the release of the subdivision linen plan, or prior to occupation or use of the development.

The W.A.E. plans shall be Engineering Drawings as modified, and shall include the following items:

- invert levels of all drainage and sewerage lines at entrance and exit of MH;
- location, class, size, and material of all pipes and subsoil lines;
- location and diameter of service conduits;
- location of stop valves, hydrants, water services,
- longitudinal sections for each sewer main,
- depth of sewer manholes,
- sewer man hole schedule numbered
- location of sewer junctions measured from downstream of MH
- minimum depth and cover, maximum depth, grade, chainage, inverts,
- storm water and interallotment drainage pits;
- location of water meters and serial number of meter installed in relation to the lot it is installed on
- site regarding details – finished surface levels at centre of front and rear boundaries;
- the location and level of any permanent survey marks;

Each Works-As-Executed plan must include certification by the Registered Surveyor responsible for the preparation of the plan