MODIFICATION OF CONSENT REPORT - DA148/15 (S96004/18) SUBDIVISION INTO 21 LOTS (STAGES 3 & 4) HASSANS WALLS ROAD, SHEEDYS GULLY NSW 2790

1. PROPOSAL

Council is in receipt of a modification of development consent application S96004/18 from Ceedive Pty Ltd, seeking to vary condition of consent 5 for DA148/15 relating to the Voluntary Planning Agreement.

Condition 5 states:

5. The Applicant must enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park. The final executed VPA shall be completed prior to the issue of a Subdivision Certificate for Stage 3.

The applicant has requested that the condition be reviewed to allow for works in kind donation to provide a formed access to the existing Lithgow Pony Club and resident on Lot 1 DP1094395 from the cul-de-sac as part of this subdivision. These works would be undertaken by the developer on Council's land at the cost of the development totalling $51,920.00, instead of the proposed Voluntary Planning Agreement for embellishments f $50,000.00 at Queen Elizabeth Park.

The original approval was completed under delegation on 1 December 2015, for a subdivision of 1 lot into 21 at Lot 702 DP1150747, Hassans Walls Road, Sheedy's Gully.

The application will be assessed under Section 4.55 1(A) of the *Environmental Planning and Assessment Act 1979.*

2. SUMMARY

To assess and recommend determination of Section 4.55 Modification of Consent No.S96004/18 for DA148/15. Recommendation will be for approval subject to conditions

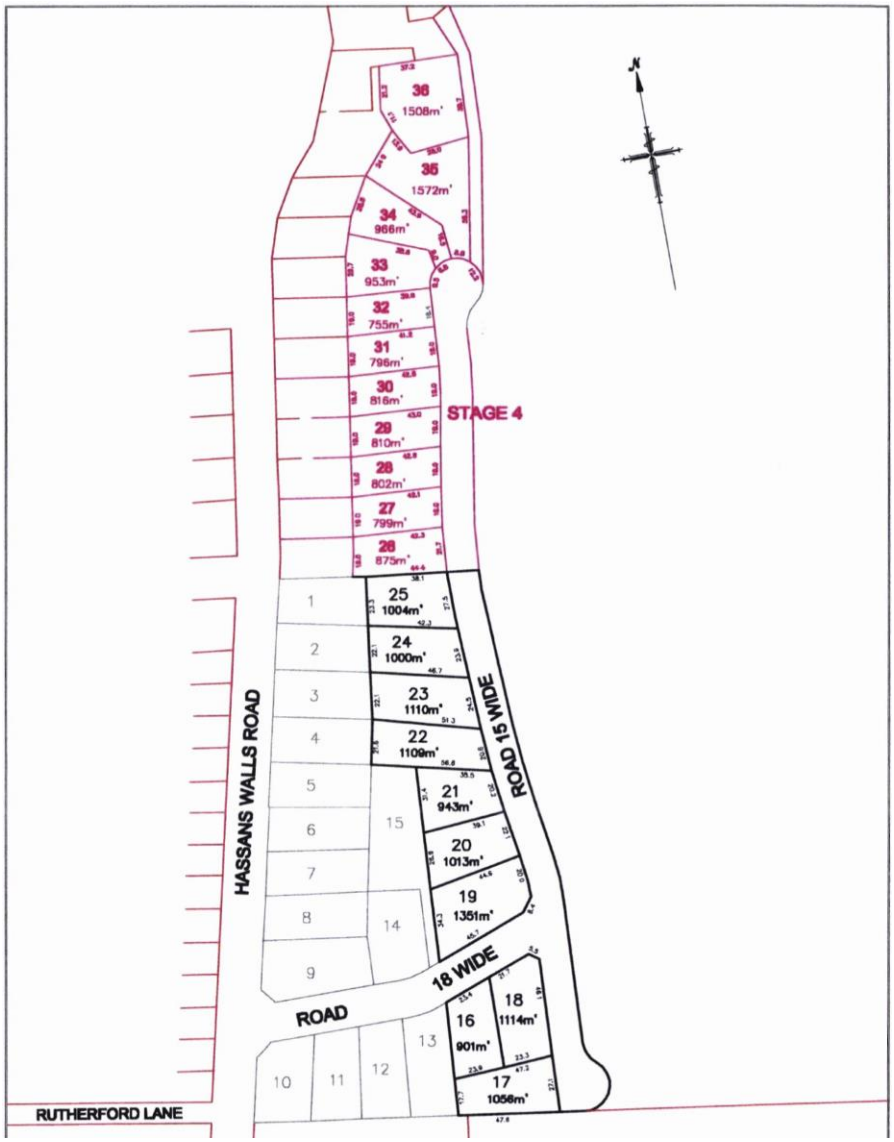
3. LOCATION OF THE PROPOSAL

Legal Description : Lot 702 DP 1150747
Property Address : Hassans Walls Road, Sheedys Gully

4. DETAILS OF CURRENT APPROVAL

The original approval was completed under delegation on 1 December 2015, for a subdivision of 1 lot into 21 at Lot 702 DP1150747, Hassans Walls Road, Sheedy's Gully.

The proposal is the third and fourth stages of a residential subdivision for Lot 702 DP1150747, as a previous Stages 1 & 2 have been approved under 002/07DA for 15 lots. Stages 1 & 2 have now been finalised and this application extends the road approved under 002/07DA, off Hassans Walls Road to service Stages 3 & 4 as per below:



Additionally, the applicant has agreed to an access handle for proposed Lot 36 (existing house) to obtain access from Cooper Close not indicated in the above plan. Lastly, the land adjoining Lots 35 & 36 is proposed to be a pedestrian footpath to Cooper Close.

5. PERMISSIBILITY:

The development was originally permissible in the zone under Lithgow Local Environmental Plan 2014 which indicates that a subdivision is permissible in the zoning. This permissibility is not proposed to change as part of this modification.

5.1 POLICY IMPLICATIONS (OTHER THAN DCP's)

Policy 7.5 Notification of Development Applications
This policy applies to all applications as below:

4. Notification of Section 96 Applications

4.2 Section 96(1A) modifications that involve minimal environmental impact will not be notified unless in the opinion of Council, the proposed modification has the potential to increase the impact of the development on adjoining land.

As there is no change to the environmental impact of the development as the modification relates to the Voluntary Planning Agreement only, it was in the opinion of Council staff that the modification did not require notification in accordance with the policy.

Policy 7.10 Voluntary Planning Agreements

A planning agreement was negotiated as part of the original proposal. However, the proposed modification seeks to remove this requirement in lieu of works in kind for a formed access on Council's land. Therefore, this policy may not be applicable, if the modification is approved.

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

This policy is now applicable as Lot 1 DP 1094395 is owned by Council. Therefore the following is applicable:

1. *That, subject to the exemptions in Part 2 of this Policy, any development application lodged where the applicant is a Councillor or a member of staff, or where a Councillor or member of staff is the owner of the land to which the application relates, or where the development application on Council owned land, that such an application be referred to Council for consideration and determination.*

2. *In the case of staff members who are not Executive Staff, the following applications need not be reported to the Council:*
   (i) dwellings
   (ii) ancillary building structures
   (iii) general applications under Section 68 of the Local Government Act 1993.
   In such cases the application must be determined by referring to a supervising delegated officer or the General Manager.
   In the case of an application lodged by a family member and the Council officer would normally hold delegated authority to determine the application, then the application must be referred to supervising delegated officer or in the absence of such, will be reported to Council.

3. *This policy does not apply to applications for the modification of development consent unless the modification represents a significant departure from the original application. However, staff cannot assess or determine modification applications involving their development; their land; or development or land involving a family member.*

In relation to 1 above, the land is owned by Council and the development requires determination by Council. The proposal does not meet the exemptions of 2 above and under 3 above the modification now includes land owned by Council for the works of the access. The application will be reported to Council for determination.

5.2 FINANCIAL IMPLICATIONS

Planning Agreements
A Voluntary Planning Agreement (VPA) was negotiated with the developer in relation to this proposal. The developer agreed to make a contribution at the value of $50,000 for upgrades to Queen Elizabeth Park. Whilst the details of the VPA were to be separately reported to a future Council meeting, a condition was incorporated indicating the basic terms as below:

5. The Applicant must enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park. The final executed VPA shall be completed prior to the issue of a Subdivision Certificate for Stage 3.

The proposed modification now seeks to remove this condition of consent and allow for works in kind at the value of $51,920.00 to be undertaken for a formed access on Council land known as Lot 1 DP1094395. This formed access would supply access to the existing Lithgow Pony Club and residents on this allotment. The works cannot be undertaken by Council for some time and has continuously been raised by the users in this area. It is suggested by the developer that the funds to be utilised on these works would be more beneficial to this area in relation to the subdivision.

As such if the works were undertaken by the developer in accordance with Council requirements, the development would minimise future issues with the land for Council. The works would be completed ahead of time by the developer prior to the subdivision release of development, to ensure works are carried out appropriately. This proposal has been assessed by the Manager of Operations with the following comment:

"Please note that I am satisfied with the quote from Ceedive dated 5 February 2018 for the construction of the access road to the Pony Club and that this will resolve the long standing issue of inadequate access to the Pony Club."

Therefore, in this instance it is suggested that condition 5 is amended to the following requirements if approved:

5. The Applicant must ~~enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park~~ **at its own cost, undertake works to form an all-weather access road to the Lithgow Pony Club and resident on Lot 1 DP1094395 to the satisfaction of Council as per Ceedive quote dated 5 February 2018. These works are to be supervised by Council Officers and a final inspection undertaken at completion**~~. The final executed VPA shall be completed~~ prior to the issue of a Subdivision Certificate for Stage 3.

5.3 LEGAL IMPLICATIONS

5.3.1 Environmental Planning and Assessment Act 1979- Section 4.55 (1)

(1) ***Modifications involving minor error, misdescription or miscalculation*** *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 a development consent granted by it to correct a minor error, misdescription or miscalculation. Subsections (1A), (2), (3), (5), (6) and (7) do not apply to such a modification.*

Comment: Not applicable in this instance.

5.3.2 Environmental Planning and Assessment Act 1979- Section 4.55 (1A)

(1A) ***Modifications involving minimal environmental impact*** *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 proposed modification is of minimal environmental impact, and*
- *(b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and*
- *(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*
- *(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.*

Subsections (1), (2) and (5) do not apply to such a modification.

Comment: Council is satisfied that the modification is of a minimal environmental impact due to the modification requesting changes to the Voluntary planning Agreement only. The development being subdivision of 21 lots does not change as result of the proposed modification.

The Regulations do not require the notification of the modification and Council does not have a DCP requiring the notification of the application. Further the modification is considered to be of a minor nature and will not impact on any nearby residents and does not require re-referral.

However, as the proposal is to alter the Voluntary Planning Agreement condition, it was considered that the proposal will require determination by the elected Council for the transfers of funds from the Queen Elizabeth Park embellishments to the formed access for the Lithgow Pony Club and resident of lot 1 DP 1094395.

5.3.3 Environmental Planning and Assessment Act 1979- Section 4.55 (2)

(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

(b) it has consulted with the relevant Minister, public authority or approval body (within the meaning of Division 5) 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

(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

(d) it has considered any submissions made concerning the proposed modification within the period prescribed by the regulations or provided by the development control plan, as the case may be.

Subsections (1) and (1A) do not apply to such a modification.

Comment: Not applicable in this instance.

5.3.4 Environmental Planning and Assessment Act 1979- Section 4.55 (3)

(3) In determining an application for modification of a consent under this section, the consent authority must take into consideration such of the matters referred to in section 4.15 (1) as are of relevance to the development the subject of the application.

Any Environmental Planning Instruments

Lithgow City Local Environmental Plan 2014

The original application was assessed in accordance with the provisions of Lithgow's Local Environmental Plan 2014, and was found to be compliant. The modification does not require any further assessment under the LEP.

State Environmental Planning Policies

The original application was assessed in accordance with the provisions of the relevant SEPP's, and was found to be compliant. The modification does not require any further assessment under any SEPP.

Any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority

Nil.

Any Development Control Plan

Nil.

Any planning agreement that has been entered into under Section 7.4, or any draft planning agreement that a developer has offered to enter into under Section 7.4?

A Voluntary Planning Agreement (VPA) was negotiated with the developer in relation to this proposal. The developer agreed to make a contribution at the value of $50,000 for upgrades to Queen Elizabeth Park. Whilst the details of the VPA were to be separately reported to a future Council meeting, a condition was incorporated indicating the basic terms as below:

5. The Applicant must enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park. The final executed VPA shall be completed prior to the issue of a Subdivision Certificate for Stage 3.

The proposed modification now seeks to remove this condition of consent and allow for works in kind at the value of $51,920.00 to be undertaken for a formed access on Council land known as Lot 1 DP1094395. This formed access would supply access to the existing Lithgow Pony Club and residents on this allotment. The works cannot be undertaken by Council for some time and has continuously been raised by the users in this area. It is suggested by the developer that the funds to be utilised on these works would be more beneficial to this area in relation to the subdivision.

As such if the works were undertaken by the developer in accordance with Council requirements, the development would minimise future issues with the land for Council. The works would be completed ahead of time by the developer prior to the subdivision release of development, to ensure works are carried out appropriately. This proposal has been assessed by the Manager of Operations with the following comment:

"Please note that I am satisfied with the quote from Ceedive dated 5 February 2018 for the construction of the access road to the Pony Club and that this will resolve the long standing issue of inadequate access to the Pony Club."

Therefore, in this instance it is suggested that condition 5 is amended to the following requirements if approved:

5. The Applicant must ~~enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park~~ **at its own cost, undertake works to form an all-weather access road to the Lithgow Pony Club and resident on Lot 1 DP1094395 to the satisfaction of Council as per Ceedive quote dated 5 February 2018. These works are to be supervised by Council Officers and a final inspection undertaken at completion**~~. The final executed VPA shall be completed~~ prior to the issue of a Subdivision Certificate for Stage 3.

Any matters prescribed by the regulations that apply to the land

The original application was assessed in accordance with the provisions of the Regulations, and was found to be compliant. The modification does not require any further assessment under the Regulations.

The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality

Access: The proposed access to be constructed for the Lithgow Pony Club and the resident on Lot 1 DP 1094395 is works that would be required by Council in the future. The access for the residents and Pony Club has been an ongoing issue within the area as there is no formalised access, although access is granted by Council. Given the land is owned by Council works would be undertaken without consent for maintenance purposes, however funding and timing has not been made available to this project.

The proposed modification will allow for the works to be undertaken at no cost to Council as part of the subdivision development. The works would be undertaken by the developer on behalf of Council, instead of providing funding to additional embellishments at Queen Elizabeth Park which does not have a direct effect or connection to the subdivision. It is logical that these works be undertaken by the developer while machinery is already within the area and whilst supervision can be provided through Council as part of the subdivision and Subdivision release processes.

It is expected that the formed access way creation will benefit the community and surrounding areas as it will be improving the standard access and issues with the current unformed access used. This access is used on a regular basis and should be improved to reduce impacts of the users and surrounding landowners.

The proposal was forwarded to the Operations manager who advised:

"Please note that I am satisfied with the quote from Ceedive dated 5 February 2018 for the construction of the access road to the Pony Club and that this will resolve the long standing issue of inadequate access to the Pony Club."

Therefore, it is considered that the proposed modification is a positive outcome and will resolve existing issues within the immediate area to the subdivision.

The Suitability of the site for the development

The original application was assessed in terms of site suitability and was found to be suitable. The modification does not require any further assessment of suitability.

Any submissions made in accordance with this Act or the Regulations

Given that the proposed amendment is the proposed Voluntary Planning Agreement the modification is considered to be minor and does not require re-notification, re-referral.

However, as the proposal is to alter the Voluntary Planning Agreement proposal, it was considered that the proposal will require determination by the elected Council for the transfers of funds from the Queen Elizabeth Park embellishments to the formed access for the Lithgow Pony Club and resident of lot 1 DP 1094395.

The public interest

The original application was assessed in terms of the public interest. The proposed modification does not change whether the development is within the public interest.

5.3.5 Environmental Planning and Assessment Act 1979- Section 4.55 (4)

(4) The modification of a development consent in accordance with this section is taken not to be the granting of development consent under this Part, but a reference in this or any other Act to a development consent includes a reference to a development consent as so modified.

Comment: Noted.

6. DISCUSSION AND CONCLUSIONS

The application has been thoroughly assessed under Section 4.55 1(A) of the *Environmental Planning and Assessment Act 1979* and is appropriate for recommendation of approval subject to conditions.

7. ATTACHMENTS

Schedule A- Conditions of consent.

8. RECOMMENDATION

THAT the Section 4.55 Modification of Consent application S96004/18 associated with DA148/15 be approved subject to the following amended conditions and outlined in Schedule A:

1. That the development be carried out in accordance with the application, Statement of Environmental Effects, accompanying information, plans listed in the approval**, documents submitted with S96004/18** and any further information provided during the process unless otherwise amended by the following conditions.

5. The Applicant must ~~enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park~~ **at its own cost, undertake works to form an all-weather access road to the Lithgow Pony Club and resident on Lot 1 DP1094395 to the satisfaction of Council as per Ceedive quote dated 5 February 2018. These works are to be supervised by Council Officers and a final inspection undertaken at completion**~~. The final executed VPA shall be completed~~ prior to the issue of a Subdivision Certificate for Stage 3.

Report prepared by:…… Supervisor:…….

Signed:…… Signed:……..

Dated:…….. Dated:……

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 access, parking and loading arrangements will be made to satisfy the demands created by the development.
- To protect the environment.
- To prevent, minimise, and/or offset adverse environmental impacts.
- To ensure lots are adequately serviced.
- 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)

Please Note: It should be understood that this consent in no way relieves the owner or applicant from any obligation under any covenant affecting the land.

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**, documents submitted with S96004/18** and any further information provided during the process unless otherwise amended by the following conditions.
(Amended as per S96004/18 dated XX/XX/XXXX)

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

3. That proposed Lot 36 is to include a battle-axe or access handle of 4m to the allotment from Cooper Close for existing vehicles access to continue. This is to form part of the allotment.

Contributions

4. An application shall be submitted to Council for the supply of a Certificate of Compliance under Section 305 of the Water Management Act. 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. These contributions may be found in the current Lithgow Council Fees and Charges or any applicable document adopted by Council in relation to contributions under Section 64 of the Local Government Act 1993.

5. The Applicant must ~~enter into a Voluntary Planning Agreement under section 93F of the Environmental Planning and Assessment Act 1979 with Council that is in the terms outlined in the email containing the offer dated 1 December 2015. The general terms of the agreement will be that the developer shall make a contribution to the value of $50,000 which Council will utilise on the embellishment of facilities at Queen Elizabeth Park~~ **at its own cost, undertake works to form an all-weather access road to the Lithgow Pony Club and resident on Lot 1 DP1094395 to the satisfaction of Council as per Ceedive quote dated 5 February 2018. These works are to be supervised by Council Officers and a final inspection undertaken at completion**~~. The final executed VPA shall be completed~~ prior to the issue of a Subdivision Certificate for Stage 3.
(Amended as per S96004/18 dated XX/XX/XXXX)

Amenity

6. Council's Environment and Development Department must be contacted to arrange the appropriate address numbers to be allocated to the subdivision prior to Subdivision certificate release.

7. The applicant shall place a restrictive covenant on the title of each allotment under the provision of Section 88B of the Conveyancing Act prohibiting the use of coal burning appliances. The 88B instrument shall vest authority in Council for the covenant.

8. The applicant shall ensure that during the construction works all measures are taken to eliminate/suppress any dust nuisance emanating from the site.

9. All work on site shall only occur between the following hours:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 1.00pm
Sunday and public holidays	No work

Utilities

10. 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.

11. The applicant shall submit options for road names to Council for consideration in accordance with the NSW Address Policy 2014 and NSW Geographical Names Board Addressing User Manual. The road names for the subdivision will be required to be gazetted prior to release of the Subdivision Certificate.

12. That all water and sewer connections comply with provisions set in Attachment 1.

13. A Section68 Approval under Local Government Act 1993 shall be required for water construction for Stage 3 and Stage 4 prior to the release of a construction certificate.

14. Stages 1 and 2 for sewer and water connections as part of DA002/07 and Modification S96031/13 shall be completed including services for lots 16,17,18,19 and 20 of Stage 3(DA148/15 – CC137/15) prior to further development to ensure that services are connected in an appropriate matter to the satisfaction of Council and to allow completion of access road to the Pony Club.

15. A design plan for construction will be required and a copy to be kept on site at all times. The allotments to be pegged and surveyed for boundaries prior or during construction.

16. Water main construction to include Fire Hydrants and Isolation valves as directed by Council.

17. All lots to be metered and water meters to be purchased from Councils store, installed in ground in water meter housing boxes located 500mm outside the property boundary alignment at full costs to the owner.

18. Water property services to be installed in pairs and located in alignment with side boundaries.

19. The developer is to complete existing sewer construction to the satisfaction of Councils Water and Sewer Manager. The current Section 68 approval S68110/12 is to stand for all sewer construction works.

20. Existing sewer junctions located on trunk main A are to be exposed and 150mm risers to be extended to ground level. Vertical Buried Risers is to be used when depths are greater than 1.5m. Arrangements with Councils Water and Sewer Development officer are required for inspection of works, prior to backfill.

21. All allotments to be connected to sewer via 150mm vertical risers brought to ground level and terminated with glued on dust caps or BTS in concrete surround.

22. A Work as Executed Plan (WAE) must be submit to Council showing all relevant details for water and sewer connections including location of water meters, allotment numbers that the meter is assigned to and serial number of water meter prior to the release of the linen plan.

23. That the applicant provides easements over sewer and water construction in favour to Council for future maintenance purposes.

Environmental Protection

24. Prior to the issue of the Subdivision Certificate, Council is to be provided with a report from Upper Macquarie County Council indicating:
    - Noxious plants are under adequate management; or
    - Noxious plant management has been undertaken and adequate control measures are in place; or
    - Noxious plants are not a concern for the property

25. That a validation Report pertaining for any fill brought to the site is to be submitted to Council prior to the materials being placed onsite.

26. That a Section 96 modification of consent of 002/07DA requesting the removal of the water quality control pond for subdivision Stages 1 & 2 of this land, be submitted and approved prior to any works undertaken for Stages 3 and/or 4. This is in relation to requirements set by Water NSW (Sydney Catchment Authority) under 002/07DA which will be breached given the amended MUSIC Model provided for this application of Stages 3 & 4 which also included Stages 1 & 2.Therefore, the consent for 002/07DA for the MUSIC Model should reflect the most recent documents as submitted with this application for Stages 3 & 4.

27. There shall be a public positive covenant under Section 88E of the *Conveyancing Act 1919*, the prescribed authority being Lithgow City Council, placed over all proposed lots requiring that future dwellings have a floor level of 0.5 metres above the 1:100 Average Recurrent Interval flood event indicated in SEEC Flood Report dated 18 June 2015 (Ref:15000092-FS-01).

28. There shall be a restrictive covenant under Section 88B of the *Conveyancing Act 1919*, the prescribed authority being Lithgow City Council, placed over all proposed lots stating that no coal burning appliances are to be installed.

Engineering Requirements

29. A Construction Certificate must be obtained prior to the commencement of any Civil Works.

30. Plans are to be lodged to Council for the issue of a Construction Certificate prior to the commencement of any Civil Works.

31. 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.
32. 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.

33. The road crossfall must not exceed a maximum of 3% at any point.

34. The footpath crossfall must not exceed a maximum of 4% at any point.

35. All batters must not exceed a maximum gradient of 1:5.

36. 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 of Road (18 wide) is to be constructed to an 11m wide formation within a 18m wide minimum road reserve. The road surface of Road (15 wide) is to be constructed to an 8m wide formation within a 15m wide minimum road reserve.

37. 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 alayer equivalency of greater than unity.

38. 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.

39. Roll top kerb and guttering is to be provided on both sides of all internal roads.

40. 2 x 3.5m wide footways are to be provided adjacent to all internal roads. Footpaths must continue to the intersection between Hassans Walls Road and Road (18 wide).

41. Street signs are required at all road junctions. Signs shall be purchased from Council. The location of proposed street signs is to be shown on the Engineering Drawings submitted with the construction certificate.

42. 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 Group Manager of Operations or appointed officer will be required prior to the installation of any traffic control devices on existing roads.

43. 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.

44. 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.

45. 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.

46. 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.

47. 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.

48. Each layer of pavement shall be tested for compaction and deflection as detailed below. The Group 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.

49. 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 Group Manager of Operations. Council shall inspect engineering works at the following stages as a minimum:
- Following site regrading and shaping, and prior to installation of footway services;
- Installation of erosion and sedimentation control measures;
- Storm water drainage lines prior to backfill;
- Water and sewer lines prior to backfill;
- Testing of water and sewer lines;
- Subgrade preparation, before placing pavement;
- Establishment of line and level for kerb and gutter placement;
- Completion of each pavement layer ready for testing;
- Road pavement surfacing;
- 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 Council's Development Engineer, submit delivery dockets for all materials used, and all material and performance test results obtained in the development.

50. 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.

51. 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

52. 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

53. 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.

54. 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.

55. 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

56. The applicant is to comply with all reasonable requests from Council with regard to any complaints received during construction works.

57. All stormwater drainage is the responsibility of the applicant and shall be satisfactorily disposed of into Council's existing stormwater infrastructure.

58. 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) Setout information.
        vi) Accurate position and level of all services and utilities which cross underground drainage pipelines.
        vii) 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 flood event.
        viii) Inlet and outlet treatments.
        ix) 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.

59. That the pedestrian footpath from the new road extent is to follow the boundary of Lots 35 & 36 to Cooper Close and be constructed in accordance with Lithgow Council's Guidelines for Civil Engineering Design and Construction for Development 2012. This is to include bollards to deter vehicle access from the new road and Cooper Close.

WATER NSW REQUIREMENTS

General

60. The lot layout and staging of the Stage 3 and 4 subdivision shall be as shown on the Stage 3 & 4 Subdivision Lot Layout Plan prepared by CEH Survey Pty Ltd (Dwg No. HW-ST3&4B; dated 1 June 2015). 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.

Subdivision Roads

61. The subdivision roads shall be located and constructed as shown on the Stage 3 & 4 Subdivision Road Design Plans (Dwg No. HW-ST3&4OofWDES, dated 12 June 2015; HW-ST3&4D, dated 1 June 2015) and Engineering Design Cross Sections (Dwg No. HW-ST3&4X, Sheets 1 to 3, dated 19 August 2015) all prepared by CEH Survey Pty Ltd, but with the following specifications and requirements:
    - be sealed and otherwise constructed in accordance with Council's engineering standards
    - incorporate a two-way crossfall, as appropriate, with runoff to be collected via a swale drain and directed to Sheedy's Gully via a stabilised outlet
    - all drainage works associated with the proposed subdivision roads shall be wholly included in the road reserve or have suitably defined easements, and
    - shall meet any requirements for Controlled Activity Approval under the *Water Management Act, 2000* issued by DPI Water.

Stormwater Management

62. All stormwater management measures as specified in Section 5 and shown on Figure 6 of the Water Cycle Management Study prepared by SEEC Pty Ltd (dated 18 June 2015) shall be implemented, in particular as elaborated or varied in the following conditions.

63. A swale drain shall be installed along the Stage 3 and 4 subdivision roads to divert stormwater runoff from the entire development as indicated in Section 5.3 and Figure 6 of the Water Cycle Management Study prepared by SEEC Pty Ltd (dated 18 June 2015). The swale shall incorporate the following specifications and requirements:
    - have a minimum base width of 1 metre and top width of 5 metres
    - have a minimum depth of 0.6 metres
    - have a maximum slope of 1.3%
    - be vegetated and stabilised with bitumen and jute matting or equivalent as soon as possible after construction
    - discharge to the watercourse immediately to the east via an armoured discharge point such that discharge does not cause erosion, and
    - the discharge point shall also be consistent with the requirements of any Controlled Activity Approval under the *Water Management Act* (*2000*) from the DPI Water.

64. Additional stormwater treatment measures shall be proposed for Stage 3 and/or 4 to ensure a neutral or beneficial effect on water quality. These shall be agreed to by Water NSW and Council prior to the issuance of a subdivision certificate for that stage of the development.

65. Any variation to stormwater treatment and management that impacts on water quality, shall be agreed to by Water NSW.

66. A suitably qualified stormwater consultant or engineer shall certify in writing to Water NSW and Council that all stormwater management structures have been installed as per these conditions of consent and are in a functional state.

67. An Operational Environmental Management Plan (OEMP) for **each stage** shall be prepared in consultation with Water NSW by a person with knowledge and experience in the preparation of such plans. Each OEMP shall be prepared 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 include but not be limited to:
    - details on the location, description and function of stormwater management structures such as pits, pipes, inlet filters, swale, and any other stormwater structures and drainage works
    - an identification of the responsibilities and detailed requirements for the inspection, monitoring and maintenance of all stormwater management structures, including the frequency of such activities
    - the identification of the individuals or positions responsible for inspection and maintenance activities including a reporting protocol and hierarchy, and
    - checklists for recording inspections and maintenance activities.

Future Dwellings

68. There shall be a public positive covenant under Section 88E of the *Conveyancing Act 1919*, the prescribed authority being Water NSW, placed over all proposed lots requiring that future dwellings have a rainwater collection and reuse system that include the following specifications and requirements:
    - rainwater tanks with a minimum total capacity of 5,000 litres above any volume required for mains top-up
    - roofs and gutters designed so as to maximise the capture of rainwater in the tanks
    - the tanks plumbed to toilets, laundry and other areas for non-potable use including use for gardens, and
    - rainwater tank overflow directed to the swale drain.

69. An owner's Operational Environmental Management Plan, detailing the location and nature of the each lot's stormwater collection, reuse and treatment system, including gutters and rainwater tanks shall be developed in consultation with Water NSW and provided to each future owner of the lot.

Other

70. Conditions 61, 63, 65, 66, 67 to 69(as relevant for each stage) above shall be carried out prior to the issuance of the Subdivision Certificate for each stage of development.

Construction Activities

71. A Soil and Water Management Plan shall be prepared by a person with knowledge and experience in the preparation of such plans for all works proposed or required as **part of each stage** of the subdivision. The Plan can incorporate the measures outlined in the Erosion and Sediment Control Plan (Dwg No. HW-ST3&4SED; dated 1 June 2015) prepared by CEH Survey Pty Ltd, and shall meet the requirements outlined in Chapter 2 of NSW Landcom's Soils and Construction: Managing Urban Stormwater (2004) manual - the "Blue Book" and shall be developed in consultation with Water NSW **prior** to the commencement of construction for that stage of the development.

72. The Soil and Water Management Plan shall include details of measures to ensure the bank stability prior to, during and after road works.

73. Effective erosion and sediment controls shall be installed prior to any construction activity including site access, and 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.

RURAL FIRE SERVICE REQUIREMENTS

Asset Protection Zones

74. At the issue of subdivision certificate and in perpetuity the entire property 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 Rural Fire Service document 'Standards for asset protection zones'. This relates to the areas which are part of the residential subdivision and their infrastructure including but not limited to, any road reserves, drainage reserves and public open spaces.

Water and utilities

75. Water electricity and gas are to comply with sections 4.1.3 of 'Planning for Bush Fire Protection 2006'.

Access

76. Public road access shall comply with section 4.1.3 (1) of 'Planning for Bush Fire Protection 2006'.

DPI WATER REQUIREMENTS

77. 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.

    The General Terms of Approvalin Attachment 2 are to be followed and are not the controlled activity approval. The applicant must apply for a controlled activity approval after consent has been issued by Council and before the commencement of any work or activity on waterfront land.

ADVISORY NOTES

Section 96 Modification

AN1. 002/07DA for Stages 1 & 2 is to be modified to remove the need of the water quality control pond as proposed as part of the overall MUSIC Modelling submitted with this application. This has been requested by Water NSW to ensure that conditions of consent for 002/07DA are not being breached.

Water NSW and Subsequent Development Applications

AN2. Any subsequent applications for dwellings and/or other developments on the proposed lots will be subject to the provisions of State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 (the SEPP) and will need to be assessed according to the Neutral or Beneficial Effect (NorBE) test in relation to the potential effect of the development on water quality.

Attachment 1

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 leased 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 a leased block the sewer should be located within the public land rather than within the leased 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 leased 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 land(s).

2.2 Hydraulic Design

2.2.1 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 prior.
   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 favours 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), **Sn8 x 3m lengths**
- 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.

3.1.2 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.

3.1.3 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.

3.2 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.

3.3 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. 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.*

4.1 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.

4.2 Size of Tie

Sewer service ties are normally 150mm rubber ring joints. For multiple dwellings a single tie is to be provided per property.

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 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)

4.5 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

4.6 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 90 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. 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 or DN 25 PE with a minimum PN 12.5 rating and compliant with *AS 4130*

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
- Allotment number that meter is assigned to

- Serial number of water meter

3. Pipe Fittings

Fire hydrants of an approved type are to be installed along the water main at such convenient distances (60m), 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.

4. Testing

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

ATTACHMENT 2

General Terms of Approval

for work requiring a controlled activity approval under s91 of the *Water Management Act 2000*

Number	Condition	File No:
Site Address:	Lot 702, DP 1150747 Hassans Walls Road Lithgow	
DA Number:	DA2015/148	
LGA:	Lithgow City Council	
Plans, standards and guidelines		
1	These General Terms of Approval (GTA) only apply to the controlled activities described in the plans and associated documentation relating to DA2015/148 and provided by Council: (i) Site plan, map and/or surveys Any amendments or modifications to the proposed controlled activities may render these GTA invalid. If the proposed controlled activities are amended or modified DPI Water (formerly the NSW Office of Water) must be notified to determine if any variations to these GTA will be required.	
2	Prior to the commencement of any controlled activity (works) on waterfront land, the consent holder must obtain a Controlled Activity Approval (CAA) under the Water Management Act from DPI Water. Waterfront land for the purposes of this DA is land and material in or within 40 metres of the top of the bank or shore of the river identified.	
3	The consent holder must prepare or commission the preparation of: (i) Vegetation Management Plan (ii) Erosion and Sediment Control Plan (iii) Soil and Water Management Plan	
4	All plans must be prepared by a suitably qualified person and submitted to the NSW Office of Water for approval prior to any controlled activity commencing. The following plans must be prepared in accordance with DPI Water's guidelines located at www.water.nsw.gov.au/ Water-Licensing/Approvals. (i) Vegetation Management Plans (ii) Riparian Corridors (iii) Outlet structures	
5	The consent holder must (i) carry out any controlled activity in accordance with approved plans and (ii) construct and/or implement any controlled activity by or under the direct supervision of a suitably qualified professional and (iii) when required, provide a certificate of completion to DPI Water.	
Rehabilitation and maintenance		
6	The consent holder must carry out a maintenance period of two (2) years after practical completion of all controlled activities, rehabilitation and vegetation management in accordance with a plan approved by the DPI Water.	
7	The consent holder must reinstate waterfront land affected by the carrying out of any controlled activity in accordance with a plan or design approved by the DPI Water.	
Reporting requirements		
8	The consent holder must use a suitably qualified person to monitor the progress, completion,	

Number	Condition	File No:
	performance of works, rehabilitation and maintenance and report to DPI Water as required.	
Security deposits		
9	The consent holder must provide a security deposit (bank guarantee or cash bond) - equal to the sum of the cost of complying with the obligations under any approval - to DPI Water as and when required.	
Access-ways		
10-13	N/A	
Disposal		
14	The consent holder must ensure that no materials or cleared vegetation that may (i) obstruct flow, (ii) wash into the water body, or (iii) cause damage to river banks; are left on waterfront land other than in accordance with a plan approved by DPI Water.	
Drainage and Stormwater		
15	The consent holder is to ensure that all drainage works (i) capture and convey runoffs, discharges and flood flows to low flow water level in accordance with a plan approved by DPI Water; and (ii) do not obstruct the flow of water other than in accordance with a plan approved by DPI Water.	
16	The consent holder must stabilise drain discharge points to prevent erosion in accordance with a plan approved by DPI Water.	
Erosion control		
17	The consent holder must establish all erosion and sediment control works and water diversion structures in accordance with a plan approved by DPI Water. These works and structures must be inspected and maintained throughout the working period and must not be removed until the site has been fully stabilised.	
Excavation		
18	The consent holder must ensure that no excavation is undertaken on waterfront land other than in accordance with a plan approved by DPI Water.	
19-21	N/A	
River bed and bank protection		
22	N/A	
23	The consent holder must establish a riparian corridor along the watercourse in accordance with a plan approved by DPI Water.	
END OF CONDITIONS		

Kemdar PTY LTD

QUOTE

Ceedive Pty Ltd

Date
5 Feb 2018

Quote Number
QU-0023

Reference
Pony Club Entry

ABN
98 003 125 504

Kemdar Pty Ltd
PO Box 379
LITHGOW NSW 2790
AUSTRALIA
ABN: 98 003 125 504

Road Access

Road access - Lot 1 DP 1094395 - as per Council letter dated 29th January 2018).

Relates to DA002/07 (S96037/16) & DA148/15 - Hassans Walls Road, Lithgow.

Description	Quantity	Unit Price	GST	Amount AUD
Enviro Fencing Establishment (120m @ $10/m)	1.00	1,200.00	10%	1,200.00
* Excavate for concrete apron off Willowbank Ave cul-de-sac. * Drill dowells into kerb to tie in. * Compact & level base for concrete. * Fix F82 mesh and pour concrete with a broom finish.	1.00	5,000.00	10%	5,000.00
Strip Topsoil (750sqm)	1.00	4,000.00	10%	4,000.00
Supply & lay pipes.	1.00	4,750.00	10%	4,750.00
Roll subgrade & dig out soft materials unsuitable for compaction.	1.00	4,250.00	10%	4,250.00
Import material to level up formation suitable for horse floats (500t @ $25/t)	1.00	12,500.00	10%	12,500.00
Supply road base (750sqm @ $14/sqm)	1.00	10,500.00	10%	10,500.00
Grade & roll road.	1.00	5,000.00	10%	5,000.00
* Access to the existing resident/s on Lot 1 DP1094395 (to the east) will be installed by the developer as goodwill as part of these works when accepted by Lithgow Council.				

Subtotal	47,200.00
TOTAL GST 10%	4,720.00
TOTAL AUD	**51,920.00**