

Attachment 5 – Schedule of Modifications

Note: the modifications or additional information required as detailed below are to be reflected in the Structure Plan, Structure Plan Report and the relevant Appendices, to ensure consistency.

1. The Structure Plan and Structure Plan Report are to be amended as follows:
 - a. All references to figures within the Structure Plan report and appendices are to be reviewed and amended to be consistent throughout the report and within the Structure Plan.
 - b. Part 1, Section 5 Local Development Plan – to include, 'Lots less than 350m² and/or lots with a primary street frontage are to have a width of less than 10.5m' as per the WAPC subdivision condition.
 - c. Part 1, Section 6.1 Environmental Management Plans and Strategies – This requirement is to be included under point 4: Subdivision and Development Requirements.
 - d. Part 1, Section 6.3 Implementation Schedule – include the preparation of a Foreshore Management Plan (FMP) at subdivision stage.
 - e. Part 1, Section 6.3 Implementation Schedule – note that the preparation of a Fauna Relocation Management Plan (FRMP) is not appropriate at structure planning stage and that this will be addressed at subdivision stage.
 - f. Part 2, Section 1.3.2 Armadale Redevelopment Scheme 2 (ii) Wetland Management Plan – Text to be updated to acknowledge the marginal inclusion of the Resource Enhancement Wetland (REW) 15432 buffer within Precinct 16 as well as reflect the commitments made in the revised Environmental Report regarding the maintenance of REW buffer (UFI 15432).
 - g. Section 2.1.2 Tree Survey – text to be amended, noting that the trees identified for retention across the Structure Plan will be retained unless sufficient justification as to why a particular tree cannot be retained is provided (such as tree health, human hazard concerns etc), to the satisfaction of the Authority.
 - h. Section 2.4 Bushfire Hazard – Remove reference to the bushfire risk being managed within the landscaped public open space areas.
 - i. Section 3.6.3 Temporary Water Treatment Areas – Confirmation of the provision of temporary water treatment areas and how long these will be in place is to be provided or alternative arrangements to be made with the City of Armadale (the City).
 - j. Section 3.9.3 Living Streams – reference overland flow paths and the intent of creating a 'natural' response as opposed to a highly engineered response.
 - k. Section 3.9.3 Living Stream – the culverts are to be located as far away from the Wungong River as practical (i.e. they should outlet within the road reserve, unless that would result in the clearing of significant trees) and the stormwater is to travel to the river from the culverts via vegetated overland flowpaths.
 - l. Section 3.9.4 Resource Enhancement Wetland Buffer and Wungong River Foreshore – text to be updated to confirm that the buffer shall not be used as a part of bushfire mitigation purposes.
 - m. Section 3.11 Movement Networks – the two cul-de-sacs (abutting Ninth Road, between the Evelyn Gribble Community Centre and the proposed Harbor Drive extension) are to be joined into one 'loop' road to improve the legibility of the road network. Amend intersections as per attached sketch (refer to Attachment 1).
 - n. Section 3.11 Movement Networks – The alignment of roads 19, 21 & 30 adjacent to the living stream presents as a 'rat run'. Amend intersections as per the attached sketch (refer to Attachment 1).
 - o. Amend the roads intersecting with Eleventh Road as per the attached sketch (refer to Attachment 1).
 - p. Section 3.11 Movement Networks – The land required for wider road reserve/s must be indicated in the Structure Plan and Report.
 - q. Section 3.11 Movement Networks – The proposed loop road (to the south of Rowley Road) is to remove the depicted truncations, consistent with the other 'loop' roads to the north to avoid any confusion at subdivision stage. Amend intersections as per attached sketch (refer to Attachment 1).
 - r. Amend Figure 14 'Principles Plan' to correctly label the two living streams consistent with the Structure Plan.
 - s. Table 8 'Technical Appendices Index' to be modified to include Department of Biodiversity, Conservation and Attractions (DBCA) as a referral agency for the Bushfire Management Plan (BMP), Local Water Management Strategy (LWMS) and Landscape and Irrigation Management Strategy (LIMS).

- t. Main Roads Western Australia (MRWA) does not support traffic signals at Eleventh Road/Rowley Road intersection. All reference to signals should be removed from the Structure Plan and Appendix 9 – Traffic Impact Assessment. The applicant is to seek separate approval via negotiation with MRWA.
2. The Appendices are to be modified as follows:
- a) Appendix 1 – *Bushfire Management Plan (BMP)*:
- Section 2.3.6 notes that there will be no BALs greater than BAL29 due to roads and landscaped Public Open Space (POS) areas. This paragraph is vague and implies that the POS will be used to mitigate bushfire (i.e. include Asset Protection Zone (APZ) areas). The City will not accept APZ areas which impact the function of the POS. The function may be recreational and/or stormwater treatment only. The POS design needs to meet the requirements of the community and not be hindered by bushfire mitigation.
 - Section 2.2.4 indicates that 'Low Threat Vegetation' is present in the form of 'Managed Grassland' including areas beneath the occasional tree. This will not meet the POS function requirements. As highlighted in the other documentation the majority of the POS areas will be Living Streams that will be highly vegetated to meet water quality targets and reflect the typology of POS.
 - Section 4 – Bushfire Risk Management Measures – Accommodating an APZ within POS limits the POS function (e.g. stormwater treatment and recreation function). This is not acceptable and is to be amended accordingly. The City will not accept reduced tree planting in POS areas to meet bushfire mitigation requirements.
 - Figure 10 does not satisfactorily address the post development Vegetation Classification – Resource Enhancement Wetland (REW) buffers and the future POS areas are shown as 'Managed Grassland'. This is not the case. More than likely there will be managed vegetation but limiting to grass land is not acceptable. Figure 10 is to be amended to correctly identify the post development Vegetation Classification.
 - The BMP continues to depict area 10 (supported by photographic ID12) as being assessed as 'non-vegetated'. While additional photographic evidence has been provided, it remains unclear how the vegetation exclusions can be achieved, and under what enforceable mechanism it is to be managed in perpetuity. Department of Fire and Emergency Services (DFES) would support the exclusion of non-vegetated areas, including roads and buildings. However, aeriels indicate area 10 contains large vegetated area. If unsubstantiated, the vegetation classification should be revised to apply the worst-case scenario as per AS 3959.
 - It is not clear in the BMP how areas 6, 7 and 8 are less than 1ha in area and greater than 100m from other classified vegetation. Clarification of these exclusions are required in order to validate the BAL impact on surrounding land uses.
 - The Structure Plan refers to a living stream traversing the central and eastern area of the subject site. The BMP is to be amended to address the revegetation of the riparian areas and the likely bushfire impact on surrounding land uses.
 - The indicative BAL ratings cannot be validated. The inputs (i.e. slope/actual separation distances/vegetation classification) need to be included in the BMP to demonstrate the methodology applied to determine the BAL outputs within the Contour Map.
 - The BMP needs to reflect the proposed landscape outcomes. This includes revegetation of buffers and REW areas, and the full landscaping of POS areas. The applicant shall be aware that buffers/REW shall be revegetated as part of sub-divisional works. The extent of revegetation will be outlined in the site specific Foreshore Management Plan (FMP) (to be prepared and submitted at subdivision stage) to ensure conservation requirements are met.
- b) Appendix 2 – *Local Water Management Strategy (LWMS)*
- The LWMS is to be amended to reference management of the first 15mm of rainfall 'as close to source as possible' and all runoff from constructed impervious surfaces generated by the first 15mm of a rainfall event.
 - Section 7.3.2 is to be updated to refer to a relevant section/s of the LWMS when discussing the issue of subsoil drain discharge water treatment.
 - Additional text for Table 9 is to be added to the end of the last row (row 6), to be consistent with the text in the last sentence of Section 7.3.
 - The LWMS is to provide the pre and post-development flow rates and volumes for the 1 Exceedance Year (EY) event, to determine the impact of the development on the channel-

- forming flow of the Wungong River.
 - Hydrology/engineering advice on the significance of the increase in the 50% Annual Exceedance Probability (AEP) flow rates on the channel-forming flow and ecology of the Wungong River is required.
 - The second paragraph of Page 38 of the LWMS regarding the Brickworks B alignment are to be removed and replaced with more appropriate commentary.
- c) Appendix 3 - *Landscape and Irrigation Management Strategy* (LIMS)
- Piping a 40m section of the living stream and losing that length of vegetated low-flow channel is not supported by DBCA. An alternative is to be provided to the satisfaction of the Authority in consultation with DBCA.
 - Table C1 – item PO4 is to be amended to state ‘turf to be used where appropriate and community recreation function area required.’
 - Table C1 – BF1/BF2 refers to bushfire management including vegetation tonnage limits but does not provide assurance that POS will not be impacted by the bushfire mitigation requirements. An Asset Protection Zone cannot be accommodated in POS areas where it will affect the primary function of POS (i.e. recreation and stormwater treatment). The City will not accept reduced tree planting in POS areas to meet bushfire mitigation requirements. Accordingly, the BMP is to be amended to demonstrate appropriate bushfire mitigation measures will be used, that do not impact the primary function of POS.
 - The LIMS is to be amended to detail the fill proposed to be used in POS areas (i.e. 500-700mm clean fill to passive recreation areas (including turf), 700-900mm to active turf ovals).
 - Section 5.6 Nutrient Management is to be amended to remove text that suggests the river foreshore will be fertilised.
 - Section 7 Ongoing Monitoring and Maintenance – Table 4 : WSUD Structures text to be updated as follows “(WSUD) structures should be inspected monthly”.
- d) Appendix 4 – *Environmental Report*
- The environmental report is to be updated to include the following text:
- “A standalone Fauna Management Plan will be prepared and submitted for approval by the City of Armadale prior to the commencement of earthworks or subdivision.”
- e) Appendix 8 – *Landscape Strategy* (LS)
- Section 2.1 Landscape Master Plan – is to be amended to identify the distribution of recreation nodes.
 - Section 2.2 Street Tree Master Plan – Update text to note that street trees are 1 per lot and 2 per side lot. Applicant shall make residents aware that they are responsible for the maintenance of their verge.
 - Provide detail of how long the temporary water treatment areas will be in place. Please be advised the City will not accept management of these assets.
 - Section 2.3 Urban Category Street Trees – Deciduous trees are not supported near or within the road reserves containing/adjacent to swales, within or adjacent to the Wungong River foreshore area and living streams in Precinct 16. The LS is to be amended to replace deciduous trees in these locations with appropriate non-deciduous varieties.
 - Section 2.3 Native Category Street Trees – to be replaced with local native trees.
 - Section 2.3 Lowland Category Street Trees – to be replaced with local native trees.
 - Section 2.3 Wetland Category Street Trees – Should be replaced with other tree species that are found near waterways and wetlands in this vicinity, for example, *M. raphiophylla* and *M. preissiana*.
 - Section 6.0 Indicative Planting List – text needs to include where the plants will be located.
 - Section 6.1 Trees – Unless individual deciduous trees are required for passive solar benefits, the deciduous tree species are to be replaced with locally native trees, particularly within the POS areas located adjacent to the Wungong River foreshore / Resource enhancement wetland buffer and within the living streams corridors.
 - Section 6.1 Trees – *Eucalyptus camaldulensis* is to be replaced with a locally native tree species.
 - Section 6.2 Shrubs – ‘*Odorattisum* ssp. *odorattisum*’ and ‘*Odoratissimum* ssp. *odoratissimum*’ is to be replaced with a locally native plant.

- Section 6.5. Revegetation - Remove the section that notes that Revegetation will be in accordance with the Bushfire Management Plan. Conservation requirements need to be met / achieved and shall inform the BMP. Conservation shall not be hindered by bushfire mitigation requirements.
- f) Appendix 9 – *Traffic Impact Assessment (TIA)*
- The SIDRA analysis does not warrant a signalised treatment (with 2031 predictions). Accordingly the TIA is to include commentary to ensure that the preference is given to the use of Roundabout's instead of controlled intersections.
3. Additional Reports:
- Foreshore Management Plan*
- A Precinct 16 specific Foreshore Management Plan (FMP) is to be prepared to the satisfaction of the Authority in consultation with the City. The FMP is to include weed and native vegetation revegetation strategies along with access management strategies.
 - The Structure Plan is to include requirements that the future FMP, prior to subdivision. The FMP is to makes reference to the foreshore area being revegetated with appropriate plant species (including understorey and trees), at an appropriate density suitable for waterway restoration. Note that the required level of planting will affect the BAL rating for adjacent residential lots and as such the BMP may need to be amended accordingly.
- Fauna Management Plan*
- A Fauna Management Plan is to be prepared to the satisfaction of the Authority in consultation with the City prior to the commencement of earthworks or subdivision.

Advice to Applicant

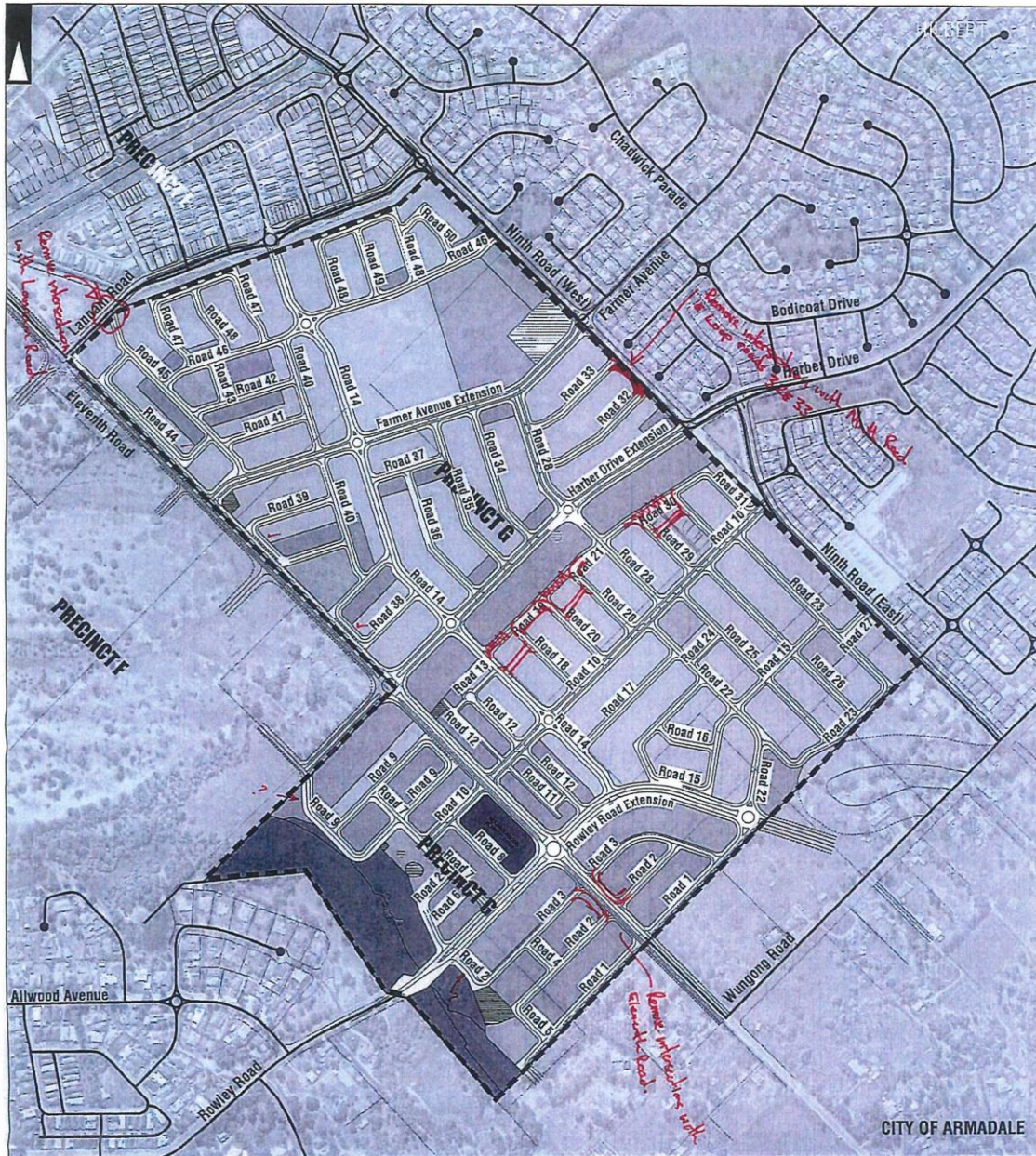
- Eleventh Road detailed design upgrades need to be undertaken and approved by Water Corporation due to the location of the Existing Transfer Main within the Eleventh Road reserve;
- Developers are required to fund the full cost of protecting, relocating or modifying any of the existing infrastructure which may be affected by the proposal; and
- All water main extensions, required for this development site should be laid within the existing and proposed road reserves, on the correct alignment and in accordance with the Utility Providers Code of Practice.
- A tree retention plan is to be provided at future subdivision stage/s to confirm the trees that can be retained, and provide engineering or other justification for those that are unable to be retained (including cut and fill levels), and how retained trees will be protected during construction. This will be followed up with a site walkover between the City and the project engineers to confirm the reason for removal of any trees that are unable to be retained.

Any existing trees located on City land or located in verges are City of Armadale assets. Should developers not retain any trees (regardless of justification) a financial offset will be required. This is determined by a Heliwell Tree Amenity Evaluation. The City encourages developers to work closely with the City, project Civil engineer, Enviro/Arborist consultant and project Landscape Architect to determine innovative methods of retaining existing trees.

Attachments

Attachment 1 – Structure Plan Road Layout Modification

Attachment 1 - Structure Plan Road Layout Modification



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| | Road 00 FUTURE ROAD NAME | | |
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|----|------------|-------------------------|------------------------------------|-------------------|
| | | | PROJECT: Hilbert Precinct G | DRAWN BY: J.S. |
| B | 16-10-2018 | PROPOSED LAYOUT AMENDED | TITLE: Road Naming Convention | |
| A | 31-10-2017 | ISSUED FOR REVIEW | DRAWING NUMBER: KC00331.000_S09 | |
| No | DATE | AMENDMENT | | |