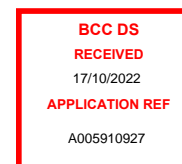


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Our Ref: 20-0218.DA.RFI.KH

12 October 2022

Brisbane City Council
GPO Box 1434
BRISBANE QLD 4001

Attention: Helen Danalis

Dear Helen

The Pinnacle Stages 5 to 8 - 546 Rochedale Road, Rochedale Qld 4123
Development Application – A005910927
Response to Information Request

We refer to Council's Information Request dated 17 March 2022 in relation to the above development application and provide the following additional information:

Item 2 – Flood overlay code – modelling technical issues

The following issues are to be resolved:

- v) The runoff from the existing upslope catchment cannot enter the proposed pipeline without a temporary pit structure to capture the minor flow. The area containing the pit would need to be within the road reserve and be set-down below road levels by at least 300mm (or more as determined by RPEQ).
- ii) Hydraulic modelling must start within the upslope property at 576 Rochedale Road to ensure the proposal is realistically modelling how the system will work, ensure flood immunity of lots along the southern boundary of the site and model the required pit inlet structure.
- iii) The modelling has assumed the upslope catchment will direct the 5% AEP flow into the pipeline. Council cannot enforce this requirement as the minor design storm for a subdivision is only the 0.5EY event.
- iv) Amend the flood modelling to demonstrate the proposal can work with a maximum 10% AEP flow in the pipe system and confirm the 16m road width requirement is suitable to ensure trafficability and hazard/safety is addressed or use a wider road reserve.
- v) Clarify that a fully developed upslope catchment (in accordance with the zoning) has been assumed in calculations.

Response:

- i) A temporary field inlet set-down 550mm below the road levels has been added.
- ii) Runoff from the upstream property will be captured and conveyed to the proposed spine road via a batter/drain. A typical section has been included in the submitted drawings with detailed design being completed at operational works.
The hydraulic model has been constructed to demonstrate that the upstream catchment as well as the internal development flows can be conveyed through the site and meet the design

requirements of BCC and QUDM. The pit inlet at the upstream site boundary has been sized and modelled to effectively capture the 10% AEP flows from the upstream catchment. This is considered an appropriate model construction to meet the objectives of the modelling. Conveyance of flows to the spine road location can be demonstrated through civil design at operational works.

- iii) The stormwater network in Road 5 caters for a 10% AEP piped system. The hydraulic model has been constructed to limit inflows to the 10% AEP event.
- iv) The hydraulic model has been amended to limit piped flows within the spine road to the 10% AEP event.
- v) As per Table 2-4 of the FSMP the upstream catchments A01 to A05 adopt a fully developed impervious fraction of 70%.

Item 3 – Lawful Point of Discharge

The following items are to be addressed:

- i) Revise plans to show development connecting into a trunk stormwater system and provide details of the non-trunk channel proposed from Rochedale Road to the waterway.
- iv) Provide owner's consent from No.450 and 500 Rochedale Road for permission to construct stormwater drainage through those properties and easements for underground drainage and open cut drainage on the future neighbourhood road alignment.
- iv) Provide details (size/depth) of non-trunk channel in 361 Rochedale Road and provide easement over those non-trunk works for open cut drainage in favour of Council.
- iv) Ensure the pipe within the proposed neighbourhood road is sized for fully developed upslope catchment conditions. The assumption for detention on that land burdens that land and Council with unnecessary assets and is not reasonable given the development will construct trunk drainage.

Response:

- i) Plans show the development connecting to the trunk stormwater system. Details including the size and depth of the interim channel have been provided.
- ii) By client. Easements shown for piped drainage.
- iii) Details of channel shown, and easements updated on plans.
- iv) The piped network has been sized to convey a fully developed upstream catchment up to the 10% AEP event.

Item 4 – Flood immunity of new lots

The following items are to be addressed:

- i) Upslope sheet flows from 576 Rochedale Road will enter proposed lots located along the southern boundary. Provide earthworks plans ensuring all lots along this boundary are the greater of 300mm above existing levels or the modelled 2% AEP flood level along this boundary.

- ii) All lots adjacent to Road 5 (proposed 16m road acting as major flowpath) are to be no lower than 300mm above the road top of kerb level (under 10% AEP minor design storm scenario) as this area is a mapped overland flow path.

Response:

- i) Lots 132-150 have been raised to a minimum of 300mm above the natural surface.
- ii) All lots adjacent to Road 5 are a minimum of 300mm above the top of kerb level.

Item 5 – Trunk stormwater infrastructure

The following items are to be addressed:

- iii) The development is to construct trunk LGIP item ROC-PR-154 in Rochedale Road (extending from the Ford Road intersection, which is longer than that shown in the LGIP).
- ii) Council is generally supportive of proposed trunk drainage within Ford Road being constructed, but as it is not in the LGIP it likely requires an Infrastructure Agreement with Council.
- iv) Provide information on any proposed staging of trunk works (where proposed).
- v) All pipes within the neighbourhood road through the site are considered non-trunk as they are required as a result of the development piping a mapped overland flow path.

Response:

- i) Noted. The extent of piped drainage is shown on the plans with further details to be provided at detailed design.
- ii) Noted and planners to put forward request for Infrastructure Agreement.
- iii) Stormwater Trunk infrastructure will be required to the outlet. An interim channel arrangement is proposed from Rochdale Road to the mapped waterway.
- iv) Noted.

Item 6 – Water Quality

The proposed WSUD street trees shall be spaced no closer than 1 every 2 lots (or 15m apart) otherwise they have little catchment, water quality benefit and do not allow sufficient room for tree growth.

Response: Plans updated showing WSUD street trees a minimum 15m apart.

Item 7 – Proposed “slow-points” traffic calming

Slow points on minor roads that are more than 80 metres in length are not supported in greenfield developments. Provide revised plans using geometric road design instead of introducing slow points into the road design.

Response: No change.

Item 8 - Road design

Changes to the road design standards referenced in Chapter 3 of the infrastructure design planning scheme policy (Road Planning and Design Manual, Austroads Guide to Road Design and Traffic and Road Use Management manual) in 2021 introduced the requirement to provide

splitter islands and raised crossings that provide priority to pedestrians and cyclists on all legs of roundabouts.

- i) Demonstrate that the proposed road dedications for the roundabout located in Stage 8 are sufficient to accommodate roundabout splitter islands that extend to include crossing locations set back one passenger car length from the circulating lane.

Response:

- i) The roundabout has been altered to provide sufficient movement for the design vehicle and to provide splitter islands on all legs.

Pedestrian refuge has been located to provide sufficient visibility on Road 5 and the western side of Road 2.

Note that crossing locations have not been set back one passenger car length as this would create unnecessarily large splitter islands.

Item 9 – Temporary turn around easements

Temporary turn around easements must not be in tandem with domestic driveways due to vehicles parking on the easements and blocking access to them, especially when they are located on Small Lot frontages.

If the temporary turnaround easement is proposed on a small Lot frontage in tandem with the domestic driveway, the entire Lot needs to be sterilised from construction by an easement placed over the Lot, until such time that the road is extended and then the easement can be extinguished.

Temporary turnaround easement also required near the northern boundary on frontage of Lot 98 in Stage 6 and Lot 140 in Stage 7.

Temporary turn around easement must not be in tandem with the domestic driveway on these lots.

- i) Provide revised plans with easements as per the above advice.

Response:

- i) Temporary turnarounds have been provided for Stage 6 & 7. Temporary turnarounds are utilizing the driveways in Lots 86 & 89 with these lots being quarantined until the future road is extended.

Item 10 – Refuse collection

It is noted that lots 164, 165, 190 and 804 within Stage 8 are adjacent to a roundabout. Refuse collection points cannot be located within 10m from the tangent point of the kerb radius of a roundabout as per Refuse planning scheme policy (Refuse PSP) section 4.1(5)©.

- i) Demonstrate on amended proposal plans that refuse can be safely and efficiently collected from proposed lots 164, 165, 190 and 804 by ensuring a kerb side collection point is provided in accordance with Refuse PSP section 4.1(5)©. It is not acceptable for bins to be presented on the frontage of adjacent lots or on crossovers. Include superimposed driveway locations (including crossover tapers), refuse bin presentation areas, electrical pillars, street trees, light/power poles, road signs and any other street furniture to ensure compliance is achieved with Refuse PSP section 4.1.

Response: Lots 149, 150, 160 & 163 have been increased to accommodate the larger roundabout. Sufficient frontage is available for kerb side bin collection. Please refer to plans.

Kerb side collection points for mobile garbage bins for proposed lots 34, 35 and 36 in Stage 5 and lots 146, 147 and 148 in Stage 7 have not been demonstrated. In addition, it is noted that proposed lots 35, 36, 146 and 147 are rear lots with no street frontage. Refuse PSP sections 4.1(3)(4)(5) require residential development to provide kerb side collection points and for rear lots, the frontage is to include truncated areas to provide sufficient space for the servicing of mobile garbage bins.

- ii) Provide amended proposal plans demonstrating that refuse can be safely and efficiently collected from proposed lots 34, 35, 36, 146, 147 and 148 by ensuring a kerb side collection point is provided in accordance with Refuse PSP section 4.1(3)(4)(5) and include a truncated area to provide sufficient space for the servicing of the proposed lots' mobile garbage bins. The truncated collection point is to avoid obstructing any driveway or encroachment onto neighbouring frontages in accordance with Refuse PSP section 4.1(4). It is not acceptable for bins to be presented on the frontage of adjacent lots or crossovers.

Response: Lots 132-134 do not have typical road frontage. Their bin pads are provided along Road 2 kerbside as shown.

It is noted in Appendix D of the Transport Impact Assessment by Stantec, preliminary swept path assessments have been conducted for a refuse collection vehicle (RCV) to utilize the turnaround provisions as well as at the one-way slow point. The swept path assessments have not been certified by a RPEQ.

- iii) Provide amended proposal plans and RPEQ certified swept path analysis demonstrating a RCV can safely and efficiently utilize the turnaround provisions as well as the one-way slow points, ensuring safe and efficient kerb side collection is carried out in accordance with the requirements.

Response: Turnpaths have been provided on the roundabout. Other turnarounds to be provided by traffic engineer.

In addition to the above:

- iv) Provide a plan demonstrating the location of every driveway and refuse collection for all lots that share driveways to increase on-street parking

Response: An additional Concept Driveway Location plan has been included to show driveways and bin pad interaction to the relevant lots. Note that the bin pads and driveway arrangement in Stage 5 is completed as a part of the prior stage of development.

Item 11 - Retention of Vegetation

Trees 3 and 4 (*Araucaria cunninghamii*) as shown in the Ecology report are considered significant vegetation (as defined by the Vegetation planning scheme policy) and should be retained and incorporated into the site layout.

Tree 49 (*Eucalyptus seeana*) is identified as significant flora species and koala habitat tree and is also to be retained.

Provide:

- i) An updated Vegetation Retention Plan that demonstrates the retention of Tree 49 (Eucalyptus seeana) on the adjoining lot. Changes to the proposed lot layout or sizing may be required to facilitate this.

All major encroachment including earthworks must be removed from the TPZ of Tree 49. Where minor encroachment is proposed within the TPZ of Tree 49, a report from a qualified arborist (AQF level 5 Arboriculture) is required to demonstrate no negative impacts on the long-term health of the tree.

- ii) A revised subdivision plan that amalgamates proposed lots 146 and 147 to ensure that all future development, including services, will remain outside of the Tree Protection Zone (TPZ) of trees to be retained.

The revised subdivision plan is to include a viable development footprint (DFP) for lots that are within the TPZ of the trees to be retained and be supported by a qualified AQF Level 5 Arborist (Diploma in Arboriculture) report demonstrating that the trees can be healthily retained.

- iii) A revised earthworks plan, demonstrating that the TPZ of the trees to be retained will not be impacted by earthworks, including retaining walls, underground services and swales.

The updated Vegetation Retention Plan should also reflect the proposed lot layout and numbering of lots as shown on the revised subdivision plan and ensures the staging boundaries and all existing and proposed services, including sewer and stormwater, are clearly identified.

Response:

- iii) Earthworks for Lots 89 & 90 has been adjusted to be clear of the TPZs as shown.

We consider this our complete response to Council's Information Request and ask that Council now proceed to decision stage.

Yours faithfully

Colliers | Engineering & Design



Andrew Ngo

Principal Engineer

ATTACHMENTS

1. Concept Engineering Drawings