Sunfield Fast-track

Auckland Council Specialist Memo

Annexure 18:

Urban Design

Robert Mainwaring

4 August 2025

Urban Design Memo

Prepared by: Robert Mainwaring, Principal Urban Designer, Auckland Council
Dated: 4 August 2025

1. This memorandum addresses the urban design aspects of the Sunfield proposal.

Qualifications and Experience

2. I hold the qualification(s) of Master of Architecture, Bachelor of Architecture, and have 22 years of experience in masterplanning, urban design and architecture. I am a full member of New Zealand Registered Architects Board (NZRAB), the New Zealand Institute of Architects (NZIA), and a Certified Passive House Designer. I have prepared expert evidence and technical assessments for resource consent applications and fast-track applications, and have appeared as an expert witness before consent authorities.

Code of Conduct

3. I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (**Code**), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

Matters for Review

4. The proposal is for the Sunfield master planned community under the Fast-Track Approvals Act 2024. The proposal is for a non-complying activity.

5. The site is within the Rural - Mixed Rural Zone where rural activity is envisaged. Land within the Future Urban Zone is identified as suitable for urbanisation but may not be used for urban activities until the site is re- zoned for urban purposes. Development within the area is therefore expected to maintain and complement rural character and amenity.

6. Given the proposal is for an urban master-planned development, this review is focused on the quality and amenity of the urban design, rather than consistency with the objectives and policies of the AUP.

7. The following information has been reviewed for this assessment:

    - Planning Report (inc. Draft Conditions), prepared by Tattico dated 31st March 2025
    - Concept Masterplan, prepared by Studio Pacific Architecture dated February 2025
    - Residential, Employment, Town Centre, School, and Aged Care Concept Masterplans, prepared by Studio Pacific Architecture dated February 2025
    - Residential Precinct Plans, prepared by Studio Pacific Architecture dated 05 February 2025

- Design Controls & Design Guidelines prepared by Studio Pacific Architecture dated February 2025
- Urban Design Assessment, prepared by Studio Pacific Architecture dated 11 February 2025
- Landscape and Visual Effects Assessment prepared by Reset dated 24/04/2025
- Open Space Strategy Design Report prepared by Studio Pacific Architecture dated February 2025
- Wai Mauri Stream Park Landscape Design Report prepared by Studio Pacific Architecture dated February 2025
- Mana Whenua Engagement Report, prepared by Navigator dated February 2025
- Infrastructure Report, prepared by Maven, dated 07 February 2025
- Engineering Plans, prepared by Maven dated February 2025
- Scheme Plans (including Staging Plan), prepared by Maven dated February 2025
- Economic Assessment, prepared by Property Economics dated December 2024
- Geotechnical Assessment, prepared by Land Development & Engineering, dated December 6 2024
- Integrated Transport Assessment Report, by Commute Transportation Consultants, dated 10 February 2025.

Executive Summary

8. The concept of the Sunfield Masterplan is encouraging and optimistic in principle. However, the location and conditions of the site do not naturally support development, with construction of any kind limited by below-ground conditions.

9. The existing floodplain requires significant drainage works to be viable, and large-scale earthworks are proposed to the better ground to the east of the site. I do not support the 18m+ cut to modify the southeastern hillock, to be replaced with single-storey aged care units.

10. The site is not currently well-served by public transport. The proposals contain provision for bus connections, and ultimately the Sunbus operating around the Sunfield Loop. However, it is unclear how effective the Loop and Sunbus will be until full development is realised, or what may happen in the event of development stages stalling or halting, or if the Loop is not provided (see the comments below arising from the applicant's s67 response).

11. Whilst the overall aim is for a car-less environment, the location and development phases are likely to result in cars continuing to form a significant part of private transport, at least until the Sunfield concept has been completed and tested. Formal vehicle parking is provided for 10% of residents, so the proposal is likely to result in uncontrolled vehicle parking within and around the site. A detailed and comprehensive site-wide cycle network supporting car-less living has not been provided.

12. The required substantial drainage solution is proposed as a drainage reserve. However, usable open spaces within the proposals are limited, and the function and amenity of those spaces are likely to be impacted by stormwater events.

13. The structure and functionality of the residential neighbourhoods, neighbourhood hubs and laneways are not demonstrated. Detailed and resolved plans of typical blocks

(including housing typologies, parking, roads/streets/lane networks, public and private interface, services, deliveries, emergency access, and open spaces) are not provided.

14. The neighbourhoods rely heavily on nested JOAL environments (private leading to private), which raises fundamental concerns with access and safety. Given the complexities and novelty of the proposed neighbourhoods, I encourage early-stage FENZ and CPTED assessments be carried out. Similarly, given the scale of the project, I encourage the applicant to collaborate with Council and the AUDP with a series of regular reviews/workshops.

Context

15. The site location is described within the Planning Report and Urban Design Assessment (**UDA**). At a macro level, the site has significant existing built conditions to three boundaries, and is bounded:

    - to the west by Mill Road and existing residential neighbourhoods
    - on the southern side by Old Wairoa Road and existing residential neighbourhood
    - to the east by Ardmore Airport

16. North of site is mixed rural zone land (MRZ) similar to existing site, extending for approximately 4km.

Natural Environment

17. As covered by the planning report and UDA, the site is typically a flat and low-lying floodplain, crossed by multiple overland flowpaths.

18. An elongated hillock exists in the southeast corner of the site. The recent development to the south of Old Wairoa Road generally follows the natural landform with Nola Dawn Avenue aligning with the ridge. The hillock affords extensive views across the site and Manukau Harbour beyond. It is unclear if this hillock has significance to mana whenua.

Groundworks

19. An engineered solution across the entire site is proposed to make the floodplain suitable for development, accommodating all 1 in 100-year stormwater within drainage reserves, as an extension of the Awakeri Wetlands.

20. The planning report and engineering reports confirm that the proposed groundworks include a maximum 18m cut (approx. six storeys) to the hillock in the southeast corner of the site. No sections or visuals are presented showing proposed gradients following the removal of this landform, the interface with Old Wairoa Road and the neighbouring development to the south, or the level of effects of these earthworks.

21. A proposed site section through the southeast hillock on SL22 , showing existing ground line, proposed levels and buildings will clarify the site's relationship to Old Wairoa Road and existing neighbourhood to the southeast.

22. The LVEA (item 6.123-127) does not mention the cut and states *The built form would extend along the localised highpoint/ridge in a similar manner to the southern side of Old Wairoa Road*. This does not reflect the proposals.

23. The geotechnical report presents extensive analysis of the existing ground conditions. A key constraint to the development is the underlying soil, which are generally split into two zones (highlighted in Geotechnical Report, Figure 2.1):

    - Zone 1: peats, to the west of the site
    - Zone 2: clays, to the east of the site

24. The report summarises that these ground conditions, in combination with light construction and typical foundations to NZS 3604, will limit individual residential building heights to 1-2 storeys in Zone 1, and 2-3 storeys in Zone 2. Taller, industrial or commercial buildings are likely to require ground improvement / preloading / foundation solutions, examples of which are detailed within the report.

25. The unique ground conditions do not appear to have led to the exploration of appropriate alternative building structures, and so the intensity of proposed development and urban design is limited by the soil conditions. From personal experience of living and working in peaty landscapes (Norfolk and Scotland in the UK, and the Netherlands), there is an array of tested solutions for building at some density in similar conditions.

26. The Sunfield proposal requires significant works to get above ground, with building densities and heights limited by ground conditions. This is likely to increase project costs for a limited result/return, or increase unit sale prices. I suggest that a financial feasibility study for the development be undertaken, including costings of detailed foundation studies.

Density / Intensity

27. The site is constrained on three sides, with the only rural edge being to the north of the development site, and a small section in the southeast corner.

28. Within residential super lots, the proposed development achieves a density of approximately 40 du/ha across the site, which I consider to be relatively low density. The proposed neighbourhoods generally consist of two-storey houses (detached and duplexes), single levels of apartments in local hubs, and single-storey retirement villas. The development contains no terraces or apartment blocks of 3+ storeys (due to ground conditions).

29. I agree with the UDA (13.1.1) that Sunfield *has the scale and critical mass to be able to be bold.* Notwithstanding the limitations posed by ground conditions, I would encourage increased density and variety of typologies across the site. The masterplan is of a scale where pockets of higher density could be achieved, balanced by the provision and variety of appropriate open spaces. However, changes to the density would require a further re-consideration of the adequacy of the open space network.

People Movement & Phasing

30. The overall premise of Sunfield is that people will live and work within the site. I am doubtful of how realistic this assumption is, in the long term and during the estimated 10-15 years delivery of the project.

31. 3,854 homes are proposed, and 11,000 permanent jobs (with a likely reduction due to the Mill Road Notice of Requirement), delivered over a total of 25 superlots / phases. The Sunfield Scheme Plans (including Staging) indicate that 1370 dwellings (35%) will be constructed in stages 1-6, before construction of the town centre and healthcare facility (stage 7). The school precinct is shown as stage 13, and the employment area follows later (Superlots 16 -21).

32. As the UDA states, residents are likely to travel to the adjacent centres of Takanini and Papakura (UDA 6.1.3) and employment destinations at Manukau, Auckland Airport, East Tamaki, Onehunga, Māngere (UDA 6.1.4). Similarly, large numbers of people will be travelling to Sunfield to use the employment zone, town centre, healthcare and school when complete. I note that the Transport Assessment (9.1.6 Mode Share) assumes 50% of all employees will live in Sunfield, when complete).

33. As such, it is highly likely that there will be large movements of people in and out of Sunfield. Whilst some connection to public transport is accounted for in the proposals, I anticipate that car journeys will continue to form a significant mode of transport. The ability of the proposals to accommodate a greater number of cars, sufficient parking spaces, and the effect on urban design, is unaccounted for in the proposals.

34. The residential superlots provide parking for 10% of residential units. With minimal formal provision for vehicle parking, the proposal is likely to encourage uncontrolled parking within the site. Vehicles are likely to be parked on berms within vested road reserves, across footpaths, within laneways on landscaping strips etc., as seen in existing developments west of Mill Road. If uncontrolled parking within the site is somehow prevented, the issue is likely to move to adjacent residential neighbourhoods and rural roads (closer to the employment area). This will undermine the amenity of the development and poses potential safety issues for pedestrians and cyclists.

Public Transport

35. Community transport is proposed as being provided by the autonomous Sunbus, continually travelling around the Sunfield Loop, with connections to Papakura and Takanini train stations (Transport Report, Figure 11-1). I note that the transport strategy is based bus occupancies of 40 people.

36. The staging indicates that the Sunfield Loop isn't complete until the final stages of development. **It is therefore unclear how effective the Loop and Sunbus will be until full development is realised**.

37. I also note that the Applicant's s67 response confirms at 2.6.1 that the applicant does not own all the land required to provide the proposed Sunfield Loop. They note that turning facilities are provided for vehicles and buses in this regard. I understand that AT has expressed concern with the lack of continuity for all modes if the 'loop' is not provided. I agree with this concern from an urban design perspective. As AT's comments note, this

would result in less reliance on active modes and public transport due to longer travel times.

Cycling

38. The general approach to cycle lanes and infrastructure is supported. However, there are sections of the site where the provision for cycle lanes is unclear. A **comprehensive site-wide plan showing the full cycle network around and within the site (demonstrating connections to key local destinations e.g. Bruce Pulman Park) will clarify this**. It should also demonstrate how each lot is served by cycle infrastructure e.g. for houses fronting onto Cosgrave Road, which is noted as a significant road in the Southern Growth Corridor[1]. Additional typical detailed drawings should demonstrate how cycle priority and safety are achieved at major and active mode crossings.

Residential Parking

39. The residential superlots provide parking for 10% of residential units. Typical detailed studies should be provided showing how vehicle crossings integrate into the streetscape and landscaping.

Site Layout

40. The overall site layout and placement of precincts seems logical and generally responds to the surroundings.

41. I do not support the placement of the single-storey Homehill aged care on the footprint of the southeastern hillock. Alternative residential dwellings with simpler access requirements, in a layout that responds to the natural landform, will help retain the natural feature, minimise earthworks, and take advantage of the elevated aspect.

42. I encourage the interspersal of uses throughout the site, particularly the inclusion of residential above retail/commercial in the town centre. This is proposed in the local hubs, albeit only a single storey of apartments is proposed above ground level. As previous, I support the principle of additional storeys of apartments.

43. As highlighted in the planning report, the development does not resolve the repositioning of the Rural Urban Boundary (RUB). The site boundary is suggested, however this is not a naturally defensible location. The position of the town centre is not central to development and appears to anticipate further development to the north of the site.

44. The placement of the school on the western boundary implies a school catchment outside of the site. The position of the school on the Mill Road/Cosgrave Road minimises traffic from west of the site moving through Sunfield.

Public Open Spaces & Network

45. The open space strategy provides a significant amount of amenity and an interconnected series of spaces across the site, providing a range of recreation spaces and off-road routes

[1] Sunfield Urban Design Assessment in Section 6.1 Wider Context (6.1.1, 6.1.3, 6.1.6)

across the site, which is generally supported. However, I also note that play spaces, artworks and similar amenities are clustered around the central drainage reserve that concerns are expressed in the Parks memorandum that the stormwater land and the formal recreation spaces have different incompatible purposes. Location of play areas etc. within the residential neighbourhoods would likely provide easier access to amenities for residents.

46. The parks are integral to the engineered drainage for the entire site and will flood regularly. The extent to which recreation spaces and connections will be affected by flood events is unclear (e.g. how much space will be lost, how long it will take for flood waters to fall, and how long flooded areas will need to recover before use). I note that during discussions with Council's parks team, an initial observation is that the central drainage reserve appears too small to accommodate both the drainage requirements and amenities, and may need to double in size in order to be a viable drainage reserve and park.

47. Other than mass earthworks taking place early in the development programme, a programme for the open spaces is not presented. The open space network forms an essential part of the movement strategy and amenity for residents. I suggest that these amenities (including the Sunfield Loop) are completed by the build-out of superlots 1-5, to ensure amenity to the early phases of residents and this should be a requirement of a condition of consent if the application is granted.

Street Design

48. The Sunfield Loop, primary road network, and open space network provides a clear structure to the overall masterplan. The scale of the loop and clear separation of vehicles from other users is supported.

49. Apart from vested roads, laneways are a major component of Sunfield. These are proposed as generally 6m wide shared spaces, with minimum 8.4m between buildings, encouraging car-less living. The hierarchy and legibility of these laneways is not clear, and a person's journey from public road to residential front door needs clarification, including:

    - The interface and junctions of all lane types to local and primary roads
    - Wayfinding
    - Crossings and bays for Local and Neighbourhood Service Hubs
    - Distinction between trafficable lanes, lanes, and pedestrian lanes

50. The structure and function of the residential neighbourhoods revolves around the neighbourhood hubs as the local refuse/recycling point, cycle storage, loading bays, post and courier boxes, and pick-up drop-off services (I note that drop-off / Loading zones for local hubs are not indicated on the engineering and roading plans). The proposed layouts require residents to travel significant distances between their house and the hub facilities. For example, in Neighbourhood 1 the hub is over 180m from many residential units. This seems impractical and I anticipate will encourage deliveries and loading within the lanes.

51. It is not clear if the laneways are one-way, and no passing or loading bays are indicated. As presented, the lanes do not have the ability to accommodate multiple essential vehicles and services simultaneously (e.g. supermarket deliveries, service vans, removals trucks, taxi from medical appointment, couriers or deliveries such as Uber Eats). If car parking was

required at any future date (e.g. agreed by the Residents Association), the current lane network would not support this.

52. A key concern is the ability for FENZ to access properties unimpeded. Other than all properties being within reach of a fire hose, this is not demonstrated. As such, it is difficult to see how the laneways, and ultimately the residential neighbourhoods, will function as described in the documentation.

53. Within the aged care precincts, the majority of units face onto neighbourhood roads (vested), not laneways. Some bays for care share parking are indicated, but there is little provision for pick-up/drop-off. Given the nature of the aged-care precincts, I suggest that an access strategy be provided, clarifying accessible routes, pick-up-drop-off zones, pedestrian crossings if required, and travel distances to units.

Landscaping

54. Whilst the overall strategy for landscaping is supported, detailed landscape designs are lacking (planting palettes are provided). From an urban design perspective, these should clearly identify street trees, and what landscaping falls within private and public ownership (including JOALs).

Interfaces with surrounding Sites

55. Some typical sections are included in the application; however, these are not extensive. Comprehensive site sections across the site boundaries should be provided, detailing the interface with the public realm and adjacent neighbouring sites.

Building Design

56. Overall, the architecture and Design Controls are supported, providing consistency of details across the development whilst allowing for variety. Privacy, outlook, amenity and liveability seem catered for with typical designs, leaving scope for each individual lot to respond to its specific location.

Sustainability

57. The application describes the development as 'sustainable' and revolves around 'healthy homes'. Other than the intent to reduce private vehicle use, and the inclusion of photovoltaic panels, there is little quantifiable material to support these aspirations.

58. The proposals say that buildings will be designed to *passive principles*. Speaking as a Certified Passive House Designer, I would argue that the only principle is that building performance should be modelled and tested. This will provide further certainty in the outcomes of the development, in addition to the proposed design controls.

59. Assessments such as Green Star Communities are suited to large scale projects such as the proposed Sunfield masterplan, and support the development of more human-centric, healthier, lower carbon neighbourhoods and communities.

60. There are a number of practical and measurable building performance standards such as NZGBC Home Star and Green tar, NABERSNZ or Passive House, and I would encourage any of these standards (or equivalents) to be employed and proffered as a condition to qualify as 'healthy homes'. These standards focus in reducing energy demand before the use of renewables, more comfortable indoor environments with reduced overheating, provision of good indoor air quality (with coincidentally improved acoustic performance, noting the proximity to the Ardmore airport), and bring long-term financial benefits to occupants.

Crime Prevention Through Environmental Design (CPTED)

61. As identified in the UDA (14.3.1), a detailed CPTED assessment should support the application.

Plan B Strategy

62. The items raised above are all interrelated and key to the success of the development and urban design. As highlighted in the UDA (14.2.1), *A Plan B strategy needs to be in place for the critical elements that support the car-less model.*

Auckland Urban Design Panel

63. Although this project is progressing through the Fast Track process, it would ordinarily meet the thresholds for review by the Auckland Urban Design Panel. A proposal of this scale would also go through multiple panel reviews to investigate matters across different scales – masterplan, precinct plans, block and site plans. It is therefore strongly recommended that the applicant seek input from the Panel to help ensure high-quality urban design outcomes including a dedicated panel to ensure a consistent and coordinated design review through the various stages of the project, similar to the 'Hobsonville Design Review Panel'.

64. The applicant should document the Panel's feedback and, where appropriate, demonstrate how the recommendations have been considered in the final design. A summary of this engagement can be provided to the Council Design Review to support design quality assurance.

Comments on Proposed Conditions

65. I share the view made by Council's Landscape Architect that the detailed landscape design needs to be resolved well in advance and presented at the time of lodgement of this application. Leaving this matter to a certification process prior to the commencement of construction doesn't demonstrate how the development, including landscaping, will function.

Conclusion

66. Several of the principles of the Sunfield masterplan are supported, with green networks and car-less development, and local employment being universal aspirations within the field of urban design. However, further information and clarifications are required to demonstrate how the Sunfield development can be successfully achieved with this site's location and constraints.

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