

Request No.	Category of information	Specific request	Reason for request. Applicant's response in Red.	HW Response dated 2/5/2022
SW 1	SMP	The SMP refers to the Whenuapai SMP which has not been adopted into the NDC into Schedule 10. Please revise the SMP in accordance with the NDC requirements for greenfield developments in Schedule 4 and demonstrate how the devices are designed to meet the GDO1 requirements.	<p>For the SMP to be adopted under Schedule 8 into the NDC which will authorise stormwater diversion and discharge from the development, the SMP must meet all the performance requirements in Schedule 4 of the NDC as Healthy Waters will be responsible for compliance and discharge from the stormwater network as well as ongoing operation and maintenance of the assets.</p> <p>The template and explanatory document provided in the Auckland Design Manual should be used for the SMP preparation. www.aucklanddesignmanual.co.nz/NDC</p> <p>SW1 - The SMP has been updated to clarify that the management strategy is based NDC Schedule 4 and relevant council publications such as GDO1. The Whenuapai SMP has only been referred to as general guideline. Refer to sections 2 and 6 for more information.</p>	<p>SW1-Outstanding. The outcomes for water quality and hydrology are generally compliant with NDC Schedule 4, however the justification is incorrect e.g. all roads are HCGAs. Please revise accordingly.</p> <p>The water quality principle definition has been reworded in section 6.1.1. to consistent with schedule 4. Refer to revised SMP.</p>
SW2		The SMP does not specify any recommendations for the next stage of development. Please outline the recommendations that require further investigation to support the next stage of development.		SW2-Addressed.
SW3		The SMP states "there are no known departures from Auckland Regulatory and		SW3-Addressed

		<p><i>design standards",</i> however the outlet pipe has a velocity greater than 4m³/s which does not meet the required minimum standards. Confirm if any departures are proposed and provide evidence of consultation of the departures.</p>	<p>SW2 - We are not aware of any other developments in the vicinity that are in motion.</p> <p>SW3 - The updated SW design and calculations ensure all pipe velocities are under 4m²/s.</p> <p>SW7 - Please refer to section 6.7. These dependencies have been added.</p>	
SW4		<p>The SMP only provides an assessment of wastewater related dependencies (being the pumpstation). Provide an assessment of the stormwater related dependencies (e.g. staging the development to complete raingardens prior to the lots being created).</p>	<p>SW5 - References updated to solely state 'JOAL'.</p> <p>SW6 - outcomes to be sought updated to clearly state adherence to NDC schedule 4 requirements. Refer to section 6.1.1 and 6.2.1.</p>	SW4-Addressed
SW5		<p>The SMP uses terminology such as shared accessways, JOAL, private driveways, private ways interchangeably which creates confusion. Use consistent terminology e.g. JOAL for the stormwater</p>		<p>SW5-Outstanding. Still remains inconsistent terminology throughout the SMP e.g., accessways, private driveways and JOALS.</p> <p>Response: The terminology is now consistent. JOAL has been used throughout. Where private driveway terminology is used, it is referring to private driveways within the lot.</p>

		management approach to avoid ambiguity at implementation stage.		
SW6		The outcomes sought for the stormwater management approach proposed in the SMP are unclear. Clearly identify the outcomes sought that the stormwater management approach will achieve.		<p>SW6-Outstanding. The principles around water quality and justification for treatment are incorrect e.g. referencing E9 of the AUP (OP) to treat only HCGAs. NDC schedule 4 requires treatment of all impervious area.</p> <p>Refer to revised section 6.1.1</p>
SW7	Water Quality	Provide an assessment of how the stormwater management approach addresses stormwater quality in accordance with objectives and policies under E1.	Schedule 4 requires the SMP to provide an assessment in accordance with Chapters E1.3.8, B7 and B8 which seeks to avoid as far as practicable, or otherwise minimise or mitigate adverse effects of stormwater runoff from greenfield development on water quality (such as freshwater systems, freshwater and coastal water). This includes minimising the generation and discharge of contaminants into sensitive receiving environments and improving water quality through implementing a robust stormwater management approach for treating stormwater for	<p>SW7-Outstanding. The assessment does not correctly align with the AUP (OP) objectives & policies and NDC requirements.</p> <p>Response: Refer to section 6.</p>
SW8		Inert roofing materials are not sufficient to mitigate contaminants entering the public network and receiving environment. Although they can reduce the risk of contaminants being generated from the		<p>SW8- Outstanding</p> <p>Response: Refer to section 6.1.1</p>

	<p>roof, the surface still acts as a pathway for airborne contaminants, which has the potential to be significant given the location of the development in close proximity to the NZDF Whenuapai Airbase and High Contaminant Generating Roads (HCGR).</p> <p>Amend the SMP to address water quality for the roof area for development.</p>	<p>water quality to avoid adverse effects of the development.</p> <p>Schedule 4 requires treatment of all impervious areas by a water quality device designed in accordance with GD01 for the relevant contaminants. Treatment is particularly relevant and important given the location of the site near the NZDF Whenuapai Airbase and HCGR.</p> <p>SW8, SW9 - Please refer to updated section 6.2.2.</p>	
SW9	<p>Amend the SMP to provide the details of the permeable paving to confirm retention and detention.</p>	<p>SW10 - Please refer to updated section 6.2.2 - treatment to remove 75% TSS.</p> <p>SW11 - Please refer to updated section SW11.</p>	<p>SW9-Outstanding Response: Permeable paving has been proposed for the private driveways, no mitigation is required for pervious surfaces.</p>
SW10	<p>Where proprietary devices are to be provided, amend the SMP to specify the required efficacy of the proposed treatment (e.g. 75% Total Suspended Solids)</p>	<p>SW12 - Please refer to the updated stormwater design and section 6.2.3 for raingarden design.</p> <p>The SMP has also been updated to include alignment with E1, B7 and E8 - please refer to sections 6.2.2, 6.2.4.</p>	<p>SW10-Addressed</p>

SW11		Amend the SMP to provide details of how the runoff from car parks will be managed due to potential significant contaminants.		<p>SW11-Outstanding. It is unclear what the correct plan reference is. Response: The term car parks has been removed from the SMP. This has now been replaced with private driveways for clarification. Permeable paving is</p>
SW12		The proposed stormwater treatment devices such as raingardens located within the road are very small and do not meet AT requirements set out in the Technical Design Guide (TDG). Provide an assessment to explain larger centralised or combined devices for roads have not been provided and considered for this development rather than the proposed multiple smaller stormwater devices in the road reserve.		<p>proposed for private driveways. There will be no runoff from the private driveways as they are permeable.</p> <p>SW12-Addressed subject to AT approval. Response: Noted.</p>
SW13	Hydrological Mitigation	Please provide an assessment of how the proposed stormwater management approach using the SMAF1 meets the required retention and detention under Chapter	The SMP proposes the development to apply the SMAF1 overlay. Schedule 4 requires the stormwater management approach to achieve the required hydrological mitigation (retention and detention) for all impervious area in accordance with the SMAF-1	SW13-Addressed

		E10 of the AUP (OP) and avoids or remedies changes in hydrology which will result from the urban land uses proposed in the plan changes.	requirements under Chapter E10 to ensure adverse effects of development are avoided as practical or otherwise remedied or mitigated including changes in hydrology.	
SW14		Amend the SMP to specify the SMAF-1 requirements are under Chapter E10 and how the proposed stormwater management approach is designed to meet these requirements for retention and detention.	Further assessment is required to demonstrate compliance with the SMAF-1 controls to provide hydrological mitigation. Providing a robust stormwater management approach for treating stormwater for water quality to avoid adverse effects is required. SW 13,14 - please refer to section 6.2.3 which includes the updated SMAF design.	SW14-Addressed
SW15		The NDC requires SMAF1 hydrological mitigation. If the road areas cannot use reuse and infiltration is not feasible then it is required to provide detention. Provide evidence to demonstrate retention is achievable such as a geotechnical assessment to confirm.	SW 15,16 - Geotech to shortly confirm infiltration feasibility. To be confirmed in next revision.	SW15-Outstanding. Revise the SMP to include additional geotechnical information requested in SW15. Response: Initial testing results show some areas have acceptable infiltration, more testing to be done as part of RC design. Refer to attached Geotechnical assessment. SMP has been amended to state only detention will be provided for public roads & JOALS where retention cannot be achieved through infiltration, refer to section 6.2.3.

SW16		The SMP needs to confirm whether retention through infiltration will be provided in the proposed stormwater management approach. If yes, specify the minimum requirements and how this is met. If not, provide an assessment of why only detention is provided.		<p>SW16- Outstanding. Revise the SMP to include additional geotechnical information requested in SW16.</p> <p>Response: as per response to item SW15 above.</p>
SW17	Public Stormwater Network	<p>The SMP does not provide the layout of the stormwater network to serve the development.</p> <p>Provide a plan showing the location of the SW network to ensure developed is staged and serviced appropriately.</p>	<p>This assessment is required to ensure that stormwater effects from the proposed diversions and discharges from the public network will be mitigated/managed appropriately and will not result in any downstream/upstream effects and is an integrated stormwater management approach (refer to Policy E1.3 (8)).</p> <p>SW17,18 - Please refer to the updated design and catchment calculations.</p>	SW17-Addressed
SW18		It is noted that a new pipe network is to be created within the Mamari Road corridor. Confirm if the proposed stormwater pipe network will be designed for this development and		<p>SW18-Outstanding. Provide evidence of AT agreement/consultation with for the proposed SW pipe located within Mamari Road. The design catchment for Mamari Road remains unclear.</p>

		developments upstream and downstream, and how will stormwater be discharged.		Response: Resource consent has been lodged and AT have reviewed the proposal and provided feedback. The design, including sizing and position of the proposed public stormwater network within Mamari Road reserve will be reviewed by AT during resource consent and EPA application. The proposed subdivision can accommodate the exact size of the pipe and pipe alignment.
SW19	Stream Hydrology	Provide a plan showing the hydrology features of the site; including the potential wetland areas downstream, stream classification and other features relevant to site assessment.	This site assessment is required to determine what the existing condition of these features are and whether the stormwater management approach proposed will maintain or enhance water quality, flows, stream channels and their margins and other freshwater values.	SW19-Outstanding. Please provide clear and accurate information regarding wetlands and status of wetlands, and how these will be impacted by the developments (e.g. how the stormwater management approach will maintain the baseflow.) Response: RMA Ecology's Ecological Assessment provides in depth assessment of the hydrological features and how these will be impacted by the development. This has now been referenced in the SMP & also included in the Appendices.
SW20		In terms of the potential wetland located downstream, provide an assessment of how the proposed plan change meets the outcomes and requirements of NPS-FM.		SW20-Outstanding. Please provide clear and accurate information regarding wetlands and status of wetlands, and how these will be impacted by the developments (e.g. how the stormwater management approach will maintain the baseflow.) Response: As per SW19 response.
SW21	Assets	The SMP states that all stormwater management devices and all public	Schedule 4 requires that all new assets to be vested as part of the public stormwater network are to be designed	SW21-Outstanding. Cannot rely on the planning report as the SMP is a

		<p>roadways will be vested to Auckland Transport. However, there is no evidence of consultation with Auckland Transport or demonstrating of how the all-stormwater management devices will be designed to AT requirements.</p> <p>The SMP provides no evidence of any consultation with Auckland Transport to confirm the proposed stormwater management approach is accepted by AT for stormwater management assets vesting including assets proposed within a 'paper road' (Mamari Road), 100-yr runoff overtop of the road centreline crest, undersized rain gardens, and no consideration of consolidation of devices.</p>	<p>and constructed to meet Auckland Transport requirements as this may change the stormwater management approach. All assets must be designed to be durable and perform to the required level of service for the life of the asset and have reasonable asset maintenance.</p> <p>SW21 - The updated design and SMP are based on consultations with relevant governing authorities.</p>	<p>standalone document. Revise to incorporate consultation into SMP and explain how this impacts the choice.</p> <p>The public stormwater network has been designed in accordance with Auckland Transport code of practice. Resource consent has been lodged and AT have reviewed the proposal and provided feedback. The design, including sizing and position of the proposed public stormwater network will be reviewed by AT during resource consent and EPA application.</p>
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		Provide evidence of consultation with Auckland Transport, and how the proposed stormwater management assets are designed to meet AT requirements as well as the Stormwater bylaw and SW Code of Practice.		
SW22	Flood Risk and Hazards	Provide a plan and assessment of the overland flow paths and 100yr floodplain within the development area and on adjacent sites located upstream and downstream. Justify as the best practicable option to mitigate any adverse effects associated with this.	<p>This assessment is required to determine whether the stormwater flows can be conveyed safely to the receiving environment from the subject area and not give rise to downstream/upstream effects to adjacent person/s.</p> <p>SW 22, 23, 24, 25, 26, 28 - Please refer to revised 100-yr catchment and design plans. SW 22 - As per the updated design, post development flows will be lower than predevelopment levels. As such AT approval for discharge will not be required.</p>	<p>SW22-Outstanding Revise the SMP to provide an assessment of the impact of this development on adjacent persons/sites. Response: Section 6.2.6 of the SMP now includes flood hazard risk assessment for adjacent properties in accordance with AUP E36.9</p>
SW23		Provide a high-level analysis of the pre and post development flows due to the significant increase in flows.		<p>SW23-Outstanding This is provided in Section 6.2.6 of the SMP</p>
SW24		Amend the SMP to demonstrate how the proposed stormwater		<p>SW24-Outstanding Response: The requirement to be compliant against SWCoP and Stormwater bylaw requirements are</p>

mentioned throughout the SMP. The proposed stormwater management approach is in accordance with SWCoP and Stormwater bylaw requirements. The compliance of the the proposed stormwater mangement against these are assessed throughout the SMP.

		management approach will be designed to meet the SWCoP and Stormwater bylaw requirements.	
SW25		Provide an assessment of how the development within the floodplain and flood prone land will be managed. Confirm if this will be removed or incorporated into the development.	SW25-Outstanding Response: Floodplain will be removed. The post-development 100-yr runoff from the northern portion of the site will discharge to Brigham Creek Road (where it will overtop the road centreline crest and discharge onto Joseph McDonald Drive) decreases from 0.80m ³ /s pre-development to 0.75m ³ /s post-development.
SW26		Confirm if the entry and exit points of the overland flow paths will be maintained by the development.	SW26-Outstanding Response: As demonstrated by Maven Plans C460 and C461. Entry and exit points of the OLFP's are generally maintained. This is also stated in section 6.2.5
SW27		Confirm if AT accept the proposed post-development 100-yr runoff overtop of the centreline crest and discharge onto Joseph McDonald Drive.	SW27-Outstanding Response: The subject development will reduce the overland flow that is currently topping the centerline crest. This is demonstrated on Maven plans C460 and C461. RC for this development has been lodged, AT will provide acceptance of this through RC consultation.
SW28		Demonstrate how the proposed stormwater management is designed to mitigate the impacts	SW28-Outstanding Response: The post-development stormwater analysis includes allowance for climate change.

		from and accommodate climate change to achieve an integrated stormwater management approach.		
SW29	Mana Whenua Engagement and Consultation	<p>The SMP does not provide evidence of consultation with Mana Whenua for the stormwater management approach to confirm that mana whenua values are not affected.</p> <p>Amend the SMP to provide evidence of engagement with Mana Whenua to confirm how the stormwater management approach has been designed to account for mana whenua values.</p>	<p>Mana whenua engagement must be undertaken as per Schedule 4 of the NDC for greenfield sites.</p> <p>Schedule 2 NDC Objectives and Outcomes require mana whenua to be appropriately engaged in the stormwater management to recognise and integrate the cultural values mana whenua have with their waterways.</p> <p>Mana Whenua to be engaged with the revised SMP.</p>	<p>SW29-Outstanding. Revise the SMP to include consultation with Mana Whenua.</p> <p>Response: Private plan change documentation has been provided to Mana Whenua for their feedback. Based on HW's recommendation, the applicant has engaged with the relevant Iwi groups.</p> <p>The proposed design is consistent with the values of Mana Whenua and the applicant is committed to working with Mana Whenua to ensure best possible outcome is achieved. Consultation will continue through the Resource Consent process</p>
SW30	Geotechnical	The SMP provides no information or assessment of the geotechnical conditions which will impact the stormwater management approach.	A soakage assessment is required to determine what the soil conditions are and their properties and whether the infiltration rates will support appropriate retention times. Soil infiltration testing should be provided at	<p>SW30-Outstanding. Revise SMP to include additional geotechnical information requested in SW30.</p> <p>Response: As per response to item SW15.</p>

		<p>Update the SMP to include a summary of the geotechnical conditions and the effects on the proposed stormwater management approach.</p>	<p>indicative locations across the plan change area. This assessment is required to demonstrate the stormwater management approach such as raingardens will achieve the required retention stormwater volumes and whether runoff can permeate the soil and the rate at which this will occur. If not, this has the potential to result in ponding or unintended overland flows.</p>	
<p>SW31</p>		<p>Provide soakage assessment and soil infiltration analysis within the development area.</p>	<p>SW30, 31 - Geotech to shortly confirm infiltration feasibility. To be confirmed in next revision.</p>	<p>SW31- Outstanding. Revise SMP to include additional geotechnical information requested in SW31. Response: As per response to item SW15.</p>