

Strategic Development Unit

To: Andrew Cumberpatch
From: Martyn Smith – Senior Development Engineer, Strategic Development Unit (SDU)
Subject: Waikato Regional Theatre - 170 Victoria St
Date: 11 September 2019 **File:** 2018/10143

1 INTRODUCTION

- 1.1 Resource consent is sought from Hamilton City Council (HCC) by the Waikato Regional Theatre Governance Panel for the establishment of the Waikato Regional Theatre facility at 170-206 and 208-218 Victoria Street, Hamilton Central.
- 1.2 The proposal includes a 1,300-seat auditorium and associated theatre facilities, a conference centre, hotel and other retail/hospitality tenancies. Construction of the proposal requires, amongst other activities, the following:
 - The partial removal of, and external and internal alterations to, the Hamilton Hotel; a 'A' Ranked Built Heritage Item;
 - The removal of three Significant Trees;
 - Works within Embassy Park to create a large plaza and level access to the main theatre entrance and access to the riverfront promenade; and
 - The installation of 5m wide riverfront promenade which will include works within a 'Group 2' Significant Archaeological Site and the Waikato Riverbank and Gully Hazard Area.
- 1.3 The purpose of this report is to provide a technical review of the three waters servicing (infrastructure) aspects the proposed activity which will support the section 42A officers report prepared on behalf of HCC.

2 PROPOSAL

- 2.1 The subject site is in the Central City Zone and includes a Destination Open Space zone on the north-west boundary (Embassy Plaza) and an adjacent Natural Open Space Zone on the north-east boundary. Beyond this zone is the Waikato River with residential zones further east and north-east based around River Rd and Opoia Rd, and Parana Park and Memorial Park directly to the east across the river.
- 2.2 The applicant has provided a Civil Infrastructure Report by Holmes, dated October 2018, in support of their resource consent application (Attachment H to the application).
- 2.3 The applicant has detailed, in section 2 of the Infrastructure report, how wastewater will be managed. The report states that the details of the design are to be confirmed as part of the detailed design stage.

- 2.4 The applicant has detailed, in section 3 of the Infrastructure report, how stormwater will be managed in relation to attenuation and quality prior to discharging into the receiving Hamilton City Council stormwater reticulation. The report states that the details of the design to be confirmed as part of the detailed design stage.
- 2.5 The applicant has detailed in section 4 of the Infrastructure report how the proposal will provide potable and firefighting water supply via the existing Hamilton City Council reticulation. The report details that the proposed development will comply with Code of Practice for Fire Fighting Water Supplies (SNZ PAS 4509:2008), with the details to be confirmed at the time of detailed design.
- 2.6 To gain a better understanding of the infrastructure aspects of the proposal, the following queries were raised as part of the section 92 request for further information:
- 47) *Section 2.2.2 of the Civil Infrastructure Report (Attachment G) states it is 'proposed to install a new wastewater manhole to the north of the boundary line and redirect the existing line from manhole WWR 21124 under the foundation of the hotel... A preliminary design for the relocation of this existing wastewater line is provided in CSK RC-01-02, refer Appendix A.' However, this drawing is not included with the application.*
- Given the potential to impact on the foundations of the Hamilton Hotel, please confirm this proposed wastewater line alignment by providing drawing CSK RC-01-02.*
- 48) *Given the current wastewater line is proposed to be replaced, it is assumed that none of the current Victoria Street tenancies within the retained Hamilton Hotel building will be in operation during the construction period.*
- Please therefore confirm this is the case or provide further details on how wastewater (and any other infrastructure) connections would be managed in the interim during the construction period.*
- 49) *Section 3.2.3 of the Civil Infrastructure Report proposes that 34m³ of stormwater storage be provided on-site by using either above ground or underground storage tanks. There appears to be little space available above ground, and a storage tank of this size would potentially have a noticeable impact visual appearance of the proposed design. Conversely, accommodating an underground storage tank and associated stormwater quality proprietary device of this size could be problematic given the topography of the subject site, perched water table and the potential for the discovery of archaeological remains.*
- To provide more certainty that such storage and associated stormwater quality proprietary device can effectively be provided on-site, please therefore provide further details on the specific location and design of the proposed infrastructure.*
- 2.7 A further infrastructure plan was provided by the applicant as part of the section 92 response (Appendix G) to item 47 above, along with confirmation that intended that all tenancies will be vacated once the early works begin and no temporary wastewater connections will therefore be required (item 48).

- 2.8 On 30 August, the applicant provided additional civil design drawings; including a proposed stormwater services plan showing the indicative location of the proposed stormwater detention system on the southern side of the subject site.

3 POLICY CONTEXT

- 3.1 The District Plan contains the following relevant objectives and policies which relate to earthworks and the provision of three waters infrastructure:
- 3.2 *Objective 25.2.2.1 - Minimise the adverse effects of earthworks and vegetation removal on people, property, and the environment.*
- 3.3 *Objective 25.13.2.1 - Water resources are protected from the adverse effects of subdivision and development.*
- 3.4 *Policy 25.13.2.1a - Subdivision and development is located and designed to minimise adverse effects on ground and surface water resources, particularly the life-supporting capacity of water bodies and their riparian margins.*
- 3.5 *Objective 25.13.2.2 - Measures to facilitate the efficient use of water resources are incorporated into new subdivision and development.*
- 3.6 *Policy 25.13.2.2a - Water-sensitive techniques are incorporated into new subdivision and development to reduce demand on water supplies, wastewater disposal and to manage stormwater.*
- 3.7 *Objective 25.13.2.3 - Three Waters infrastructure is provided as part of subdivision and development, and in a way that is:*
- *Integrated*
 - *Effective*
 - *Efficient*
 - *Functional*
 - *Safe*
 - *Sustainable*
- 3.8 *Policy 25.13.2.3a - All subdivision and development provides integrated Three Waters infrastructure and services to a level that is appropriate to their location and intended use.*
- 3.9 *Policy 25.13.2.3b - Subdivision and development shall not occur unless the required infrastructure is available to service it.*

4 SUBMISSIONS

- 4.1 Four of the 28 submissions raised servicing infrastructure concerns¹. Further, five submitters raised specific concerns around the volume of earthworks and dust effects during construction².

¹ 14 Morgan and Jarman, 23 Fire and Emergency New Zealand, 24 C de Leeuw, 25 P de Leeuw

² 2 Go To Collection-Madam Woo, 8 Bailey and Barker, 14 Morgan and Jarman, 24 C de Leeuw, 25 P de Leeuw

- 4.2 The issues raised are summarised below. SDU have considered the submissions and assessed them in section 5 below.

Concerns raised by submitters/relief sought:

- 4.3 Concerned at pre and post development stormwater calculations within the civil services report, noting no mitigation for the 2-year storm event. Considers the sizing of the 10-year storm event for the orifice does not ensure it will be big enough.
- 4.4 Concerns that the water supply analysis is cursory and not in accordance with HCC model.
- 4.5 Concerned at the lack of detail on Embassy Park, such as retaining effect/surcharge on 240 Victoria Street, including details on drainage/discharge measures.
- 4.6 Seeking a condition of consent requiring water supply and access be provided in accordance with SNZ PAS 4509:2008.

5 ASSESSMENT

Water and Wastewater

- 5.1 SDU have carried out an assessment of the proposal against the HCC Water hydraulic model results and can confirm that the wastewater and water networks anticipate this scale of development and therefore can accommodate this scale of development.
- 5.2 SDU have assessed the submissions relating to potable and firefighting water supply and based on the assessment against the HCC water model SDU are comfortable to carry out the assessment of the Firefighting Water Supply at the time of detailed Design as per the proposed condition by Fire and Emergency New Zealand.

Stormwater

- 5.3 SDU have assessed the submissions relating to stormwater and can confirm that the applicant's use of the Rational Method is appropriate given the subject site is less than 8Ha as per the Regional Infrastructure Specification (RITS).
- 5.4 In relation to providing flow control and attenuation for the 10yr event, this is acceptable given the site's location adjacent to the Waikato River and there is existing capacity in the network during the critical 10yr 10min storm event in the receiving network. The key risk is surcharge at the proposed connection MH (SWR 22061) resulting in uncontrolled spill down the river bank. This should be avoided during a 10yr event given the tank sizing proposed.
- 5.5 SDU are comfortable with the level of detail provided to date detailing the proposed location of the detention tank. It is however noted that the updated plans provide detail on the storage tank for the Theatre site only and it would be helpful for the applicant to clarify how the remaining storage will be addressed to meet the overall site storage requirements detailed in the Holmes Infrastructure report submitted with the application.
- 5.6 It is therefore recommended that the following additional detail be provided at the time of detailed engineering plan submission:

- Orifice size/configuration at tank outlet;
 - Tank sizing to attenuate runoff from the entire site as well as overflow arrangements for design events greater than the critical design storm; and
 - Rain smart cell triple layer configuration.
- 5.7 SDU have also assessed the requirement to provide Water quality treatment and the applicant has proposed a proprietary device. The updated plan set submitted by the applicant confirms the location and device type (stormwater 360 stormfilter at SWMH 04) prior to connection to MH SWR22061. The device is offline from the clean roof water and is designed to treat runoff from trafficable areas only. No further information is required. Note additional detail will be conditioned at the time of detailed engineering plan submission providing details relating to:
- Confirm filter cartridge sizing is appropriate for treatment area.
 - Filter chamber overflow arrangements for design events greater than the critical design storm.
- 5.8 There has been limited detail on any stormwater interface with Embassy Park and there is no detail of how stormwater will be managed in the redevelopment of Embassy Park. Therefore, we require a condition of consent requesting specific details be provided at detailed engineering plans stage detailing:
- A stormwater management system that ensures no discharge to the riverbank is allowed as required under Rule 7.5.1a)iii) of the District Plan;

Construction Management

- 5.9 In respect to the management of earthworks and associated sedimentation and dust effects during construction, the applicant has proposed various conditions in Draft Conditions v4 (dated 30 August) which meet HCC's requirements.
- 5.10 However, it is recommended that reference in the conditions is made to the relevant Regional Council standards addressing erosion and sediment control.
- 5.11 SDU support the proposed Construction Environmental Management Plan (CEMP) series of conditions and don't recommend any changes.

6 CONCLUSIONS AND RECOMMENDATIONS

- 6.1 In relation to the infrastructure and earthworks matters associated with the proposal, SDU can confirm that that the adverse effects of the development can be adequately mitigated by imposing the conditions detailed below.

RECOMMENDED CONSENT CONDITIONS

Engineering - General

1. The consent holder shall submit engineering plans including (but not limited to) cross-sections, long-sections and associated details for roading, water, wastewater and stormwater infrastructure and other relevant items to the Planning Guidance Unit for review by Strategic Development Unit prior to building consent application and construction work commencing onsite, this plan shall be amended by the Consent Holder as required until stamped 'Accepted' by Strategic Development Unit.
2. All engineering works and designs shall be in accordance with the Regional Infrastructure Technical Specifications (available from the internet at www.hcc.govt.nz).
3. The consent holder shall retain the services of a suitably professional qualified person to oversee the construction of any infrastructure required for the development. This person shall be responsible for ensuring adherence to approved construction plans, quality systems, and project completion requirements. The name and contact details of this person shall be nominated on all engineering plans submitted to the Strategic Development Unit.
4. The Consent holder shall engage a Chartered Professional Engineer, experienced in the field of pavement engineering, to provide a design solution to account for the high ground water level.

Earthworks and Construction

5. All works shall be managed to ensure that no debris, soil, silt, sediment or sediment laden water is discharged beyond the site to any land, stormwater drainage systems, watercourses and/or receiving waters. In the event that a discharge occurs, the works shall cease immediately, and the discharge shall be mitigated and/or rectified to the satisfaction of Council (Team Leader Compliance Monitoring). **Note: refer to Waikato Regional Council's "Erosion & Sediment Control, Guidelines for Soil Disturbing Activities" which can be found at <http://www.waikatoregion.govt.nz>**
6. The operational effectiveness and efficiency of all erosion and sediment control measures specifically required to achieve Condition 67 shall be maintained throughout each stage of earthworks activity, or until the site is permanently stabilised against erosion. A record of any maintenance work shall be kept and be supplied to the Council (Team Leader Compliance Monitoring) on request.
7. There shall be no airborne or deposited dust beyond the subject site as a result of the earthworks / construction activity, that in the opinion of the Council (Team Leader Compliance Monitoring), is noxious, offensive or objectionable.

Three Waters

8. Service connections shall be rationalised on site. Any private pipes and connections not required by the proposed development shall be appropriately disconnected to the satisfaction of the Strategic Development Unit Manager (or nominee). Removal of existing connections shall be done by Council at the consent holder's expense.

Water

9. That firefighting water supply be provided in accordance with the New Zealand Firefighting Code of Practice SNZ PAS 4509:2008.
10. The development shall be provided with a metered water connection in conjunction with the Building Consent. Water supply with sufficient volume and pressure for potable and firefighting services shall be provided in accordance with the building code.

Wastewater

11. The site shall be provided with a wastewater connection, installed by Council to the site boundary and extended internally by a private contractor to provide connection to the development.
12. All building over or adjacent to the public Waste water infrastructure located within the site shall be designed and constructed in accordance with the requirements of Section 4.2.9 of the Regional Infrastructure Technical Specifications, Building Over or Adjacent to Pipelines, with the existing public wastewater infrastructure within the site being upgraded to the design standards detailed in Section 5.2.4 of the Regional Infrastructure Technical Specifications.
13. Any operational wastewater connections to the existing public main crossing the site boundary shall be kept operational at all times.
14. That the proposed underground carpark Stormwater sump is to be connected to the wastewater network and will require an HCC trade waste consent.

Stormwater

15. The stormwater management measures as outlined in the resource consent application shall be in place and fully operational upon the completion of the development to ensure that stormwater discharge off site is managed in accordance with the Regional Infrastructure Technical Specifications and are to be maintained in an ongoing basis by the owner. The consent holder shall submit engineering plans including but not limited to the items listed below to the Planning Guidance Unit for review by Strategic Development Unit prior to building consent application and construction work commencing onsite, this plan shall be amended by the Consent Holder as required until stamped 'Accepted' by Strategic Development Unit.
 - Stormwater infrastructure and connection to the mains
 - Detention tank throttle size and configuration.
 - Detention tank sizing to attenuate runoff from the entire site as well as overflow arrangements for design events greater than the critical design storm.
 - Appropriate Stormwater 360 filter cartridge sizing to treat catchment area.
 - Filter chamber overflow arrangements for design events greater than the critical design storm.
16. Stormwater secondary flow paths and ponding area shall be shown on the engineering plans. The flow paths shall provide for a storm having a 100-year ARI. The flow paths are to be clear of

any probable building platform and shall accommodate the rainfall runoff in excess of the stormwater reticulation design capacity and shall be maintained on an ongoing basis.

17. A copy of the operation and maintenance procedures for onsite stormwater management measures shall be submitted at engineering design stage.

Reason for Decisions

- Adherence to the design guidelines of the Regional Infrastructure Technical Specifications and current best practice will provide a means for achieving good engineering solutions for the whole of the development.
- Examination of the engineering plans and auditing of the works will allow Council to confirm that the engineering aspects of the work have been satisfactorily completed.
- The Engineering requirements for water, wastewater and stormwater will ensure that the development will be adequately provided with services when completed. Examination of the engineering plans and auditing of works will allow Council to confirm that the engineering aspects of the work have been satisfactorily completed.
- Formation of the parking and manoeuvring areas allows for all-weather use and helps to protect the amenity values of neighbouring properties.
- Designing and implementing a system for the treatment and management of stormwater runoff will ensure that people and properties are protected and ecological values preserved. Note: The Requirement for the underground carpark sump to be connected to the wastewater network and associated trade waste consent was communicated with Jordan Gibson (Holmes Group).

Advisory Note

- The onus rests with the consent holder to demonstrate that completed works meet Council requirements and accepted engineering standards. Therefore, developers should employ suitably qualified and experienced contractors and maintain records of the quality control process.
- All operations affecting in-service Hamilton City Council water, wastewater or stormwater pipelines are to be carried out by Hamilton City Council staff (City Delivery Unit) unless specific approval is given as outlined in the Regional Infrastructure Technical Specifications.
- Any Retaining walls proposed shall be designed and constructed by a suitably qualified professional taking into account any future loading which includes any structural load. Retaining walls shall be provided with adequate drainage to avoid seepage through wall and to adjoining properties.

- Retaining walls greater than 1.5 metres above the natural ground or any retaining wall that are subject to surcharge will require a building consent.
- The proposed site activities will require a trade waste discharge consent. The consent holder should contact Council's Trade Waste Officer prior to the issue of building consent to ascertain specific requirements.
- This development will require water meters. Where a water meter is not already installed, a complete backflow survey of the development will be required to be undertaken by a suitably qualified and experienced person prior to application for a new water meter. The survey will determine whether backflow devices are required and where. All backflow devices will be the responsibility of the building owner to maintain and calibrate. An application for a water meter will need to be submitted to the City Waters Unit enclosing a copy of the backflow assessment.