

## File Note: Notice of Requirement

Date: 23 December 2020

SR462159 East Side Airport - Notice of Requirement

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## Background

The nature of the proposed public work (or project or work) is:

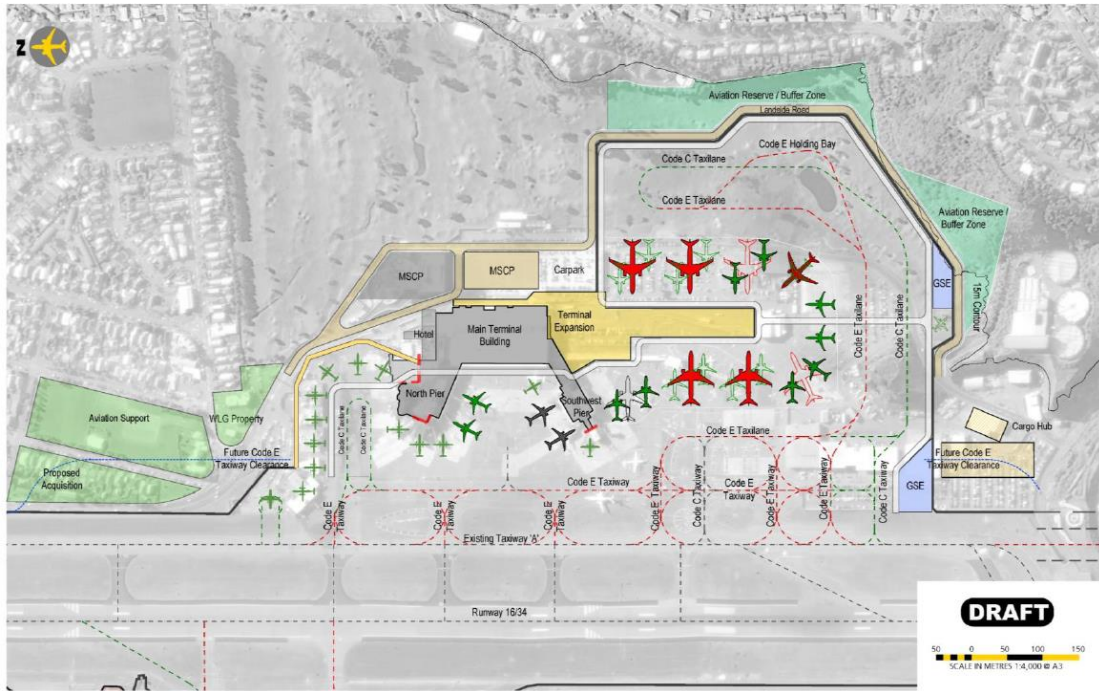
WIAL is seeking an Airport Purposes designation to apply to the land that is identified in **Appendix A** (East Side Area). The designation would enable the following activities to be undertaken (subject, where appropriate, to certain conditions):

- Aircraft operations and associated activities, including all ground-based infrastructure, plant and machinery necessary to assist aircraft operations;
- Taxiways, aprons and other aircraft movement areas;
- Navigation and safety aids, monitoring stations, lighting and telecommunications facilities;
- Car parking, roads, accessways, pedestrian ways, stormwater and wastewater infrastructure, utility activities and security fencing;
- All demolition (if required) construction and earthworks activities, including associated structures;
- Landscaping, planting, tracks and trails;
- Ancillary activities, buildings and structures related to the above; and
- Servicing, testing and maintenance activities related to the above.



Figure 1: Extent of proposed designation over the Miramar Golf Course and adjacent WIAL Land.

To provide guidance on how the site could be developed and to assist with the effects assessment and development of appropriate conditions, a detailed conceptual (draft) master plan of this part of the Airport has been prepared which shows how the operational activities proposed might be laid out on the land concerned, and how this could be integrated with the adjacent terminal area. This is shown in Figure 2 below:<sup>1</sup>



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## EFFECTS ON SERVICES AND UTILITIES

A number of Council services run through the proposed designation site. The location of these services is shown in **Appendix H** attached and includes:

- A 375mm diameter wastewater trunk main, running approximately parallel with the northern boundary of the proposed designation site;
- A network of 750mm stormwater pipes originating from Ruakawa Street and Bunker Way; and
- A 150mm wastewater main originating from Ruakawa Street.

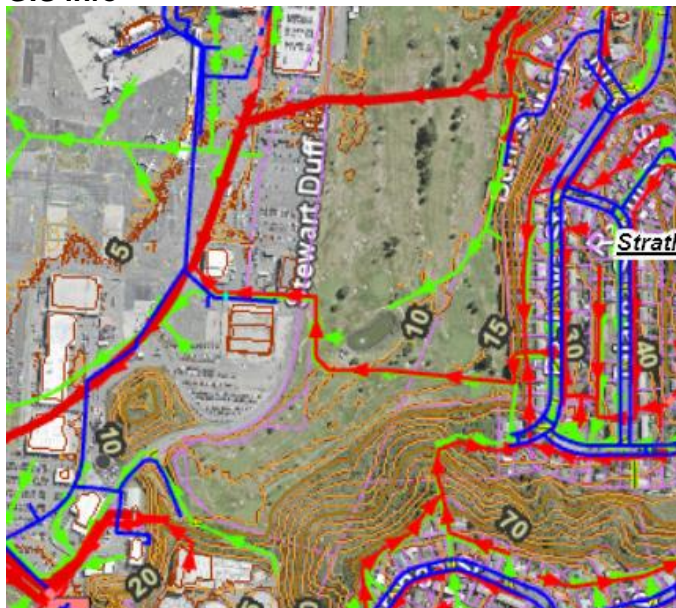
As development occurs within the proposed designation site in the future, WIAL will need to consider the extent to which these services may need to be relocated via the outline plan of works. Such work will be completed in consultation with WCC as the owner of these assets. To assist in the management of this process, WIAL will prepare a Network Utilities Management Plan. This is proposed as a condition of the designation.

Overall, the effects of the proposed designation on the network utilities present on-site can be adequately managed via the management plan that is proposed and subsequent approval processes.

### Network Utilities

29. Prior to any work or activity which requires an outline plan under Section 176A of the RMA, the Requiring Authority shall prepare or update a Network Utilities Management Plan. The purpose of the Plan shall be to inform the relevant network utility providers that enabling work, design, and construction of any development or construction activity, takes account of (and includes measures to address) the safety, integrity, protection (or where necessary) relocation of exiting network utilities.

## GIS info



## Three Waters Comments

### 1) General

- If development of this site were to be undertaken in the future it will be the developer's responsibility to provide the site with water supply, stormwater and wastewater service connections appropriate for the nature of the development.

The work to install the services at development shall be in accordance with the Wellington City Council's Code of Practice for Land Development. All costs associated with this work shall be borne by the developer.

- No construction shall start prior to the following engineering plans in relation to water supply, stormwater or wastewater drainage, being accepted in writing by the Wellington Water Land Development Team:
  - a. engineering plans and design certificate, if required
  - b. specifications
  - c. design and construction documentation
- There are existing public wastewater/stormwater mains, and stormwater ponds on site. The applicant shall discuss with Wellington Water on the specific requirements regarding these affected infrastructures prior to the lodgement of any Consent Application.

There is an existing 375mm sewer pipe currently being investigated for upgrade and renewals by Wellington water.

There may be potential issues regarding relocation of the above infrastructure.

### 2) Modelling Information

#### Water Supply:

The airport has dual feed of 200mm pipes for water supply. One from Stewart Duff Drive and the other from Moa Point Road. The model shows that minimum pressure around the identified zone is expected to be about 65-70m. The model also indicates that available combined fire flow capacity from the existing hydrants is expected to be around 100 L/s.

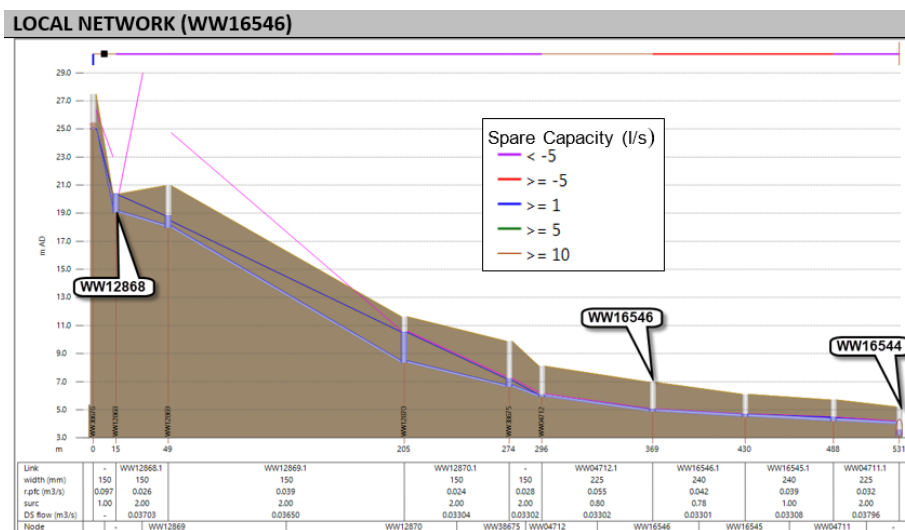
This modelling assessment only represents the existing network based on WWL hydraulic model developed in 2019. The analysis takes no account of other developments that have occurred since then, currently underway, or future developments. Non-hydraulic parameters like pipe age, conditions and likelihood of their failure have not been assessed. Please also note the above are just the result of WWL hydraulic model which could be impacted by day-to-day operational changes within the network and may need to be verified in the field through pressure logging and hydrant flow tests.

Wastewater:



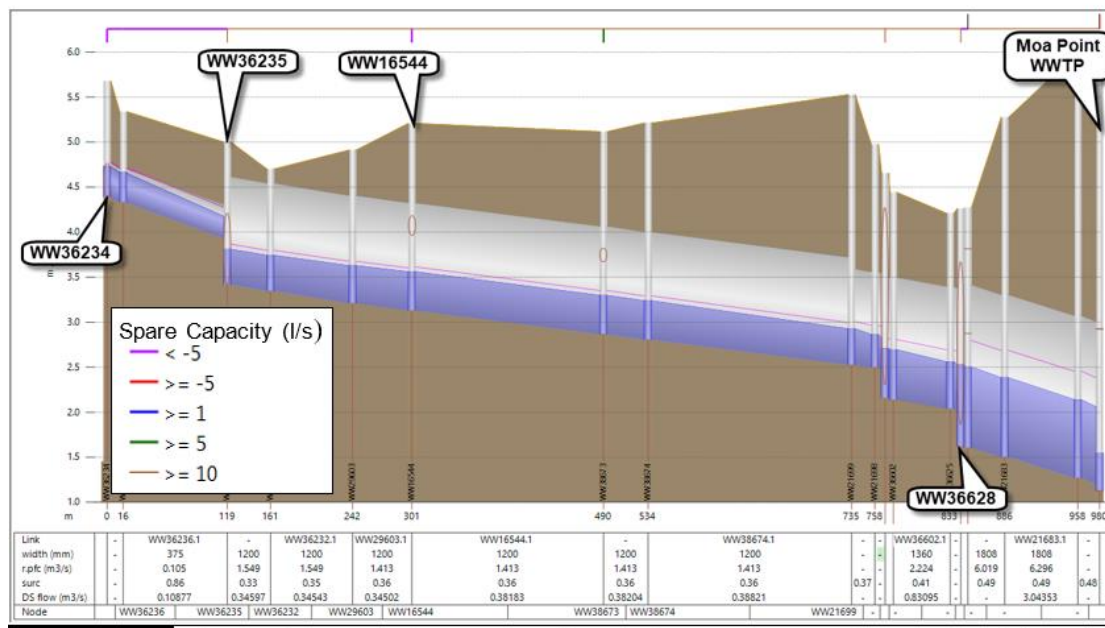
Wastewater Network Plans

The local and trunk network at the proposed site is assessed below:



The site can be potentially connected to the local network at, or downstream of manhole WW16546 that discharges into the trunk network at manhole WW16544. This part of the local network has several sections that are at, or over their design capacity during a 1-year LTS design event. Furthermore, there is an overflow at manhole WW12868 (approx. 350m upstream of manhole WW16546) that is predicted to spill approximately 5 m<sup>3</sup> during that design event. Connecting the terminal expansion to this local network and further development of this site could exacerbate this.

## TRUNK NETWORK (pipes 300mm dia and above)

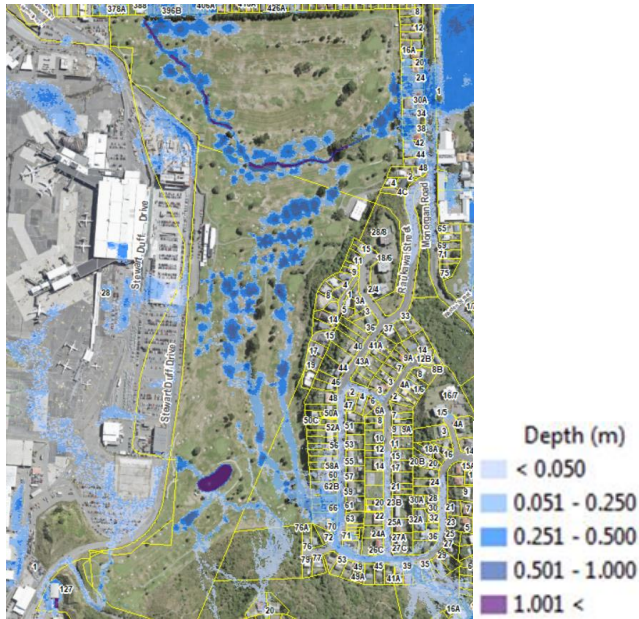


The trunk network downstream of manholes WW36234 and WW16544 ultimately discharges to the Moa Point WWTP. Between manholes WW36234 and WW36235 (representing about 119m of this system), as well as the 7m downstream of manhole WW36628, this trunk network is already over its design capacity during a 1-year LTS design event. The remainder of this trunk network (approx. 854m) has at least 10 litres/sec of spare design capacity during the same design event. The most appropriate location to connect the terminal expansion would be to this trunk network between manholes WW36235 and WW16544 where there is sufficient capacity and the additional flow is least to cause increased overflows upstream in the local and trunk networks.

This assessment is based on the results from WWL hydraulic models. It does not take into account the impact on the spare design capacity of other developments that have occurred since then, are currently underway, or possible future developments. Non-hydraulic parameters like pipe age, conditions and likelihood of their failure have not been assessed. Flow monitoring may be required to verify these results. This development may impact on the spare design capacity available for possible future developments along the downstream network.

### Stormwater:

Based on draft Miramar model (1% AEP event including climate change), there are minor flows and moderate ponding on the golf course. Due to uneven terrain of the site, the flooding water level would vary between 4.5 m aMSL and 15 m aMSL (levels of hills are not included).



### 3) Recommendation

#### Water Supply

- Once final scheme plan is defined, the applicant is recommended to have further discussion with Wellington Water, to obtain water supply advice and the most up to date modelling information.

Detailed connection requirements shall also be discussed.

Depending on the actual needs of the proposed buildings, the applicant is recommended to discuss with Fire and Emergency New Zealand regarding the fire risks and mitigation measures.

- Prior to the commencement of any works, the consent holder will be required to provide to Wellington Water Land Development Team for review and approval, a design statement endorsed by a Chartered Professional Engineer on:

Calculations, specifications and design plans to confirm that there is sufficient water supply pressure and flow for the development to meet the Wellington City Code of Practice for Land Development 2012.

Calculations based on pressure logging (for a minimum one week period) and flow readings taken from the nearest hydrant.

#### Wastewater

- Once final scheme plan is defined, the applicant is recommended to have further discussion with Wellington Water on the connection requirements, and obtain wastewater advice and the most up to date modelling information.

- The existing 375mm sewer pipe crossing the site is currently being investigated for upgrade and renewals by Wellington Water. The other local network on site is also shown to be under capacity.

Due to existing wastewater pipe capacity issues, and potential pipe relocation requirements, we recommend future wastewater connections to be made to the network between manholes WW36235 and WW16544 where there is sufficient capacity and the additional flow is less likely to cause increased overflows upstream.

- Wastewater pipe upgrades or sewer mitigation (i.e., storage and pumping) is likely to be required for this site.
- The applicant shall discuss with Wellington Water on the treatment of the existing wastewater mains on site:
  - a. Wastewater pipe relocation will be required on site. Any public main related works will require a Public Drainage Permit. Detailed design shall also be provided by the applicant.
  - b. Based on the Regional Standard for Water Services (May 2019), where a building or retaining wall already exists, public drains shall not be laid within 1.5m of the building or retaining wall. Where a pipe is laid deeper than 1.5m, a building restriction line shall be defined (refer to 4.4.14 of standard for details).
  - c.
- Please note, depending on the final scheme, trade waste consent may be required.

### Stormwater

- Once final scheme plan is defined, the applicant is recommended to have further discussion with Wellington Water on the connection requirements, and obtain stormwater advice and most up to date modelling information.
- There appears to be a reasonable sized stormwater detention facility on site, relocation of the pond need to be assessed and discussed with Wellington Water.
- The applicant is recommended to discuss with Wellington Water on the recommended minimum floor levels at the future building site (note that this level would vary depending where on site construction is proposed and should be to the underside of the concrete slab or floor timber joist).
- Due to flooding downstream, stormwater neutrality (1% AEP based on current practice) will be required on site to avoid impact on downstream flooding.
- Stormwater treatment will be required.



- There are several overland flow paths that cross the property boundary of the site. These will have to be assessed in detail to avoid blocking them and potentially exacerbating flooding upstream or on the site.

#### Treatment of exiting services

Where an existing building has been or is to be demolished or replaced, the end of the existing private stormwater/wastewater lateral(s) is/are required to be capped at the main or re-laid from the main to the property boundary for future use. It is required that Council be advised of the final treatment by way of including the location of capping on the final as-built plan.

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