



Wellington Water

**Soldiers Memorial Park Water Treatment Plant  
Reserves Act Application under the Soldiers Memorial Park  
Reserve Management Plan**

April 2021

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# 1. Introduction

## 1.1 Background

The Memorial Park Water Treatment Plant (WTP or Plant) is owned by South Wairarapa District Council (SWDC) and operated by Wellington Water Limited (WWL). Pumping and treatment facilities are located within Soldier's Memorial Park Reserve in Greytown. An overview of the site can be found in Figure 1.

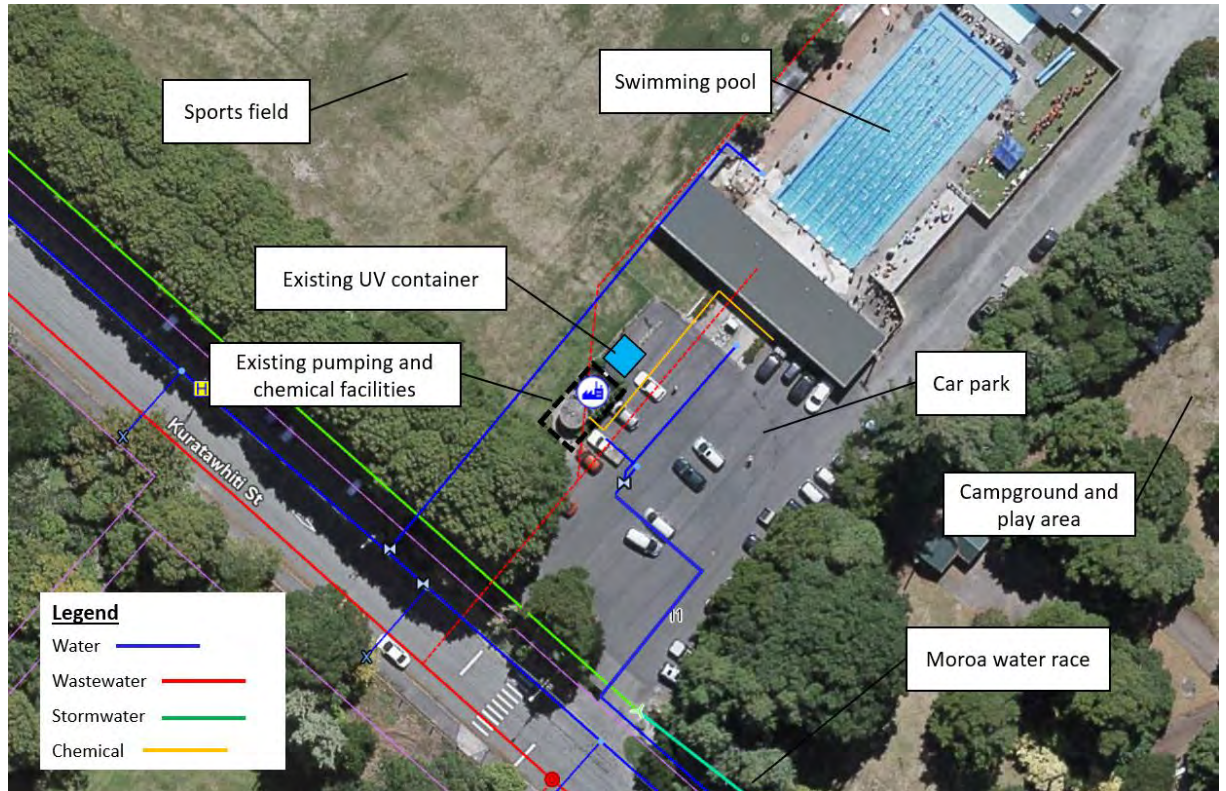


Figure 1 Existing site plan

The Plant is the principal source of drinking water for the residents of Greytown. During periods of high water demand, when the Memorial Park site cannot keep up with demand (typically during summer), flow can be supplemented by the Waiohine WTP, which is the primary producer of drinking water for the residents of Featherston. However, due to current production and storage limitations at the Waiohine WTP, the Memorial Park WTP has been running continually for the last year.

SWDC is in the process of upgrading its Memorial Park site to address the following risks:

- **Water wastage** – the existing pump is not designed to meet the low night-time flows of the water network and consequently must over pump, resulting in significant water wastage.
- **Equipment failure** – the existing pump, VSD (Variable Speed Drive) and instrumentation are aging and are at the end of their useful life. It is imperative that this equipment is replaced proactively, as current water storage in the Featherston-Greytown network is insufficient to respond to pump failure and will result in emergency water shortages.



- **Groundwater supply contamination** – a catchment assessment for the groundwater supply at Memorial Park determined that 4 log protozoal removal is required due to risk of protozoa (such as *Cryptosporidium* and *Giardia*) entering the groundwater supply.
- **Chemical storage** – The chemicals currently used for water treatment are stored in a room adjacent to the changing facilities of the swimming pool. Previous leakages from the chemical room have leached through the shared wall with the changing facilities and have deposited onto the floor. Although the issue has since been resolved, chemical storage onsite continues to be a public and environmental safety risk.

GHD has been engaged by WWL to complete the civils design and project manage all stages of the work. Based on ongoing collaboration with SWDC and Wellington Water, GHD has proposed sequencing the WTP upgrades in three stages, as summarised in Table 1.

Table 1 Upgrade schedule for Memorial Park WTP

Stage	Description	Outcome
1	<p>Installation of containerised UV unit connection to the existing bore pump and chemical systems using temporary pipework.</p> <p><b><i>This work was completed in December 2019</i></b></p>	Temporary solution to quickly provide 3 log protozoal removal until a long term solution could be designed and installed.
2	<p>Installation of:</p> <ul style="list-style-type: none"> <li>• A new submersible bore pump and VSD to replace the existing bore pump.</li> <li>• A new UV transmittance (UVT) meter.</li> <li>• A new raw water turbidity meter.</li> <li>• Minor aboveground pipework changes to facilitate new pump</li> </ul>	Proactively replace equipment that is at high risk of failure, which can be used as part of the permanent solution.
3	<p>Construction of:</p> <ul style="list-style-type: none"> <li>• New containerised building unit</li> <li>• New chemical dosing systems</li> <li>• New cartridge filter</li> <li>• Relocated UV unit</li> <li>• Installing permanent pipework to connect bore pump, container, and reticulation</li> <li>• Water discharge pipe and overflow structure to a nearby water race</li> </ul>	The new cartridge filter will provide an additional 2 log protozoal removal credits (5 log total); satisfying treatment recommendations from Wellington Water's catchment assessment.

## 1.2 Reserves Act Requirements

The Reserves Act 1977 is the principal piece of legislation that governs the management and development of Soldiers Memorial Park.

The Soldiers Memorial Park is classified under the Reserves Act 1977 as reserve and heritage. The part of the Soldiers Memorial Park containing the native bush (referred to as O'Connor's Bush) is classified Historic Reserve under Section 18 of the Reserves Act 1977. The remainder of the Soldiers Memorial Park is classified Recreation Reserve under section 17 of the Reserves Act 1977.

Section 17 of the Reserves Act 1977 states that recreation reserves are to be managed primarily for the purpose of:

*Providing areas for recreation and sporting activities and the physical welfare and enjoyment of the public, and for the protection of the natural environment of the public, and for the protection of natural environment and beauty of the countryside, with emphasis on the retention of open spaces and on outdoor recreational activities, including recreational tracks in the countryside.*

In summary, section 17 of the Reserves Act also requires:

- Public should have freedom to access and to enter the reserve;
- Specific features of the reserve such as scientific, archaeological, biological, geological or other scientific features or indigenous flora or fauna shall be managed and protected where it's compatible with the principal and primary purpose of the reserve;
- Qualities which contribute to the pleasantness, harmony and cohesion of the natural environment shall be conserved; and
- The extent compatible with the principal or primary purpose of the reserve, its value as a soil, water, and forest conservation areas shall be maintained.

Figure 2 below demonstrates these areas.

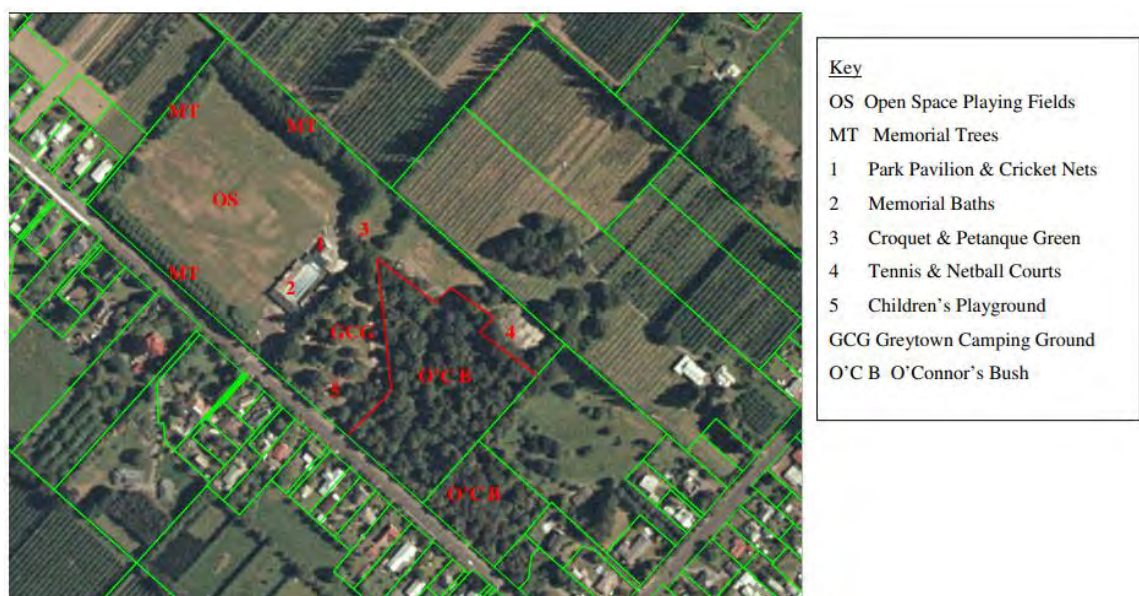


Figure 2 Soldiers Memorial Park Classifications (Source: Soldiers Memorial Park Reserve Management Plan)

Certificate of title WN336/86 legal description Part Section 4 Small Farm Settlement Greytown confirms the purpose of the reserve as: *"In trust for the perpetual use thereof by the public as*

park for the purpose of exercise and recreation”. Figure 3 identifies the extent of this land parcel.

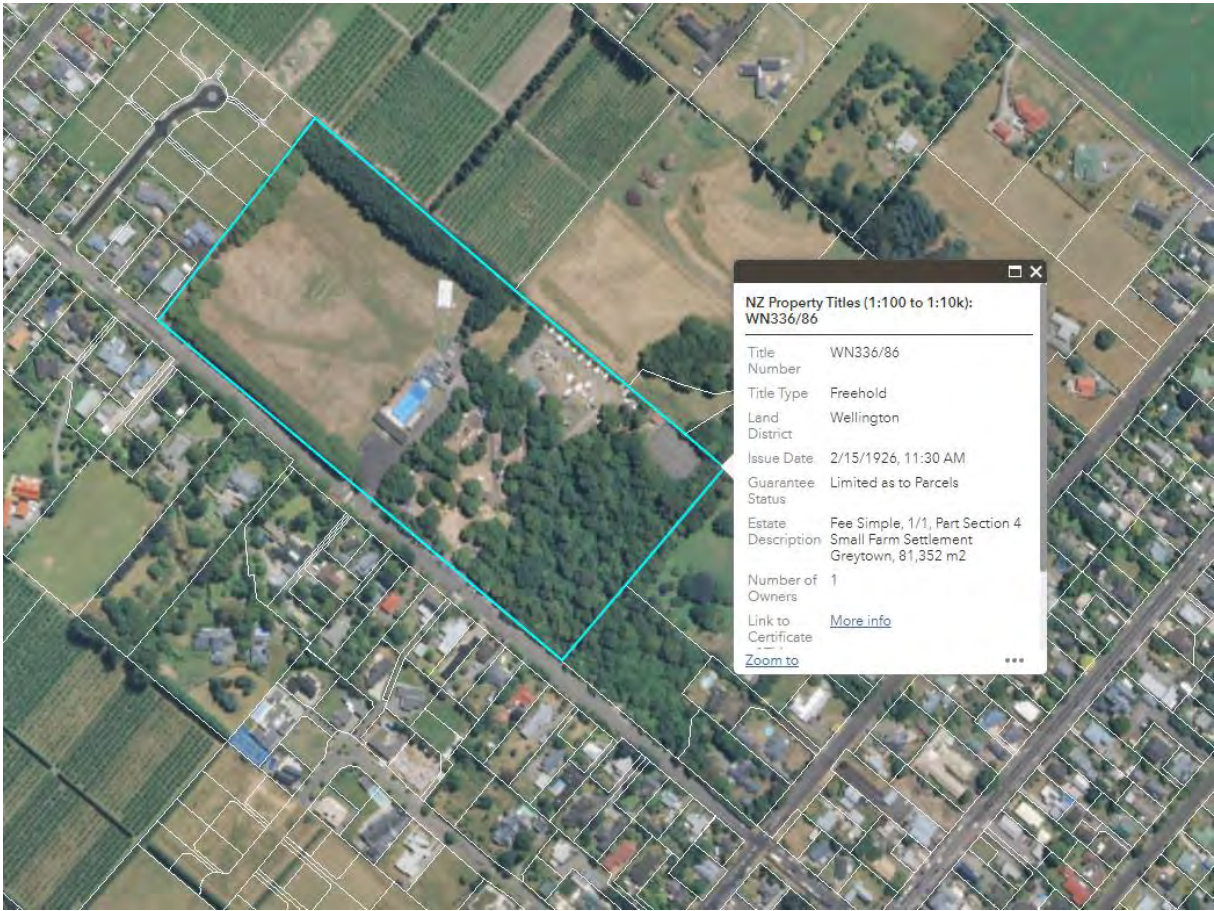


Figure 3 Extent of Part Section 4 Small Farm Settlement Greytown

The proposed works are located in the area of the Soldiers Memorial Park that is classified as recreation reserve. Therefore, pursuant to section 48(1)(e) of the Reserves Act 1977, Wellington Water seeks an easement for the occupation of reserve land for the provision of water systems. The approximate extent of the easement required is indicated in Figure 4. Subsequent to the approval of this application, a physical survey will be undertaken and an easement instrument enabling this occupation for the provision of water systems will be prepared and registered against the property title.





Figure 4 Proposed easement extent (indicated by black line)

### 1.3 Soldiers Memorial Park Management Plan Requirements

The Soldiers Memorial Park Management Plan (adopted by Council 29 August 2007) has been developed in accordance with the Reserves Act 1977. The Soldiers Memorial Park Management Plan requires:

- Clause 38 – All new utilities shall only be located on the reserve where there is no alternative location on any other site.
- Clause 39 – No new utilities shall be allowed to be located within the area of Soldiers Memorial Park classified as historic, or in a location within the area classified as recreation where historic values will be compromised.
- Clause 40 – Where it is necessary to have services located above ground, the design and location should be sympathetic to the recreation and historic values of the reserve and not impact on the area available for recreational use.
- Clause 41 – An application for the construction of public utilities on the reserve must be made to SWDC. Such applications must be publicly notified for comment. Among other things, this application must take into account effects on trees and historic values.
- Clause 43 – Any new pumping facilities or modifications to the existing pump house structure will require Council approval after public consultation.
- Clause 44 - Maintenance and modification to the pumping equipment is allowed.
- Policy 3.1.3 g. – Removal of Memorial Trees shall only be undertaken if approved by Council.

### 1.4 Purpose of this report

The purpose of this report is to seek approvals under section 48(1)(e) of the Reserves Act 1977, and clause 41 of the Soldiers Memorial Park Management Plan, 2008.



## 1.5 Applicant and property details

The applicant for this proposal is Wellington Water, who manages the water, wastewater and stormwater services of Councils in the Wellington Region. The owner of the site is South Wairarapa District Council.

Table 2 Applicant and property details

Applicant	Address	Legal description	Title Reference	NZTM co-ordinates
Wellington Water	Kuratawhiti Street, Greytown	Part Section 4 Small Farm Settlement Greytown; Lot 2-3 DP 21041	WN336/86 WN852/23	1806521, 5450018

## 1.6 Scope and limitations

*This report: has been prepared by GHD for Wellington Water and may only be used and relied on by Wellington Water for the purpose agreed between GHD and Wellington Water as set out in section 1.4 of this report.*

*GHD otherwise disclaims responsibility to any person other than Wellington Water arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.*

## 2. Description of the Proposal

### 2.1 Project description

Memorial Park is located in Greytown. It is zoned 'Residential' under the Wairarapa Combined District Plan, in addition to being classified partially as a Recreation Reserve and partially a Historic Reserve under the Reserves Act 1977. The site contains 148 heritage trees listed under ref Ts017 of the WCDP, sports fields, swimming pool facilities, native bush and the Greytown Memorial Park Water Treatment Plant. The closest waterbody is the Moroa water race, which crosses the vehicle access to the reserve on Kuratawhiti Street.

The proposed works seek to upgrade the Water Treatment Plant (WTP). This will occur in two stages (stage 2 and 3 as described in Table 1 above). Stage 1, which involved the installation of a containerised UV unit connected to the existing bore pump and chemical systems using temporary pipework, is already complete.

#### Stage 2

- Replacement of existing bore pump.
- Installation of new water quality monitoring instrumentations, including UVT meter and turbidity meter.

#### Stage 3

The main activity is the installation of a permanent containerised potable treatment plant (12m x 3.5m x 2m). This container will be located in the driveway nook identified in Figure 5.



Figure 5 Existing driveway nook

Proposed ancillary works for Stages 2 and 3 will comprise the following:

- The containerised plant will include a new automated water discharge pipe – constructed as a permanent underground water discharge pipe via trenching from the water treatment plant to a new overflow path discharge chamber, which then flows overground to the Moroa water race by the driveway.
- A sodium hypochlorite dosing system (chlorine).
- A sodium hydroxide system (for pH adjustment).

- Relocating the ultraviolet system and a pre-purchased cartridge filter system.
- Decommission the temporary treatment plant once the permanent treatment plant is operational.
- Removal of some existing trees/shrubs.
- One-off groundwater discharge during commissioning of the upgraded WTP:
  - A one-off 8m<sup>3</sup> volume of groundwater (no chemicals added, filtered and UV treated) will need to be discharged during commissioning. This will be discharged through the new water discharge pipe to the Moroa water race.
- Use of an excavator to remove excess sediment from the existing stormwater pipe and immediate area of the Moroa water race to enable the stormwater pipe to efficiently discharge to the water race, as the stormwater pipe is currently blocked.

This upgraded water treatment plant will continue to draw groundwater intermittently from the existing bore (1-2 times per day), which will not alter in volume from the existing water take consent. Excess groundwater will traverse the water discharge pipe after passing through new cartridge filters and existing UV unit. The groundwater volume conveyed through the water discharge pipe will be approximately 5 minutes at 12L/s (3.6m<sup>3</sup>). At a worst-case scenario of two times a day, this would equate to a total groundwater discharge volume of 7.2m<sup>3</sup>/day to the Moroa water race.

The proposed site plan is reproduced at Figure 6 and Appendix F.

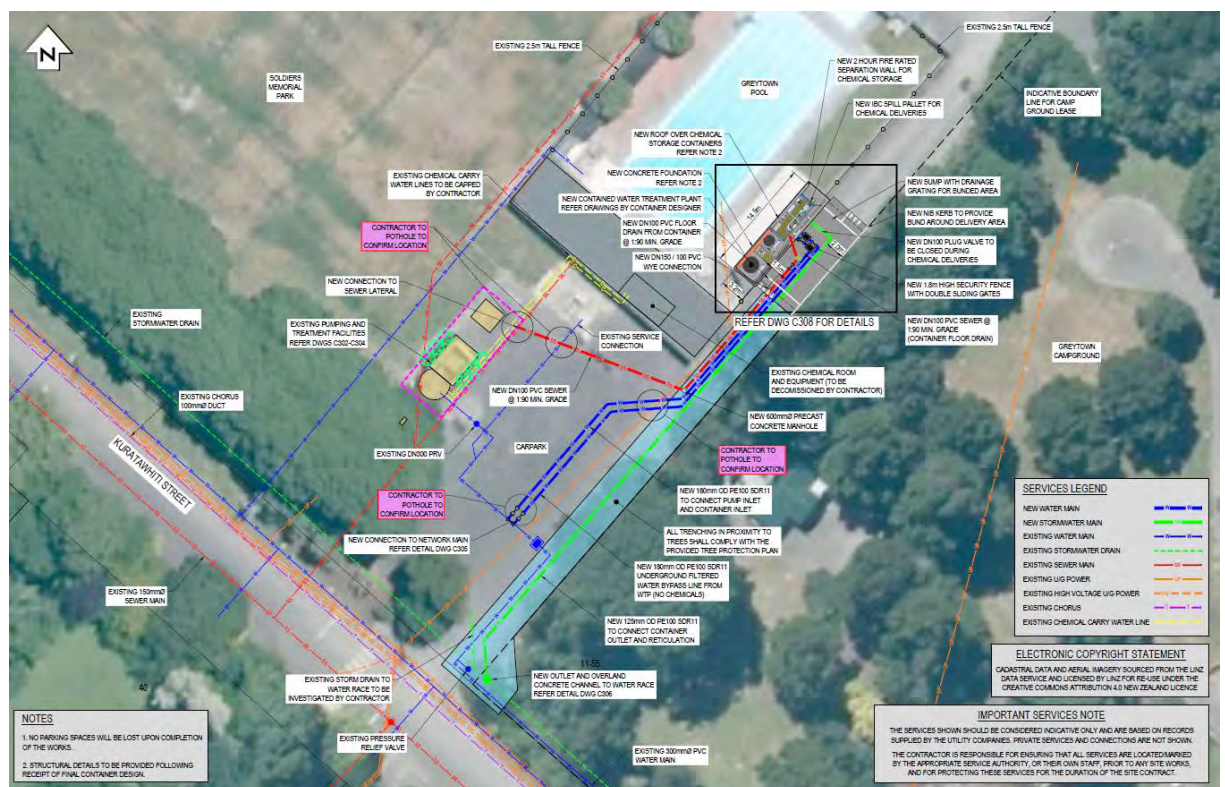


Figure 6 Proposed Site Plan

## 2.2 Construction methodology

The construction methodology is as follows for the two stages.

## Stage 2

- Removal of the roof of the pump shed and pull out the existing pump and bore riser.



- Installation of new pump and bore riser.
- Minor modifications to the existing pipework to connect the bore discharge.
- The commissioning of the bore pump and bedding in period.
- Installation of new instrumentation procured by Wellington Water, including UVT meter and the turbidity meter.

This stage will have a duration of two weeks and is expected to be completed in April (these works do not require resource consent).

### Stage 3

- Fabrication of new containerised treatment plant offsite.
- Installation of new bore headworks adjacent to the existing bore.
- Excavation of the existing asphalt for the installation of a new concrete foundation for the container.
- Modification of the driveway and bunding for chemical deliveries.
- Excavation and installation of the new water discharge pipe and outlet channel to water race.
- Trenching and installation of new 200 OD PE pipework (commencing some time after 14 March when the pool is closed).
  - 60m of pipe to connect bore discharge and container.
  - 45m of pipe to connect the container and reticulation.
  - 75m to connect the container and water discharge pipe.
- Installation of instrumentation of supply lines.
- Performance of electrical works.
- Performance of control upgrades.
- Shutdown of the existing pumping and treatment processes for the relocation of UV unit and instrumentation (timing is dependent on the parallel work at Waiohine WTP).
- Commissioning of the plant to verify controls, alarms and operating scenarios.
- Troubleshooting and bedding in period.

Construction is anticipated to be approximately 12-16 weeks. This timing is split into assembly of the containerised WTP off-site for 6-8 weeks, and construction and commissioning of the container onsite for another 6-8 weeks. Assembly of the container offsite is anticipated to be completed by mid-May 2021, and construction onsite is anticipated to run from mid-May to late June 2021.

Access to the locations affected by the proposed works will be restricted using construction fencing to provide adequate public health and safety.

It is anticipated that groundwater will not be encountered during the proposed works. Groundwater is 4m below the ground surface and excavation is not expected at that depth. No dewatering will be required.

## 2.3 Land disturbance

Land disturbance/earthworks is required for the upgrade works.

- An area of 185m<sup>2</sup> will be disturbed for the works, and a volume of 163m<sup>3</sup>.



- Trenching is required at a depth of approximately 0.75m-1.2m and 1m width.
- The water discharge pipe requires excavation of 1.5-2m in depth and 1.5m width.

## 2.4 Storage of chemicals

Table 3 below outlines the existing and proposed quantities of chemicals stored on site.

Table 3 Chemical storage quantities

Chemical	Volume	Storage	Concentration
<b>Existing chemicals</b>			
Sodium hypochlorite (liquid chlorine)	1000-1600L	8 X 200L drums stored in a lined concrete bund	12.5%
Sodium carbonate (soda ash)	3000L	Open, lined concrete storage container	5%
<b>Proposed chemicals</b>			
Sodium hypochlorite (liquid chlorine)	1000L	Bunded IBC or double walled tank	12.5%
Sodium hydroxide (caustic soda)	10,000L	Double walled tank	50%

The volume of liquid chlorine will not increase. It is proposed to replace the existing soda ash system (a powder used for pH adjustment) to a liquid sodium hydroxide (caustic soda) system (50% concentration), which is a more hazardous substance.

## 2.5 Tree works

No tree removal or pruning is proposed as part of these works. Since proposed trenching works will take place within the dripline (protected root zone) and in proximity to trees protected under Section 5.1.2.41 of the Soldiers Memorial Park Reserve Management Plan, tree protection measures are proposed as outlined at Section 3 of the Arborist Report. The Arborist Report outlines that *“excavations for trenching are to be carried out by hand tools taking care not to damage or debark the wood of any roots. Where digging is deemed impractical, a small machine can be used in conjunction with a designated spotter under arboricultural supervision”*.

## 2.6 Construction traffic and laydown areas

Construction traffic will be minimised. Access to the car park will be retained for the public until at least the 14<sup>th</sup> of March when the swimming pools are closed – trenching is anticipated to take a few days and access will be restored once finished. The contractor will require a corner of the car park to store materials and the plant when site activities commence.

### 3. **Reserve Act and Soldiers Memorial Park Reserve Management Plan Requirements**

#### 3.1 Reserves Act

As set out in section 1.2 above, as per section 48(1)(e) of the Reserves Act 1977, Wellington Water seeks an easement for the occupation of reserve land for the provision of water systems. Subsequent to the approval of this application, a physical survey will be undertaken and an easement instrument enabling this occupation to convey water through the existing water treatment and supply facilities (which will be upgraded), as well as a new facility to be installed on site will be prepared and registered against the property title.

It is noted that section 48(2) of the Reserves Act generally requires public notification of an application for an easement in accordance with sections 119 and 120 of the Reserves Act before the grant of such an easement. However, section 48(3) outlines circumstances in which section 48(2) shall not apply where:

- a. *The reserve is vested in an administering body and is not likely to be materially altered or permanently damaged.*
- b. *The rights of the public in respect of the reserve are not likely to be permanently affected*

The reserve is vested in SWDC as the administering body and it is considered that the construction of the new facilities in the driveway nook will not materially alter or damage the reserve as a whole. Additionally, an easement over the driveway nook and the other existing water utilities would not detract from the rights or enjoyment of the public in relation to the reserve in any material way.

It is therefore considered that the circumstances outlined at section 48(3) of the Reserves Act do apply, and therefore public notification under section 48(2) of the Reserves Act is not required.

#### 3.2 Memorial Park Reserve Management Plan

Clause 41 of the Memorial Park Reserve Management Plan sets out the requirements for making an application in relation to the construction of new public utilities on the reserve. This includes a requirement to publicly notify such an application. Therefore, despite satisfying the circumstances under section 48(3) of the Reserves Act to not notify the application in accordance with sections 119 and 120 of the Reserves Act, this application will be notified by SWDC as per clause 41 of the Memorial Park Reserve Management Plan.

It is considered that the Stage 2 works (being the pump replacement) are permitted as per clause 44 of the Soldiers Memorial Park Reserve Management Plan, however for completeness, these upgrade works are also included in the easement for the occupation of reserve land for the provision of water systems.

## 4. **Assessment of Effects**

Clause 41 of the Soldiers Memorial Park Reserve Management Plan outlines that applications for the construction of public utilities on the reserve must be accompanied by an assessment of the effects and must take into account:

- alternative sites,
- the selected location,
- timing and duration of the works,
- impact on cultural heritage sites,
- impact on trees and amenity values, historic values, and buildings, turf and paving and how these are to be protected.

The sections below assess the proposed works against these items.

The following technical reports have been relied on for the below assessment:

- Arborist Report prepared by Paper Street Tree Company (Appendix A)
- Heritage technical report prepared by Michael Kelly (Appendix B)
- Archaeological report by Andy Dodd (Appendix C)

### 4.1 **Alternative sites and options considered**

There are no reasonable alternative sites to locate the proposed containerised water treatment plant outside of Soldiers Memorial Park. The existing groundwater pump and treatment plant are located adjacent to the carpark in Soldiers Memorial Park. Council owns Memorial Park, therefore locating the new containerised WTP in the park requires no property acquisition from Council. A location outside of the park would require property acquisition and more significant works to connect the treatment plant with the existing groundwater pump supplying water. In addition, the Moroa Water Race in Memorial Park provides for the discharge of excess groundwater; a different location would require greater works to dispose of excess flows. For these reasons, it is considered that the proposed location is the most suitable for the proposed works.

Several alternative locations within Memorial Park were considered for the long term location of the containerised WTP. Three options were presented by GHD to Wellington Water and SWDC during a site walkover held on 26<sup>th</sup> November 2020 at Memorial Park. A below ground structure was not considered to give Wellington Water the capability of relocating the container to other sites around South Wairarapa during an emergency (water shortage, treatment failure at other locations, etc.). A containerised plant provides significant operational advantages for Wellington Water to provide high quality water to their customers in the region.

The three options discussed on site are described below in Table 4 and Figures 7-9.

Table 4 Summary of site alternatives

Option	Description	Advantages	Disadvantages
1	<ul style="list-style-type: none"> <li>• Install container and bulk chemical storage adjacent to the existing pump and controls shed</li> <li>• Extend carpark to accommodate chemical deliveries</li> <li>• Install water discharge pipe east across the carpark and south down the tree line</li> <li>• Landscaping to hide chemical delivery area</li> </ul>	<ul style="list-style-type: none"> <li>• Minimises length of process piping</li> <li>• Consolidates treatment buildings</li> </ul>	<ul style="list-style-type: none"> <li>• Additional costs associated with car park extension and landscaping</li> <li>• Concerns over aesthetics and visually closing off the car park from the sports field</li> <li>• Trenching for new water discharge pipe will require the car park to be temporarily closed</li> </ul>
2	<ul style="list-style-type: none"> <li>• Install container and bulk chemical storage on the western side of the swimming facilities</li> <li>• Extended the carpark to accommodate chemical deliveries</li> <li>• Install water discharge pipe east across the carpark and south along the tree line</li> </ul>	<ul style="list-style-type: none"> <li>• Visually opens the space between the car park and sports field</li> <li>• Potential to add value to the park - provide shelter on sidelines of sport field for bystanders, information board, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Conflicts with a parallel project to renovate the nearby sports clubhouse</li> <li>• Conflicts with the recently revised playing field area boundary</li> <li>• Concern over aesthetics - more paved surfaces and security fencing near the sports field</li> </ul>
3	<ul style="list-style-type: none"> <li>• Install container and bulk chemical storage on the eastern side of the swimming pool facilities in a nook along the fence line</li> <li>• Install all pipework within a single trenching corridor</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal impact on aesthetics – no additional paved surfaces, no landscaping required, and mostly hidden from public view</li> <li>• Easy access for chemical deliveries and if container needed to be relocated</li> <li>• Construction can be limited to the east side of the parking lot</li> </ul>	<ul style="list-style-type: none"> <li>• Pipework alignment could have an impact on tree root zone - arborist consultation required</li> </ul>



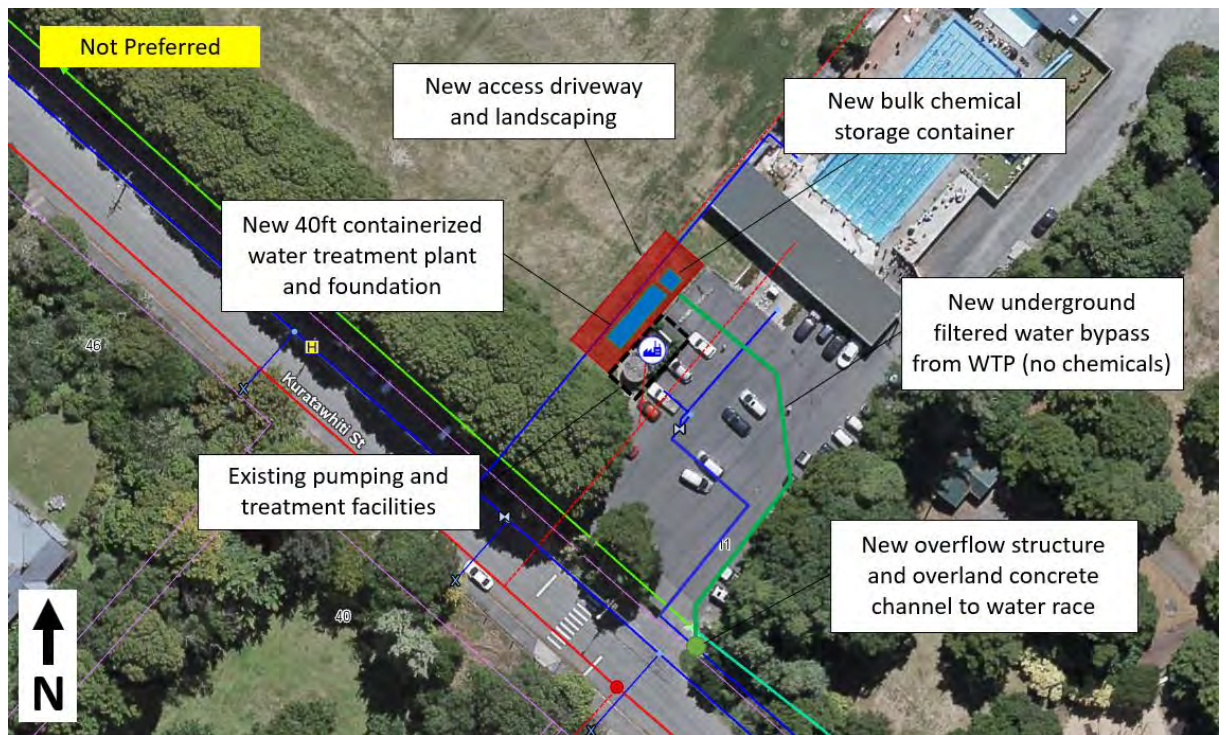


Figure 7 Option 1 proposed site plan

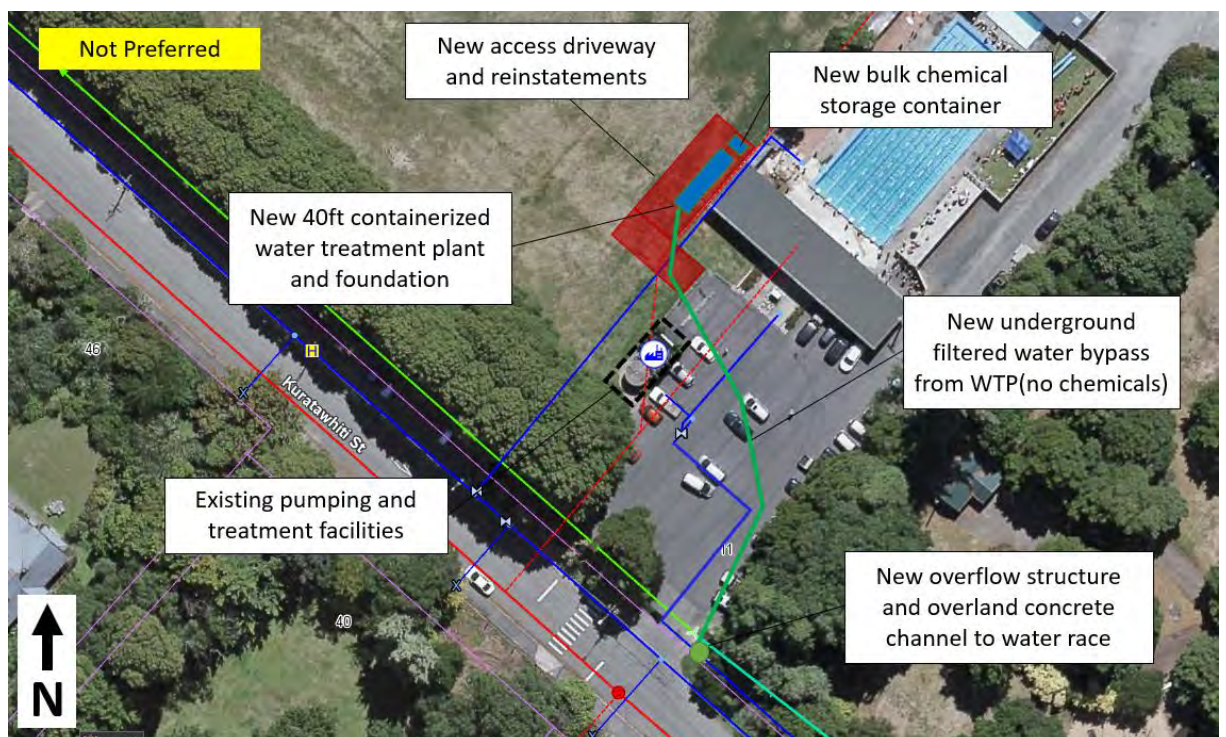


Figure 8 Option 2 proposed site plan



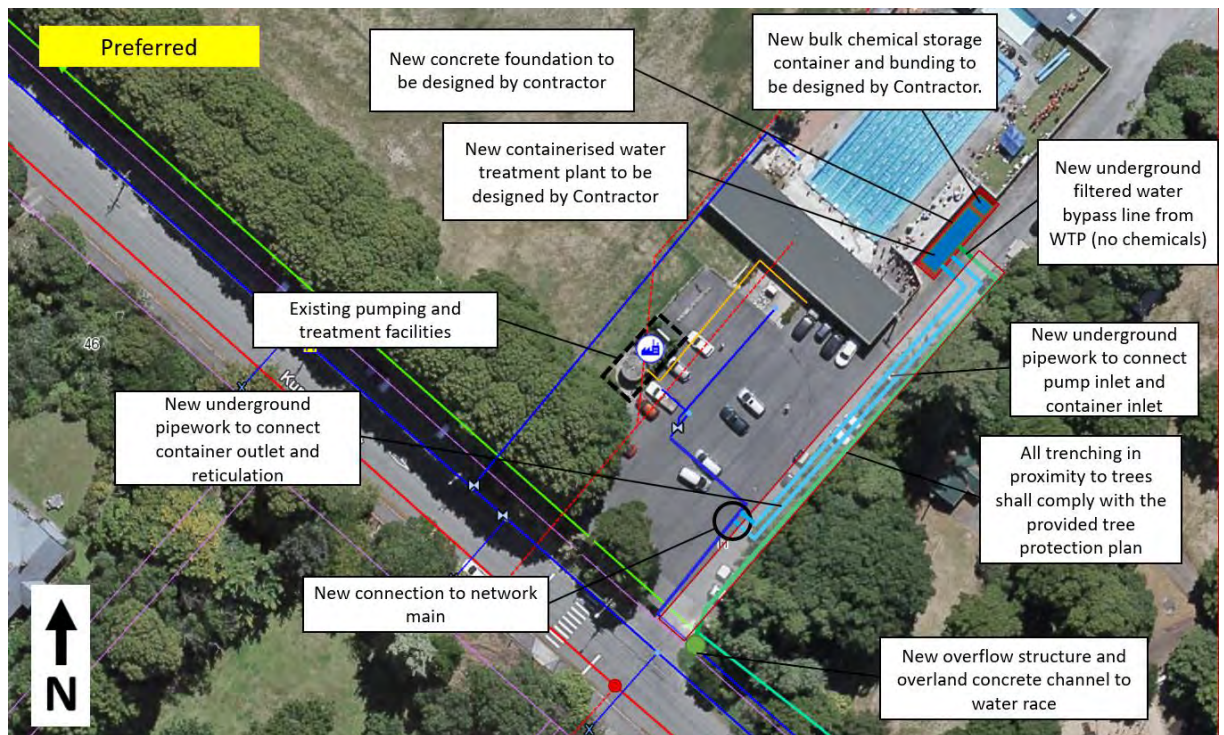


Figure 9 Option 3 proposed site plan

#### 4.1.1 Discussion & Recommendation

For the reasons stated in Table 4, it was unanimously agreed by GHD, Wellington Water and SWDC that Option 3 is the preferred alternative.

The primary drivers of this decision were:

- Minimal impact to the park and existing facilities
- The new container is largely hidden from public view, maintaining the aesthetics of the park
- Easy access for chemical deliveries
- Based on the arboriculture assessment in Appendix A, it is unlikely that the new pipework will negatively affect the existing trees.

#### 4.2 Selected location

The selected location (identified in Figure 5) is considered appropriate since it is an existing unused hardstand area located adjacent to the driveway a considerable distance into the site. This location will therefore result in no change in the area of land available for recreation activities in the reserve, and has a small visual impact due to its' distance from Kuratawhiti Street. It is noted that the location was selected during a site meeting attended by Chad Johnson (GHD Water Engineer) and Bryce Neems (SWDC amenities and solid waste manager).

#### 4.3 Timing and duration of works

Stage 2 works, which are considered to be permitted activities as per clause 44 of the Soldiers Memorial Park Reserve Management Plan, are anticipated to have a duration of two weeks and are expected to be completed in April.

The duration of Stage 3 works is anticipated to be 12-16 weeks. This timing is split into assembly of the containerised WTP off-site for 6-8 weeks, and construction and commissioning

of the container onsite for another 6-8 weeks. Assembly of the container offsite is anticipated to be completed by mid-May 2021, and construction onsite is anticipated to run from mid-April to late May 2021.

#### 4.4 Impact on heritage sites and values

The heritage technical report prepared by Michael Kelly (Heritage Consultant, provided at Appendix B) outlines that *“the Greytown Soldier’s Memorial Park has obvious heritage significance, particularly for the town and people of Greytown”*, and that *“the provision of any new structure into this landscape requires some care”*. The notable heritage features outlined in the heritage technical report include O’Connor’s Bush, the main entrance gates (1923), the secondary gates (date unknown), commemorative lime trees, Greytown Swimming Baths (1957) and the tea kiosk/camping ground kitchen.

In terms of the proposal, the heritage technical report finds that *“the siting of the new structures in the recess in the fence on the east side of the swimming pool appeals”*, since *“there is an ideally sized space, the structures would be somewhat out of general view”*. The report summarises that *“from a heritage perspective, the location has the following benefits:*

- *It would not detract from any heritage structure, including the adjoining structure – the memorial pool.*
- *For the same reason, it would be sufficiently removed from the commemorative lime trees.*
- *The archaeological report by Andy Dodd indicates that there are no issues with potential archaeology in this location or any other in the vicinity.* (Note: Archaeological report provided at Appendix C)
- *The new location will mean the removal of the container currently occupying a site alongside the car park.”*

The heritage technical report concludes that *“The proposal is acceptable on heritage grounds, with one caveat”*, being visual effects mitigation. Therefore, *“The best mitigation is likely to be the use of a single, muted colour on the new structures and flanking fences. The present dark blue may suffice”*.

For the reasons outlined above, it is considered that the proposed works will not have a negative impact on the heritage site or values of the Soldiers Memorial Park.

#### 4.5 Cultural heritage

The heritage and archaeological technical reports have not identified any sites of cultural significance or heritage within the proximity of the proposed works area. Consultation with Mana Whenua has been started in relation to the proposed works, refer to section 6.1 of this report. At the time of writing this no cultural heritages sites or issues have so far been raised during consultation.

#### 4.6 Tree works

As per the Arborist Report provided at Appendix A, trenching works to lay pipes are proposed within the dripline (protected root zone) of forty trees. Of these forty trees, two are identified as AA1 trees, twenty are identified as A trees, and eighteen are identified as Z trees. *Note: Category A and AA trees are moderate and high-quality trees suitable for retention for more than 10 years, and worthy of being a constraint. Category Z trees are low quality trees not worthy of being a constraint.*

The four heritage trees located in the vicinity of the proposed works, which are part of the heritage trees listed as Ts017 under the WCDP, “*stand clear of the proposed works and from any potential impacts*” as per the Arborist Report.

Two AA1 trees, T3 and T10, are affected by trenching works. Potholing has been undertaken in the root zone of these trees to clarify any potential impacts. For T3, a mass of roots was unearthed in an area where pavement uplift had occurred. These roots appear to be localised to one area. To protect these roots, works are initially to be open trenched. If significant root material is unearthed an alternative excavation method will be employed, e.g. hydro excavation. For T10, potholing resulted in next to no roots being unearthed.

For the twenty A trees identified, works will take place approximately 8m from the base of these trees, and potholing showed next to no roots in this area. Provided that works are carried out as per Section 3 of the Arborist Report, the report concludes that “*the adverse effects would be no more than minor*”.

The Arborist Report concludes that “*No trees are being proposed for removal, or any alteration proposed to their form whereby amenity or environmental values would be affected. The prescribed tree protection measures would ensure that the longevity and vitality of the trees are maintained*”.

It is therefore concluded that any adverse effects on trees will be less than minor.

#### 4.7 Amenity values

The range of recreational, amenity and historic values associated with Soldiers Memorial Park are outlined at Clause 1.2.2 of the Soldiers Memorial Park Reserve Management Plan. These values are reproduced below along with an assessment of the proposal's impact on these values.

- *Open Space for informal and formal recreational activities:* The proposed containerised WTP will be located on existing hardstand adjacent to the driveway, which is currently unused. It will therefore have no impact on open space for informal or formal recreational activities.
- *Formal sporting facilities for soccer, cricket, hockey, tennis, croquet, petanque and swimming:* The proposed containerised WTP will be located on existing hardstand adjacent to the driveway, which is currently unused. It will therefore have no impact on formal sporting facilities located in the reserve.
- *Historic and amenity values associated with O'Connor's Bush:* O'Connor's Bush is located beyond the campground south-east of the proposed location for the containerised WTP, and will therefore have no impact on the historic and amenity values associated with O'Connor's Bush.
- *Historic values associated with various memorials to the fallen soldiers of WWI and WWII, including the Memorial Trees, Memorial Baths and historic gate:* The various memorials to fallen soldiers are located some distance from the historic gate and the Memorial Trees. Although located adjacent to the Memorial Baths, the proposed works are separated from the baths by fencing and are not visually connected, therefore historic values associated with the Memorial Baths will not be affected.
- *Recreational and leisure values associated with the Greytown Camping Ground:* The proposed containerised WTP is located outside of the Greytown Camping Ground and therefore will have no impact on the recreational and leisure values associated with the camping ground.



## 4.8 Buildings

The proposed works will relocate the chemical storage for the water treatment plant from the swimming pool changing facilities to adjacent to the containerised WTP. The proposal therefore enhances public safety by reducing the risk of chemical leaching and contamination, as well as providing more space for swimming pool amenities.

The proposed works ensure the visual amenity of the Soldiers Memorial Park are maintained by locating the proposed container as close as possible to the existing buildings on site. Furthermore, the proposed container is located centrally within the site thereby reducing its bulk and dominance when viewed from adjoining sites. The proposed container will not be visible from Kuratawhiti Street and will be painted the same colour as the adjacent fencing, a condition of consent resource consent (separate to this Reserves Application) is proposed in regards to this. Therefore, the proposed works do not detrimentally impact the visual appearance of the existing buildings located on the Soldiers Memorial Park nor the wider visual amenities of the park itself.

## 4.9 Turf and paving

The proposal will involve construction and trenching on existing hard paved areas. No turf will be affected by construction activities, and all areas of existing hardstand to be disturbed will be repaved like for like. Effects on turf and paving in the reserve are therefore considered to be negligible.

## 4.10 Conclusion

The assessment of effects concludes that overall any adverse effects are negligible to less than minor on the Soldiers Memorial Park.

## 5. Statutory Assessment

An assessment of the proposed works against the relevant objectives and policies of the Soldiers Memorial Park Reserve Management Plan is provided at Table 5.

Table 5 Assessment of works against Soldiers Memorial Park Reserve Management Plan

Provision	Assessment
<b>2.3 Administration Objectives</b>	
To provide for integrated management of the different resource areas of Soldiers Memorial Park, protecting and enhancing the historic, open space and recreation values of the reserve, while allowing for the use and enjoyment of the reserve.	The proposed works recognise the various uses of the park and will protect the historic, open space and recreation values of the reserve by locating the containerised water treatment plant in an existing hardstand area adjacent to the driveway, minimising impacts.
To manage Soldiers Memorial Park through a cooperative approach between the Council, Community Board, Tangata Whenua, the community and users of the reserve.	The proposal has identified relevant community organisations and sought to engage with stakeholders at an early stage to identify and seek to mitigate potential issues.
<b>2.4 Administration Policies</b>	
a. To ensure management and administration of Soldiers Memorial Park is in accordance with statutory requirements, including Sections 17 (recreation classification) and 18 (historic classification) of the Reserves Act 1977 and the district plan.	This application has been prepared in accordance with the statutory requirements of the Reserves Act 1977. A separate application for resource consents under the Wairarapa Combined District Plan has also been prepared.
b. The Council will continue to consult with the community, Tangata Whenua, and other interest groups on matters affecting the ongoing management and development of Soldiers Memorial Park.	The proposal has identified relevant community organisations and Tangata Whenua and sought to engage with stakeholders at an early stage to identify and seek to mitigate potential issues.
d. The Council will encourage community participation in the planning, development, management and maintenance of Soldiers Memorial Park.	The proposed works will be notified to the community as per clause 41 of the Soldiers Memorial Park Reserve Management Plan. It is understood that discussions between WWL and Council have resulted in agreement to publicly notify the application for two weeks.
<b>3.2.2 Recreational Facilities Objectives</b>	
To maintain the existing recreational facilities on Soldiers Memorial Park.	The proposal will have no impact on existing recreational facilities.

Provision	Assessment
To protect the historic values associated with the Memorial Gates, Memorial Baths and children's playground.	The heritage technical report prepared by Michael Kelly (provided at Appendix B) concludes that <i>"the proposal is acceptable on heritage grounds"</i> .
<b>3.2.3 Recreational Facilities Policies</b>	
d. Any new buildings on Soldiers Memorial Park shall be located to ensure new buildings do not detract from the open space character of the reserve.	The containerised water treatment plant's proposed location in the driveway nook on an existing hardstand area ensures it will not detract from the open space character of the reserve.
<b>5 Management and Asset Maintenance</b>	
38. All new utilities shall only be located on the reserve where there is no alternative location on any other site.	Refer to section 4.1 of this report for a discussion around alternative sites and options considered.
39. No new utilities shall be allowed to be located within the area of Soldiers Memorial Park classified as historic, or in a location within the area classified as recreation where historic values will be compromised.	The proposal is not located within the area classified as historic. Historic values within the area classified as recreation will not be compromised, as confirmed by the conclusion of the heritage technical report that <i>"the proposal is acceptable on heritage grounds"</i> .
40. Where it is necessary to have services located above ground, the design and location should be sympathetic to the recreation and historic values of the reserve and not impact on the area available for recreational use.	The inconspicuous location of the container, as well as the proposed dark blue colour to match existing fencing, ensures that the design is sympathetic to the recreation and historic values, and will not impact on the area available for recreational use.
41. Applications for the construction of public utilities on the reserve must be made to SWDC under this Plan. Such applications must be publicly notified for comment under this plan. Applications must be accompanied by an assessment of the effects of the utility on the reserve and must take into account: <ul style="list-style-type: none"> <li>• alternative sites</li> <li>• the selected location</li> <li>• timing and duration of the works</li> <li>• impact on cultural heritage sites, trees and amenity values, historic values, buildings, turf and paving and how these are to be protected</li> </ul>	This application for the construction of a public utility is made to SWDC under the Soldiers Memorial Park Reserve Management Plan. An assessment of effects of the utility on the reserve is provided at section 4 of this report. The application will be publicly notified as per clause 41.

Provision	Assessment
<ul style="list-style-type: none"> <li>Where not a Council utility, consideration should be given to seeking a ground rental</li> </ul>	
<p>42. Any approval given for a public utility on the reserve shall be conditional upon the Council being able to:</p> <ul style="list-style-type: none"> <li>Enter, inspect, require maintenance or upgrading</li> <li>Approve designs and colour schemes for all structures</li> <li>Require the restoration of sites after the completion of work</li> <li>Require sites to be cleaned up, cared for, and superfluous, material removed</li> </ul>	Approval is expected to be conditional upon these requirements.
<p>43. Any new pumping facilities or modifications to the existing pump house structure will require Council approval after public consultation.</p>	Council approval after public consultation is sought by this application.
<p>44. Maintenance and modification to the pumping equipment is allowed.</p>	Modification of the pumping equipment is proposed.



## 6. Consultation

The outcomes of consultation are detailed in the sections below and appended at Appendix I.

### 6.1 Mana Whenua

Mana Whenua were contacted for consultation relating to the proposed works. In the first instance, Narida Hooper, the chairperson of the SWDC Maori Standing Committee, was contacted. Narida advised that the relevant organisation to provide feedback was the Papawai Marae Trust Committee. The Papawai Marae Trust Committee advised that although they are the local marae and will provide feedback, they do not have a mandate to provide feedback on behalf of iwi. They therefore forwarded the application to both Rangitane o Wairarapa and Ngati Kahungunu for comment.

#### 6.1.1 Papawai Marae Trust Committee

It is our understanding that the proposed works were discussed by the Papawai Marae Trust Committee at a meeting on Sunday 31<sup>st</sup> January 2021.

Tia Tuuta from the Papawai Marae has advised that the proposal was forwarded to both local iwi as outlined above, and that *“the marae trustee decided to leave it to the Iwi to submit a submission”*.

#### 6.1.2 Rangitane o Wairarapa

Rangitane o Wairarapa did not provide a finalised position. Refer to Appendix for correspondence.

#### 6.1.3 Ngati Kahungunu

Rawiri Smith, Environment Manager for Ngati Kahungunu, advised that he is *“happy to recommend it to my whanau at Papawai Marae as a development to progress”*, since the proposal has many advantages including that it is working with UV treatment.

### 6.2 Parks Organisations

Organisations with an interest in Soldiers Memorial Park were contacted for consultation. An initial phone call and follow up email were sent on 22 December 2020, with a view to receive any comments or feedback by 15 January 2021. An example of the email sent to organisations is provided at Appendix D. Concerns raised by stakeholders and measures to mitigate these concerns are detailed below.

#### 6.2.1 Greytown Campground

Greytown Campground business owners were engaged with due to the proximity of the campground to the proposed works. Concerns raised by Greytown Campground business owners and measures to mitigate these concerns are summarised at Table 6.

Table 6 Greytown Campground engagement

Concern	Mitigation
Existing pump noise, particularly at night, which is impacting campers and campground reviews.	The existing pump will be replaced by a new, much quieter pump as detailed below, therefore the proposed work will reduce and resolve the current noise issue.

Concern	Mitigation
Request information on the likely noise level of the new pump and measures to mitigate potential noise pollution.	Xylem Water Solutions NZ Ltd, the supplier of the proposed new groundwater pump, has indicated that the design of the new pump requires the entire pump including the motor to be completely submerged in the borehole, and that the pump therefore produces very little (close to no) noise at all. Once operational, and if installed correctly, it should be difficult to discern whether the pump is running.
Is there any noise associated with the functioning of the new chemical storage and water treatment buildings? If any noise how will this be mitigated?	Equipment housed in the new buildings (containerised WTP and new pump in the existing pump building) is expected to produce a minor amount of noise, however any noise discernible adjacent to the building is expected to be negligible.
What steps will be undertaken to monitor and reduce any noise from the operation of the new pump and chemical treatment facility to ensure that there is no noise pollution that will impact on campers nearby?	As noted above, it is expected that the new pump will significantly reduce noise emissions. It is expected that South Wairarapa District Council will impose a consent condition requiring the consent holder Wellington Water to comply with specific noise standards. Any breaches of these noise standards once the consent is operational will be an enforcement matter for South Wairarapa District Council.
Campground is likely to remain busy until after the Easter weekend at the beginning of April. Could the team consider scheduling the beginning of construction works after this major public holiday?	No work is to be scheduled during Easter, and early works will be done in coordination with Greytown Campground and made safe over Easter.
If preliminary work is required prior to major construction works, could this not occur over a weekend and could we be advised several days beforehand.	Work (including preliminary work) is not scheduled to occur over weekends. Public notice letters will be distributed to nearby homes and businesses prior to any preliminary works and the primary works taking place.
The time of any loud mechanical works need to be considered for campground users.	Noisy construction works (such as excavation, saw cutting, compacting trenches) will be coordinated for after 9am on weekdays only.

#### 6.2.2 Greytown Community Sport and Leisure Society Inc

Greytown Community Sport and Leisure Society Inc were engaged with since they represent the sport clubs that operate in the Soldiers Memorial Park. The executive officer of this group

spoke to the cricket chairman and Pavilion Committee who represent the swim, cricket and football groups who use the area. Feedback provided noted that *“The proposed position makes the most sense so no field space is encroached upon. It will be of no hindrance for pavilion users to park on the road side when the works commence and the only big busy events with cricket are happening over the next two weekends.”*

#### 6.2.3 Friends of **O’Connor’s Bush**

Friends of O’Connor’s Bush were engaged with since they undertake volunteer gardening work in O’Connor’s Bush, part of Memorial Park. Feedback received from the group noted that they *“do not think the project would impact on O’Connor’s Bush as it is located some distance away from the Swimming Baths site”*. The group did enquire around any impacts of the water race that flows through the bush. GHD provided details of the proposed discharges to the water race via reply email. The group also noted the commemorative trees located in the vicinity of the proposed works. The Arborist Report notes that the four heritage trees that are located in the vicinity of the works *“stand clear of the works and from any potential impacts”*.

#### 6.2.4 Greytown Croquet Club

The Greytown Croquet Club was engaged with since its’ activities occur in Memorial Park. Concerns raised by the Greytown Croquet Club and measures to mitigate these concerns are summarised at Table 7.

Table 7 Greytown Croquet Club engagement

Concern	Mitigation
Access to parking in close proximity to croquet green during works (at the rear of the carpark).	It is anticipated that the trenching works to lay pipes will only take 2-3 days, and will be approximately 1m wide. It is therefore anticipated that access to parking close to the croquet green may be affected for half a week to a week at most. Anytime the site is not attended, the trenches will be back filled or covered with a road plate so as not to affect users of the car park.
Anzac Day commemorative services using the car park in front of the swimming pool.	Construction activities will be managed to minimise impacts around this time. It is anticipated the project will be in the commissioning stage at this time, therefore limited works would be occurring. Any trenching around Anzac Day will be avoided to minimise impacts and to ensure the carpark is available for use.

### 6.3 Community Organisations

#### 6.3.1 Greytown Community Heritage Trust

The Greytown Community Heritage Trust (the Trust) was engaged with since the Memorial Park has heritage value. The Trust requested clarification as to whether the completed works will be visible from the car park. Clarification was provided that the containerised water treatment plant is largely obscured by the swimming pool building when viewed from the carpark, however the plant would be partially visible from the eastern edge of the carpark. The Trust subsequently

provided a letter of support for the proposed works as depicted in documents emailed, noting they would like to be consulted if the detailed design involves any visual changes for either the street or car park. The letter of support is provided at Appendix I.

#### 6.3.2 Greytown RSA

The Greytown RSA was engaged with since Memorial Park is a memorial to the fallen soldiers of World War I and II. Concerns raised by the Greytown RSA and measures to mitigate these concerns are summarised at Table 8.

Table 8 Greytown RSA engagement

Concern	Mitigation
Anzac Day commemorative services using the car park in front of the swimming pool.	Construction activities will be managed to minimise impacts around this time. It is anticipated the project will be in the commissioning stage at this time, therefore limited works would be occurring. Any trenching around Anzac Day will be avoided to minimise impacts and to ensure the carpark is available for use.

#### 6.4 Adjoining Residents

A courtesy letter outlining the proposed works will be dropped in the letterboxes of residents adjoining the site (opposite Kuratawhiti Street) when this consent application is lodged.

#### 6.5 SWDC

Chad Johnson (GHD Water Engineer) met onsite with Bryce Neems (SWDC amenities and solid waste manager) on 26 November 2020 to discuss SWDC's preferred location for the containerised WTP within the Memorial Park site. The preferred location was identified as the nook in the hardstand area as identified in Figure 5.

A pre-application meeting was held with Kendyll Harper (SWDC Planner) and Bryce Neems on 27 November 2020 to discuss consent pathways and potential issues with the proposed works. Minutes of this meeting are provided at Appendix E.

The following topics were discussed at this meeting:

- Confirmation of resource consent requirements.
- Confirmation of Reserves Act requirements and engagement processes.
- Impacts on trees, tree protection and arborist details.
- Splitting the resource consent application and Reserves Act applications.
- Timeframes for assessment and notification over the Christmas period.
- Relevant parties that should be engaged with.



## 7. Conclusion

Pursuant to section 48(1)(e) of the Reserves Act 1977, Wellington Water seeks an easement for the occupation of reserve land for the provision of water systems.

Subsequent to the approval of this application by SWDC, a physical survey will be undertaken and an easement instrument enabling this occupation to convey water through the existing water treatment and supply facilities (which will be upgraded), as well as a new facility to be installed on site will be prepared and registered against the property title.

It is noted that section 48(2) of the Reserves Act generally requires public notification of an application for an easement in accordance with sections 119 and 120 of the Reserves Act before the grant of such an easement. However, it is considered that the exemption circumstances under section 48(3) apply because the reserve is vested in SWDC as the administering body and it is considered that the construction of the new facilities in the driveway nook will not materially alter or damage the reserve as a whole. Additionally, an easement over the driveway nook and the other existing water utilities would not detract from the rights or enjoyment of the public in relation to the reserve in any material way.


It is therefore considered that the circumstances outlined at section 48(3) of the Reserves Act do apply, and therefore public notification under section 48(2) of the Reserves Act is not required.

Clause 41 of the Memorial Park Reserve Management Plan sets out the requirements for making an application in relation to the construction of new public utilities on the reserve. This includes a requirement to publicly notify such an application. Therefore, despite satisfying the circumstances under section 48(3) of the Reserves Act to not notify the application in accordance with sections 119 and 120 of the Reserves Act, this application will be notified by SWDC as per clause 41 of the Memorial Park Reserve Management Plan.

An assessment of effects on the Soldiers Memorial Park Reserve has been undertaken at Section 4 of this report and finds that any adverse effects are anticipated to be negligible to less than minor on the Soldiers Memorial Park.

## Appendices

## Appendix A – Arborist Report



# ARBORICULTURAL ASSESSMENT

*For*

WATER TREATMENT PLANT

*At*

SOLDIERS MEMORIAL PARK, GREYTOWN

PREPARED BY

PAPER STREET TREE COMPANY

REPORT  
COMMISSIONED BY: GHD

REPORT DATED: 26.1.2021

PROPOSAL: To install a new water treatment plant within the subject site  
requiring works within the root zone of 40 trees.

EST.



2013

ARBORICULTURE CONSULTANCY



## *Contents*

### EXECUTIVE SUMMARY

- 1 INTRODUCTION
- 2 ARBORICULTURAL ASSESSMENT
- 3 ARBORICULTURAL PROTECTION AND MANAGEMENT
- 4 EFFECTIVE USE OF THE ASSESSMENT IN A PLANNING PROCESS

## *Attachments*

*Appendix 1 Background information and tree details*

*Appendix 2 Tree Protection measures*

*Appendix 3 Paper Street Plans*

EXECUTIVE SUMMARY

New services and foundations for a new water treatment plant would be constructed within Soldiers Memorial Park. No trees are proposed for removal or to be pruned under this proposal. Fifty-eight trees stand adjacent to the site, including four heritage-listed items (ref Ts077 within DP). Forty trees would have works take place within or directly adjacent to their root zone:

Proposed activities impact on trees	Tree location and count of trees recorded	
	Soldiers Memorial Park Trees	Heritage trees
Works to take place within or directly adjacent to a tree's root zone	40	
Trees that stand clear of the works	14	4 (ref Ts017 within DP)



Aerial image of the site with heritage trees and Soldiers Memorial trees highlighted. A white dotted line indicates the location of the works.

Discussions, design alternatives and exploratory works were carried out where the eventual site layout has considered the guidance and tree constraints discussed.

Based on these discussions and exploratory works, the impact of the works was assessed, and a series of protection measures were proposed.

Provided the protection measures are followed the adverse effects on the affected trees would be no more than minor.

Richie Hill

## 1 INTRODUCTION

- 1.1 I have been engaged by GHD to provide an arboricultural assessment of the proposal to upgrade a water treatment plant in Soldiers Memorial Park, Greytown. The proposal would involve works within the root zone (dripline) of protected trees.

### 1.2 *Tree protection*

The works would take place within the dripline (protected root zone) and in proximity to, trees protected under Section 5.1.2.41 of the SWDC Soldiers Memorial Park Management Plan (August 2007). The works would also take place adjacent to the protected root zone of heritage trees referenced under the District Plan (DP) as:

DP Notable Tree Number	DP Item description	DP Location and Legal Description (where known)
Ts017	Ts017 <i>Tilia x europaea</i> (55) and various other*	Soldiers Memorial Park, Greytown (Part Sec 4 Greytown Small Farm Settlement)

\*Note there are 148 trees under this listing. These trees surround the Playfield area. Only four of these trees stand near the works.

- 1.3 The following information has been prepared to accompany an application for resource consent for the works:

- An arboricultural assessment of the proposal.
- A tree management and protection plan for the works.

### 1.4 *Plans and development details*

This assessment is based on the following plans and discussions with the project team:

- Concept draft plans drawn by GHD show indicative works and three options sent by email on the 1.12.2020
- Memorial Park WTP Water Safety Stage 3, Existing services Plan Drawing No. 12520249-C300. Dated: 4.12.20. Drawn by GHD

## 1.5 *Layout of assessment*

The assessment set out into four sections with additional details attached as appendices. The initial part of the assessment is primarily for Council review outlining the rationale for the assessment recommendations. Each section has a summary at the front, followed by a detailed analysis of how the summaries were reached. Appendices have been attached for additional information and for site-specific guidance:

### SECTION 2 ARBORICULTURAL ASSESSMENT

Assesses the direct and indirect effects of the proposal.

### SECTION 3 ARBORICULTURAL PROTECTION AND MANAGEMENT

Provides specific information on how the works are to be controlled and managed.

### SECTION 4 EFFECTIVE USE OF THE ASSESSMENT IN A PLANNING PROCESS

Recommendations to facilitate the successful implementation of protection measures.

## *Attachments*

### *Appendix 1 Background information and tree details*

Summarises the background information and the consultation at the design stages by reviewing the site and tree information to identify potential conflicts, determine mitigation, or if any design alterations are necessary.

### *Appendix 2 Tree Protection measures*

Specific tree protection details for site reference and to facilitate the programming and budgeting of site works.

### *Appendix 3 Paper Street Plans*

Plans specific to the site work, such as a tree protection plan (highlighting where tree protection is to occur). Additional plans may also be attached where necessary (e.g. pruning or planting plans).



### 2.1 *Summary of background and feasibility investigations for proposal*

Before the site layout was finalised, the tree constraints and site design alternatives were discussed. This included an exploratory excavation into the feasibility of the preferred design option. The eventual site layout has taken into account the guidance and tree constraints provided. Appendix 1 contains detailed information on the background data.

#### 2.1.1 Tree quality

Part of the data collection is to evaluate a tree's contribution to the environment in which it stands. This is carried out by categorising the trees by the contribution they provide. This approach allows for a transparent process to inform decisions concerning what trees should be retained, and where necessary which trees should be removed. Additionally, categorising trees by this method also improves analysis when assessing the proposal's impact and for recommending the appropriate mitigation. The categorisation method (TreesAZ) systematically categorises trees into the following categories

- **Category ZZ (unsuitable for retention):** Any remaining trees that are severely compromised and unsuitable for retention, even in the short term, are categorised as ZZ, i.e. dead; irreversibly declining health; irremediable structural conditions; or, causing severe inconvenience to people or structural damage.
- **Category Z (low quality):** Any remaining trees are systematically reviewed to decide if they fit into any of the four Z subcategory groups listed in the table below.
- **Category A (moderate quality):** Any remaining trees are automatically category A, with the possibility of being promoted to category AA.
- **Category AA (high quality):** If a category A tree is already large or has the potential to become so with limited intervention, it can be promoted to category AA, at the discretion of the assessor.
- **Heritage AA:** Each tree is assessed by a visual check. If it is a designated heritage tree, then it is automatically categorised as AA, and not subjected to any of the category ZZ, Z or A considerations.

## 2.2 Summary of the impact on trees

The following table provides a summary of the trees affected by the proposal. If the prescribed protection measures are followed, tree health and the associated amenity and environmental values would not be adversely affected:

### 2.2.1 Tree location

Tree type	Assessment ref no.	Count
Park tree (Soldiers Memorial Park tree)	G1(12), T2-T6, G7(3), T8, G9(3), T10, T11, G12(11), G13(2), T14, G16(14)	54
Street tree	None affected	
Heritage tree	G15	4
Other trees (e.g. private)	None affected	
Tree total:		58

Table 1 Tree location. T, G, P = Tree identifier that corresponds to plans; Tree (T) Tree Group (G) and Palm (P). Number in brackets indicates the number of items in a group

### 2.2.2 Summary of impact

Summary of Proposal's Impact on Trees			Reference of tree affected and its potential to contribute to amenity and the environment (TreeAZ)				
			High ← → Low				
Proposed works within a tree's root zone			AA2 Heritage Trees	AA1 Trees	A Trees	Z Trees	ZZ Trees
Construction of new treatment plant, trenching to install new pipes				T3		G1(12)	
No. trees affected:	13	Tree count:		1		12	
Trenching to install new pipes				T10	T2, T4, T5, T6, T8, T11, G12(11), G13(2), T14	G7 (3), G9(3)	
No. trees affected:	27	Tree count:		1	20	6	
Trees requiring pruning							
No. trees affected:	0	Tree count:					
Trees requiring removal							
No. trees affected:	0	Tree count:					
Trees that stand clear of works			G15(4)			G16(14)	
No. trees affected:	18	Tree count:	4			14	

Table 2 Summary of impact on affected trees.

Below is a detailed review of the proposal's impact, including a summary of the mitigation measures proposed to minimise the proposal's impact.

## 2.3 *Plans*

A plan attached as Appendix 3 accompanies this assessment where all tree locations, tree quality ratings and dripline areas have been overlaid on an aerial image of the site. It is referenced as:

- PS Plan 1: Tree Protection Plan. Plan Ref P1MPWTP. Dated 17.12.20.

Trees are referenced by number on the above plan from the survey attached as Appendix 1.

## 2.4 *Detailed impact assessment on trees*

### 2.4.1 AA2 Trees

#### **G15**

These heritage items (refer to Section 1.2 for DP reference) stand clear of the works and from any potential impacts. Protective measures have been proposed within Section 3 to avoid the potential for any adverse effects to occur.

### 2.4.2 AA1 Trees

#### **T3**

Tree 3 is the largest tree on the site to be affected. A new treatment plant foundation (15m x 4m footprint dug to a maximum depth of 0.5m), and a chemical bund is to be installed northeast of the tree's base. An open trench to install new services (1m x 1.5m deep) would occur within its western root zone within a paved area (approximately 8m from the base of the tree). An exploratory excavation was carried out adjacent to this tree due to pavement lift being evident. A mass of roots was unearthed at that point (Appendix 1 Fig A1.10). Roots appear to be localised to one area (i.e. all roots spreading to one location). Other root material will likely be unearthed (shallow-rooted species) during the works but unlikely to the extent shown in the pothole. Specific construction methodologies are included within the tree protection measures to ensure works can be effectively managed:

- Works are initially to be open trenched if significant root material is unearthed an alternative excavation methodology will be employed, e.g. hydro excavation.

Provided the protection measures in Section 3 are adhered to I consider the adverse effects would be no more than minor.

#### **T10**

This tree stands just behind the group of trees adjacent to the car park. It stands within an open space area (plenty of space for roots to spread, minimal ground obstructions). A group of trees

stand between the tree and the car park area likely restricting root spread. Additionally, the modified medium of the pavement area would also have reduced the likelihood of roots spreading into the works footprint. Exploratory works adjacent to this tree resulted in next to no roots being unearthed (Appendix 1 Fig. A1.9). I considered there would be no adverse effects.

#### 2.4.3 A Trees

##### **T2, T4, T5, T6, T8, T11, G12, G13, T14**

Works would take place approximately 8m from the base of the trees in a highly modified medium. The exploratory works showed next to no roots within this area. Provided the works are carried out as set out in Section 3, I consider the adverse effects would be no more than minor.

#### 2.4.4 Z trees

##### **G1, G7, G9**

The trees are of either small dimensions or impaired to some degree where root spread is likely to be restricted (than expected from a healthy specimen). Therefore it is unlikely any root material would be found within the works footprint. Provided the works are carried out as set out in Section 3, I consider the adverse effects would be no more than minor.

##### **G16**

Tree group that surrounds the existing pump treatment plant. No works proposed within this area that would affect these trees. Protective measures have been proposed within Section 3 to avoid the potential for any adverse effects to occur.

### 2.5 *Proposals to mitigate the impact*

#### 2.5.1 Site construction

Detailed conversations have been carried out with the contractor to ensure works can be carried out with the appropriate care. Alternative construction methods are also included to minimise potential impacts should they be necessary.

#### 2.5.2 Tree management and protection

Section 3 sets out the management and protection details specific to this proposal to ensure affected trees are not adversely affected.

### 2.6 *Summary of impact on local environmental and amenity values*

No trees are being proposed for removal, or any alteration proposed to their form whereby amenity or environmental values would be affected. The prescribed tree protection measures would ensure that the longevity and vitality of the trees are maintained.



### 3 ARBORICULTURAL MANAGEMENT AND PROTECTION

3.1 Section 3 summarises the impact of the proposal on the affected trees. This section outlines how the arboricultural management and protection details are to be carried out to ensure affected trees are successfully retained during the works. Additional information is attached as appendices to provide specific information on the implementation and scheduling of the tree protection measures. Appendix 2 contains specific tree protection measures and is the primary reference document for the Site Manager to follow.

a) Illustrative Tree Protection Plan

An illustrative tree protection plan is attached as Appendix 3 to act as a quick reference guide for the site manager showing the tree protective details:

### 3.2 *Arboricultural project management*

Specialist arboricultural input before/during the works is important if trees are to be successfully retained. Before any works start a competent Project Arborist is to be engaged (an arborist through relevant training and experience has the necessary qualifications and experience in controlling construction works within the vicinity of trees).

### 3.3 *Site-specific tree protection measures*

Appendix 2 sets out the site-specific tree protection process and is separate to the main document to be a stand-alone document for onsite reference. The measures also act as a compliance reference for Council. Essentially the tree protection measures have been designed to cover the three main areas of tree protection:

- Pre-works requirements
- Controls during works
- Compliance

#### 3.3.1 Pre-work requirements

Appendix 2 contains the following sections for pre-works requirements:

**1. Effective Implementation of tree protection measures**

Contains a general overview of processes for successful tree protection before works start, outlining processes roles and responsibilities and the importance of communication.

**2. Pre-start meeting**

An essential part of the protection detail. Ensures early collaboration with construction/project team to ensure tree protection details and work methodologies are

confirmed, and site-specific before works start. It is also an opportunity to determine if any plans have been altered post consent and identify any potential tree issues before works start.

### 3.3.2 Controls during works

Appendix 3 contains the following sections for work controls:

**3. Working in the vicinity of trees**

This contains basic information as to the purpose of tree protection.

**4. Site access and storage temporary storage areas**

To ensure root zone areas and above parts of the trees are not damaged during the works.

**5. Excavation and dealing with roots.**

Contains specific details on how excavation is to be carried out when working in root protection areas.

**6. Installing services**

Contains specific detail to the installing services and alternative construction methods to be carried out should it be necessary as instructed by the Project Arborist.

### 3.3.3 Compliance

Appendix 3 section for evidence of arboricultural compliance during the works:

**7 Arboricultural compliance**

This section provides the supervision requirements and contains a series of compliance checks. The checks are to confirm the tree protection details with the affected parties to ensure it is site-specific and relates to the contractor's works methodologies.

## 4 EFFECTIVE USE OF THIS REPORT IN A PLANNING PROCESS

### 4.1 *Limitations*

It is common that the detail of logistical issues such as site storage and the build programme is not finalised until after the consent has been issued. As this report has been prepared in advance of consent some of its content may need to be updated as more detail becomes available once post consent site management starts. Although this document will remain the primary reference in the event of any disputes, some of its content may be superseded by authorised post-consent amendments.

### 4.2 *Suggestions for effective use of document*

This section of the report is designed as an enforcement reference. It is constructed so that the Council can directly reference the detail in a planning condition. Referencing the report by name and relating conditions to specific subsections is an effective means of reducing confusion and facilitating enforcement in the event of problems during implementation. More specifically, the following issues should directly be referenced in the conditions, as set out in the tree protection measures attached as Appendix 2:

1. Effective implementation of tree protection measures
2. Pre- works requirements
3. Working in the vicinity of trees
4. Site access and temporary storage areas
5. Excavation and dealing with roots
6. Installation of new services
7. Arboricultural compliance

Each of the above matters must be supervised by a Project Arborist. Appendix 2 also sets out the process for implementing those measures and acts as a compliance reference for the Council.

RICHIE HILL



### *Attachments*

APPENDIX 1 BACKGROUND, TREE SURVEY AND EXPLANATORY NOTES

APPENDIX 2: TREE PROTECTION MEASURES

APPENDIX 4: PAPER STREET PLANS

FOR THE GREENER GOOD



### 1 BACKGROUND INFORMATION

#### 1.1 *Summary of feasibility investigations and tree constraints*

Discussions, design alternatives, and exploratory works were carried out before finalising the water treatment plant's location. The eventual site layout has taken into account the guidance and tree constraints. Below is a detailed summary of the evolution of site layout.

#### 1.2 *Collection of data*

I visited the site on the 17.12.20 where the initial plans were reviewed, site conditions assessed, and tree details recorded, including evaluating the tree's potential to contribute to amenity and the environment. The data was reviewed and interpreted to determine the tree constraints and provide feedback to the design team. The tree information recorded is attached as Appendix 1 (tree survey) and on the plan attached as Appendix 3.

#### 1.3 *Protection areas*

The extent of the tree protection area is typically defined as the "dripline area". The spread and the extent of a tree's root system can be highly variable, influenced by site conditions, species genetics and tree condition. In certain circumstances, the dripline calculation presents a poor reflection of the minimal amount of roots required for a tree to remain viable (see Appendix 2 Section 3.1 for more details). Therefore, to ensure trees are not adversely affected, where appropriate, calculations for root protection areas are applied as set out under AS<sup>1</sup>, and BSI<sup>2</sup> standards for protecting trees in development works.

##### 1.3.1 Site-specific tree protection areas

Trees surround the car park where the works would take place. The works affect the eastern and southern reaches of the car park due to existing connection points. The trees are of various dimensions and stand at proximity to the eastern, southern, and western reaches of the car park. Encroachment into a root zone area for these works would therefore be unavoidable regardless of the protection calculation method used (i.e. calculations based on the dripline or trunk diameter). As the trees cover the worksite, the entire worksite is assessed as one whole root zone area

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**References** <sup>1</sup>AS4970-2009 Protection of trees on development sites

<sup>2</sup>BS5837:2012 Trees in relation to design, demolition and construction – Recommendations



### 1.3.2 Illustrative plans

For this assessment, the "dripline" measurement is used overlaid on an aerial image of the site with the proposed works, as the dripline area of the largest trees covers the entire worksite. Only these dripline areas are shown on the plan for simplicity). The plan is attached as Appendix 3.

### 1.3.3 Site considerations in influencing root growth in protected areas

Soil conditions strongly affect root densities within the upper soil horizon to support root growth. As with most places within the region, the site is deep free-draining soil that contains varying amounts of rock content. Even though root spread is unpredictable, this soil medium provides a rooting horizon where root growth can be broadly distributed.

Additionally, the ground is a highly modified medium from previous works to construct the pavement. In that context, and as water retention is greater at deeper depths a reduction of root densities within the upper soil horizon is expected.

### 1.4 Further feasibility investigations and design alternatives

After the data was reviewed, a meeting was carried out with the Project Engineer, The Site and Contractor Managers to discuss the tree constraints, construction methodologies and the feasibility of all the options. Three options were proposed with one preferred option. All options would impact the trees to varying degrees, with the chosen option having the potential to affect the most trees. As root growth is mostly unpredictable, and the trees affected are important trees further exploratory works were carried out to determine whether the preferred option is feasible or an alternative option is required. Two potholes were hydro excavated adjacent to a mature coastal redwood (T3) (*Sequoia sempervirens*) and adjacent to the stand of Lawson cypress (G12) (*Chamaecyparis lawsoniana*) and totara (T11) (*Podocarpus totara*) trees. As described below in site memo provided after the 9.12.20).

### 1.5 9.12.20 site memo for exploratory investigations

- 1.5.1 A site meeting was carried out to discuss the proposal and site layout options and tree constraints. Three options are proposed (see below (Sent as ab email on the 4.12.20)) where option 1 (first plan within the attachment) is the preferred site plan.

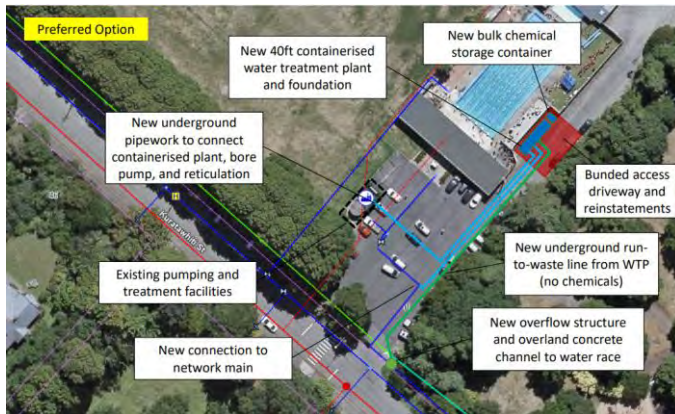


Fig A1.1 Preferred option (option 1)



Fig.A1.2 Not preferred (option 2)



Fig. A1.3 Not preferred Option 3

1.5.2 For Option 1 the works would involve an open trench 1.2m deep and 1m wide. This would take place along the following indicative alignment:

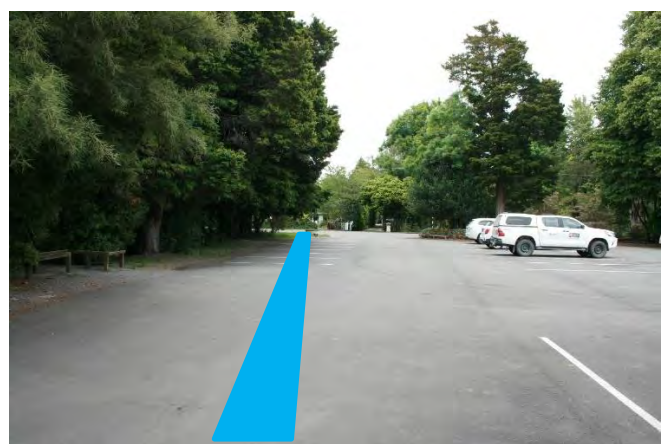
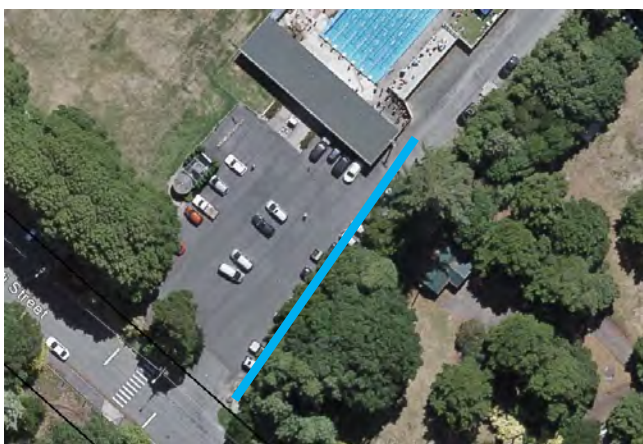


Fig A1.4 Blue line indicating indicative alignment for open trench (Option 1)



### 1.5.3 Site assessment and tree constraints

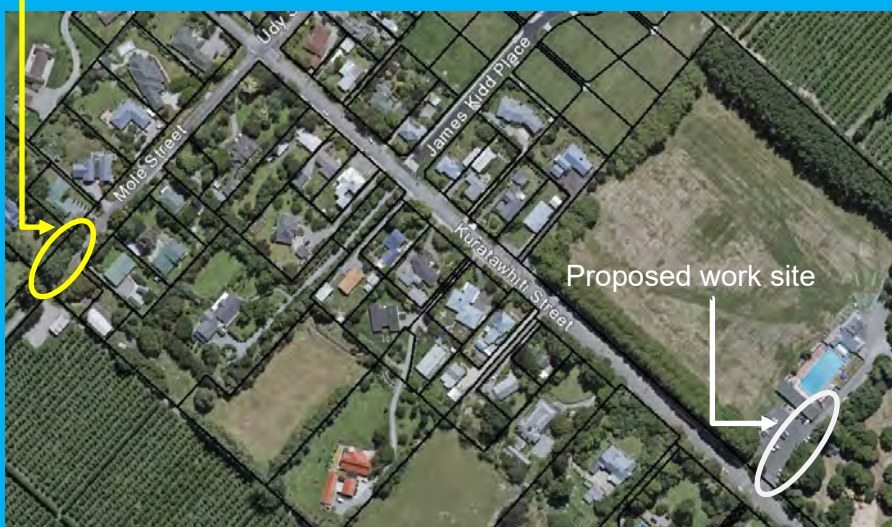
The trees that stand east to the proposed works consist of mixed vegetation primarily consisting of mature conifers (totara (*Podocarpus totara*), Lawson cypress (*Chamaecyparis lawsoniana*) and a coastal redwood (*Sequoia sempervirens*) and a red oak (*Quercus rubra*). Mixed juvenile/maturing understory also features, e.g. kowhai (*Sophora* sp.) Works would take place approximately 4-6m from the bases' of the trees that stand east of the works.

### 1.5.4 Tree constraints

Due to the soil profile of Greytown as a whole (old riverbed), soil conditions widely vary from sandy loam to rocky loam, but in the main are highly permeable soils. This can influence the anticipated rooting depth. Typically, deeper rooting takes place at >1m-2m to what is generally expected (roots to be within the initial 1m of soil). There will still be a concentration of feeder roots within the initial 1m soil, dependent on the flow of groundwater under the pavement, but deeper roots are likely to be located at deeper levels (see fig 3).



Fig A1.5. Previous excavation carried out 500m from where the proposed works would take place. Image provides an indication to what rooting densities may be like. These works took place just 4m from the base of a 120yr old 30m deodar cedar (*Cedrus deodara*) No roots were unearthed during the earthworks, carried out in open ground to a depth of 60cm for services



Additionally, these works will occur within a modified area, where the car park and accessway have been formed. There is only one area where pavement lift is visible, which further supports the theory that roots are set at a deeper level. Within this context, species characteristics need to be considered. There are thought to be four types of root systems, and redwood is widely regarded to have a very shallow root system, so unsurprisingly the only lift we have is adjacent to the redwood tree.

### 1.5.5 Evolution of site layout

The above is set out to justify the rationale for the arboricultural approach. Uncertainty or lack of intelligent analysis often means constraints are set where they are not needed, so potential risks become disproportionately managed based on a highly subjective opinion. As root growth is very unpredictable, and to remove further subjectively to support an open trench excavation or to demonstrate that an alternative excavation method/alignment is not needed, two potholes are proposed to be carried out. Trenchless technologies can be employed along the alignment at a higher cost but would require potholing in any case. Therefore, potholing is proposed to test the likely root densities and depths prior to recommending that thrusting/drilling or an alternative option is followed. The pothole works are highly localised and would not lead to any adverse effects carried out under arboricultural guidance. The two potholes will take place at the following locations.



Fig.A1.6 Pot hole 1 Located over the area that shows potential root conflict (root spread from redwood (shallow rooted species note cracking of pavement))



Fig.A1.7 Pothole 2 located further along the alignment. Adjacent to totara and Lawson cypress, roots rarely occupy the same area so pot holing at this location is a good test as the trees are more closely grouped.



### 1.6 Results of exploratory excavations

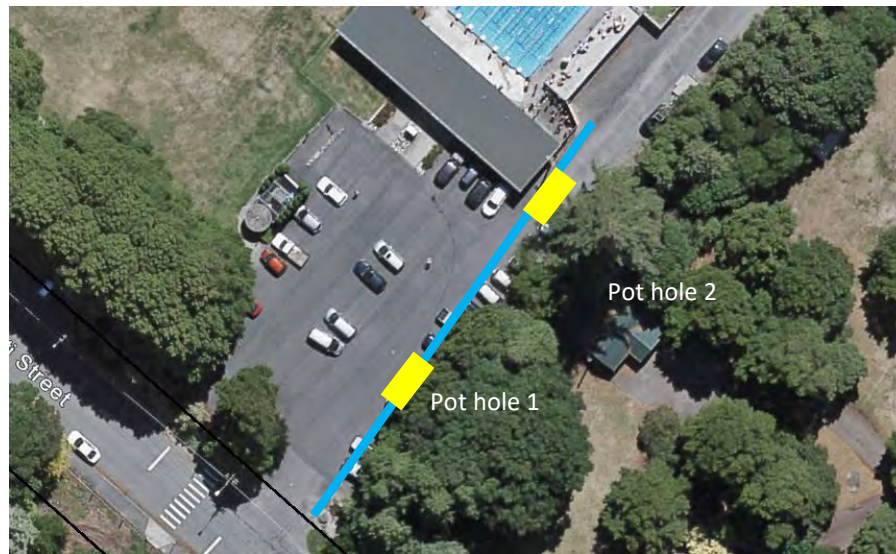


Fig A1.8 The Blue line is indicating indicative alignment for the preferred option and yellow rectangles indicating the location of potholes referenced as pothole 1 and 2.

- **Pothole 1**

The initial assessment anticipated there would be very minimal root growth within this area based on experience and site conditions.



Fig.A1.9 Hydro excavation was carried out to the desired depth. Only two minor roots were unearthed (highlighted in yellow).

The exploratory works unearthed two roots measuring under 1cm in diameter. The hole was excavated to a depth where no other roots were unearthed. This supports the initial site assessment that the works could be carried out, under controls, as a low volume of root material is expected within these areas.



- **Pot hole 2**

During the site assessment, there were visible signs of pavement lift in one area, so root growth was highly expected within this area. Coastal redwood is shallow-rooted species, where an exploratory excavation would determine how widely distributed roots are likely to be within the proposed footprint. There is no other pavement lift along the proposed trench alignment.



**Fig.A1.10** A mass of roots where unearthed 20 cm-50cm below the surface. Largest root measured 15cm in diameter.

Root growth was localised to one area as the pavement lift suggested. Site discussion took place with the site manager regarding methodologies and feasibility of installing the pipe within the trees root zone. Methods were proposed to minimise and effectively manage the works. The pipe can be comfortably inserted beneath these roots.

### 1.6.1 Conclusions from feasibility investigations

Considering the exploratory works, site conditions, discussion with the contractors, engineer and previous experience in carrying out these works. There is not enough evidence to support exploring an alternative treatment plant location, or consideration to using an alternative installation method. Detailed discussions have taken place with the design team where the tree constraints were fully considered. Methodologies have been provided to mitigate the impact of the proposal and controls put in place for successful management to occur.

## Appendix 1 Background information and tree details

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### 3. TREE SURVEY

ID #	No.	Tree Name	Growth Stage	Height (m)	Stem dia. (cm)	CS Par carpark (m)	CS Perp (m)	Condition		LB	Flag for special note	RP Clac	RP Radius (m)	Comments	Tree AZ
								Phys.	Struc.						
G1	12	Lawson cypress ( <i>Chamaecyparis lawsoniana</i> )	Mat-m	3.8-14	N/a	3	6	Mixed. Stunted form dieback within group cypress canker ( <i>Seiridium sp.</i> ) evident	Fair localised dieback	2m	Works associated with establishing new treatment plant and foundation	DP	7		Z3
T2	1	Narrow-leaved maire ( <i>Nestegis montana</i> )	maturing	3.8	N/a	2	2	Good	Good	2m	Uncommon naturally seeded native. Works clear of root zone	DP	1.9		A1
T3	1	Coastal redwood ( <i>Sequoia sempervirens</i> )	mature	33.5	N/a	14.8	12	Herbicide damage evident throughout canopy stunted curled foliage and burnt tips	Apparent limb failure and moderately overextended limbs	2m	Foundation for the new treatment plant and trenching to install new pipes within the tree's root zone	DP	16.75		AA1
T4	1	Coastal redwood	Maturing	13.4	N/a	6	6	Good	Suppressed by adjacent redwood	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	6.7		A
T5	1	Kowhai ( <i>Sophora sp.</i> )	maturing	7	N/a	6	6	Good	Suppressed by adjacent totara	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	3.5		A
T6	1	Totara ( <i>Podocarpus totara</i> )	Mature	10.2	N/a	10	10	Estimated 30% reduction in canopy density likely due to root disruption for toilet block construction and pavement	Fair	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	5.1		A
G7	3	3x Lawson cypress	Mat-m	21.4	N/a	3	3	Mixed. Dieback within group cypress canker ( <i>Seiridium sp.</i> ) evident	Fair	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	10.7		Z3

## Appendix 1 Background information and tree details

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ID #	No.	Tree Name	Growth Stage	Height (m)	Stem dia. (cm)	CS Par carpark (m)	CS Perp (m)	Condition		LB	Flag for special note	RP Calc	RP Radius (m)	Comments	Tree AZ
								Phys.	Struc.						
T8	1	Totara	Mature	16.4	N/a	10	8	Good	Good	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	8.2		A1
G9	3	Lawson cypress (2) mahoe ( <i>Melicytus ramiflorus</i> )	maturing	4-12	N/a	2	3	Mixed	Fair	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	6		Z3
T10	1	Red oak ( <i>Quercus rubra</i> )	mature	18.6	N/a	18.2	20.4	Good	Good	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	10.2		AA1
T11	1	Totara	mature	18.4	N/a	12.4	10	Good	Good	2m	Trenching to install new pipes within root zone in the existing pavement area	DP	9.2		A
G12	11	Lawson cypress	Mat-m	13-18	N/a	4	5	Mixed. Dieback within group cypress canker ( <i>Seiridium sp.</i> ) evident	Fair	2m	Trenching to install new pipes within root zone in existing pavement area	DP	9		A
G13	2	Holly ( <i>Ilex aquifolium</i> ) and ash ( <i>Fraxinus angustifolia</i> )	mature	5.5-12.6	N/a	6	6	Good	Good	2m	Trenching to install new pipes within root zone in existing pavement area	DP	6.3		A
T14	1	Totara	Mature	17	N/a	7	7	Chlorotic at apical tips reduction in density, likely from historic pavement works	Good	4m	Trenching to install new pipes within root zone in existing pavement area	DP	8.5		A
G15	4	European lime ( <i>Tilia x europaea</i> )	Mature	22	N/a	10.8	11.5	Good	Good	3m	Stand clear of the works	DP	11		AA2
G16	14	Pyramidal white cedar ( <i>Thuja occidentalis</i> "Pyramidalis")	Maturing	5	N/a	1	1	Good	Good		Stand clear of the works	DP	2.5		Z1

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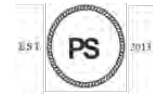
### 3.1 *Tree survey explanatory notes*

Where no comment is made, it is assessed that no analysis is warranted. All inspections are recorded from ground level.

<b>ID#:</b>	Tree identifier which corresponds to plans –Tree (T) Tree Group (G) and Palm (P).
<b>No.:</b>	Number of trees recorded for identifier
<b>Species:</b>	Tree identification is based upon visual observation. Where there is doubt over tree identity, or for deciduous trees where leaves are absent, sp. is noted after genus. To be confirmed (TBC) is noted after trees where identification is being carried out.
<b>Growth stage:</b>	Provides a basic indication of the tree's ability to cope with change; Young - high tolerance to cope with change, maturing - a medium tolerance to cope with change and mature - which will have a low tolerance to cope with change
<b>Height:</b>	All heights are measured with a Nikon Laser Forestry Pro and are given in meters
<b>Stem diameter:</b>	Measurements are taken where appropriate (for root protection radius) at 1.4m from ground level. Any instances where measurements are taken from different heights these are noted accordingly. In instances where multiple stems (m/s) above 250mm are recorded, each stem is recorded. Measurements are recorded at 10mm intervals. In relation to groups of trees, the average calculation is recorded.
<b>Canopy spread</b>	Tree canopy spread measurements. Measurements are recorded at 0.5m intervals, in two directions parallel with carpark and perpendicular.
<b>Condition:</b>	Indication of physiological (Phys) and structural (Struc) condition.
<b>Low branches:</b>	Measurements are taken from ground level of the lowest scaffold branch within the tree's canopy that may present a work restriction. Large branches that would not be feasible for removal during normal management and should be considered as a design constraint are noted.
<b>Flag for special note:</b>	Any details relevant to the construction activities and the impact on the tree or the group
<b>RP Calc</b>	The root protection calculation method used DP= Dripline based on either half the tree's height or canopy its canopy width whichever is the largest dimension. TPZ = Tree protection zone based on trunk diameter (AS4970-2009)
<b>RP Radius</b>	Calculated root protection radius from tree's base
<b>Comments:</b>	Any other relevant additional detail

## Appendix 1 Background information and tree details

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**Tree Category:** The TreeAZ assessment system has been developed by Barrell Tree Consultancy based on the potential for a tree to contribute to amenity and the environment; if it is in good condition and can be retained for a long time, it has a high potential; if it is in poor condition and cannot be retained for long, it has a low potential. The only exceptions to this are small or young trees and trees of ecological importance. All trees assessed as having a moderate to high potential for contributing to amenity are categorised as 'A' and all trees with a low potential are categorised as 'Z'. Trees that are very good examples of the A category or are heritage items are recorded as 'AA' trees and trees that are very poor examples of the 'Z' category are recorded as 'ZZ' trees. These categories are divided further into numbered subcategories that clarify the reason for allocation to the main category

Categories for assessing a tree or tree groups contribution to amenity and the environment:

- **Category ZZ (unsuitable for retention):** Any remaining trees that are severely compromised and unsuitable for retention, even in the short term, are categorised as ZZ, i.e. dead; irreversibly declining health; irremediable structural conditions; or, causing severe inconvenience to people or structural damage.
- **Category Z (low quality):** Any remaining trees are systematically reviewed to decide if they fit into any of the four Z subcategory groups listed in the table below.
- **Category A (moderate quality):** Any remaining trees are automatically category A, with the possibility of being promoted to category AA.
- **Category AA (high quality):** If a category A tree is already large, or has the potential to become so with limited intervention, it can be promoted to category AA, at the discretion of the assessor.
- **Heritage AA:** Each tree is assessed by a visual check. If it is a designated heritage tree, then it is automatically categorised as AA, and not subjected to any of the category ZZ, Z or A considerations.

CAUTION: TreeAZ assessments must be carried out by a competent person qualified and experienced in arboriculture. The following category descriptions are designed to be a brief field reference and are not intended to be self-explanatory. They must be read in conjunction with the most current explanations published at [www.TreeAZ.com](http://www.TreeAZ.com).





## Category Z: Low quality trees not worthy of being a constraint

Z	<b>Unsuitable species or of small dimensions:</b> Trees that are unsuitable for protection due to size, proximity and species	
	1	<b>Size: Young or small trees, hedges.</b> Trees <u>of low amenity and environmental value</u> e.g. trees of no ecological importance that could be effectively mitigated.
	2	<b>Proximity, species:</b> Proximity to structures, or unsuitable species, e.g. scheduled noxious weed, out of character in a setting of acknowledged importance, etc.
	<b>Deteriorating health/condition:</b> Trees that are likely to be removed within 10 years because of deteriorating health and/or structural condition	
	3	<b>Health:</b> Deteriorating health with little realistic prospect of recovery
	4	<b>Crown instability:</b> Deteriorating structural conditions where an increasing risk of failure can be temporarily addressed by reasonable intervention, e.g. storm damage, cavities, decay, included bark, wounds, excessive imbalance, etc
	5	<b>Root instability:</b> Deteriorating whole tree stability through poor anchorage, increased exposure to weather, etc
	<b>Ongoing nuisance:</b> Trees that are likely to be removed within 10 years because of unacceptable impact on people	
	6	<b>Inconvenience:</b> Ongoing and increasing inconvenience to residents to the extent that a locally recognised court or tribunal would be likely to authorise removal, e.g. dominance, debris, interference, etc
	7	<b>Damage:</b> Ongoing and increasing structural damage to property to the extent that a locally recognised court or tribunal would be likely to authorise removal, e.g. worsening damage to surfacing and structures, etc
	<b>Good management:</b> Trees that are likely to be removed within 10 years through responsible management of the tree population	
	8	<b>No future potential:</b> Poor condition or location with no realistic potential for recovery or improvement, e.g. dominated by adjacent trees or buildings, poor architectural framework, etc
	9	<b>Benefit nearby trees:</b> Removal would benefit better adjacent trees, e.g. relieve physical interference, suppression, etc
	10	<b>Maintenance costs:</b> Unacceptably high maintenance costs, e.g. structural conditions requiring high levels of regular pruning, etc

NOTE: Although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate.



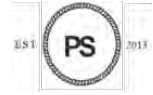
## Categories A and AA: Moderate and high-quality trees suitable for retention for more than 10 years, and worthy of being a constraint

<b>A</b>	All trees that are not categories ZZ or Z that can be retained with limited intervention.
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NOTE: Category A trees that are already large, or have the potential to become so, with limited intervention, can be promoted to category AA(1), at the discretion of the assessor. Designated heritage trees are automatically category AA(2). Although all category AA and A trees are sufficiently important to be material constraints, category AA trees are at the top of the categorisation hierarchy and should be given the most weight in any selection process.

<b>AA</b>	<b>1</b>	Single category A trees or small groups which, at the discretion of the assessor, have been promoted to category AA because they are already large, or have the potential to become large, with limited intervention
	<b>2</b>	Designated heritage tree

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### Tree Protection Measures

**For:** Soldiers Memorial Park Water Treatment Plant upgrade works

This guidance sets out the tree protection measures specific for the works based on the details contained with the following assessment:

- Paper Street Tree Company Arboricultural Assessment for Water Treatment Plant at Soldiers Memorial Park, Greytown. Dated 20.1.2021.

The following tree protection measures are to be read in conjunction with the Tree Protection Plan attached as Appendix 3 of the above assessment:

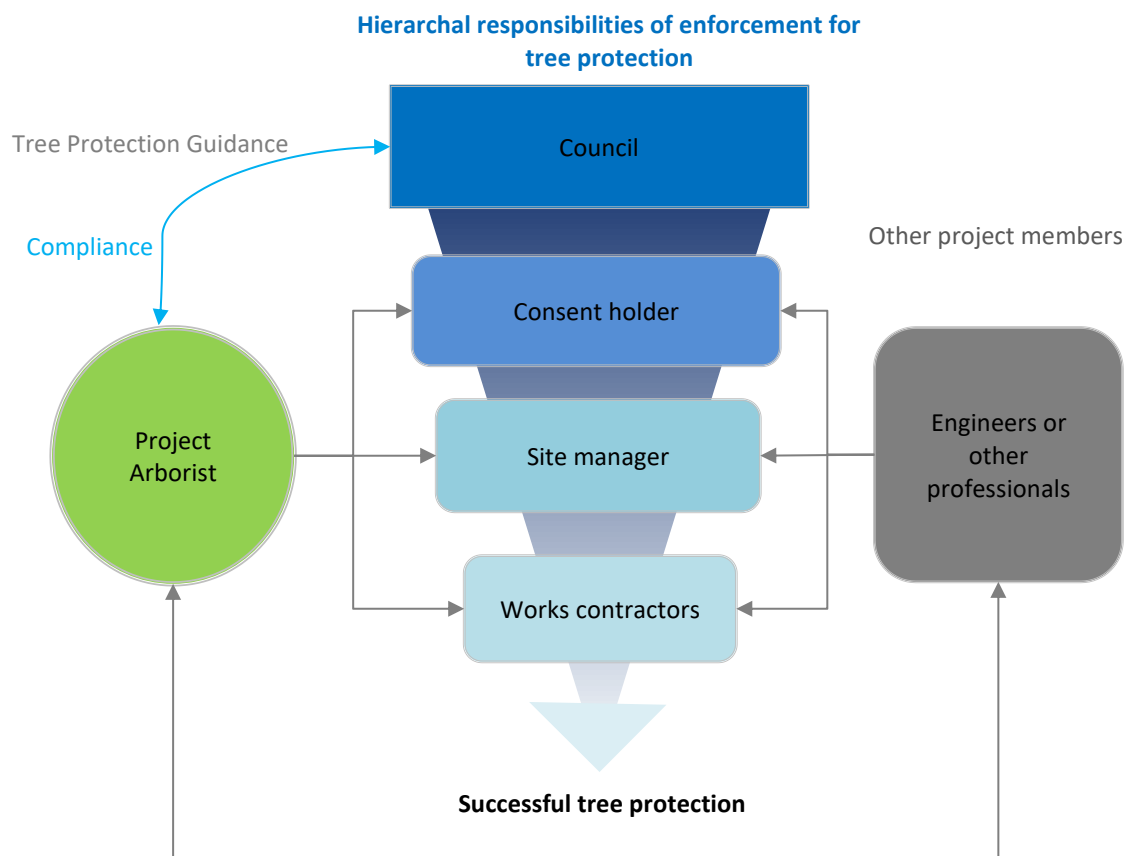
These measures contain the following tree protection details:

- 1 Effective implementation of tree protection measures
- 2 Pre- works requirements
- 3 Working in the vicinity of trees
- 4 Site access and temporary storage areas
- 5 Excavation and dealing with roots
- 6 Installation of new services
- 7 Arboricultural compliance

Additional imagery is provided as examples of background information and additional details to help implement and understand the protection measures. These are highlighted by blue boxes.

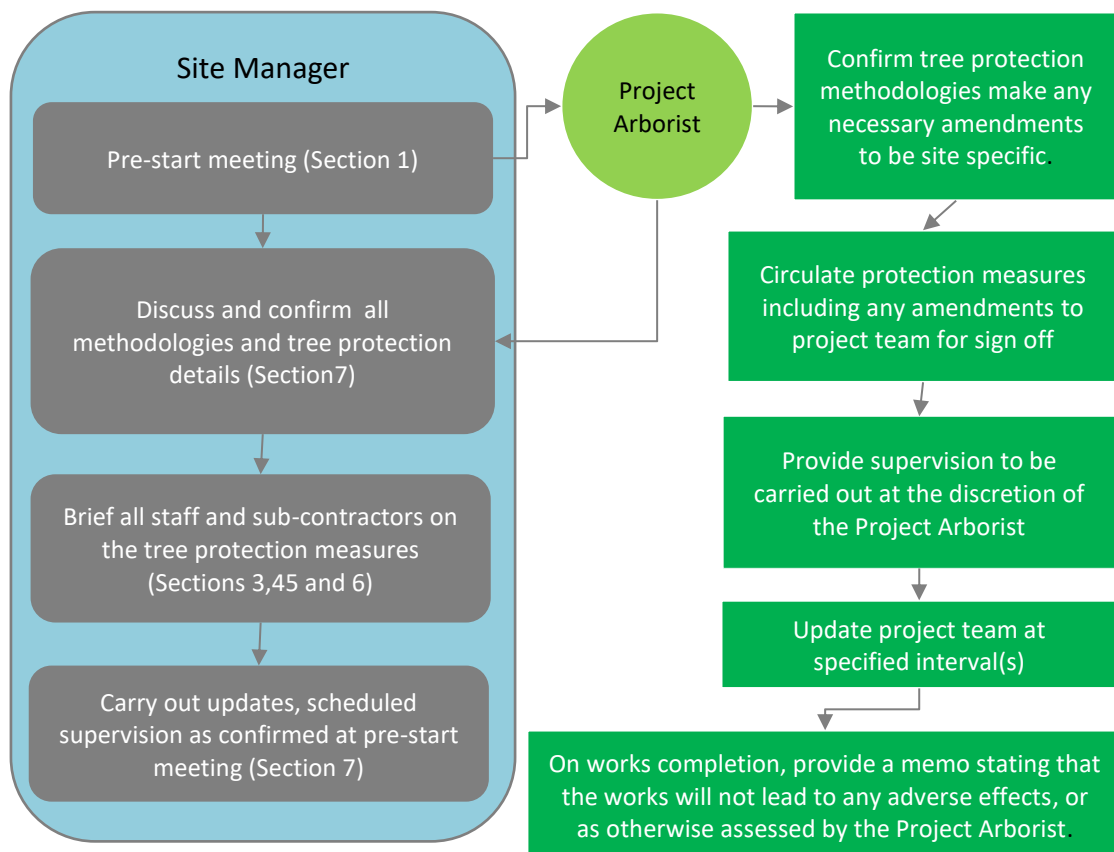
### 1 *Effective Implementation of tree protection measures*

Project members with responsibilities to coordinate, manage or monitor development activities play an important role in ensuring the tree protection details can be successfully implemented. Establishing clear roles and communication between affected parties is vital to ensure the appropriate tree protection detail is put in place at the right juncture.



### 1.1 Site management process

The following processes are set out for the Site Manager and the Project Arborist to follow. It highlights at what stage the appropriate tree protection detail should be implemented:



## 2 Pre-start meeting

The following tree protection measures must be discussed with the relevant project members prior works starting. The meeting aims to discuss any post consent details (e.g. build programme and construction methodologies) to ensure the tree protection measures are easily understood and site-specific. Attendees at the meeting should be:

- The Site Manager
- Consent holder / Project Manager
- The Project Arborist
- Council Representative (the Council Representative should be given seven working days notice of the meeting so that they can attend the meeting if they wish).



At the meeting, the following details are to be discussed:

- Confirmation of the construction methodologies when working within the vicinity of trees.
- The tree protection measures listed (Project Arborist to refer Section 7.3 a) for pre-start meeting checklist).
- The supervision requirements.

### 2.1. Confirmation of the tree protection details

Once the construction methodologies are confirmed, and the tree protection details are finalised, as per Section 7, a copy of the meeting including any amendments, is to be circulated to affected parties. Sign off from Council Representative will be required to approve any protection detail amendment.

### 3. *Working in the vicinity of trees*

The following information is to inform why careful consideration to a tree's rooting environment is needed, before scheduling, and carrying out works in the vicinity of retained trees. Failure to apply appropriate consideration to a tree's rooting environment is likely to lead to adverse effects. Extra care is needed when dealing with mature trees as they are less able to adapt to an altered environment than younger specimens. Damage often occurs due to a few misconceptions of the requirements, and characteristics, of a tree's root system. Root growth is highly unpredictable, and the tolerance of species and site conditions widely varies, but damage can often be prevented by understanding a few simple facts, such as:

- a) The root system's main structural part (referred to as the root plate/root crown; a dense area of interwoven roots that provide the tree most of its anchorage, typically spreads only for a short distance from a tree's base (dependent on species and its maturity). Severance of these roots within this area is likely to create a wind-throw hazard). The interwoven root material beyond the root plate rapidly divides to form a network of small woody roots. Attached to these woody roots are small fibrous roots which are very slender.

Image 1



- b) The slender roots are responsible for nutrient and water uptake, which is essential for plant health, and are especially vulnerable to damage. Roots need air to function and can be killed by changes to the aeration content of the soil, e.g. compaction by site machinery, level changes etc. If significant damage occurs, the water and nutrient uptake is restricted until new roots have grown. Mature trees recover slowly, if at all, from root damage.

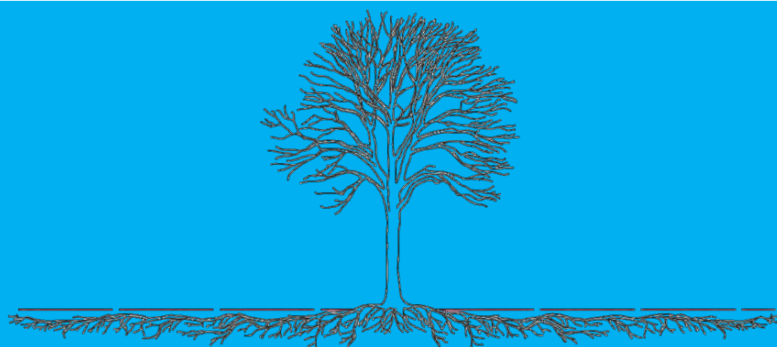
Roots in compacted soil (left) and non-compacted soil (right). Roots on the left were not able to penetrate the compacted layer, so growth was highly restricted



Image 2

- c) As tree roots need oxygen to function, most of the tree's root system can be found near the surface, usually within the top 600mm of soil, although roots will penetrate to deeper levels dependent on soil conditions and in respect to the genetic characteristics of the species.

*Image 3*



An indicative representation of root depth and spread.

- d) Root systems are often highly asymmetrical, as root development is influenced by available water, nutrients, oxygen, loads and soil penetrability. Major asymmetry is expected where in-ground structures, such as roads or buildings, steep slopes are present.
- e) Significant root loss, or damage to a tree's rooting area, reduces the tree's ability to uptake nutrients, which can lead to reductions in shoot growth and canopy dieback. This, in turn, reduces the tree's capacity to resist pathogens or recover from other injuries. Each additional stress further depletes the tree's energy reserves. The effects from significant severance/damage to a tree's rooting area may not be fully apparent until five or more years after the event, where a tree can either reach a state of significant decline or become dead standing due to the cumulative effect of the root loss.



2015 initial ground modifications (compaction). Yellowing of canopy evident.



2017 development complete, Decline in canopy loss of vitality and vigour.



2018 irreversible decline tree dead standing due to the cumulative effect of root disruption/compaction. Tree now poses an unacceptable risk and loss of all tree benefits

*Image 4*



### 3.1 Tree's root zone area

The canopy width (dripline) is often a poor indicator of a tree's root spread. A typical root system can spread, between 1.5 – 3 times the spread of a tree's dripline (even more for trees with upright forms). Roots provide a vital life function for trees. As seen above, damage or death of a tree's root system affects tree health, growth, life expectancy, and the safety of the tree. As the root system is not visible, it is often overlooked, and damage can easily be covered up. Therefore, if trees are to be successfully retained, any disruption to the soil outside of a tree's dripline must be planned and strictly managed during the works. The extent of a tree's root zone area, and when tree protection measures are to be implemented, shall be confirmed at the pre-works meeting to ensure the appropriate level of tree protection is installed.

*Image 5*



Dripline versus actual root spread example. The blue dashed line shows dripline. A root measuring 22cm in diameter was unearthed 9m outside of the tree's dripline, just 10cm below the surface. The root extended a further 12m from the dripline (total distance of 38m from the tree's trunk).

### 3.2 Considerations when working within tree root zone areas

As previously outlined; damage or degradation to the soil through compaction, excavation within a tree's root zone area, can cause serious harm to affected trees. These protective measures specifically provide guidance to the works contractor, clearly outlining the restrictions and procedures to be followed during the works. Essentially these protective measures are to help the site manager/works contractor understand his/her obligation in protecting retained trees. The works contractor must ensure all personnel working within root zone areas, who have the potential to adversely affect protected trees, are briefed and understand their responsibilities when working within the vicinity of affected trees.

#### 4. ***Site access, temporary storage areas***

Constraints on machinery and vehicle operations close to adjacent trunks, limbs and overhead branches and storage are to be confirmed at the pre-start meeting, in particular:

- a) Implementing a designated spotter to ensure sufficient clearances can be maintained during operating under/beside trees to avoid damage.
- b) Site storage – spoil, materials, and equipment (long or short term). Spoil is not to be mounded clear of rooting areas.
- c) Any goods or nontoxic materials that are to be stored within site, are to be stored clear of tree root zone areas, so that trees, or any unmade ground in proximity to trees, are not damaged by accidental spill/contamination of soil during the works.

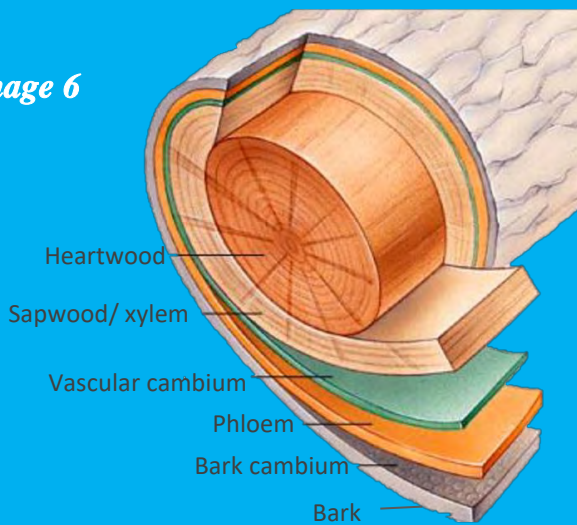
#### 5. ***Excavation and dealing with roots***

The precise location and depth of roots (from adjacent trees) within the soil is unpredictable and will only be determined once careful excavation starts on site. If unmanaged, construction and earthworks activities have the potential to affect the rooting environment of trees. Adverse impacts can be reduced/avoided by taking the appropriate care when working within a tree's rooting environment. Areas where excavation is unavoidable within proximity of retained trees, the following guidance is to be followed:

- a) Excavations are to be carried out by hand tools taking care not to damage or debark the wood of any roots. Where digging is deemed impractical, a small machine can be used in conjunction with a designated spotter under arboricultural supervision working to the following guidance.
- b) All soil removal must be undertaken with care to minimise disturbance to roots beyond the immediate area of excavation. Where possible, flexible clumps of smaller roots, including fibrous roots, should be retained if they can be displaced temporarily, or permanently beyond the excavation without damage.
- c) Exposed roots under 3cm in diameter that require removal are to be cut cleanly with a sharp saw or secateurs 10–20cm behind the final face of the excavation and recovered with soil where practical. In circumstances where roots cannot be recovered with soil, exposed roots are to be protected from direct sunlight, drying out and extremes of temperature by an appropriate covering. Roots greater than 3cm in diameter should be retained where possible.
- d) Removal of any root above 3cm in diameter can only be cut in exceptional circumstances, after consultation with the Project Arborist.



**Image 6**



The image on the left shows the basic anatomy of a woody part of a tree. The wood's outer layers below the bark contain the essential cells for growth and the transportation of water and nutrients. Once the outer bark is damaged the inner parts of the tree are exposed to air these conduits for water and nutrients become dysfunctional, however, if parts of the bark remain intact this allows the root to be still functional. The image on the right show roots exposed by hydro excavation. The powerful water jet has debarked all the roots, and therefore all water and nutrient conducting parts of the root are now 100% dysfunctional (dead)



The image on the left shows a root fractured historically torn by a digger. Note no shoots on the debarked area and decay column forming. The image on the right show roots, which were severed cleanly (yellow line) and new shoot growth.

### 6. ***Construction works***

The precise location and depth of roots within the soil is unpredictable and will only be determined once careful excavation starts on site. If unmanaged, construction and earthworks activities have the potential to affect the rooting environment of trees adversely. Adverse impacts can be reduced/avoided by taking the appropriate care when working within a tree's rooting environment. All excavations are to be carried out, as described in Section 5.

#### 6.1 Installing services and constructing plant treatment foundation

- a) All works to be carried out with care as described in Section 5 under arboricultural supervision. Excavations are to be a combination of machine and hand digging to unearth root material. All works are to be supervised.
- b) If however, root volumes become high where the Project Arborist deems that they are of a size and quantity that warrant retention the remaining works are to be excavated using alternative methods (e.g. hydro).

***Image 7***



Example of an open trench excavation within a modified ground medium adjacent to mature trees for service installation. Combination of machine and hand digging successfully retaining roots that warranted retention.

#### 6.2 Installing the chemical bund

The extent and the nature of the works involved with installing the chemical bund are to be discussed at the pre-start meeting, and whether any tree protection details are to be implemented.



### 7. *Arboricultural compliance*

#### 7.1 Supervision

Once works start, the Project Arborist is to visit the site at the confirmed stages or as otherwise, outlined in Section 7.3. The supervision arrangement must be sufficiently flexible to allow for supervision of sensitive works to occur, (i.e. the Project Arborist is given plenty of notice before sensitive works being carried out).

#### 7.2 Site management

All relevant copies of the specific tree protection details are to be held onsite at all times. The Site Manager must brief any staff who has the potential to affect any protected trees and to ensure they understand the tree protection details. The tree protection details of this assessment must be included as part of any site induction process so that all staff onsite and contractors introduced into site are aware of, and understand, their obligations to the tree protection requirements.

#### 7.3 Arboricultural Compliance CHECKLIST

The following subsections act as a checklist to ensure the protection detail's key points are understood and actioned. As the build programme and construction methodologies are not confirmed until site works take effect. The following compliance measures are put in place to ensure the protective measures are successful and site-specific. In particular

- **Arboricultural pre-start checklist**  
To ensure tree protection measures are specific to the works and can be effectively carried out.
- **Confirmation and agreement to the tree protection measures**  
To ensure all affected parties understand and agree to the finalised tree protection measures.
- **Ongoing compliance/scheduled updates**  
To ensure good communication is established throughout the project to ensure the appropriate tree protection measures are implemented at the right time.
- **Works completion memo**  
Once works are complete provides a summary of compliance.



a) Arboricultural pre-start checklist

The arboricultural pre-start checklist can be carried out as many times as deemed necessary by the Project Arborist, i.e. if site personnel change, or to brief a new Site Manager or Contractor.

Protection detail	Items discussed (tick appropriate box)		Any amendment/ confirmation necessary	
	Before works	On-site	No	Yes
1. Pre works meeting			N/a	N/a
2. Working in the vicinity to trees			N/a	N/a
4. Site access, temporary storage areas				
5. Excavation and dealing with roots			N/a	N/a
6. Service installation				
7. Arboricultural compliance			N/a	N/a

Amended tree protection measures/ confirmation to the tree protection measures circulated to project members

Date:

Supervision to be scheduled for the following work activities:




### b) Confirmation and agreement to the tree protection measures

Site Manager confirms he/she understands and agrees to the tree protection details discussed, and to any amendments made:

**Site Manager:**

Or as agreed via email correspondence (tick box)

☐

Date:

**Signed by Contractors Rep  
(where applicable):**

Or as agreed via email correspondence (tick box)

☐

Date:

**Sent to Council's Representative for any comment/input  
to the confirmed tree protection measures.**

Date:

**Confirmation received from Council's Rep**

Date:

### c) Ongoing compliance/scheduled updates

Maintaining consistent communication is a crucial component of any tree protection detail being successful. To ensure the appropriate guidance is given, at the necessary stage, scheduled updates are to take place at the following intervals:

The Project Arborist is to maintain this supervision log for the duration on the works. The arborist is to provide updates to project members and the Council, at monthly periods, unless otherwise requested by the Council.

### d) Works completion memo

Unless otherwise confirmed by the Council Representative, a works completion memo will be sent once all works have been completed. The memo is to contain the completed log sheet and a summary of the supervision works. The memo shall also confirm that in the Project Arborist's opinion, any adverse effects on the retained trees are no greater than minor, or as otherwise assessed by the Project Arborist.



## Appendix 3 Paper Street (PS) Plans

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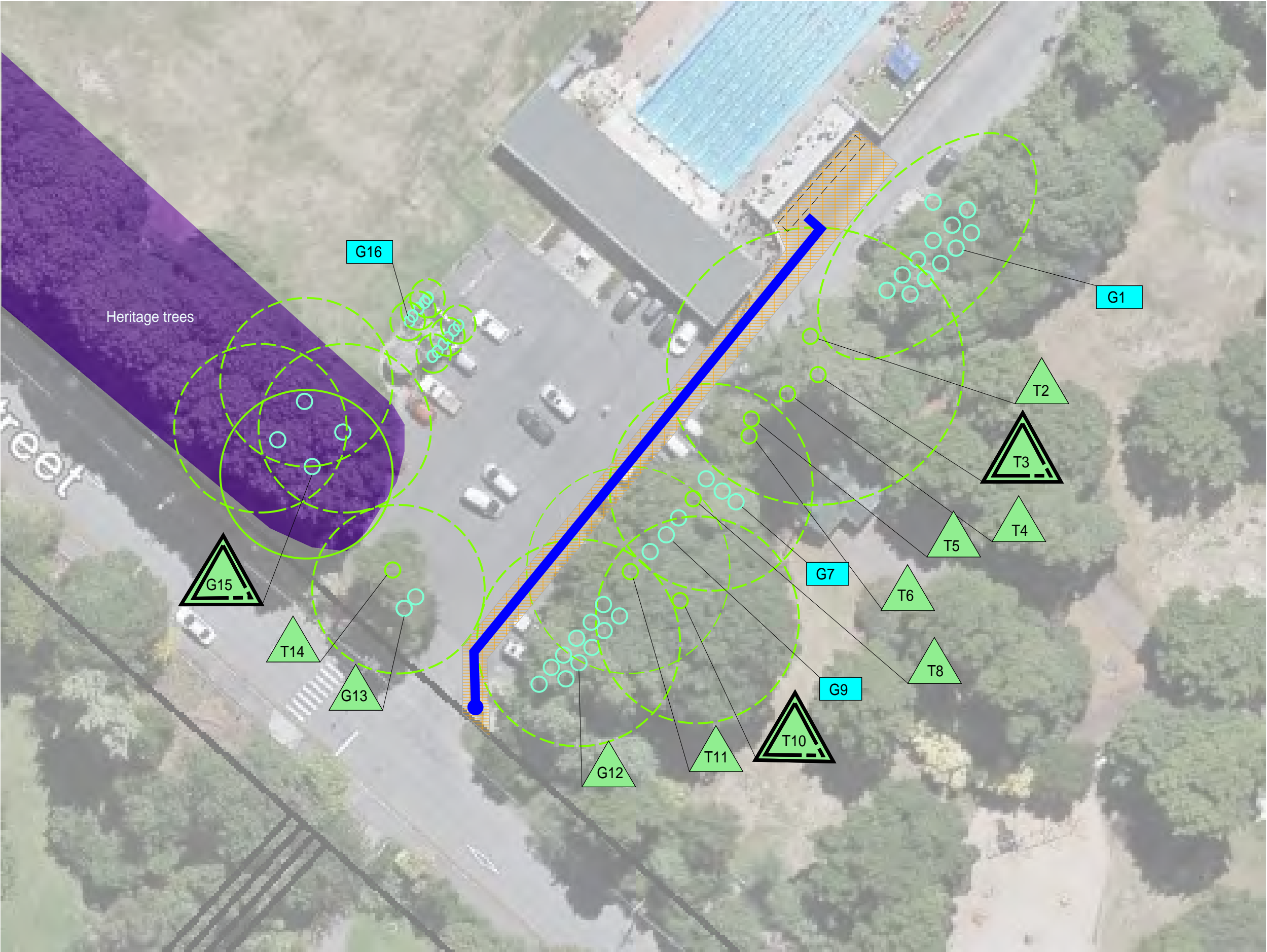
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### *Contents*

- PS plan 1 Tree Protection Plan. Soldiers Memorial Park Water Treatment Plant

Tree Protection Plan  
Memorial Park Water Treatment Plant



Key

T/G1 Tree reference number

Location of Group (G) stems

Location of Tree (T) stem

Extent of dripline measured from the widest canopy width, or half the tree's height whichever is greatest. Tree's with the widest dripline are shown, all other driplines would fall within the wider circles.

ZZ trees

Z trees

A trees

AA trees

Arboricultural supervision required for any work within these areas

Indicative alignment of open trench

Indicative location of new treatment plant

\*Note Dripline is a very poor representation of root spread, and in most cases is highly ineffective, and therefore to ensures trees are not adversely affected root protection must be site specific and carried out underthe direction of a competent Project Arborist

Date drawn : 26.1. 21

PS Plan Ref: P1MPWTP2

# Appendix B – Heritage Report

# **Greytown Soldiers Memorial Park**

## **Water Treatment Plant: Heritage Technical Report**

### **1.0 Proposal**

The South Wairarapa District Council and Wellington Water are proposing improvements to the water treatment plant located within the boundaries of the Soldiers' Memorial Park, Kuratawhiti Street, Greytown. The work is intended to be undertaken in three stages, as outlined in the principal AEE.

The work still to be completed is as follows:

- Replacement of the bore pump in the existing borehole;
- New Run to Waste (RTW) pipe and overflow chamber that discharges into the Moroa water race;
- Clearing of excess sediment in an existing stormwater culvert and the immediate area of the Moroa water race; and
- Installation of a new building to house new process equipment and chemical systems.

The major new structure will be in the form of a shipping container although the precise appearance of it is not yet known.

The work will include excavations for foundations and trenches, modifications to the driveway, the formation of bunding around the new building, installation of an outlet channel from the overflow chamber to the water race and installation of new pipework.

The on-site work is expected to take up to six weeks and will begin after 14 March 2020.

### **2.0 Commission details**

This assessment of effects was commissioned by Louise Allwood, Technical Lead – Planning, GHD and prepared by Michael Kelly, heritage consultant.

A site inspection was undertaken on 22 December 2020.

### **3.0 Brief history of the place**

Greytown was established through the formation of the Small Farms Settlement Association, formed in 1853 to give opportunities to settlers to farm in the Wairarapa. The proposition required land to be bought from the tangata whenua, Rangitane, and on-sold to settlers, who would purchase one town acre and 40 acres of farmland. Greytown, named for Governor George Grey, was a planned settlement and New Zealand's first inland town.

One early settler was Hugh O'Connor who moved from Wellington in the mid-1850s to take up land. He was awarded a Crown Grant for section 4 in 1858. He left a block of native bush on his land that he chose not to cut down. It was left untouched after his death in 1891. In 1919, his son Daniel O'Connor made arrangements to sell the block to a sawmiller. At the time, towns and cities all over New Zealand were in the process of finding ways to commemorate the shocking loss of life in the war and Greytown was no exception. Local solicitor J.F. Thompson suggested that the Greytown Borough Council buy the O'Connor block as a World War I memorial. The concept was adopted with enthusiasm by Greytown's citizens. A deposit of £500 was swiftly raised and the balance (£3,200) was collected over the next year by local committees.

In 1922 Greytown's citizens donated again to establish an avenue of remembrance of 117 lime trees at the memorial park to mark each of the men from the borough who were killed in the war. Timber plaques naming each soldier were placed by each tree, but these have long since disappeared.

The park was laid out by landscape architect Alfred Buxton of Christchurch. A regular visitor to the Wairarapa, who advertised his upcoming visits in newspapers, Buxton was responsible for the designs of private gardens and formal public spaces, such as Carterton's Memorial Square. Buxton designed at least three other post-World War I memorial spaces in the Wairarapa. It is assumed that the memorial gates to the park, unveiled on Anzac Day 1923, were designed by Buxton. (They are very similar to Buxton's design for Martinborough's Memorial Square gates.)<sup>1</sup> He incorporated a sports ground, walking tracks and a tea kiosk in his design, with the latter funded by additional fundraising by the women of Greytown.

Later, a swimming pool was opened within the park in 1957 as a memorial to the fallen of World War II. It replaced an earlier swimming pool that was damaged in the 1942 Wairarapa earthquake. A camping ground and children's playground were also established in the grounds.

## **4.0 Description of the site**

The location of the proposed works is at a juncture between the recreational open space at the western end of the park and the area occupied by the children's play area and Greytown Campground. The principal features of the area are the Greytown Pool (built in 1957 as a memorial to the fallen of World War II), the sealed car park, the current water treatment structures and the pavilion of the Greytown Cricket Club (1992). This precinct forms the most substantial area of hard surfaces and built structures in the park.

The park itself is roughly divided into segments, which encompass, from north-west to south-east:

- the sports ground

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<sup>1</sup> See <https://masterton.spydus.co.nz/cgi-bin/spydus.exe/ENQ/WPAC/ARCENQ/51726234?RNI=5478522&SETLVL=> [retrieved 1 January 2021]



- pool, water treatment facilities and cricket pavilion
- Greytown Campground / children's play area
- Remnant forest (with campground tennis courts on north-east boundary)

The formal entrance to the park, with its commemorative gates containing the names of the World War I fallen, is about 130 metres south-east of the entrance to the pool. In all, there are three entrances to the park.



Greytown Soldiers Memorial Park demarcated into broad zones – the recreational ground, pavilion, pool and water treatment facilities, camping ground. The three entrances are also marked. (South Wairarapa District Council)

## 5.0 Heritage values

### Significance of the park

The Soldiers' Memorial Park in Greytown is a notable historic place. The decision to purchase this rare portion of native forest in 1920 to commemorate the fallen of World War I was in

some ways a remarkable one. In funding this purchase, Greytown's citizens eschewed the typical form of commemoration (a built memorial or statue) in favour of preserving a stand of trees.

The establishment of the park continued a strong local interest in ecology, which began with Greytown being the first town in New Zealand to celebrate Arbor Day, in 1890. Further to this was the decision to plant 117 lime trees in honour of the fallen in 1923. This avenue of trees is today a prominent feature of the south-west side of the playing area.

The entire park therefore encompasses a variety of heritage, both botanical and built. It is a focus of community pride for what it commemorates and for the survival of the remnant forest.

### **Notable heritage features**

The size of the area and large number of trees mean that not all of these features are visible from each other or from particular vantage points.

#### *O'Connor's Bush*

This extant portion of native forest is named for Hugh O'Connor who purchased the land in the 1850s. It contains various species (totara, matai, titoki and tawa) some of which are up to 600 years old. The cultural importance of this lowland forest lies with the decision to protect it for its ecological values to commemorate the district's World War I dead. It was destined to be cut otherwise.

#### *Main entrance gates (1923)*

The gates are located about halfway along the south-west boundary of the park on Kuratawhiti Street. They are composed of six rubble stone piers bound with cement mortar with wrought iron gates – two pedestrian and one vehicular. A lower rubble wall joins the outer two piers on both sides of the entrance, with the whole forming a symmetrical composition. Within the two main piers are fixed granite plaques containing the names of the men from the district who died in World War I.

#### *Secondary gates (date unknown)*

The second set of gates, located near the east end of the south-western boundary, are decidedly more modest in appearance, being about half the height of the main gates and finished in a mock stucco. The gates are also wrought iron.

#### *Commemorative lime trees*

These trees, 117 in all, were planted in 1923 to honour each of the men from the district who died in World War I. They were once marked by timber plaques, which have long disappeared.

#### *Greytown Swimming Baths (1957)*

Built to replace the original baths, which were damaged in the 1942 earthquake, the new baths were not opened until 1957. This was also a memorial – to the fallen of World War II.

### *Tea kiosk / Camping ground kitchen*

A tea kiosk was constructed in 1923 as part of the provision of facilities within the park. The funding for this was provided via additional fundraising by the women of Greytown. This kiosk is now the camping ground kitchen.

The entire park is a planned landscape, laid out by Alfred Buxton of Christchurch, who was arguably the most important landscape architect of his time. Although the park has been much altered and enhanced over its history, its arrangement and embellishments still bear the hallmarks of Buxton's work.

## **6.0 Assessment of effects of proposed works on heritage values**

### **Options**

There are three options presently on the table:

Preferred option: This would see the new water treatment plant and bulk chemical storage placed on the south-east side of the pool – in an existing recess in the pool enclosure, but outside the fence. [Note: Judging from its appearance, this recess was occupied by a previous structure or facility.]

Not preferred option 1: The new water treatment plant and bulk chemical storage would be placed on the edge of the playing area immediately to the north of the existing pumping and treatment facilities.

Not preferred option 2: The new water treatment plant and bulk chemical storage would be placed on the edge of the playing area immediately to the north of the swimming pool entrance and changing facilities.

It is agreed that of the above three options, the preferred option is the best from a heritage perspective. This is outlined in more detail below.

### **Assessment**

The Greytown Soldier's Memorial Park has obvious heritage significance, particularly for the town and people of Greytown. So, the provision of any new structure into this landscape requires some care. The existing water treatment structures located on the edge of the car park and abutting the park demonstrate the challenges that are posed. One older structure has been screened with small cypress trees. The other sits unscreened, while a container recently located on the site and fenced off is a particularly discordant element in the landscape.





The present collection of water treatment facilities, with cypress tree screening.



The recess in the fence on the south-east side of the pool.

For those reasons, the construction of more buildings on the park edge would not be welcome. If anything, the boundary between the pool / car park and the playing field requires better definition and demarcation, not new buildings.

As per the plan of the preferred option, the siting of the new structures in the recess in the fence on the east side of the swimming pool appeals for several reasons. There is an ideally sized space, the structures would be somewhat out of general view (the bush on the edge of the camping ground is just seven metres to the east on the other side of the driveway) and – it is assumed – the driveway would not need to be realigned to accommodate the structures.

From a heritage perspective, the location has the following benefits:

- It would not detract from any heritage structure, including the adjoining structure – the memorial pool.

Comment: The pool is not a listed heritage item in its own right, although it does have heritage value for its commemorative role. With the possible exception of the entrance building there is little architectural or aesthetic value in the pool's built structures.

- For the same reason, it would be sufficiently removed from the commemorative lime trees.
- The archaeological report by Andy Dodd indicates that there are no issues with potential archaeology in this location or any other in the vicinity.
- The new location will mean the removal of the container currently occupying a site alongside the car park.

Structures required to treat water are mostly utilitarian in nature and do not necessarily fit well in a park environment. The use of a shipping container in this location will not improve the general aesthetic of the area, but it won't significantly detract from it either.

## **Conclusion**

The proposal is acceptable on heritage grounds, with one caveat, which is outlined below.

## **Mitigation**

Although it might be possible to screen the new structures with a fence and gate, the lack of room will probably preclude this. The best mitigation is likely to be the use of a single, muted colour on the new structures and flanking fences. The present dark blue may suffice.

Michael Kelly  
12 January 2021



## Appendix C – Archaeological Report

03/12/2020

Chad Johnson  
GHD

cc: Louise Allwood (GHD)  
Rasmus Altenkamp (GHD)  
Steven Kelliher (GHD)

Via email: [chad.johnson@ghd.com](mailto:chad.johnson@ghd.com) ; [louise.allwood@ghd.com](mailto:louise.allwood@ghd.com) ; [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com) ;  
[steven.kelliher@ghd.com](mailto:steven.kelliher@ghd.com)

#### **ARCHAEOLOGICAL ENQUIRY – GREYTOWN SOLIDERS MEMORIAL PARK**

1. A high-level archaeological assessment has been requested for the installation of a new containerised water treatment plant to replace existing treatment facilities at Memorial Park in Greytown.<sup>1</sup>
2. Greytown was established adjacent to a clearing known to Māori as Kuratāwhiti. The area that would later become the site of Greytown was part of the 430,000-acre Tauherenikau Block 4 purchase which was transferred to the Crown on 19 September 1853. The people resident in the Wairarapa valley around Greytown at the time of the first Crown Purchases were principally Rangitāne, and the Ngāti Kahungunu hapū of Ngāti Rakaiwhakairi, Ngāti Kahukura-āwhitia and Ngāti Moe.<sup>2</sup>
3. The subdivision of Greytown commenced with the Small Farms Association scheme in 1853. The original layout included 120 one-acre town sections and forty-acre rural sections. What would later become Memorial Park was part of rural section 4. The Crown Grant for this section was awarded to Hugh O'Connor in 1858.
4. Nineteenth land transactions are recorded in the Deeds Indexes and Registers held by Archives NZ. Of note are mortgages taken out against the property in 1876 and 1888. Sometimes this can indicate that funds were being raised to develop the property, or alternatively may indicate that the owner was expanding their landholdings or in financial difficulties. Hugh O'Connor died in 1891 and the property appears to have passed to his son Daniel.
5. A brief online search has uncovered the following quoted from the Wairarapa WW100 - website<sup>3</sup>.

*When in 1919 Daniel O'Connor was about to sell a 20-acre block of native bush in Kuratāwhiti Street to a sawmiller, local solicitor J.F. Thompson suggested Greytown Borough Council buy it as a war memorial. A deposit of £500 was raised within 24 hours and the balance, at £80/acre, was collected over the next year by local committees.*

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<sup>1</sup> This assessment is specific to archaeological values, and while other heritage values are referred to for context, this advice should not be relied upon in relation to Maori cultural values, Built heritage values, or Heritage trees. If required it would be appropriate to obtain further advice from relevant specialists in those fields.

<sup>2</sup> Waitangi Tribunal, 2010, The Wairarapa ki Tararua Report WAI 863, Waitangi Tribunal, Wellington pp.4-6; 145

<sup>3</sup> <https://www.wairarapa100.co.nz/greytown-soldiers-memorial-park-memorial-park-gates/#more-424>

*In 1922 Greytown citizens donated £1 per fallen soldier to establish an avenue of remembrance of 117 lime trees at the memorial park. Wooden plaques by each tree, identifying the soldiers, have long since disappeared.*

*On Anzac Day 1923, memorial gates to the park, inscribed with 66 names, were unveiled by Greytown Mayor William Hutton. In attendance were Alexander McLeod, MP, Quentin Donald (Featherston County Council), John Card (Mayor of Featherston), Orlando Pragnell (Mayor of Masterton) and Brigadier-General Herbert Hart.*

*The park was developed as a sports ground and a World War Two memorial swimming pool was opened within the park in 1957.*

6. The District Plan, and Reserve Management Plan note the significance of the native bush (O'Connors Bush), and the memorial lime<sup>4</sup> trees (Ts017) which are both protected.
7. Archsite, the national database of the New Zealand Archaeological Association currently has no archaeological sites recorded in the immediate vicinity of Memorial Park, Greytown.
8. Protected archaeological sites are defined in New Zealand legislation as evidence of human activity that was deposited prior to 1900. Given the above, potential for unrecorded archaeological features might include archaeological deposits associated with the Māori use of the Kuratāwhiti clearing (typically midden/oven features), or evidence of farming activity associated with the period of O'Connor family ownership.
9. It would however appear from the available historical narrative that much of the Memorial Park was in forest at the time of Crown purchase and remained into the twentieth century when it was acquired as a reserve.
10. The potential for archaeological finds in the area proposed for the water treatment facility is low, and on this basis the adoption of an archaeological discovery protocol is probably appropriate.<sup>5</sup> A sample Discovery Protocol has been appended.

Andy Dodd  
Archaeologist – Subsurface Ltd

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<sup>4</sup> Also commonly known as linden or basswood, not a close relative of the citrus lime

<sup>5</sup> NB the use of archaeological discovery protocols for earthworks generally, while commonly used, is not appropriate in lieu of due diligence research, and assessment by a qualified archaeologist. It is recommended here because the risk of unanticipated archaeological finds is minimal, but not possible to discount entirely.

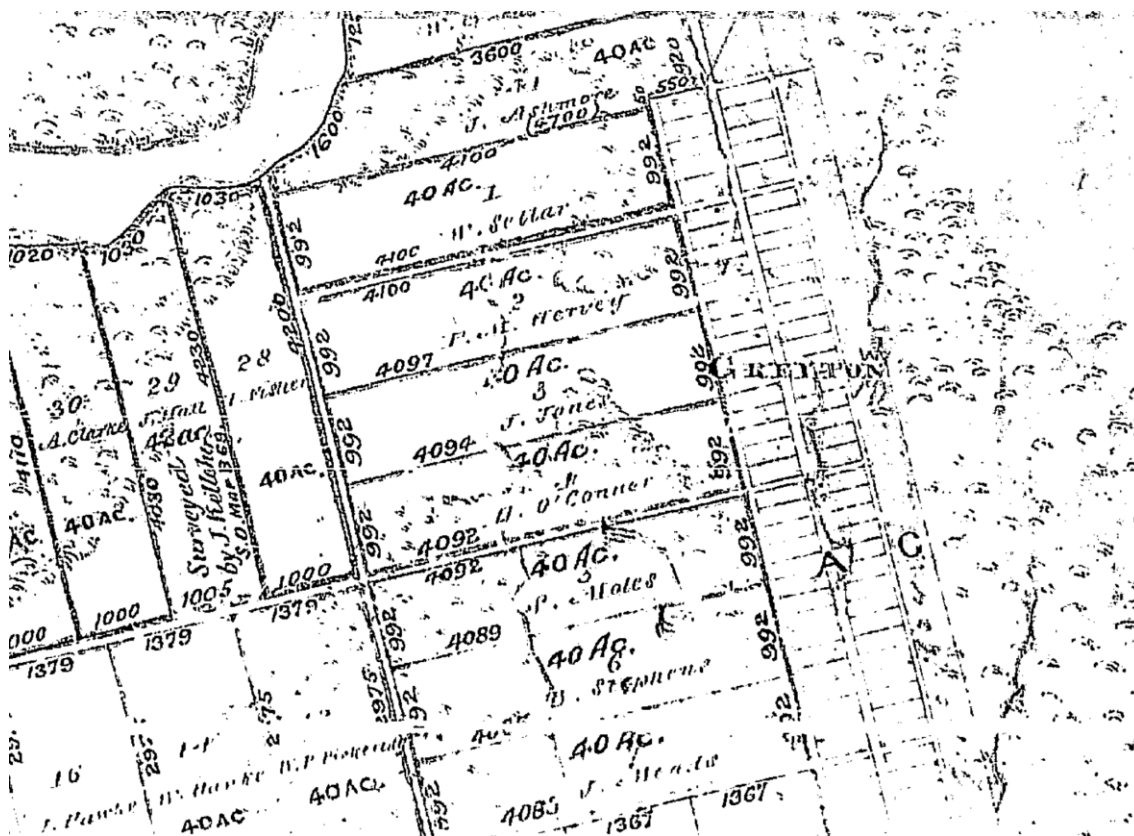


Figure 1: Detail of WN\_SO\_10551. Shows 40-acre sections around Greytown including Section 4

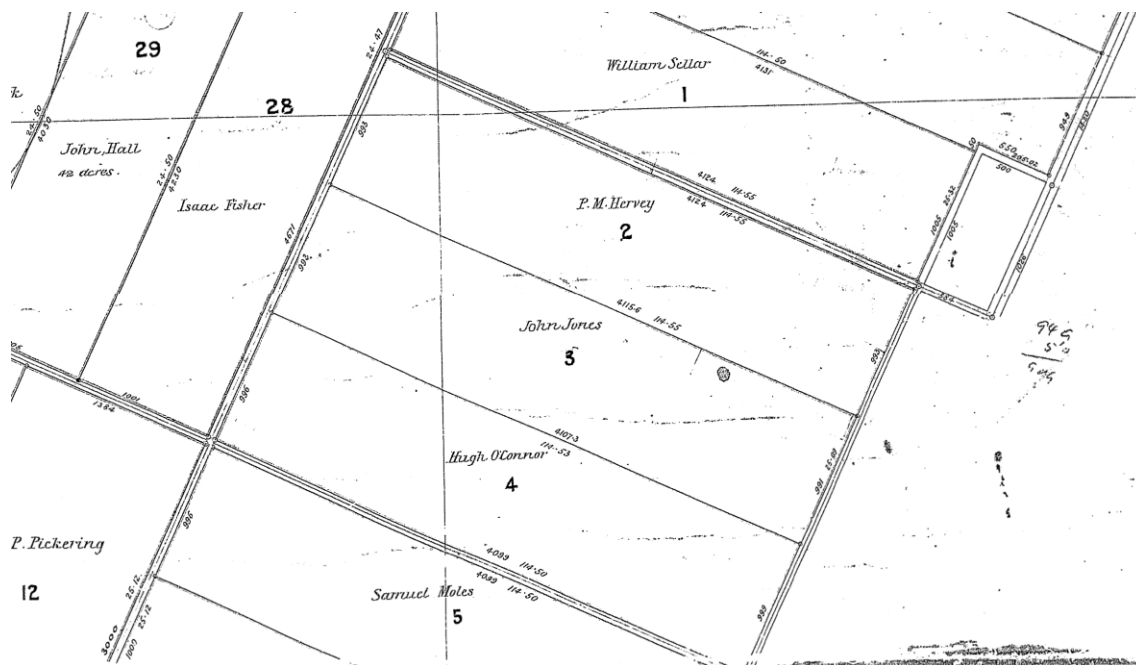


Figure 2: Detail of WN\_SO\_11276 (1877)

<div> <div>MAP <i>A. D.</i></div> <div>Grey Town</div> <div>DISTRICT, NO. 4</div> <div>134</div> </div>					
Receipt of Instrument.	Nature of Instrument.	Date of Instrument.	Where Recorded.	Reference.	Signature.
27 Dec 1877	Conveyance	27 Dec 1877	To the Grants to J.		<i>Ampt Comp</i>
24857	Mortgage	8 Aug 1876	41 Buffalo 336		<i>Warren</i>
24858	Mortgage	1 Nov 1888	90 D 619		<i>Chas. W. Hingham</i>
24859	Conveyance	20 March 1889	95 D 511		
24860	Probate	15 Sept 1891	14 D 422		
24861	Lease	1 March 1892	105 D 662		
24862	Conveyance	22 June 1892	105 D 26		
24863	Receipt	5 Feb 1894	110 D 554		<i>McIntosh &amp; Hard</i>
24864	Mortgage	19 March 1894	11 D 952		<i>McIntosh &amp; Hard</i>
24865	Receipt	26 June 1901	132 D 377		<i>Wick &amp; Wilson</i>
24866	Mortgage	27 June 1901	132 D 377		<i>Wick &amp; Wilson</i>
24867	Receipt	1 June 1901	152 D 44		<i>L. C. Mitchell</i>
24868	Mortgage	1 June 1901	152 D 45		
24869	Mortgage	21 Nov 1907	173 D 540		<i>E. Lyson</i>
24870	Mortgage	1910	189 D 214		<i>A. Monineff</i>
24871	Mortgage	25 June 1912	196 D 253		<i>G. H. Nicholls</i>
24872	Receipt	10 June 1914	208 D 84		
24873	Receipt	10 June 1914	208 D 84		
24874	Mortgage	1 June 1914	208 D 84		
24875	Conveyance	16 March 1921	240 D 27	30/136	
24876	Conveyance	16 March 1921	240 D 29	30/136	
24877	Conveyance	10 March 1921	240 D 40	30/137	
24878	Conveyance	10 March 1921	240 D 90	30/137	
<div> <div>5053</div> <div>Closed</div> </div>					
<div> <div>Cancelled as to land in Appl. No. 2053 and C.T. term. 286, folio 90 the</div> <div>10th day of March, 1922.</div> <div>1922</div> </div>					
<div> <div>104817 The O'Connor to The King.</div> <div>107457 The O'Connor to The King.</div> <div>113097 The King.</div> <div>113098 The King.</div> <div>113099 The O'Connor to The King.</div> <div>130678 The King to The O'Connor</div> <div>130679 The O'Connor to The King</div> <div>130680 The King to The O'Connor</div> <div>130681 The O'Connor to The King</div> <div>130682 The King to The O'Connor</div> </div>					
<div> <div>104817 The O'Connor to The King.</div> <div>107457 The O'Connor to The King.</div> <div>113097 The King.</div> <div>113098 The King.</div> <div>113099 The O'Connor to The King.</div> <div>130678 The King to The O'Connor</div> <div>130679 The O'Connor to The King</div> <div>130680 The King to The O'Connor</div> <div>130681 The O'Connor to The King</div> <div>130682 The King to The O'Connor</div> </div>					

Figure 3: Nineteenth century land transactions for Greytown Rural Sec 4 as recorded in Deeds Index



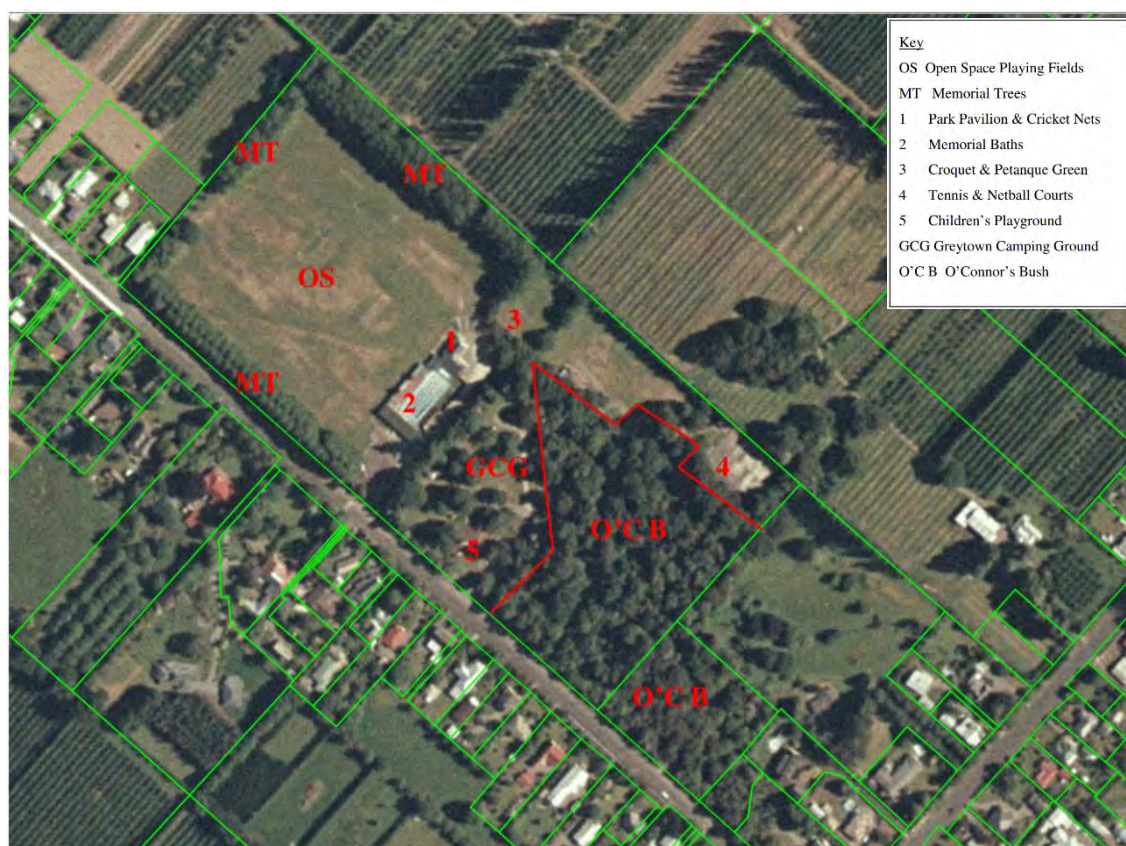


Figure 4: Excerpt from 2007 Soldiers Memorial Park Reserve Management Plan



Figure 5: Archsite map of northern Greytown (accessed 03.12.2020)



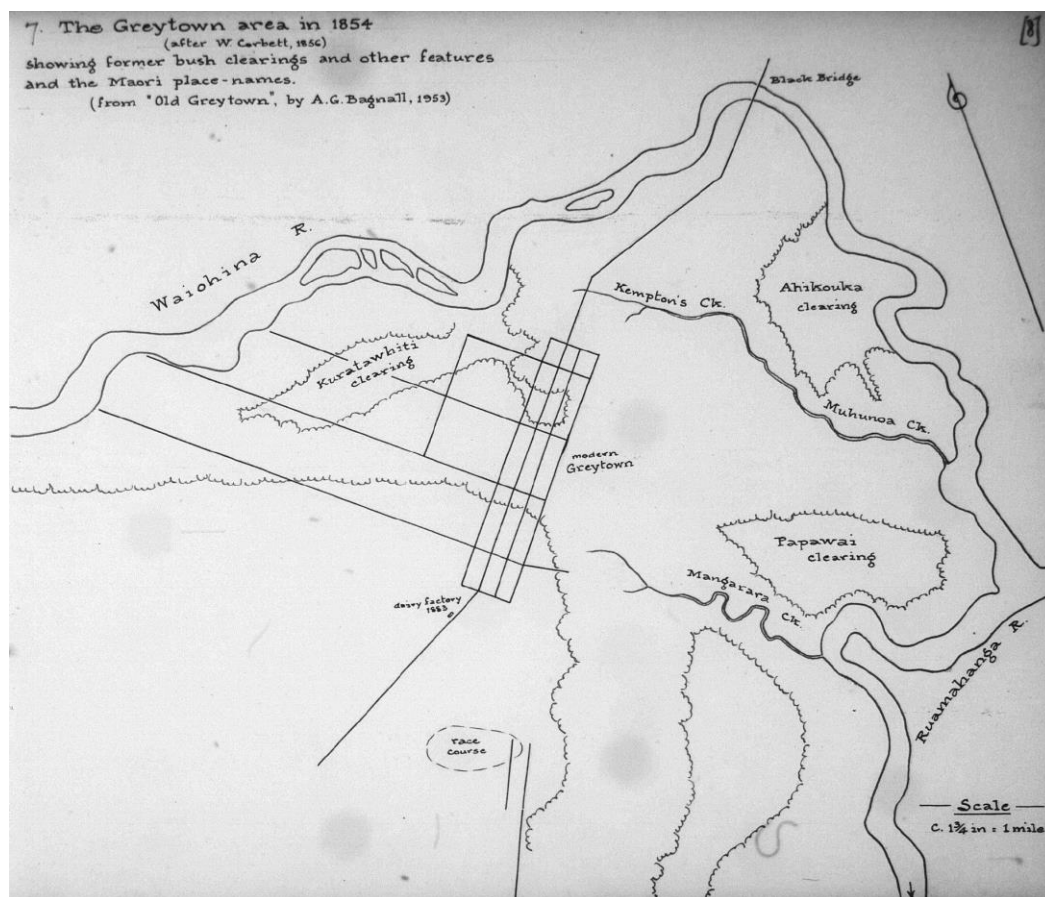


Figure 6: Leslie Adkin's field notebook indicates the position of the Kuratawhiti clearing in relation to grid layout for Greytown. The clearings also correspond approximately with the extent of the Waiohine alluvial soils



Figure 7: RP710 (1855) reproduced as SO 10542



*Figure 8: Memorial Park in 1941 (SN180\_248\_11) LINZ CC-BY3.0*

## Appendix D – Engagement Email



**From:** [Rasmus Altenkamp](#)  
**To:** [rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)  
**Cc:** [Louise Allwood](#); [Steven Kelliher](#)  
**Bcc:** [12520249](#)  
**Subject:** [rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)  
**Date:** Wednesday, 23 December 2020 11:16:00 AM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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Dear Rob,

As part of the South Wairarapa District Council's programme of investment to ensure all drinking water in the district meets national quality standards, Wellington Water is planning to carry out work at the water treatment plant in Soldiers Memorial Park, Greytown.

In accordance with the Soldiers Memorial Park Reserve Management Plan, and the Reserves Act 1977, prior to doing this work we're consulting with the local community, tangata whenua and other interest groups.

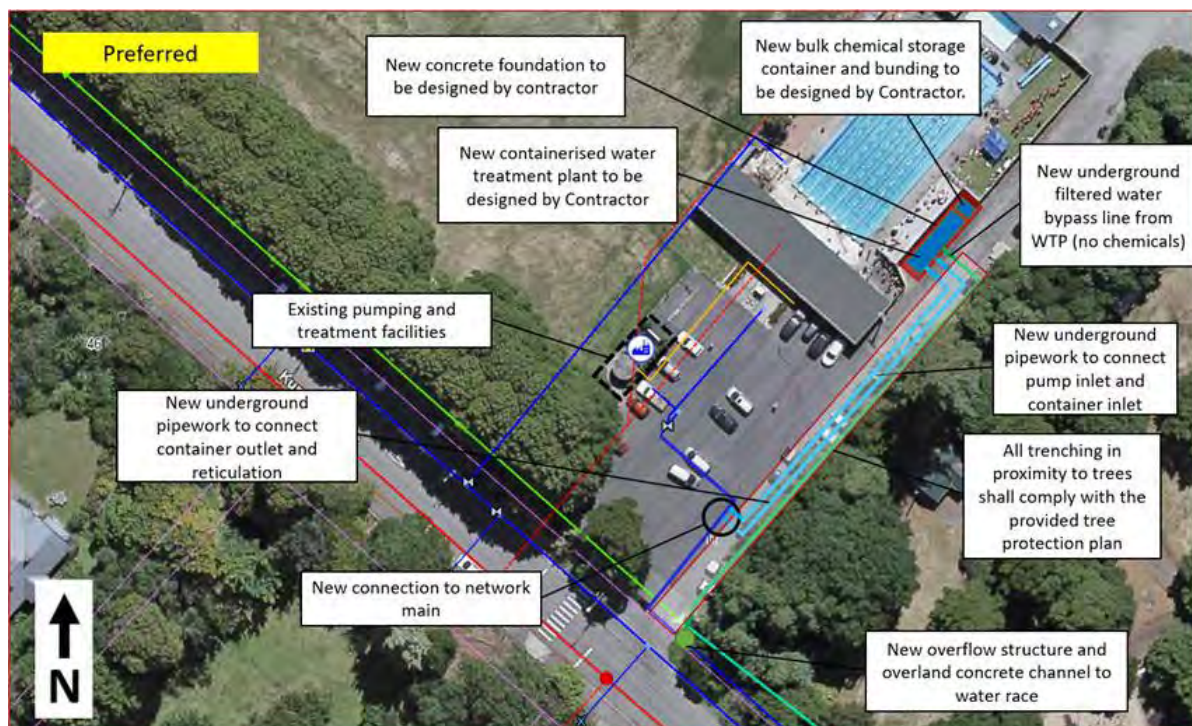
If you'd like to provide feedback on the proposed work, summarised below, please let us have this by 15<sup>th</sup> January 2021. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

#### **Soldiers Memorial Park water treatment plant: proposed work**

Due to the age of existing pumping and other equipment, we are planning to:

- Install a new bore pump in the existing borehole;
- Install a new water discharge pipe and water overflow chamber that flows to the Moroa water race;
- Clear sediment from an existing stormwater culvert and the immediate area of the Moroa water race; and
- Install of a new containerised building to house new process equipment and chemical systems.

The proposed site plan is provided below. This is subject to a certain degree of change based on detailed design, arboricultural and construction contractor input. Initial consultation with the South Wairarapa District Council's planning team and the parks department have been undertaken.



Major construction works are not scheduled to take place until the Greytown Pool is closed on 14 March 2021. Access to the carpark will be maintained until this time.

#### **Why these works are required**

The proposed upgrade works will address the following issues:

- Water wastage – the existing pump is not designed to meet the low night time flows of the water network and consequently must pump at higher volumes than necessary, resulting in wastage.
- Equipment failure – the existing pump and systems are at the end of their useful life. It is best to replace this equipment before it breaks down, as water storage capacity in the Featherston-Greytown network won't be able to meet demand if the pump fails.



- Improved water safety – the new equipment will address the risk of protozoa such as Cryptosporidium and Giardia being present in treated drinking water.
- Chemical storage – chemicals currently used for water treatment are stored in a room adjacent to the changing facilities of the swimming pool, creating a public and environmental safety risk. The proposal will move chemical storage areas away from the pool facilities into and/or adjacent to the containerised treatment plant.

The proposed location for the container is Council-owned land and is close to the existing groundwater bore.

As noted, we'd welcome any comments or questions you have about this work, and we'll be in touch again about this in the new year. In the meantime, we wish you and your family a happy and safe holiday.

Kind regards,

**RASMUS ALTENKAMP**  
**BCP(Hons), Int.NZPI**  
**Environmental Planner**

**GHD**  
**Proudly employee-owned | [ghd.com](http://ghd.com)**  
Level 2, Grant Thornton House, 215 Lambton Quay, PO Box 1746, Wellington, 6011  
D +64 4 495 5806 E [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com)

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## Appendix E – SWDC Pre-Application Meeting Minutes



# Minutes

01 December 2020

Project	Greytown Water Treatment Plant	From	Louise Allwood
Subject	Discussion of Preliminary Planning Assessment	Tel	09 370 8192
Venue/Date/Time	MS Teams – 27 November 2020	Job No	12520249//
Copies to	All attendees and Name (Company)		
Attendees	Louise Allwood (GHD) - LA Rasmus Altenkamp (GHD) - RA Kendyll Harper (SWDC) - KH Bryce Neems (SWDC) - BN	Apologies	Godwell Mahowa (SWDC)

## Minutes

## Action

BN - Outlined that as discussed on site with Chad (GHD), the proposed containerised Water Treatment Plant (WTP) is preferred to be located by the side of the swimming pool further back into the site. This will reduce impacts on carparking etc. The preferred location can then accommodate a fence and gate to restrict access.

KH to confirm to LA the hazardous substances requirements no longer apply in the District Plan.

KH - Identified that the proposal will likely require resource consent if the works do not comply with the requirements of the relevant Reserve Management Plan.

BN/KH to provide LA with the Tangata Whenua contact details so we can start engagement.

LA - Understands that resource consent is required for the container building itself, since it exceeds 10m<sup>2</sup> of GFA, and is likely not considered to be minor upgrading/maintenance works. KH noted that this will depend on how the containerised plant will work, and that some chemicals that are already stored in the pool building could be stored in the new container. Since this is unclear it is best to simply include this as a reason for resource consent for not meeting minor upgrading requirements.

BN to confirm and provide contact details to LA for the organisations that we are required to consult with in regards to the parks approval.

KH – Confirmed that she had reviewed the planning assessment.

LA – Confirmed the resource consent requirements.

KH – Requires resource consent if works do not comply with requirements of relevant Reserve Management Plan.

LA – Outlined that street tree works and potentially notable tree works also likely require resource consent. Indicated that we will engage an arborist to prepare a report to understand the effects, particularly around dripline works and trimming. Not clear in District Plan (DP) which are the

**Minutes****Action**

notable trees on the site, we assumed they were those on the perimeter?

BN – Explained as you come into carpark, trees on the left are notable, and some of the trees on the right.

BN - Provided details of a preferred arborist to Chad (GHD), he prepared the notable tree report used to schedule them, so he will know which are the notable trees.

BN – Trees need to be trimmed back anyway to provide room for carparking.

LA – Queried the resource consent requirements around the storage of hazardous materials.

KH – Still in our plan, but Masterton and Carterton apply HSNO rather than DP chapter. KH will check whether DP chapter applies.

LA – SWDC has appealed one of the regional rules around stormwater – which relates to the overflow from WTP into the Moroa water race. Sought clarification on any stormwater requirements that we need to be mindful of and incorporate into the resource consent application.

KH – Confirmed nothing in DP, just under PNRP. BN – Chad (GHD) will put filter at this discharge to reduce speed of flow.

LA – Discussed the Reserves Act process – it would be a separate process that needs to be publicly notified as we need to alter the purpose of the reserve and its also not in accordance with the Reserve Management Plan.

BN – Confirmed the requirements for the documentation and the Reserves Act approval. Need to provide an assessment on utilities as set out in the Reserve Management Plan. It also needs to be approved by Council after public consultation.

LA – Assessment within the Reserves Act application would be the same as the resource consent AEE, we would identify that document is for both purposes.

LA – Confirmed if there was a hearing process with the Reserves Management Plan if parties were objecting?

BN – Application and documents are notified for one or two weeks for comment maybe.

LA – Queried on reflection that we could prepare different documentation for the Reserves Act approval component, so that any issues with the Reserves Act approval doesn't hold up the resource consents decision? BN and KH agree this could also be an acceptable approach.

BN – Outlined the Reserve Act Approval would be in minutes of the Council's resolution.

**Minutes****Action**

---

LA – Queried the applicable timeframes for the Reserves Act process is a one month notification period.

BN – The earliest time that Council will sit is February in the new year 2021.

BN – Pool closes 14 March, so after this is a good time for the works to be undertaken.

LA – Identified that we should aim to have it lodged before Christmas.

BN – Confirmed the Council shutdown period is 24<sup>th</sup> December until 5<sup>th</sup> of January 2021.

BN – Provided some background history of other Reserve Act approvals relating to a skatepark. Neighbours across the road took it to court and it didn't happen. Recommended sending a letter to directly adjoining residents so they are aware of the project.

LA – Confirmed we will take this back to comms team on project.

BN – Tangata Whenua have the first choice for trees being removed, advises that we should involve them early in the process.

BN – Will chat to the sports clubs in the area about the project.

LA – Requested that the Tangata Whenua contacts be sent through so we can start the consultation process.

BN – Outlined there is a Maori Standing Committee here, so we can go through them – through their Chairman (Narita Hooper).

LA – Confirmed we are required to consult due to the Reserve Act approval requirements.

BN – Offered to chat to Greytown Heritage Trust about the project on our behalf. .

KH – Listed off the organisational interests in the park. The list hasn't been updated since 2007, so it may be out of date. RSA is looking at putting monument to the right of the existing pump, on the road. Proposed location will be out of the way of this.

---

**Louise Allwood**

Technical Lead - Planning



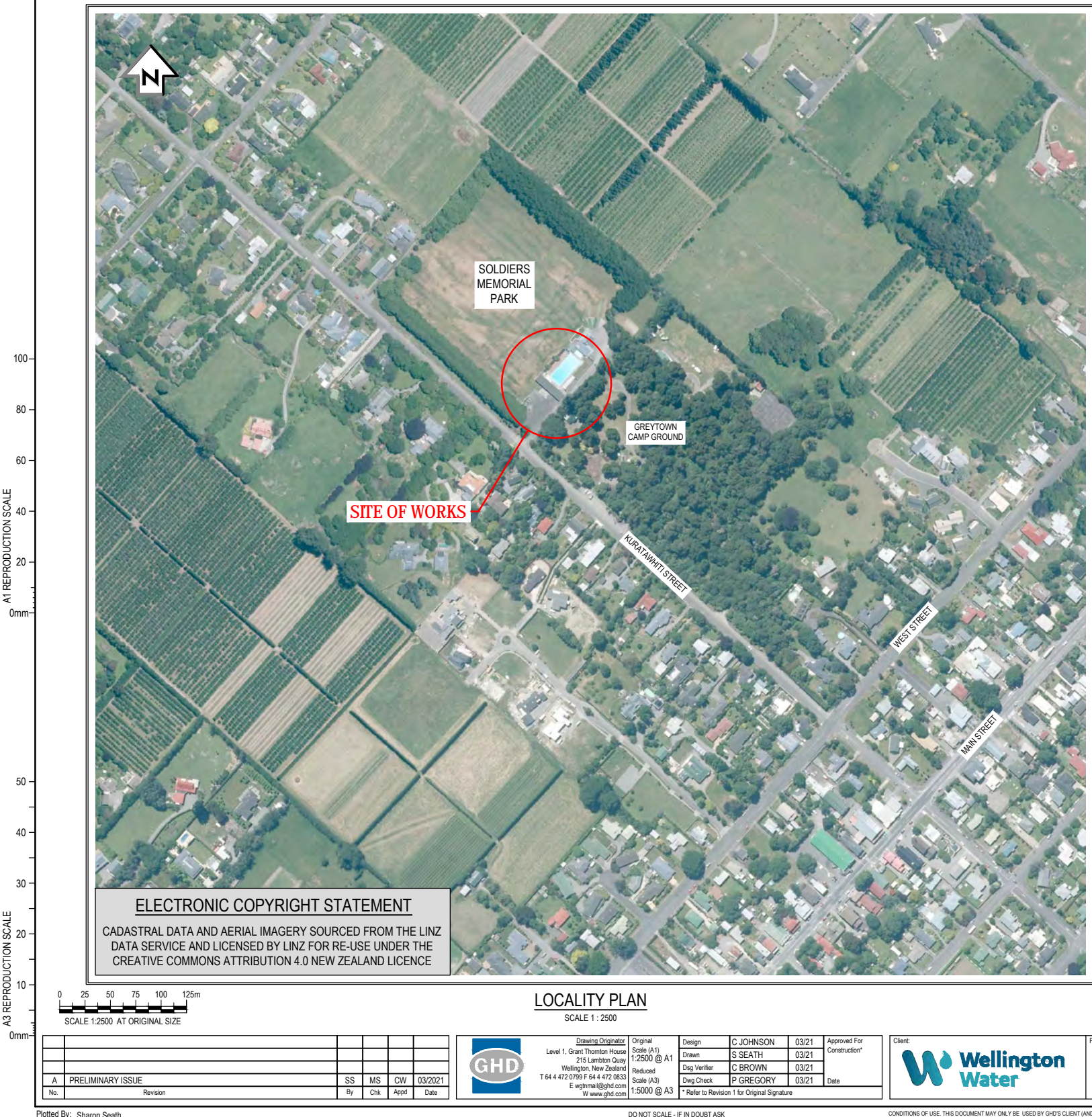
## Appendix F – Construction Plans



# SOLDIER'S MEMORIAL PARK

## WATER TREATMENT PLANT UPGRADES

### STAGE 3 - NEW TREATMENT CONTAINER



#### DRAWING REGISTER, DISTRIBUTION AND TRANSMITTAL

DISTRIBUTION				NUMBER OF COPIES			
your company	GHD LIMITED			1			
CLIENT	WELLINGTON WATER			1			
CONTRACTOR	-			-			
		DRAWING ISSUE STATUS OPTIONS: FOR INFORMATION ONLY FOR APPROVAL FOR TENDER ONLY NOT FOR CONSTRUCTION ISSUED FOR CONSTRUCTION AS BUILT (CONSTRUCTION RECORD)	ISSUE STATUS	PRELIMINARY	DETAILED DESIGN	FOR TENDER	FOR CONSTRUCTION
			DRAWING PRINT SIZE:	A3			
			ISSUE FORMAT:	PDF			
			DD	22			
CAD FILE REFERENCE:	G:\51\12520249\CADD\Drawings\Memorial Park		MM	03			
DRAWING NUMBER	DRAWING TITLE		YY	21			
12520249-G001	DRAWING REGISTER, TRANSMITTAL NOTICE AND LOCALITY PLAN			A			
12520249-G002	SAFETY IN DESIGN RISK ASSESSMENT - SHEET 1 OF 3			A			
12520249-G003	SAFETY IN DESIGN RISK ASSESSMENT - SHEET 2 OF 3			A			
12520249-G004	SAFETY IN DESIGN RISK ASSESSMENT - SHEET 3 OF 3			A			
12520249-G005	GENERAL NOTES			A			
12520249-C300	EXISTING SERVICE PLAN			A			
12520249-C301	CONTAINERISED WATER TREATMENT PLANT			A			
12520249-C302	PROPOSED PUMP STATION AND TREATMENT WORKS PLAN			A			
12520249-C303	PROPOSED PUMP STATION AND TREATMENT WORKS SECTIONS - EXISTING			A			
12520249-C304	PROPOSED PUMP STATION AND TREATMENT WORKS SECTIONS - PROPOSED			A			
12520249-C305	PROPOSED PUMP STATION AND TREATMENT WORKS CUT IN DETAIL			A			
12520249-C306	PROPOSED PUMP STATION AND TREATMENT WORKS OVERFLOW CHAMBER			A			
12520249-C307	PROPOSED PUMP STATION AND TREATMENT WORKS TRENCH DETAILS			A			
12520249-C308	PROPOSED BUND PLAN AND DETAILS			A			
7357-L100-001	FILTEC - GENERAL PLANT LAYOUT - SHEET 1 OF 4			B			
7357-L100-001	FILTEC - GENERAL PLANT LAYOUT - SHEET 2 OF 4			B			
7357-L100-001	FILTEC - GENERAL PLANT LAYOUT - SHEET 3 OF 4			B			
7357-L100-001	FILTEC - GENERAL PLANT LAYOUT - SHEET 4 OF 4			B			

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**



Safety in Design H&S Risk Assessment

Administration

Project Name	Memorial Park Upgrades
Project No. (if applicable)	OPC100825

Safety in Design Process Decisions

Opex: Technical Input Required? (Step III)	Yes
Design Meeting Required? (Step V)	Yes
Record decision reasoning for Step V:	
More Detailed Assessment (e.g. Hazop) Required? (Step VIII)	Yes
Record decision reasoning for Step VIII :	Major change made to treatment plant operation.

Assessment Date	28/05/2020	Asset Type	Water - Treatment Plant	Location / Site Name	Memorial Park WTP
Designer	GHD	SID Process Step	Pre-Construction H&S Risk Assessment (Step XI)		

Safety in Design Stakeholders

Name	Chad Johnson (GHD)	Role	Designer
Name	Martin Smith (GHD)	Role	Project Manager
Name	Brett Clapham (Lutra)	Role	Designer
Name	Ivan Ottenheijm (Lutra)	Role	Specialist
Name	Brian Gosper (WWL)	Role	Asset Manager
Name	Martin Gronback (WWL)	Role	Operator
Name	Aidan Crimp (WWL)	Role	Investigator
Name		Role	
Name		Role	
Name		Role	
Name		Role	
Name		Role	
Name		Role	

If additional stakeholders are required, select the row above and insert new row. Record Name and Role as per Safety in Design Process.



Supporting documentation



Raw risk						Risk management								
Specific Asset Reference (if applicable)	Risk Source (Hazard)	Risk Description	Raw Consequence	Raw Likelihood	Raw Risk Rating	Control Measure	Control Type	Control Description	Control Justification (If not eliminated)	Control Owner	Residual Consequence	Residual Likelihood	Residual Risk Rating	Risk Owner
All site	Working At Height or Raised and Falling Objects	Lifting/moving cartridge filter, and/or overflow chamber on site	Substantial 100	Possible 4	Extreme 400	Minimise	1. Engineering Control	Lifting plan	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
All site	Services – Working With Or Near	Contact with buried power cables	Substantial 100	Possible 4	Extreme 400	Minimise	1. Isolate	Contractor plan to include markout of underground power cables and establishing clearance zone.	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Container	Fixed plant and equipment	Damage due to moving/installation of new equipment	Substantial 100	Possible 4	Extreme 400	Minimise	2. Administration Control	Construction plan and specific installation plans	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Substantial 100	Highly Unlikely 2	High 200	Contractor
Car park	Traffic Or Pedestrian Movement	Works taking place within active car park. Potential for cars to come into contact with worksite	Major 70	Likely 5	Extreme 350	Minimise	1. Engineering Control	Fully fence site. Traffic management within carpark. Spotters for vehicles entering/exiting fenced aread. Signage to be used at entrance to carpark	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Memorial Baths	Traffic Or Pedestrian Movement	Large amount of pedestrian access to/from Memorial Baths. Could come into contact with worksite.	Major 70	Likely 5	Extreme 350	Minimise	1. Engineering Control	Fully fence site. Traffic management within carpark. Spotters for vehicles entering/exiting fenced aread. Signage to be used at entrance to carpark. Baths are closed in winter (time of construction)	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
All locations	Isolation	No supply to plant	Major 70	Likely 5	Extreme 350	Minimise	1. Engineering Control	Covered in shutdown plan Coordination with Waiohine WTP	Shutdown plant should limit the consequence of the required shutdown	Designer	Moderate 40	Likely 5	High 200	Designer
All site	Asbestos or Silica	Unknown asbestos content within buildings and/or underground assets	Substantial 100	Unlikely 3	High 300	Minimise	2. Administration Control	Confirm whether asbestos present in discussion with operators.	Without information proving presence/absence of asbestos, cannot eliminate this risk	Project Manager	Substantial 100	Unlikely 3	High 300	Project Manager
Pipework	Biological	Biological contamination of pipework	Substantial 100	Unlikely 3	High 300	Minimise	2. Administration Control	Superchlorination of new pipework	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Substantial 100	Highly Unlikely 2	High 200	Contractor
Bore pump	Working At Height or Raised and Falling Objects	Install of new pump, risk of destabilising bore. Limited space around bore.	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Bore pump works to be included in contractors plan and a lifting plan. Prolonged outage largely mitigated by Waiohine WTP capacity upgrade. Lutra to review bore pump transfer plan prior to works.	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Pipework	Fires or Explosions or Hot Work	Injury during cutting, welding of pipe. Electrofusion welding to be used.	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Safe work practices to be included within hot work permit to be applied for.	Controls will mitigate risks effectively	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Controls shed	Services – Working With Or Near	Contact with services within building	Major 70	Possible 4	High 280	Minimise	1. Isolate	Isolate power when working on services. Put appropriate protection around wiring to prevent contact with construction staff	Controls will mitigate risks effectively	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Existing power box	Services – Working With Or Near	Injury from use of existing power box	Major 70	Possible 4	High 280	Minimise	1. Isolate	Isolate power box when working on improvements to existing	Isolation will mitigate risk of electrocution. Improvements will reduce risk to operators.	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Operator
All site	Tools And Equipment (Powered Or Hand)	Injury from tools and equipment use	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Only appropriately trained staff to operate tools and equipment. Any tools and equipment used to be appropriately serviced.	Controls will mitigate risks effectively	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Sports fields	Traffic Or Pedestrian Movement	Sports field used frequently for cricket and football, could come into contact with worksite	Major 70	Possible 4	High 280	Minimise	1. Engineering Control	Fully fence site. Traffic management within carpark. Spotters for vehicles entering/exiting fenced aread. Signage to be used at entrance to carpark	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor

A1 REPRODUCTION SCALE  
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100

A3 REPRODUCTION SCALE  
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No.	Revision	By	Chk	Appd	Date
A	PRELIMINARY ISSUE	SS	MS	CW	03/2021



Design	C JOHNSON	03/21	Approved For Construction*
Drawn	S SEATH	03/21	Date
Dwg Verifier	C BROWN	03/21	
Dwg Check	P GREGORY	03/21	
* Refer to Revision 1 for Original Signature			



Project: SOLDIER'S MEMORIAL PARK  
WATER TREATMENT PLANT UPGRADES  
STAGE 3 - NEW TREATMENT CONTAINER

Title: SAFETY IN DESIGN RISK  
ASSESSMENT  
SHEET 1 OF 3

Discipline	CIVIL
Drawing No.	51-12520249-G002
Rev.	A

PRELIMINARY  
NOT FOR CONSTRUCTION

A1 REPRODUCTION SCALE  
0mm

A3 REPRODUCTION SCALE  
0mm

Specific Asset Reference (if applicable)	Risk Source (Hazard)	Risk Description	Raw Consequence	Raw Likelihood	Raw Risk Rating	Control Measure	Control Type	Control Description	Control Justification (if not eliminated)	Control Owner	Residual Consequence	Residual Likelihood	Residual Risk Rating	Risk Owner
All site (regular operation)	Vehicles And Mobile Equipment	Contact with HIAB, service vehicles during standard operation	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Only appropriately trained staff to utilise HIAB. Spotters to be used around vehicles entering and exiting site. Long term, safe area for HIABs and service vehicles to be put in place.	Risk cannot be avoided. Controls should be able to effectively mitigate the risks in short term, with long term improvements to further address this risk	Operator	Major 70	Highly Unlikely 2	Moderate 140	Operator
All site (construction)	Vehicles And Mobile Equipment	Contact with construction vehicles (utes, small hiab truck)	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Only appropriately trained staff to utilise HIAB. Spotters to be used around vehicles entering and exiting site.	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
UV Plant	UV	Injury from UV light during operation and commissioning	Major 70	Possible 4	High 280	Minimise	1. Engineering Control	Physical housing of UV lamps will prevent UV light from coming into contact with workers. SOPs to be followed at all times, appropriate PPE to be worn	Controls should effectively mitigate this risk	Designer	Major 70	Highly Unlikely 2	Moderate 140	Operator
Existing chemical plant	Hazardous Substances, Chemicals	Existing chemical plant is unsafe and is not being addressed as part of Stage 2 works	Major 70	Possible 4	High 280	Minimise	1. Substitute	New chemical plant to be installed as a part of stage 3 works	Cannot design and install plant in time for stage 2 completion	Designer	Major 70	Rare 1	Moderate 70	Operator
Existing control shed	Collapse of structure (construction)	Existing control shed in poor structural condition, and at risk of collapse under stress	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Heavy plant and equipment to be kept clear of shed	Controls should effectively mitigate this risk	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
RTW Line	Confined Spaces	Run-to-waste sump (maintenance)	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Sump maintenance plan to be developed excluding the requirement to enter the sump.	Controls should effectively mitigate this risk	Designer	Major 70	Rare 1	Moderate 70	Designer
RTW Line	Confined Spaces	Run-to-waste sump (construction)	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Construction plan to be developed excluding the requirement to enter the sump.	Controls should effectively mitigate this risk	Designer	Major 70	Rare 1	Moderate 70	Designer
RTW Line	Excavation	Collapse of excavation	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Controlled area around excavation, markout excavation and contractor plan to minimise working in the excavation.	Controls should effectively mitigate this risk	Contractor	Major 70	Rare 1	Moderate 70	Contractor
All locations	Working At Height or Raised and Falling Objects	Objects falling into trench	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Keep trench edge clear of materials. Wear appropriate PPE (Hardhat)	Controls should appropriately mitigate this risk	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
All locations	Working At Height or Raised and Falling Objects	Falling into trench or excavation	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Have designated entry/exit points around trench. Keep trench edge clear of tripping hazards	Controls should appropriately mitigate this risk	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
All locations	Spread and construction of COVID-19	The virus may be contracted and spread to other workers on site, resulting in serious health risk and death - particularly for at-risk workers	Major 70	Possible 4	High 280	Minimise	2. Administration Control	Follow the COVID 19 related H&S protocols and procedures developed by the contractor and stored onsite. All site visitors will need to be inducted and made aware of all precautions. The identified PPE and hygiene shall be followed at all times.	Risk is not avoidable, however these control measures should appropriately mitigate the risks present.	Contractor	Major 70	Unlikely 3	High 210	Contractor
All site	Hazardous Substances, Chemicals	Injury from soda ash, sodium hypochlorite dosing lines	Major 70	Unlikely 3	High 210	Minimise	1. Isolate	Isolate chemical lines from work site The works are upstream of the dosing points Electrical works near the dose point will take place largely when the plant is off	Isolation will prevent risks generated from chemical exposure	Contractor	Major 70	Rare 1	Moderate 70	Contractor
Chemical connections	Hazardous Substances, Chemicals	Potential leakage of chemicals through contact with carrier line	Major 70	Unlikely 3	High 210	Minimise	1. Engineering Control	Work plan to include markout of carrier lines for excavation works. As-built drawings difficult to obtain - potholing to be included in work plan. Sufficient ventilation to be provided if working indoors.	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Controls shed	Assets Or Fixed Plant	Damage/collapse of existing controls shed through collision/impact or seismic movement	Major 70	Unlikely 3	High 210	Minimise	2. Administration Control	Establish protections, safe zones around shed to prevent contact by construction vehicles	These controls should effectively mitigate risks present	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Playground	Traffic Or Pedestrian Movement	Large amount of pedestrian traffic to/from nearby park. Could come into contact with worksite	Major 70	Unlikely 3	High 210	Minimise	1. Engineering Control	Fully fence site. Traffic management within carpark. Spotters for vehicles entering/exiting fenced aread. Signage to be used at entrance to carpark	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Campsite	Traffic Or Pedestrian Movement	Campsite is located nearby to worksite and is popular over summer months. Campers could come into contact with worksite	Major 70	Unlikely 3	High 210	Minimise	1. Engineering Control	Fully fence site. Traffic management within carpark. Spotters for vehicles entering/exiting fenced aread. Signage to be used at entrance to carpark. Campsite not frequently used over winter.	Risk cannot be avoided. Controls should be able to effectively mitigate the risks	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
Existing control shed	Fires or Explosions or Hot Work	Existing shed doesn't have fire rating, only one exit	Major 70	Unlikely 3	High 210	Minimise	2. Administration Control	Works within shed to be planned by relevant personnel through use of daily H&S startups. Hot works within shed to be minimised where possible.	Short term controls should effectively mitigate this risk. Long term viability of current shed to be reviewed as a part of stage 3 works.	Contractor	Major 70	Highly Unlikely 2	Moderate 140	Contractor
New pipework	Damage to pipework	Damage to pipework from surrounding environment (cars, bikes, people etc)	Major 70	Unlikely 3	High 210	Minimise	1. Engineering Control	Physical protection being placed around pipework	Controls should effectively mitigate this risk	Contractor	Major 70	Rare 1	Moderate 70	Operator
Existing control shed	Collapse of structure (regular operations)	Existing control shed in poor structural condition, and at risk of collapse under stress	Major 70	Unlikely 3	High 210	Minimise	1. Substitute	New shed being investigated as a part of the stage 3 works. Condition of the shed being monitored	New shed will effectively mitigate this risk	Designer	Major 70	Rare 1	Moderate 70	Operator
UV and Cartridge Filter Plant	Lack of bypass	Fault within uv unit or cartridge requires extended shutdown of plant	Major 70	Unlikely 3	High 210	Minimise	1. Isolate	To be assessed in HazOp meeting t.b.c.		Designer	Major 70		N/A	Operator
All locations	startup	Contaminant introduction into trunk main at startup	Moderate 40	Likely 5	High 200	Eliminate	1. Engineering Control	Run to waste					N/A	Designer

A	PRELIMINARY ISSUE	SS	MS	CW	03/2021
No.	Revision	By	Chk	Appd	Date



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Original Scale (A1)  
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Reduced Scale (A3)  
N.T.S.

Design	C JOHNSON	03/21	Approved For Construction*
Drawn	S SEATH	03/21	
Dwg Verifier	C BROWN	03/21	
Dwg Check	P GREGORY	03/21	
* Refer to Revision 1 for Original Signature			



Client: **Wellington Water**

Project: **SOLDIER'S MEMORIAL PARK  
WATER TREATMENT PLANT UPGRADES  
STAGE 3 - NEW TREATMENT CONTAINER**

Title: <b>SAFETY IN DESIGN RISK ASSESSMENT SHEET 2 OF 3</b>	Discipline: <b>CIVIL</b>
Drawing No. <b>51-12520249-G003</b>	Rev. <b>A</b>

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[illegible]

A	PRELIMINARY ISSUE	SS	MS	CW
No.	Revision	By	Chk	Appd



Original Scale (A1) N.T.S.	Design	C JOHNSON	03/21	Approved For Construction*
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Reduced Scale (A3) N.T.S.	Dsg Verifier	C BROWN	03/21	Date
	Dwg Check	P GREGORY	03/21	

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Client:  Wellington Water

Project: SOLDIER'S MEMORIAL PARK  
WATER TREATMENT PLANT UPGRADES  
STAGE 3 - NEW TREATMENT CONTAINER

Title: SAFETY IN DESIGN RISK ASSESSMENT SHEET 3 OF 3	Discipline: CIVIL	
	Drawing No: 51-12520249-G004	Rev: A



A1 REPRODUCTION SCALE

A3 REPRODUCTION SCALE

GENERAL NOTES

1. PIPES, CABLES AND OTHER UTILITIES, FOUNDATIONS, LEVELS, REFERENCE MARKS AND OTHER OBSTRUCTIONS INDICATED ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE OR UP TO DATE PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORK. CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK, TRACING, LOCATING, PROTECTION, ISOLATION AND ALTERATIONS AS REQUIRED UNDER NZS 3910 CLAUSE 5.13. CONTRACTOR MUST FOLLOW OSH GUIDELINES FOR SAFE LOCATION OF UNDERGROUND SERVICES.
2. RESIDENTS SHALL BE ADEQUATELY NOTIFIED PRIOR TO WORKS COMMENCING, AND 24 HOURS PRIOR TO DISRUPTION OF SERVICE.
3. ALL CARE MUST BE TAKEN BY THE CONTRACTOR NOT TO DAMAGE PRIVATE PROPERTY, OR ANY GARDENED AREA OTHER THAN THOSE NECESSARY AS PART OF THE WORKS.
4. ALL WORKS ARE TO BE CONSTRUCTED USING BEST TRADE PRACTICES.
5. APPROVAL MUST BE SOUGHT FROM THE ENGINEER PRIOR TO REMOVAL OF ANY FIXTURE (I.E. FENCE, TREE) IN PRIVATE PROPERTY.
6. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH NATIONAL CODE OF PRACTICE FOR UTILITIES ACCESS TO THE TRANSPORT CORRIDOR NOVEMBER 2011 REGIONAL STANDARD FOR WATER SERVICES NOVEMBER 2012 CAPACITY, WELLINGTON WATER APPROVED MATERIALS REGISTER 2014 AND MANUFACTURER'S SPECIFICATIONS.

WATER NOTES

1. THE CONTRACTOR TO CHECK INVERT LEVELS OF EXISTING AND PROPOSED SYSTEM AND ADVISE ENGINEER OF ANY ANOMALIES PRIOR TO COMMENCING PIPE LAYING.
2. WATER MAIN IS TO BE SCoured TO REMOVE ALL DEBRIS BEFORE COMMISSIONING TESTING AND SERVICES ARE CONNECTED TO HOUSES.
3. MINIMUM COVER OF 750mm AT ALL PLACES MEASURED FROM THE GROUND SURFACE. MAXIMUM COVER TO BE 1350mm.
4. CONCRETE THRUST BLOCKS TO BE CONSTRUCTED ON ALL BENDS, TAPERS, TEES AND DEAD ENDS, CONCRETE TO BE 20 MPa, THRUST BLOCKS TO BE CONSTRUCTED TO MAINTAIN ACCESS TO THE BOLTS, ADJACENT JOINTS / FLANGES AND FITTINGS. CONCRETE THRUST BLOCKS TO BE SIZED AS PER REGIONAL STANDARD FOR WATER SERVICES (JULY 2016).
5. ALL BACKFILL MATERIAL SHOULD BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 200mm IN LOOSE DEPTH.
6. THE CONTRACTOR SHALL CARRY OUT SCALA PENETROMETER TESTING AT NOT MORE THAN 5m DISTANCES ALONG TRENCH, THE RESULTS MUST BE RECORDED AND MADE AVAILABLE TO THE ENGINEER. A COMPACTION OF NOT LESS THAN 7 BLOWS / 50mm, 4 BLOWS / 50mm AND 2 BLOWS / 50mm IN CARRIAGEWAYS, FOOTPATHS AND BERMS RESPECTIVELY MUST BE ACHIEVED.
7. DETECTOR TAPE MUST BE LAID ABOVE ALL WATER PIPES IN ACCORDANCE WITH REGIONAL STANDARDS FOR WATER SERVICES.
8. CONTRACTOR TO REMOVE ABANDONED VALVES AND HYDRANTS. NOTE ALL REINSTATEMENT IS TO COMPLY WITH NATIONAL CODE OF PRACTICE FOR UTILITY OPERATOR'S ACCESS TO TRANSPORT CORRIDORS.
9. LOCATION AND REQUIREMENTS FOR BENDS SHOWN ARE INDICATIVE. CONTRACTOR TO CONFIRM SPECIFIC LOCATIONS AND REQUIREMENTS WITH ENGINEER ON SITE.
10. SERVICE CONNECTION LOCATIONS ARE INDICATIVE ONLY, SERVICE PIPES SHALL BE LAID PERPENDICULAR TO THE MAIN. ALL SERVICE PIPES SHALL BE EXTENDED TO THE NEW MAIN.

UNDERGROUND GAS PIPES

MACHINE DIGGING  
STRATEGIC INTERMEDIATE PRESSURE (FEEDER MAIN OPERATING AT PRESSURES GREATER THAN 700 KPa (100 psi) AND MEDIUM PRESSURE GAS PIPES)

(A) MACHINE DIGGING IS NOT PERMITTED CLOSER THAN 1.0m FROM ANY STRATEGIC INTERMEDIATE PRESSURE AND MEDIUM PRESSURE GAS MAINS OR SERVICES. ANY EXCAVATION WORK WITHIN THE DISTANCE MUST BE PERFORMED BY HAND DIGGING AND UNDER THE OBSERVATION OF A POWERCO APPROVED WORKS PROTECTION OBSERVER INCLUDING THE BACKFILLING OPERATION.

(B) PLEASE REFER TO THE POWERCO STANDARD "EXCAVATION WORKS IN THE VICINITY OF STRATEGIC CABLES AND PIPES" BEFORE COMMENCING EXCAVATION WORK IN THE VICINITY OF STRATEGIC GAS PIPES.

MEDIUM AND LOW PRESSURE GAS PIPES

(C) MACHINE DIGGING IS NOT PERMITTED CLOSER THAN 500mm FROM ANY MEDIUM OR LOW PRESSURE GAS MAIN OR SERVICE UNLESS THE POSITION OF THE PIPES HAS BEEN VERIFIED BY HAND DIGGING AND EXPOSING THEM FIRST.

NOTIFICATION OF WORK NEAR STRATEGIC INTERMEDIATE PRESSURE AND MEDIUM PRESSURE GAS PIPES.

(A) AT LEAST 2 WORKING DAYS NOTICE MUST BE GIVEN TO POWERCO PRIOR TO ANY EXCAVATION WORK TAKING PLACE.

(B) IT IS THE EXCAVATION CONTRACTOR'S RESPONSIBILITY TO CONTACT THE POWERCO HELP DESK ON 0800 769 372 FOR THE ABOVE NOTIFICATION.

(C) THE EXCAVATION CONTRACTOR WILL BE ISSUED WITH A WORKS AGREEMENT WHICH MUST BE COMPLETED AND SIGNED PRIOR TO ANY EXCAVATION WORK TAKING PLACE NEAR ANY STRATEGIC INTERMEDIATE PRESSURE OR MEDIUM PRESSURE GAS PIPES.

LOCATION OF OTHERS SERVICES

(A) INTERMEDIATE PRESSURE GAS PIPES  
NO SERVICES SHALL BE LAID CLOSER THAN 300mm FROM ANY INTERMEDIATE PRESSURE GAS PIPE.

(B) LOW OR MEDIUM PRESSURE GAS PIPES  
NO SERVICES SHALL BE LAID CLOSER THAN 150mm FROM ANY LOW OR MEDIUM PRESSURE GAS PIPE.


UNDERGROUND POWER

AT LEAST 2 WORKING DAYS NOTICE REQUIRED PRIOR TO EXCAVATION. HAND DIGGING IS REQUIRED WHEN EXCAVATING WITHIN 1m OF CABLE. REPLACEMENT TRENCH BACKFILL MATERIAL MUST BE THE SAME AS THAT REMOVED AND MUST BE REPLACED TO THE SAME LEVEL OF COMPACTION.

UNDERGROUND TELECOM

ONSITE CABLE LOCATE OR STANDOVER IS REQUIRED IF WORKING WITHIN 1m OF THESE CABLES. AT LEAST 2 WORKING DAYS NOTICE REQUIRED PRIOR TO EXCAVATION. FOR LOCATE AND STANDOVER CONTACT 0800 248 344.

A	PRELIMINARY ISSUE	SS	MS	CW	03/2021
No.	Revision	By	Chk	Appd	Date

	Drawing Originator	Original Scale (A1)	Design	C JOHNSON	03/21	Approved For Construction*
	Level 1, Grant Thornton House	N.T.S.	Drawn	S SEATH	03/21	
	215 Lambton Quay	Reduced	Dwg Verifier	C BROWN	03/21	
	Wellington, New Zealand	Scale (A3)	Dwg Check	P GREGORY	03/21	
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Client:	Project:
	SOLDIER'S MEMORIAL PARK WATER TREATMENT PLANT UPGRADES STAGE 3 - NEW TREATMENT CONTAINER

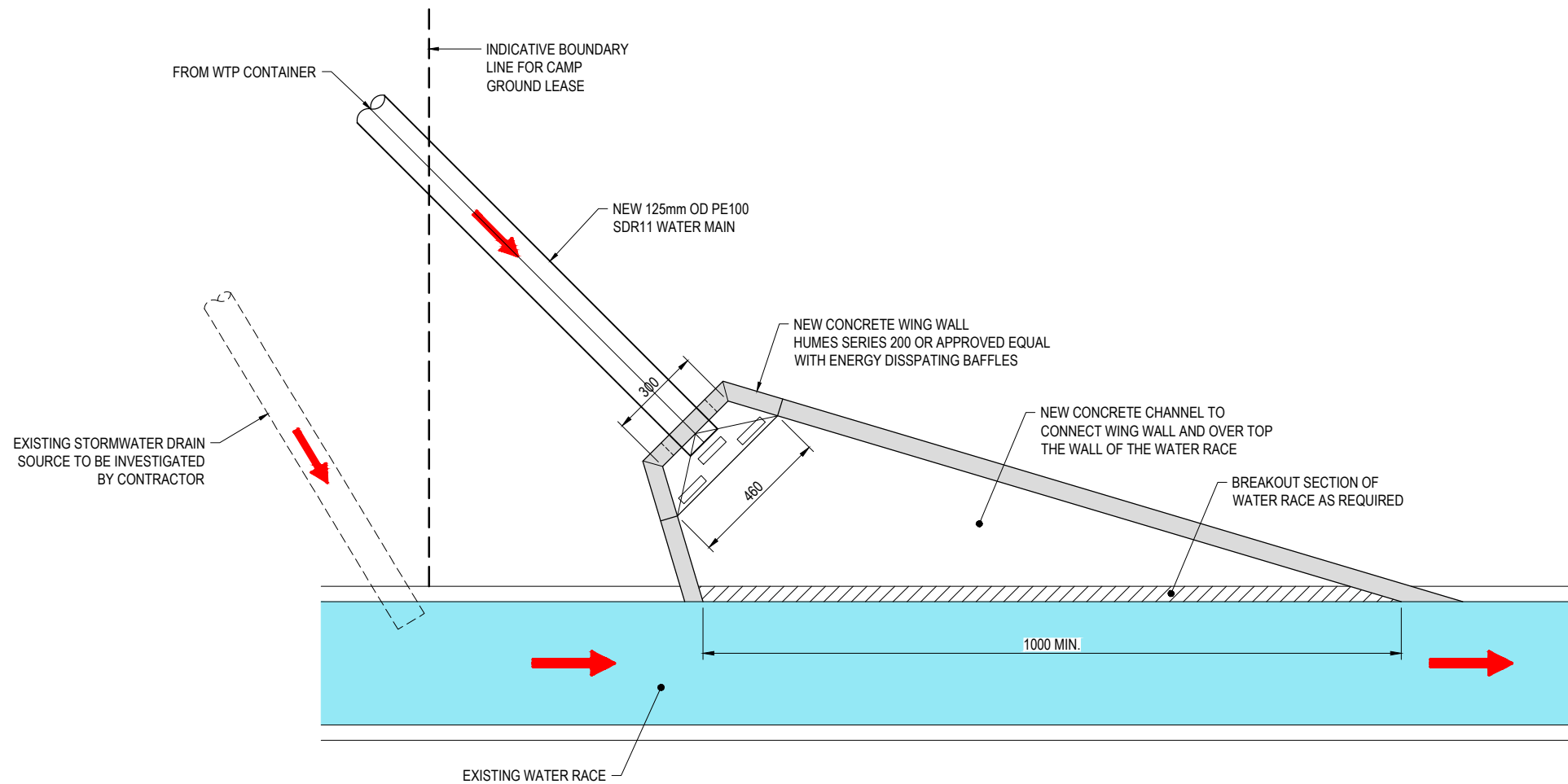
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Drawing No.	12520249-G005

Discipline	CIVIL
Rev.	A

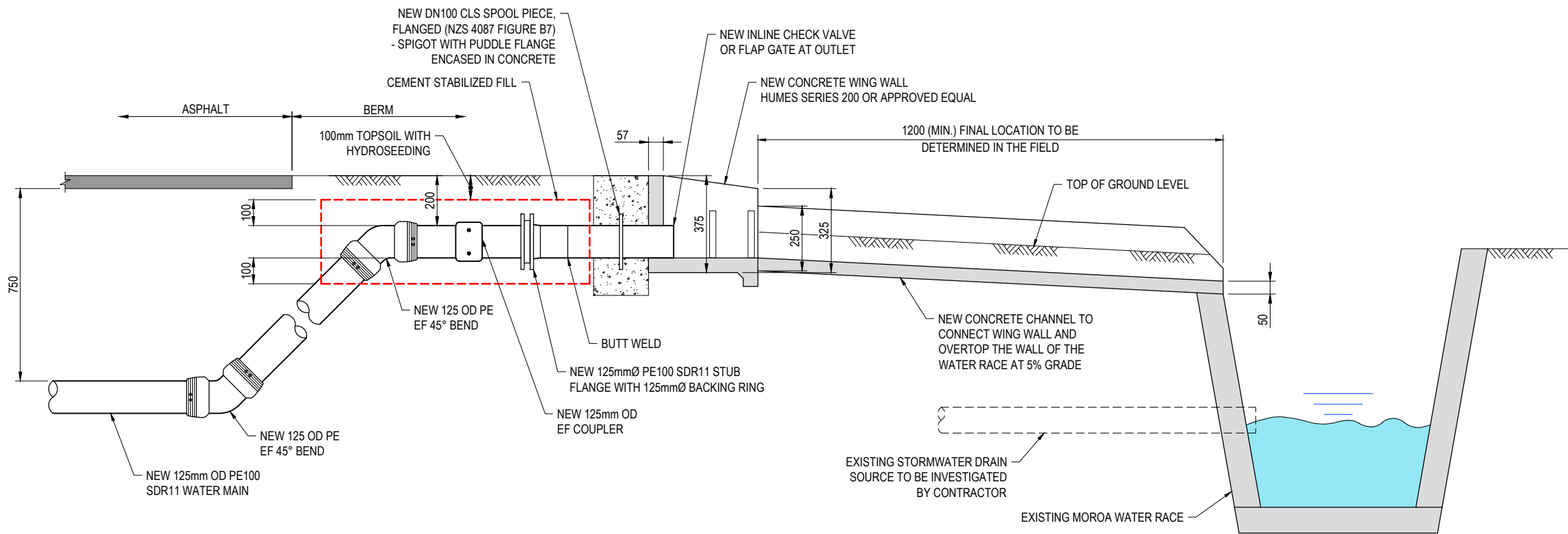
PRELIMINARY  
NOT FOR CONSTRUCTION

NOTE

1. LOCATION OF THE OVERFLOW CHAMBER AND DISCHARGE TO BE CONFIRMED IN THE FIELD BY THE CONTRACTOR AND AGREED TO BY THE ENGINEER.



RUN TO WASTE OUTLET - PLAN  
N.T.S.



RUN TO WASTE OUTLET - ELEVATION  
N.T.S.

**PRELIMINARY**  
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No.	Revision	By	Chk	Appd	Date
A	PRELIMINARY ISSUE	SS	MS	CW	03/2021



Design	Drawn	Checked	Approved For Construction
C JOHNSON	S SEATH	C BROWN	P GREGORY
03/21	03/21	03/21	03/21



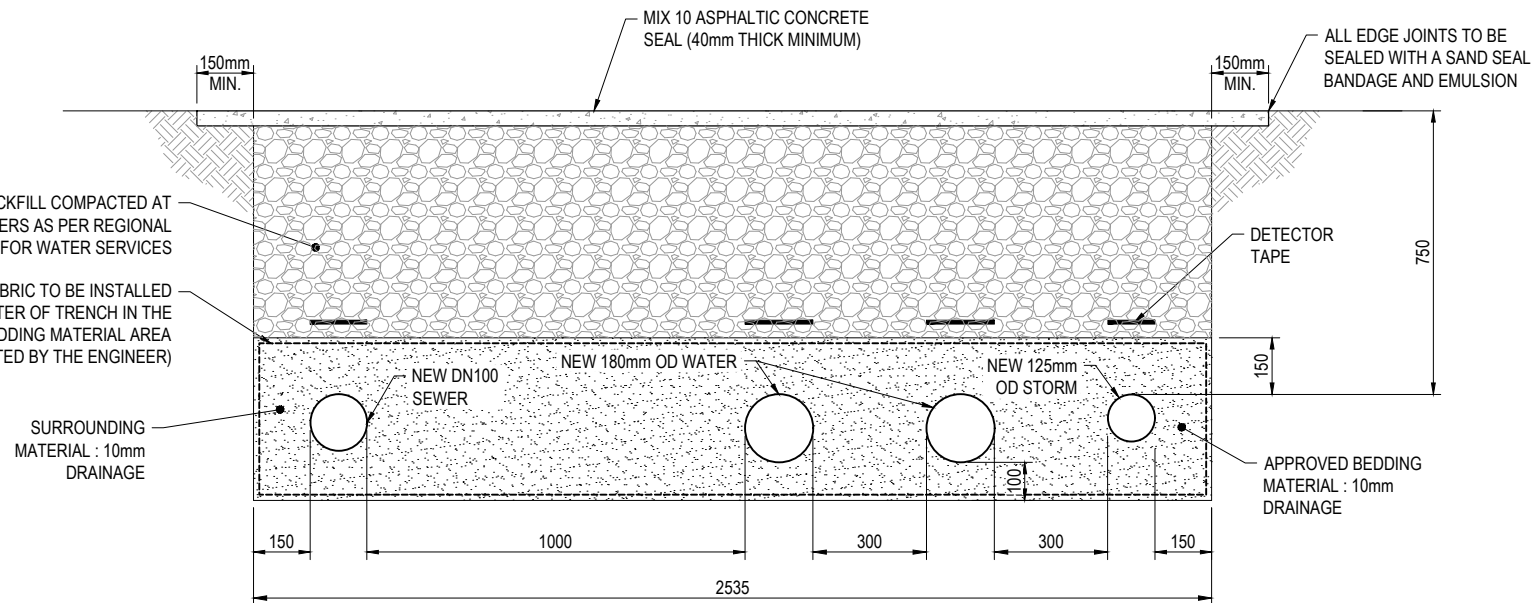
Client: **SOLDIER'S MEMORIAL PARK**  
Project: **WATER TREATMENT PLANT UPGRADES**  
Stage 3 - NEW TREATMENT CONTAINER

Title: **PROPOSED PUMP STATION AND**  
**TREATMENT WORKS**  
**OVERFLOW CHAMBER**

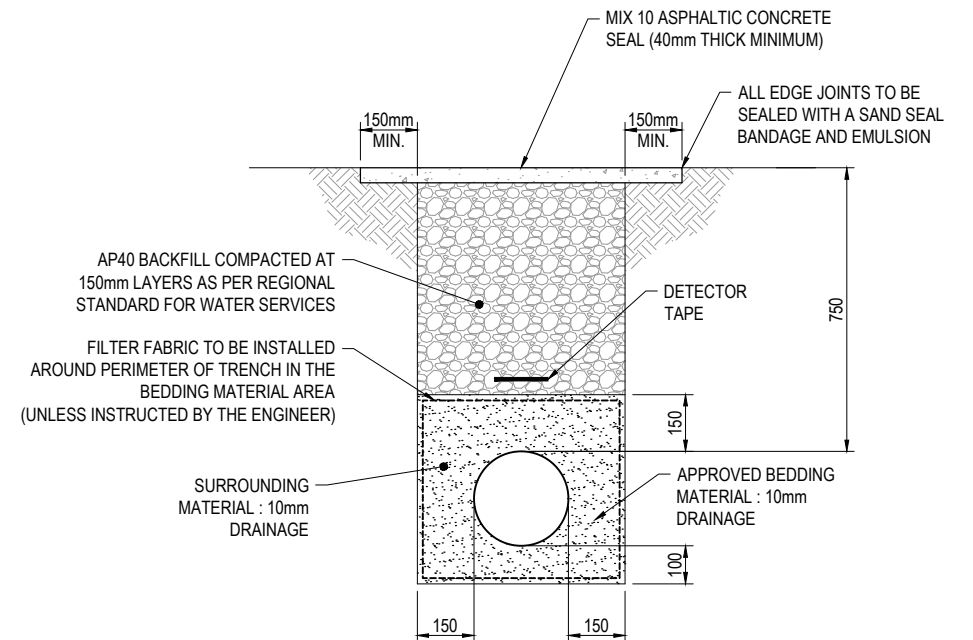
Discipline	Rev.
CIVIL	A
Drawing No.	12520249-C306

A1 REPRODUCTION SCALE

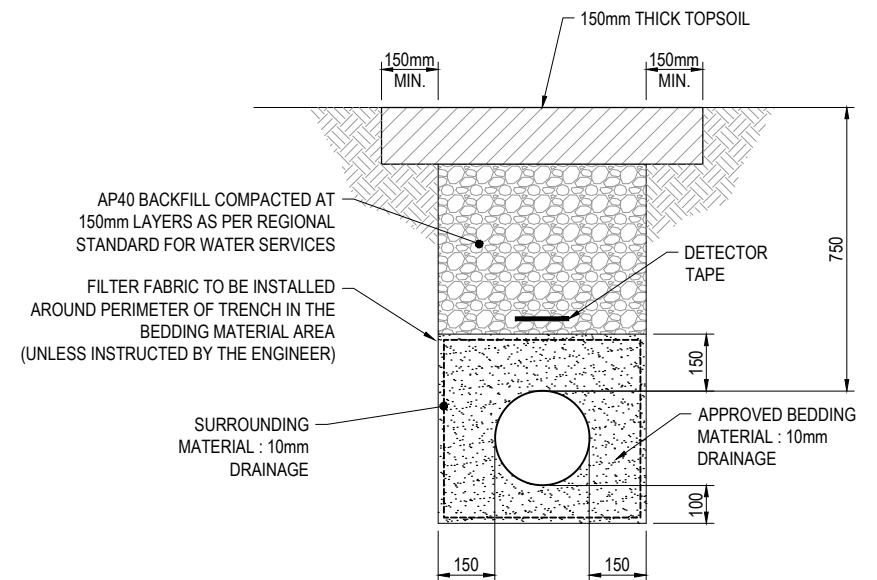
A3 REPRODUCTION SCALE



SHARED TRENCH DETAIL  
N.T.S.



TYPICAL TRENCH DETAIL CARRIAGEWAY  
N.T.S.



TYPICAL TRENCH DETAIL BERM  
N.T.S.

No.	Revision	By	Chk	Appd	Date
A	PRELIMINARY ISSUE	SS	MS	CW	03/2021

<b>GHD</b>	Drawing Originator Level 1, Grant Thornton House 215 Lambton Quay Wellington, New Zealand T 64 4 472 0799 F 64 4 472 0833 E wgt@mail@ghd.com W www.ghd.com	Original Scale (A1) N.T.S. Reduced Scale (A3) N.T.S.
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Design	C JOHNSON	03/21	Approved For Construction*
Drawn	S SEATH	03/21	Date
Dep. Verifier	C BROWN	03/21	
Dep. Check	P GREGORY	03/21	

Client	<b>Wellington Water</b>
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Project	SOLDIER'S MEMORIAL PARK WATER TREATMENT PLANT UPGRADES STAGE 3 - NEW TREATMENT CONTAINER
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Title	PROPOSED PUMP STATION AND TREATMENT WORKS TRENCH DETAILS
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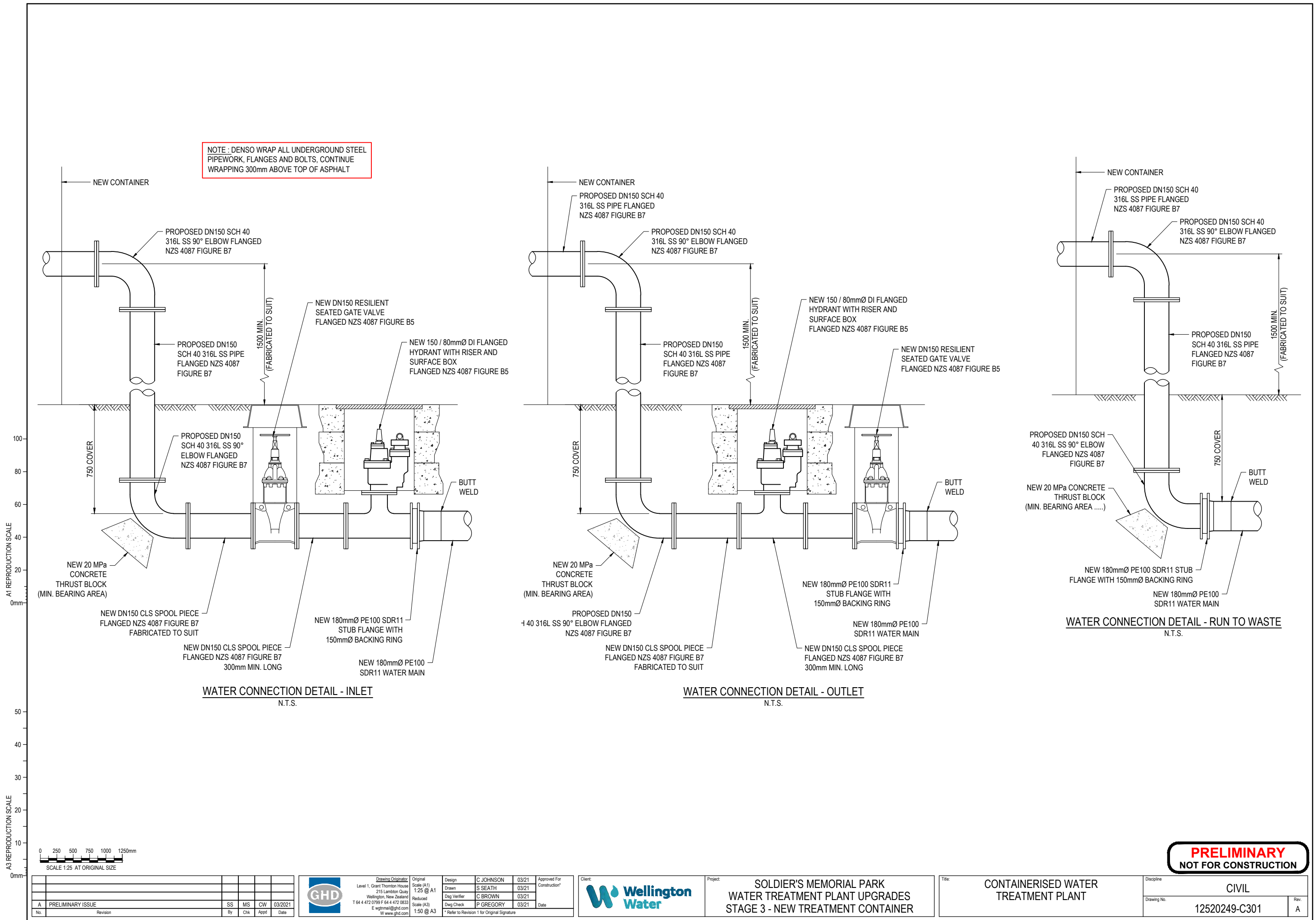
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Drawing No.	12520249-C307
Rev.	A

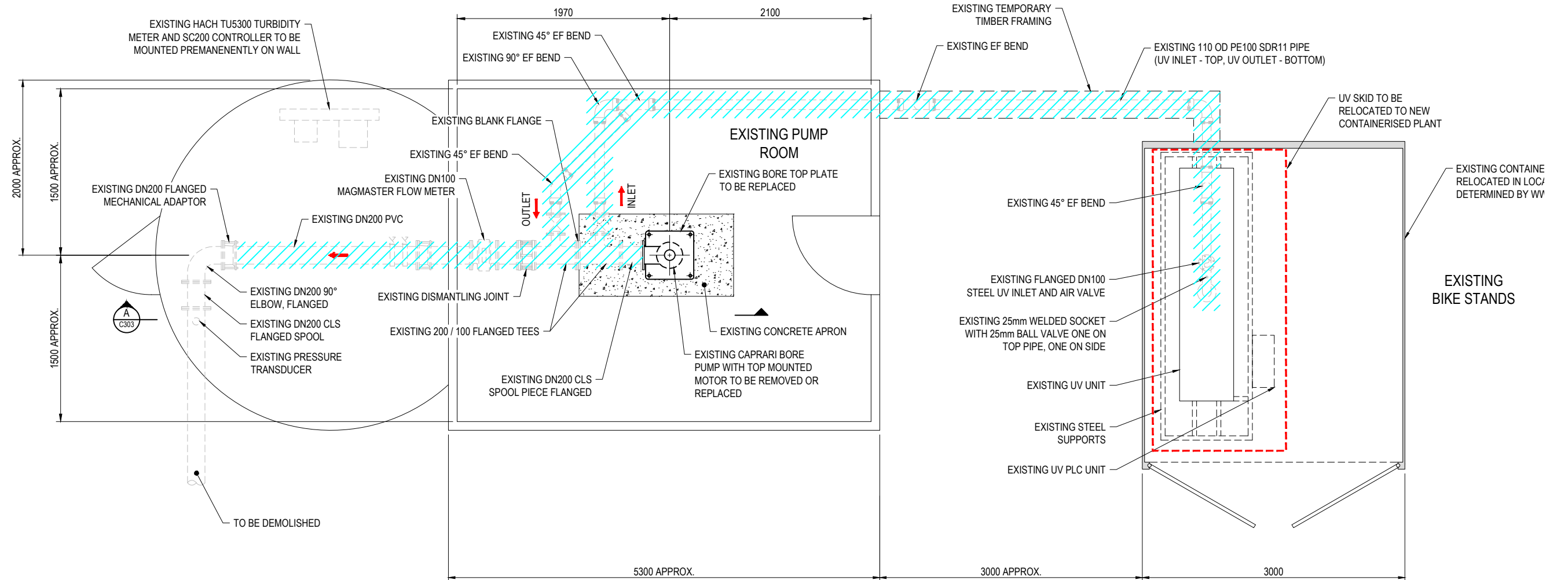
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**NOT FOR CONSTRUCTION**











MEMORIAL PARK WTP - DEMOLITION PLAN  
N.T.S.

0 250 500 750 1000 1250mm  
SCALE 1:25 AT ORIGINAL SIZE

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
A	PRELIMINARY ISSUE	SS	MS	CW	03/2021



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Original  
Scale (A1)  
1:25 @ A1  
Reduced  
Scale (A3)  
1:50 @ A3

Design	C JOHNSON	03/21	Approved For Construction*
Drawn	S SEATH	03/21	
Dep. Verifier	C BROWN	03/21	
Dep. Check	P GREGORY	03/21	

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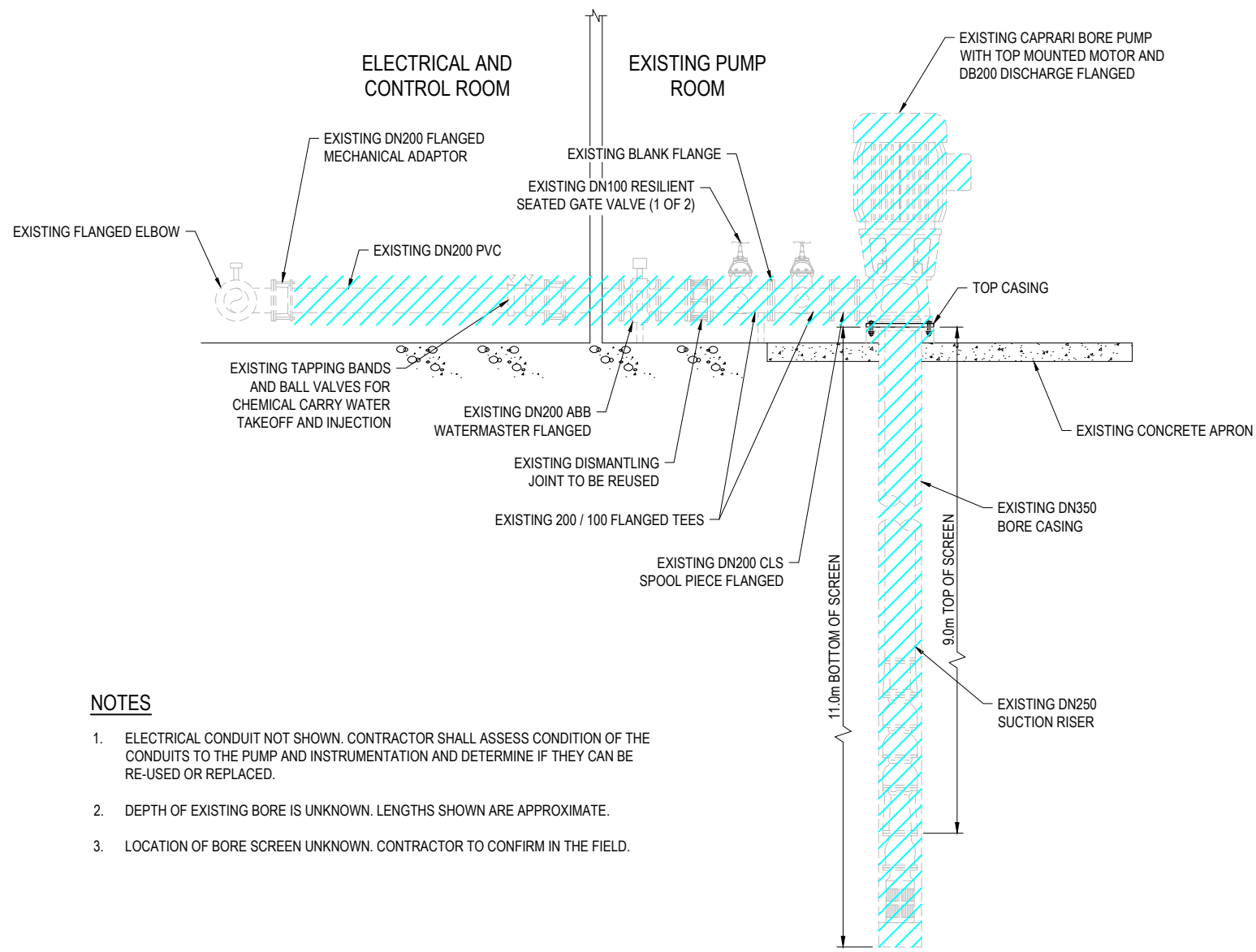
Client: **SOLDIER'S MEMORIAL PARK  
WATER TREATMENT PLANT UPGRADES  
STAGE 3 - NEW TREATMENT CONTAINER**

Title: **EXISTING PUMP STATION AND  
TREATMENT WORKS  
PLAN**

Discipline	CIVIL	Rev.	A
Drawing No.	12520249-C302		

A1 REPRODUCTION SCALE  
0mm

A3 REPRODUCTION SCALE  
0mm



#### NOTES

1. ELECTRICAL CONDUIT NOT SHOWN. CONTRACTOR SHALL ASSESS CONDITION OF THE CONDUITS TO THE PUMP AND INSTRUMENTATION AND DETERMINE IF THEY CAN BE RE-USED OR REPLACED.
2. DEPTH OF EXISTING BORE IS UNKNOWN. LENGTHS SHOWN ARE APPROXIMATE.
3. LOCATION OF BORE SCREEN UNKNOWN. CONTRACTOR TO CONFIRM IN THE FIELD.

**A** SECTION - EXISTING  
C202 SCALE 1:25

0 250 500 750 1000 1250mm  
SCALE 1:25 AT ORIGINAL SIZE

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

No.	Revision	By	Chk	Appd	Date
A	PRELIMINARY ISSUE	SS	MS	CW	03/2021

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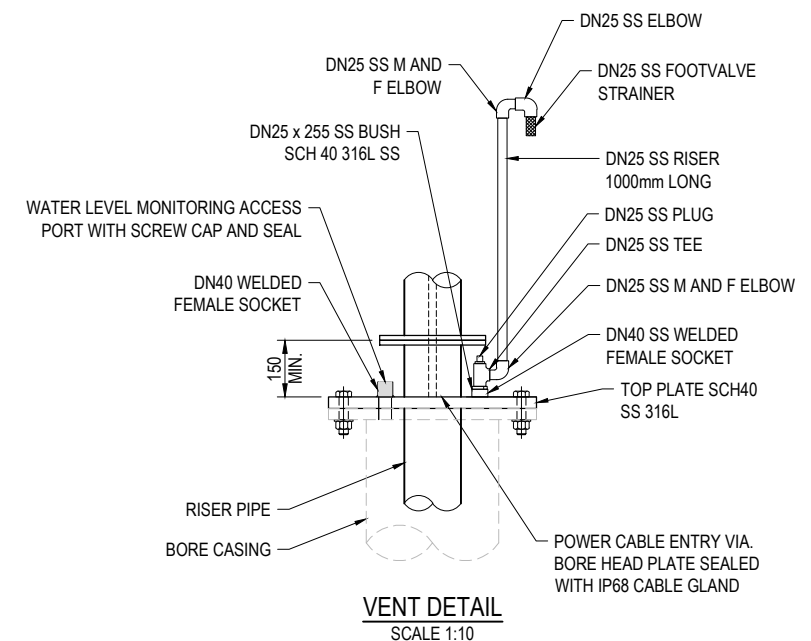
Original Scale (A1) N.T.S.	Design C JOHNSON 03/21	Approved For Construction*
Reduced Scale (A3) N.T.S.	Drawn S SEATH 03/21	Date
	Design Check P GREGORY 03/21	

Client: <b>Wellington Water</b>
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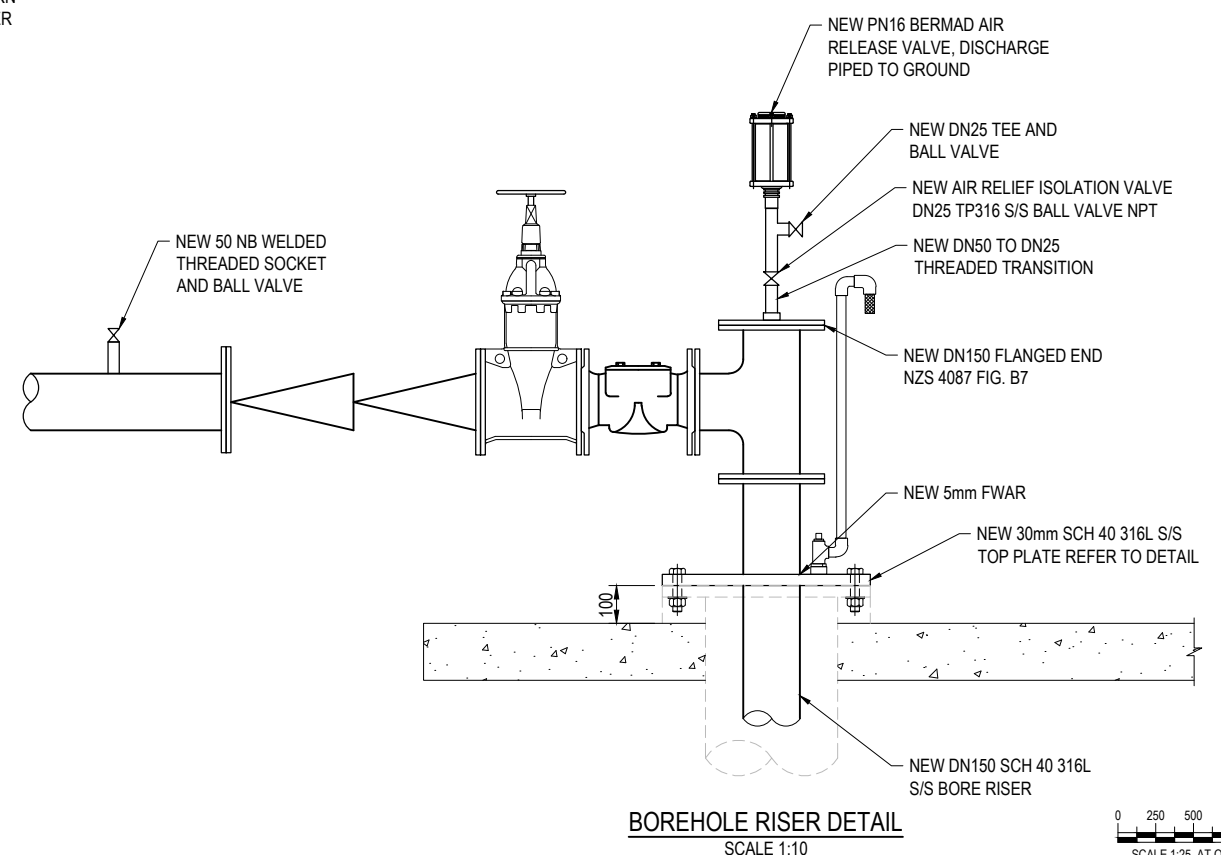
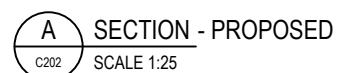
Project: SOLDIER'S MEMORIAL PARK WATER TREATMENT PLANT UPGRADES STAGE 3 - NEW TREATMENT CONTAINER
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Title: EXISTING PUMP STATION AND TREATMENT WORKS SECTION - EXISTING
--

Discipline CIVIL	Rev. A
Drawing No. 12520249-C303	



1. ELECTRICAL CONDUIT NOT SHOWN. CONTRACTOR SHALL ASSESS CONDITION OF THE CONDUITS TO THE PUMP AND INSTRUMENTATION AND DETERMINE IF THEY CAN BE RE-USED OR REPLACED.
2. DEPTH OF EXISTING BORE IS UNKNOWN. LENGTHS SHOWN ARE APPROXIMATE.
3. LOCATION OF BORE SCREEN UNKNOWN. CONTRACTOR TO CONFIRM IN THE FIELD.



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A	PRELIMINARY ISSUE					SS	MS	CW	03/2021
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Design	C JOHNSON	03/21	Approved For Construction*
Drawn	S SEATH	03/21	
Dsg Verifier	C BROWN	03/21	
Dwg Check	P GREGORY	03/21	
			Date

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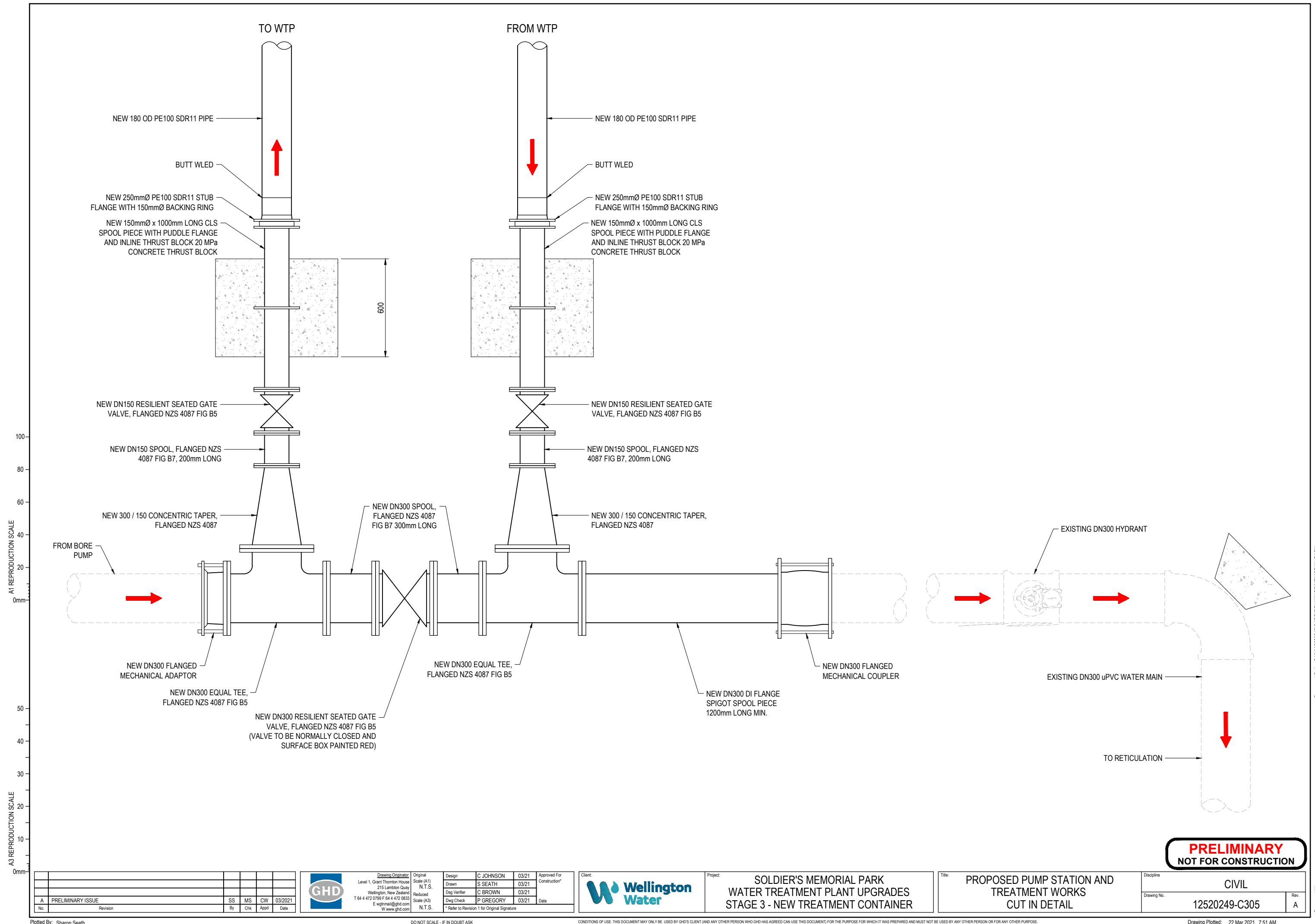


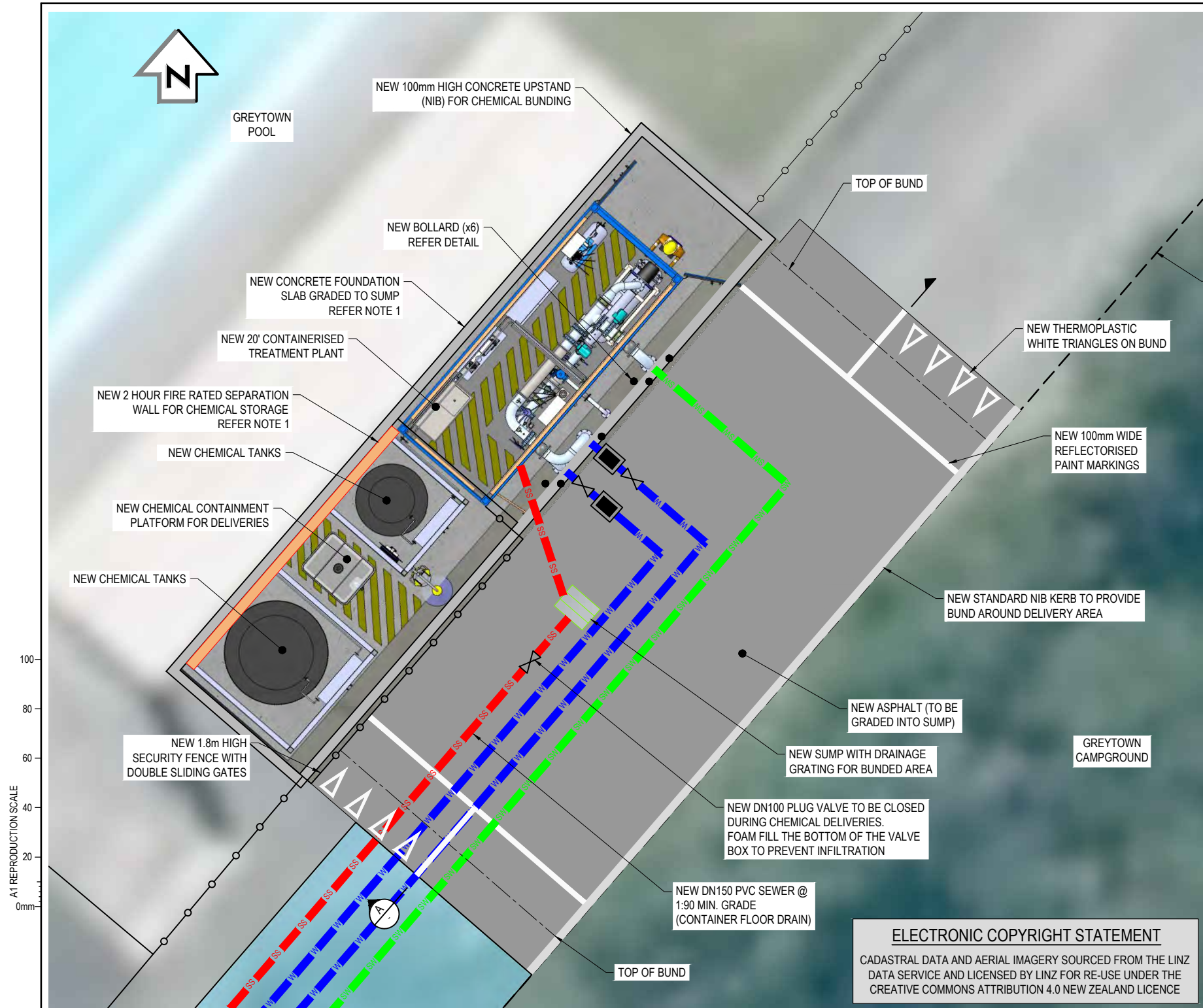
Project: SOLDIER'S MEMORIAL PARK  
WATER TREATMENT PLANT UPGRADES  
STAGE 3 - NEW TREATMENT CONTAINER

Title: PROPOSED PUMP STATION AND  
TREATMENT WORKS  
SECTION - PROPOSED

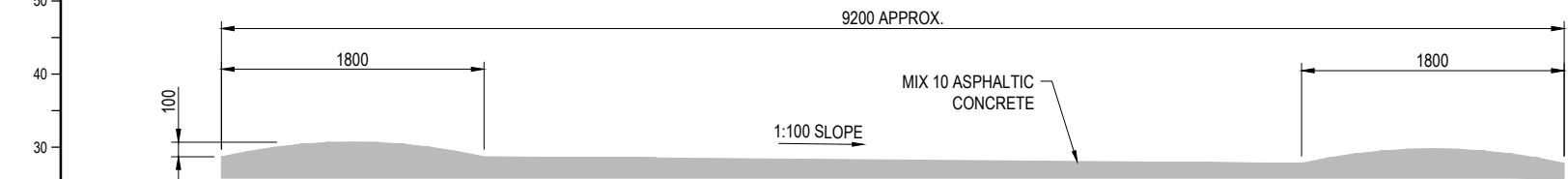
Discipline		CIVIL
Drawing No.	12520249-C304	Rev. A



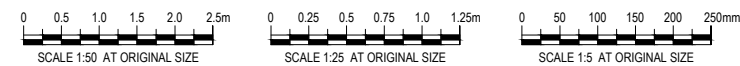




PLAN  
SCALE 1:50



A SECTION  
SCALE 1:25



No.	Revision	By	Chk	Appd	Date
A	PRELIMINARY ISSUE	SS	MS	CW	03/2021



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Design	C JOHNSON	03/21	Approved For Construction*
Drawn	S SEATH	03/21	
Dwg Verifier	C BROWN	03/21	
Dwg Check	P GREGORY	03/21	
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Client: **Wellington Water**  
Project: **SOLDIER'S MEMORIAL PARK  
WATER TREATMENT PLANT UPGRADES  
STAGE 3 - NEW TREATMENT CONTAINER**

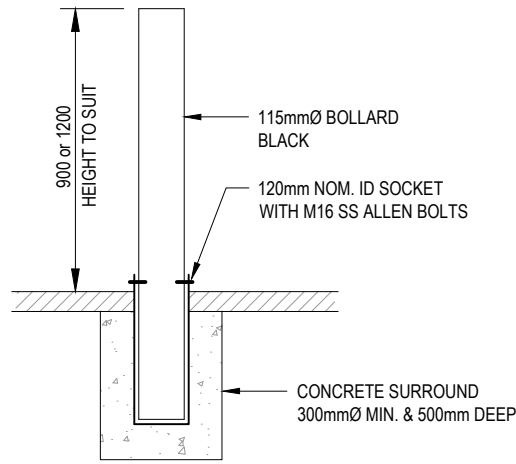
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AND DETAILS**

Discipline	CIVIL	Rev.	A
Drawing No.	12520249-C308		

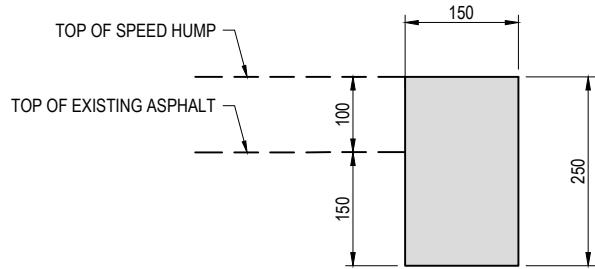
### IMPORTANT SERVICES NOTE

THE SERVICES SHOWN SHOULD BE CONSIDERED INDICATIVE ONLY AND ARE BASED ON RECORDS SUPPLIED BY THE UTILITY COMPANIES. PRIVATE SERVICES AND CONNECTIONS ARE NOT SHOWN.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SERVICES ARE LOCATED/MARKED BY THE APPROPRIATE SERVICE AUTHORITY, OR THEIR OWN STAFF, PRIOR TO ANY SITE WORKS, AND FOR PROTECTING THESE SERVICES FOR THE DURATION OF THE SITE CONTRACT.



BOLLARD DETAIL  
N.T.S.



STANDARD NIB KERB  
SCALE 1:5

### NOTES

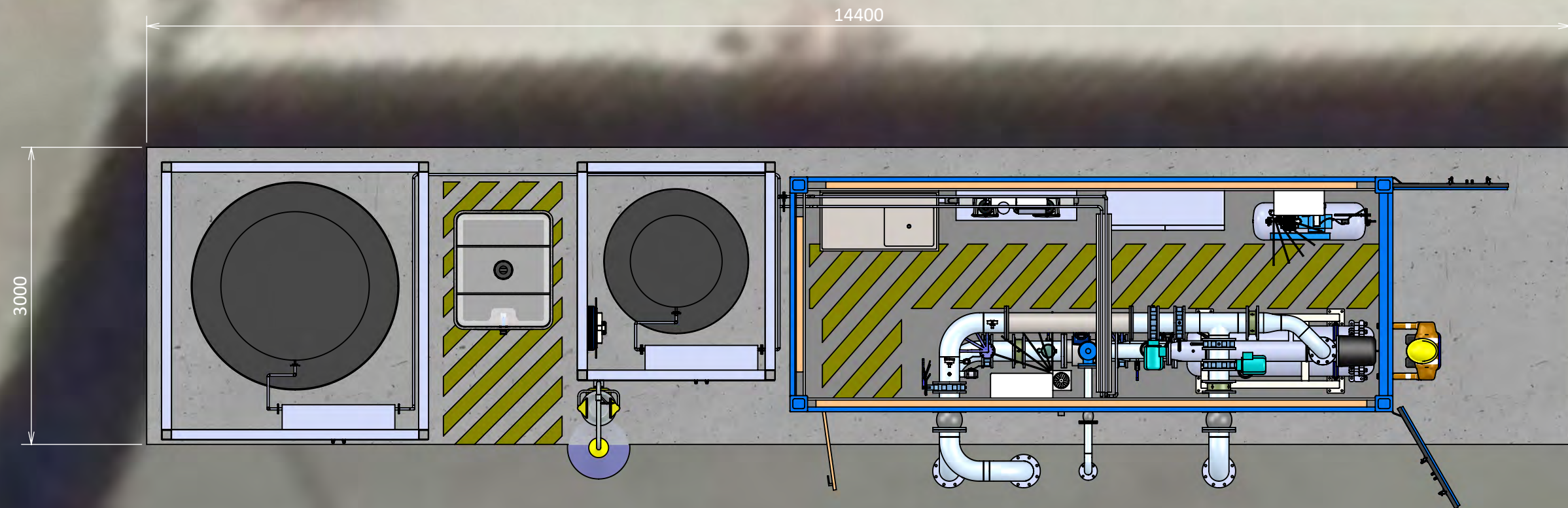
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- CONTRACTOR TO ARRANGE SITE VISIT WITH WELLINGTON WATER LTD DESIGNATED TEST CERTIFIER FOLLOWING INSTALLATION OF CHEMICAL SYSTEMS AND OBTAIN LOCATION CERTIFICATE

### SERVICES LEGEND

NEW WATER MAIN	W W
NEW STORMWATER MAIN	SW
EXISTING WATER MAIN	W W
EXISTING STORMWATER DRAIN	SW
EXISTING SEWER MAIN	SS
EXISTING U/G POWER	UP
EXISTING HIGH VOLTAGE U/G POWER	HV
EXISTING CHORUS	T T
EXISTING CHEMICAL CARRY WATER LINE	C

**PRELIMINARY  
NOT FOR CONSTRUCTION**

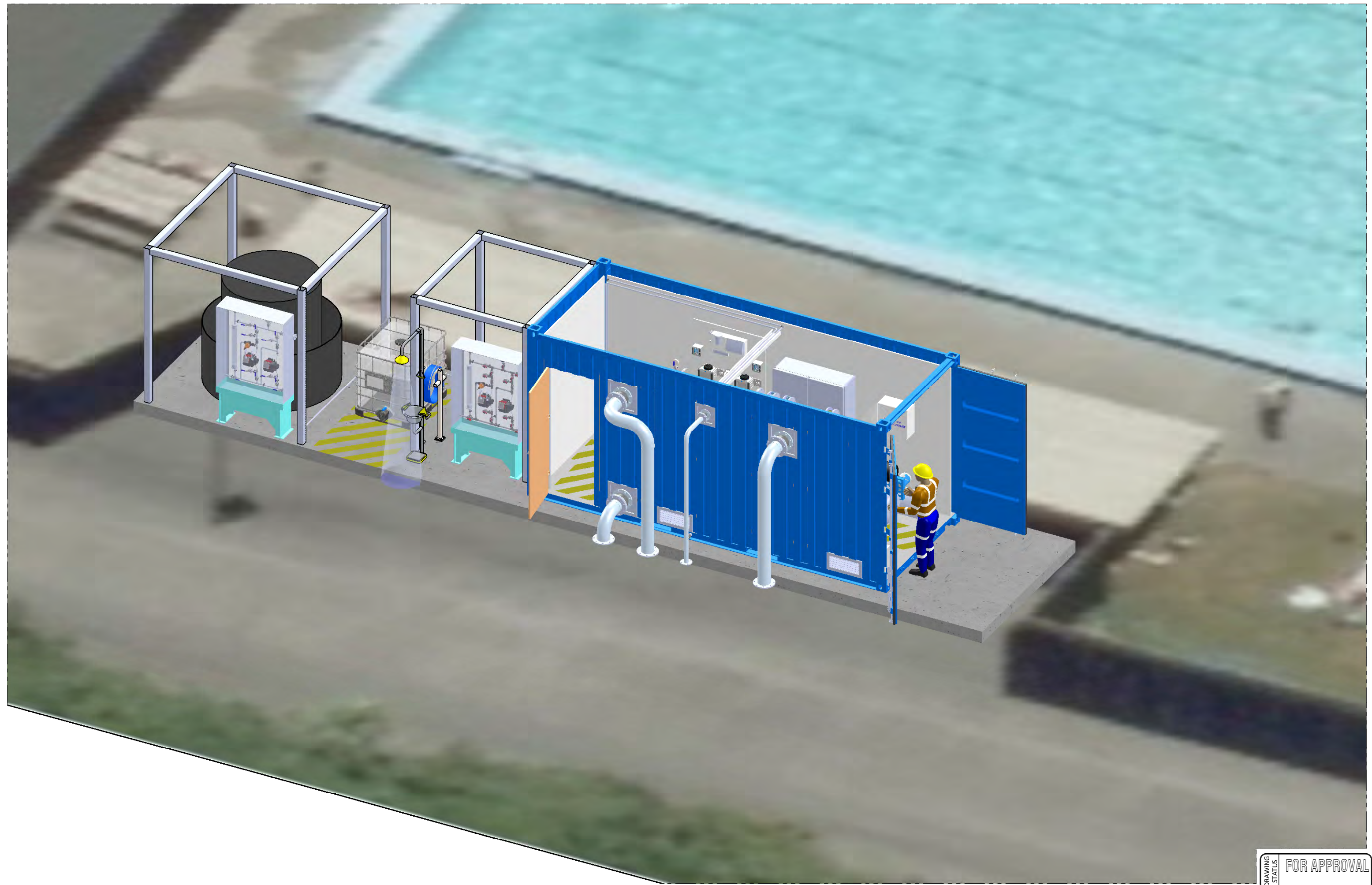




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										Drawn: F.FAGUNDES	16.02.21						
										Checked: T.ZENHA	16.02.21						
										Approved: T.ZENHA	16.02.21						
										Drg: <b>7357-L100-001</b>		Sht: <b>1/4</b> Rev: <b>B</b>					





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


PROJECT  
MEMORIAL PARK WTP  
UPGRADE

TITLE  
GENERAL PLANT LAYOUT

Proj Mgr: T.ZENHA  
Design: F.FAGUNDES  
Drawn: F.FAGUNDES  
Checked: T.ZENHA  
Approved: T.ZENHA

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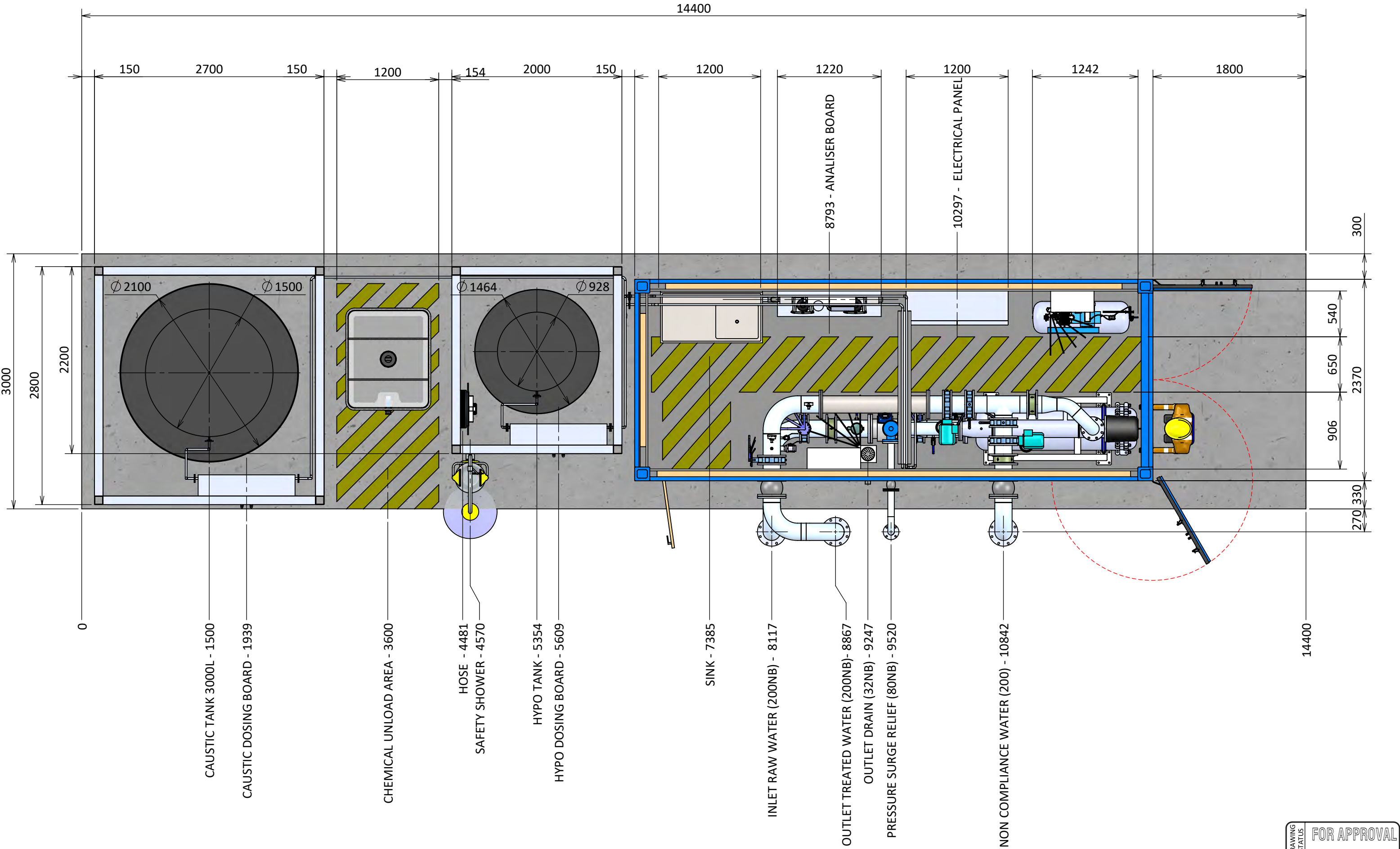
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Client Drawing No:

Drg: **7357-L100-001**

Sht: **2/4** Rev: **B**





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CLIENT  
**Wellington Water**

PROJECT  
MEMORIAL PARK WTP  
UPGRADE

TITLE  
GENERAL PLANT LAYOUT

Proj Mgr: T.ZENHA 16.02.21  
Design: F.FAGUNDES 16.02.21  
Drawn: F.FAGUNDES 16.02.21  
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Approved: T.ZENHA 16.02.21

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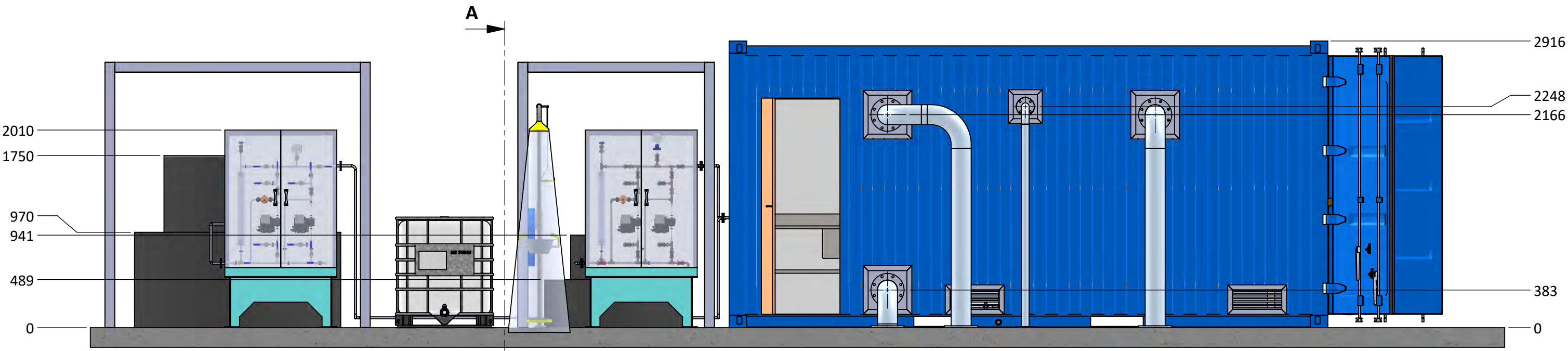
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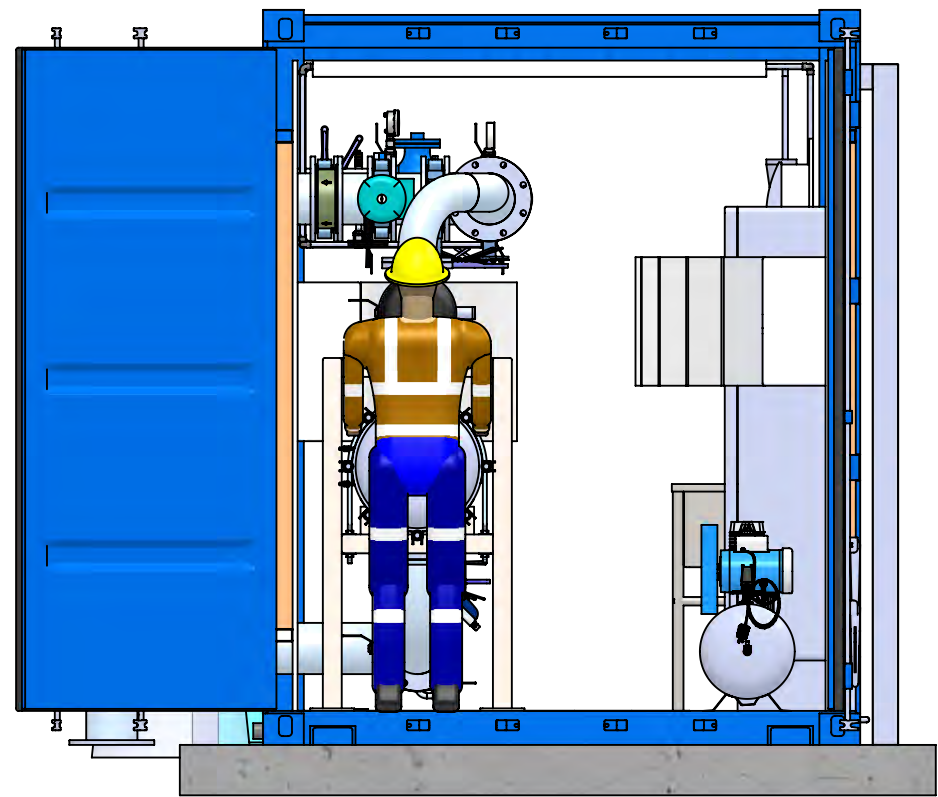
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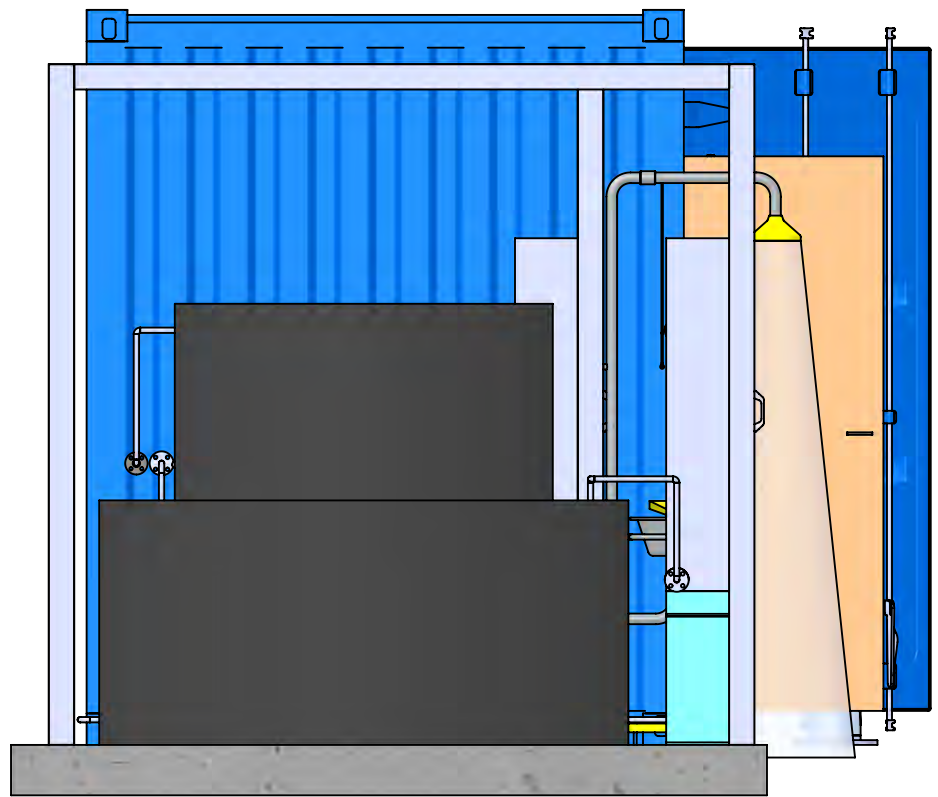
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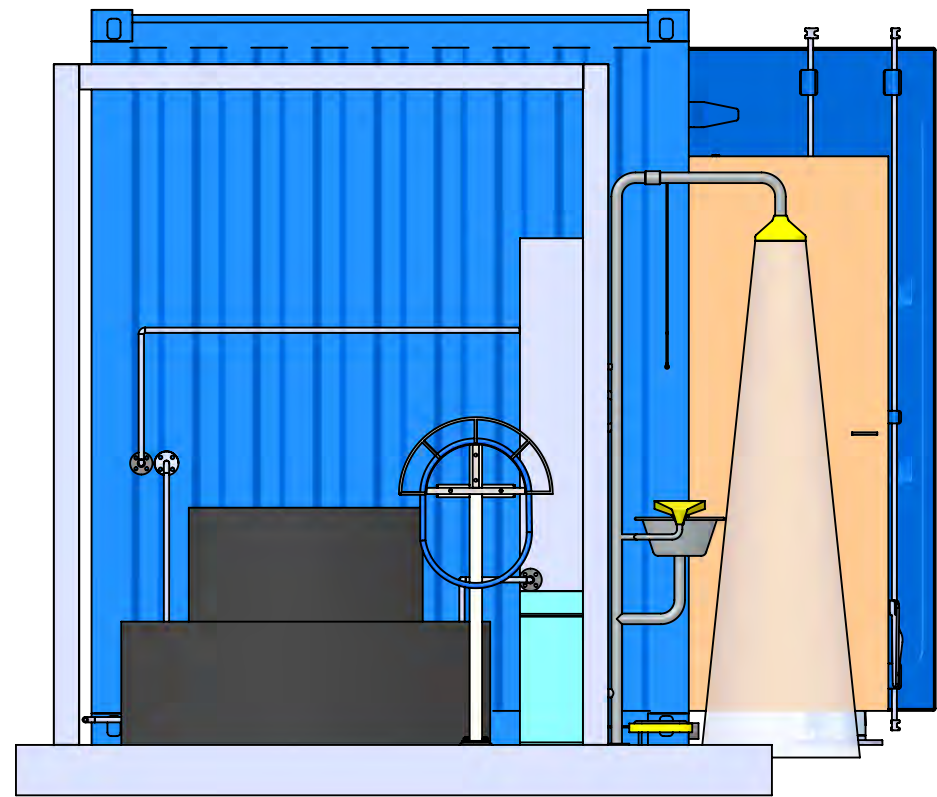
NORTH VIEW



WEST VIEW



EAST VIEW



Section A-A  
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PROJECT  
MEMORIAL PARK WTP  
UPGRADE

TITLE  
GENERAL PLANT LAYOUT

Proj Mgr: T.ZENHA 16.02.21  
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Approved: T.ZENHA 16.02.21

Drg: **7357-L100-001**

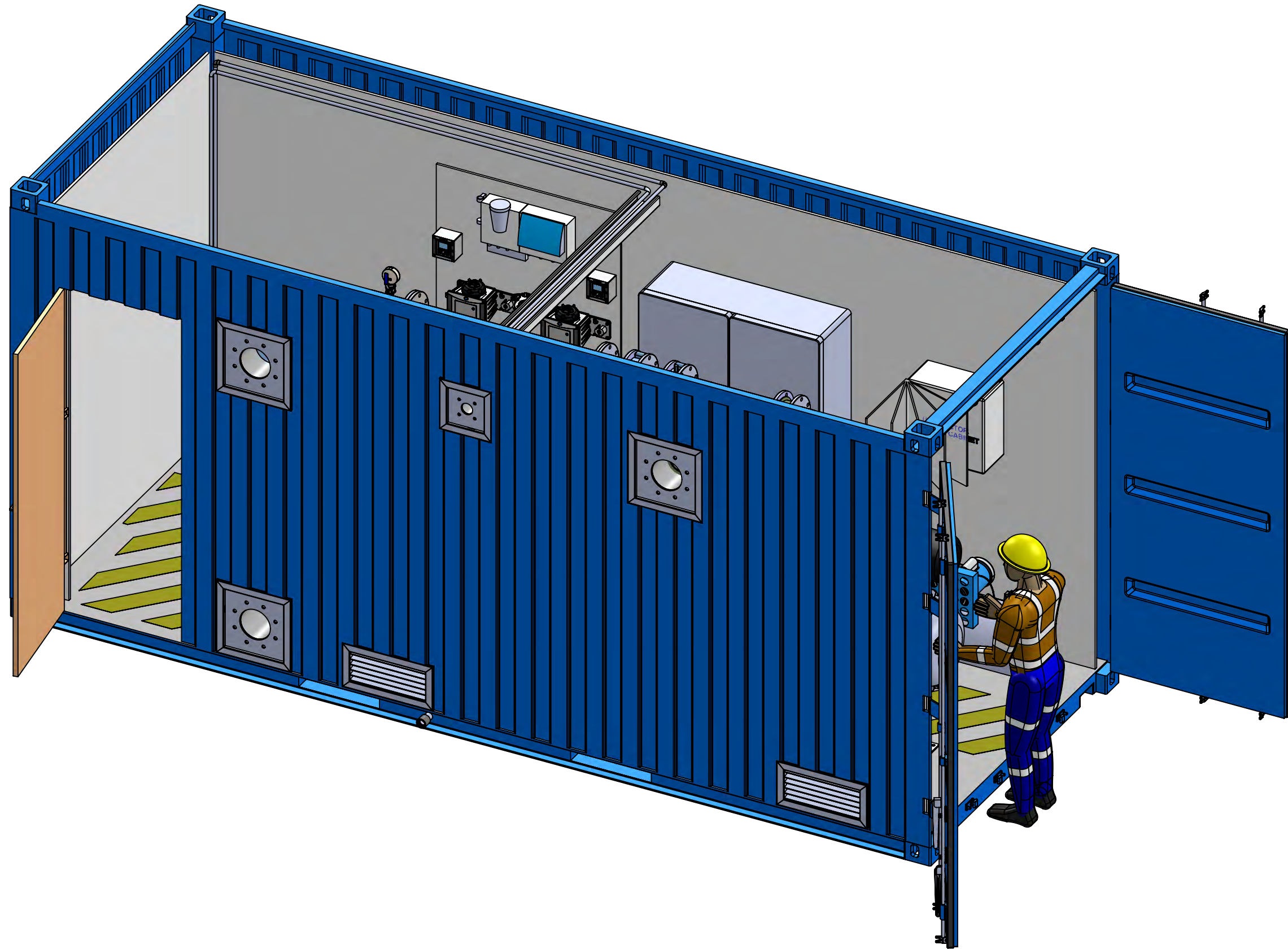
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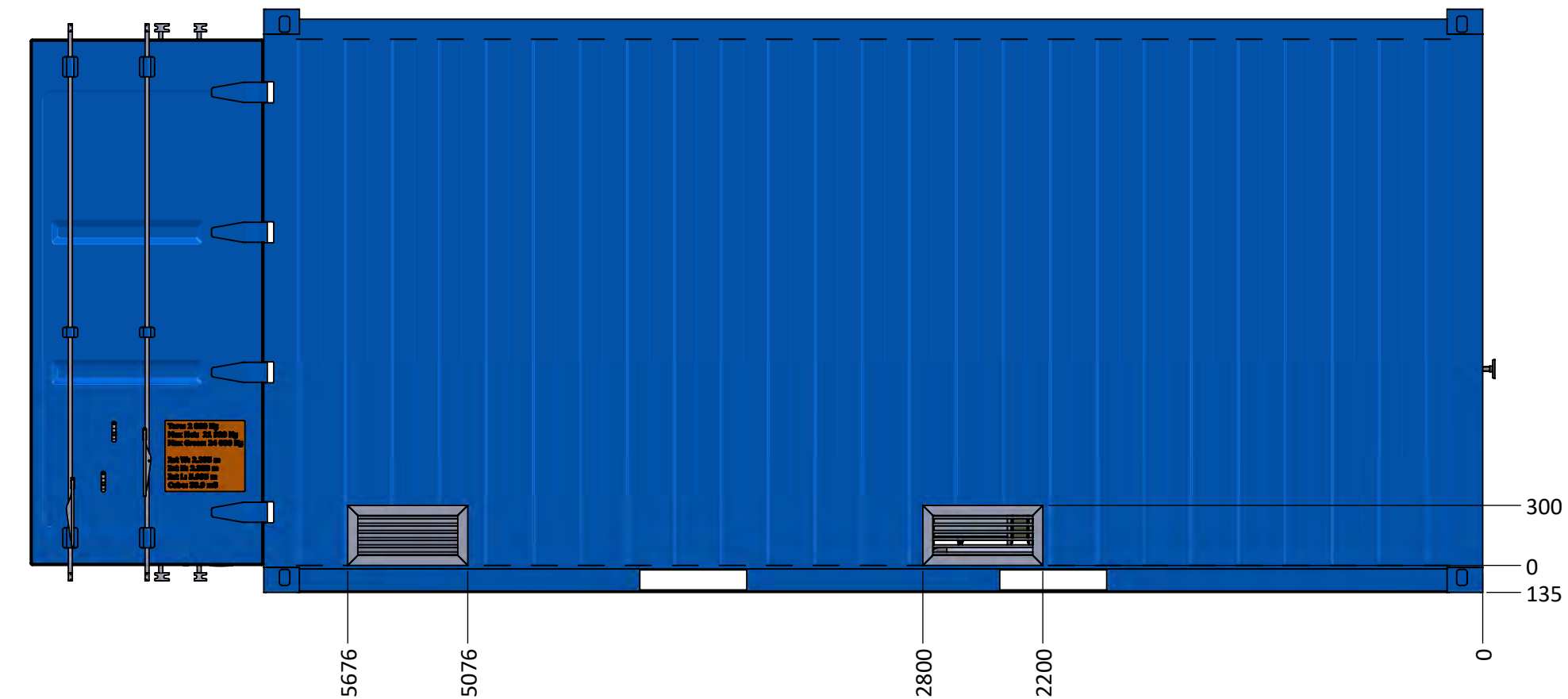
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MEMORIAL PARK WTP  
UPGRADE

TITLE  
CONTAINER LAYOUT

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Design: F.FAGUNDES 12/03/21  
Drawn: F.FAGUNDES 12/03/21  
Checked: T.ZENHA 12/03/21  
Approved: T.ZENHA 12/03/21

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 Client Drawing No:

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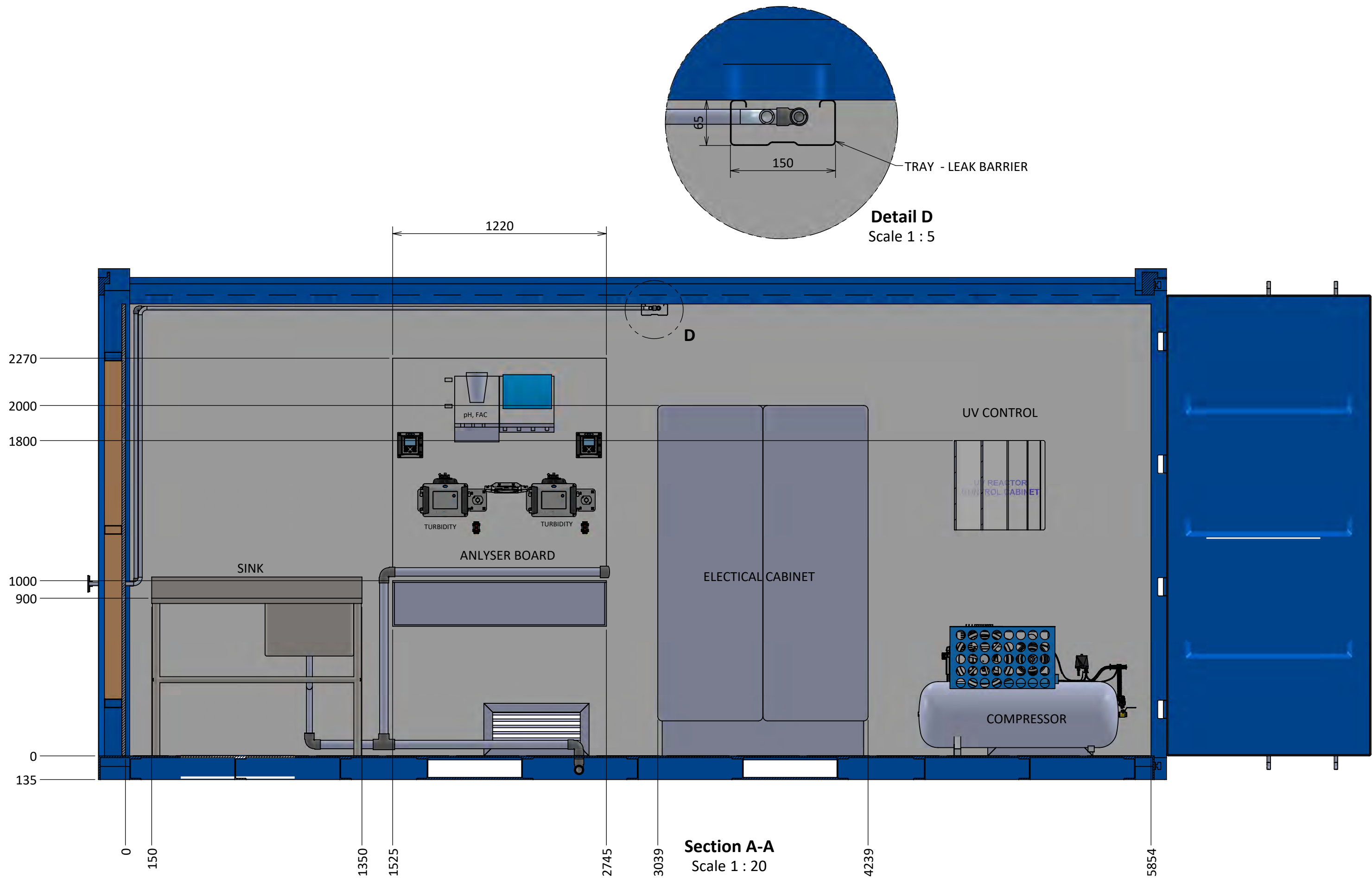


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				Approved: T.ZENHA12/03/21								
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Drg: 7357-L100-002											Sht: 2/5	Rev: A







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CLIENT  
**Wellington Water**

PROJECT  
MEMORIAL PARK WTP  
UPGRADE

TITLE  
CONTAINER LAYOUT

Proj Mgr: T.ZENHA 12/03/21  
Design: F.FAGUNDES 12/03/21  
Drawn: F.FAGUNDES 12/03/21  
Checked: T.ZENHA 12/03/21  
Approved: T.ZENHA 12/03/21

A3 Scale: NTS  
Client Drawing No:

Drg: **7357-L100-002** Sht: 4/5 Rev: **A**





# Appendix G – Property Titles





**RECORD OF TITLE  
UNDER LAND TRANSFER ACT 2017  
FREEHOLD  
Limited as to Parcels  
Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** **WN336/86**  
**Land Registration District** **Wellington**  
**Date Issued** 15 February 1926

**Prior References**  
DI 30/136

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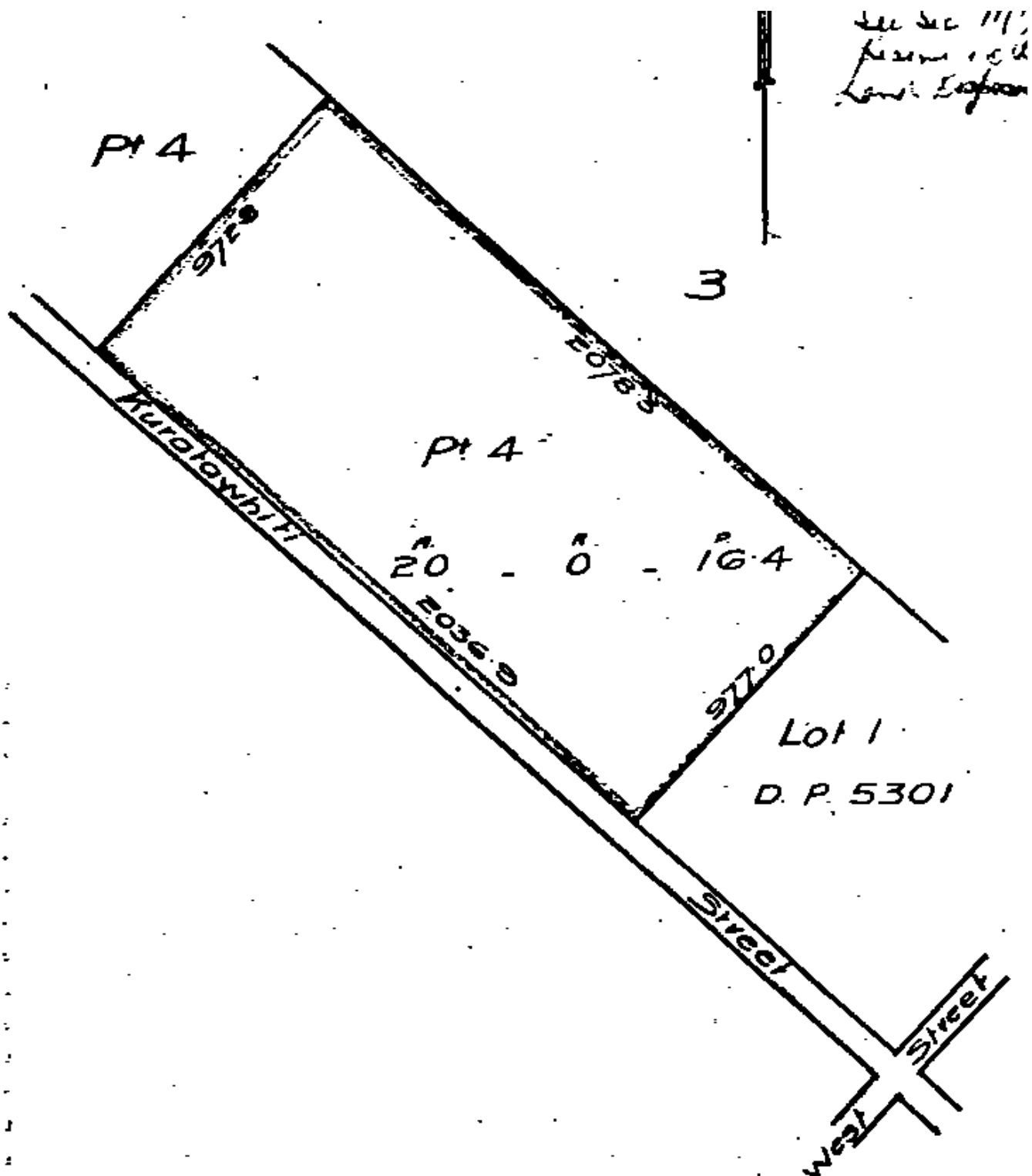
<b>Estate</b>	Fee Simple
<b>Area</b>	8.1352 hectares more or less
<b>Legal Description</b>	Part Section 4 Small Farm Settlement Greytown
<b>Purpose</b>	In trust for the perpetual use thereof by the public as a park for the purpose of exercise and recreation

**Registered Owners**  
The Greytown Borough Council

---

**Interests**

10733553.1 Notification that a building consent issued pursuant to Section 72 Building Act 2004 identifies Inundation as a natural hazard - - 22.3.2017 at 3:46 pm





**RECORD OF TITLE**  
**UNDER LAND TRANSFER ACT 2017**  
**FREEHOLD**  
**Search Copy**



  
R.W. Muir  
Registrar-General  
of Land

**Identifier** **WN852/23**  
**Land Registration District** **Wellington**  
**Date Issued** 31 July 1959

**Prior References**  
WN394/139      WN448/228      WN448/229

---

**Estate** Fee Simple  
**Area** 7768 square metres more or less  
**Legal Description** Lot 2-3 Deposited Plan 21041  
**Purpose** Reserve for recreation  
**Registered Owners**  
The Greytown Borough Council

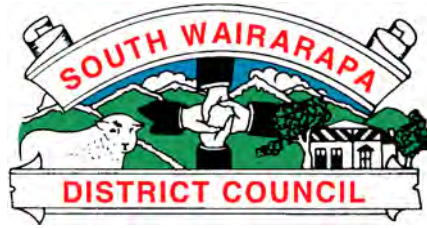
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**Interests**

Search Copy Dated 09/12/20 3:21 pm, Page 2 of 2  
Register Only



# Appendix H – Soldiers Memorial Park Reserve Management Plan



# **Soldiers Memorial Park Reserve Management Plan**



Adopted by Council on 29 August 2007

Approved by Department of Conservation on 18 April 2008

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# **1 INTRODUCTION**

## **1.1 Purpose of this Plan**

This plan provides a policy framework for the management of Soldiers Memorial Park. It has been prepared in accordance with section 41 of the Reserves Act 1977 to provide for the use, enjoyment, maintenance, protection, preservation and development of the reserve.

### **1.1.1 Vision statement**

To manage and develop Soldiers Memorial Park for public use and enjoyment in a sustainable manner that reflects the formal and informal recreational needs of the Community, the historic values of the reserve, including O'Connor's Bush, and the facilities provided by the camping ground.

That the original purpose of the reserve as a memorial to the sacrifice made by New Zealand men and women in the First World War be honoured and not forgotten. The reserve also stands as a memorial for those who served in the Second World War.

### **1.1.2 Content of the plan**

This plan is structured in the following way:

1. Introduction
2. Administration
3. Reserve Resources
4. Development
5. Management and asset maintenance

Each section contains background information and objectives and policies to guide management and development of the reserves.

### **1.1.3 Review**

The plan be reviewed at least on a ten yearly basis by Council to ensure the objectives and policies remain relevant to the management and development of the reserve. A review can be undertaken sooner if there are concerns about the effectiveness of the plan. The review should be publicly notified so comments from interested groups and the Community can be considered. If the plan is found to be in need of amending a new management plan will be prepared in accordance with the Reserves Act requirements.

## **1.2 The Reserve Area**

The reserve is located in and administered by the South Wairarapa District Council (Council).

### **1.2.1 Reserve Description**

Soldiers Memorial Park is located on Kuratawhiti Street in Greytown.

## Soldiers Memorial Park Management Plan August 2007

Soldiers Memorial Park comprises 8.92ha of reserve land, which is used for various recreational purposes. For the purposes of this plan, the reserve includes:

- Cricket, hockey and soccer playing fields
- Cricket nets
- Cricket Pavilion
- Memorial Baths swimming pool and club rooms
- Car parking areas
- Croquet and petanque green and associated buildings
- Tennis courts
- Tennis clubrooms
- Greytown Camping Ground, including caretaker buildings, kitchen and ablutions block
- Children's playground
- O'Connor's Bush
- World War I and II Memorials and flagpole
- Memorial Trees
- World War II gun and carriage
- Pump shed

The location of these features is shown in Figure 1.

### 1.2.2 Summary of reserve values

There are a range of recreational, amenity and historic values associated with Soldiers Memorial Park that combine to create a unique and important area for the community and visitors to the reserve. These values are:

- Open Space for informal and formal recreational activities
- Formal sporting facilities for soccer, cricket, hockey, tennis, croquet, petanque and swimming
- Historic and amenity values associated with O'Connor's Bush
- Historic values associated with various memorials to the fallen soldiers of WWI and WWII, including the Memorial Trees, Memorial Baths and historic gate.
- Recreational and leisure values associated with the Greytown Camping Ground

### 1.3 Legal Framework

The Reserves Act 1977 (the Act) is the principle piece for legislation that governs the

management and development of Soldiers Memorial Park. This Management Plan has been developed in accordance with this Act.

Other legislation / documents relevant to reserve management and development include:

- The South Wairarapa District Council District Reserves Strategy
- Plans prepared under the Resource Management Act 1991, particularly the Operative South Wairarapa District Plan and the Proposed Wairarapa Combined District Plan. The District Plan sets the zoning of the reserve and regulates the effects of activities that take place on the reserve.
- Plans and strategies prepared under the Local Government Act 2002, e.g. the Annual Plan and the Long Term Council Community Plan.
- The Historic Places Act 1993, which provides statutory protection to archaeological sites.

The Principles of the Treaty of Waitangi are also relevant to reserve management and development.

All aspects of this legal framework have been considered in the preparation of this Management Plan.

#### **1.4 Existing Leases / Licences**

The Council granted a Licence to Occupy to the Greytown Croquet and Petanque Club in August 2006, for an initial term of two years. This licence grants exclusive use of the croquet and petanque ground to the Club. The licence acknowledges that the small buildings and the tree shelters located on the Club grounds are in the ownership of the Club.

The Council granted a Deed of Licence for the operation of the Greytown Camping Ground in February 2003. This was for an initial term of three and a half years, and has since been carried over. The licence acknowledges that the Council owns the buildings and fittings associated with the camping ground.

## 2 ADMINISTRATION

The administration of Soldiers Memorial Park must reflect the purposes for which it is classified under the Reserves Act 1977. Administration should also take account of other statutory documents, particularly the relevant district plan provisions.

The administration of Soldiers Memorial Park must also consider the needs and concerns of the community.

### 2.1 Land Status

#### 2.1.1 History of land acquisition

The parcels of land that now make up Soldiers Memorial Park were originally owned by individual members of the community. Ownership of the area of land now containing the sports fields, camping ground and the major part of the bush was transferred to the predecessors of the South Wairarapa District Council in 1920, with the purpose registered on the title as “the perpetual use by the public as a park for the purposes of exercise and recreation”. This purchase by Council was the result of a huge fundraising effort by the local community. Ownership of the remainder of the bush area was transferred to the Council in 1959, with the purpose registered on the title as “a reserve for recreational purposes to form part of the Greytown Memorial Park”.

The bush area on the reserve was originally part of a large 40 acre section purchased by the O’Connor family. Ownership of this section had been broken up by the time the first section of the reserve was transferred to the Council in 1920.

#### 2.1.2 Classification

The part of Soldiers Memorial Park containing the native bush (referred to as O’Connor’s Bush) is classified Historic Reserve under Section 18 Reserves Act 1977. The remainder of Soldiers Memorial Park is classified Recreation Reserve under Section 17 Reserves Act 1977. These classifications took effect on 7 December 2006 when notice of the Council resolution regarding classification was published in the *NZ Gazette*.

**Section 17** states that recreation reserves are to be managed primarily for the purpose of:

*providing areas for the recreation and sporting activities and the physical welfare and enjoyment of the public, and for the protection of the natural environment and beauty of the countryside, with emphasis on the retention of open spaces and on outdoor recreational activities, including recreational tracks in the countryside.*

Section 17 also states that a recreation reserve must be administered and maintained such that:

- Generally, the public shall have free access to the reserve
- If there are scenic, historic, archaeological, or other features present on the reserve, or indigenous flora or fauna, these features must also be managed and



protected to the extent compatible with the recreation purpose of the reserve.

- Those qualities of the reserve which contribute to the pleasantness, harmony, and cohesion of the natural environment and to the better use and enjoyment of the reserve shall be conserved
- Its value as a soil, water, and forest conservation area shall be maintained

**Section 18** states that historic reserves are to be managed primarily for the purpose of:

*protecting and preserving in perpetuity such places, objects, and natural features, and such things thereon or therein contained as are of historic, archaeological, cultural, educational, and other special interest.*

Section 18 also states that an historic reserve must be administered and maintained such that:

- Generally, the public shall have free access to the reserve
- The structures, objects, and sites illustrate with integrity the history of New Zealand
- If there are scenic, archaeological, biological or other scientific features present on the reserve, or indigenous flora or fauna, these features must also be managed and protected to the extent compatible with the historic purpose of the reserve.
- Its values as a soil, water and forest conservation area be maintained
- The indigenous flora and fauna and natural environment shall as far as possible be preserved

Table 1 provides the legal description of the parcels of land that comprise Soldiers Memorial Park and their reserve classification. These parcels are zoned Urban Open Space under the Operative South Wairarapa District Plan and Urban Residential Reserve under the Proposed Wairarapa Combined District Plan.

**Table 1: Legal status of Soldiers Memorial Park**

Legal Description	Title Reference	Reserve Classification
Part Section 4 Small Farm Settlement Greytown	WN336/86	Recreation and Historic
Lot 2-3 DP 21041	WN852/23	Historic

Both the Operative and Proposed District Plans identify the trees in the park as either “Note Worthy” (current District Plan) and “Notable Trees” (in proposed District Plan). The Notable Trees enjoy protection under the Resource Management Act 1991 and a tree cannot be damaged or destroyed unless a resource consent has first been

granted.

## **2.2 Community and Organisational Interest**

There is a wide range of interest in Soldiers Memorial Park from groups including:

- Town residents who enjoy and use the reserve on a regular basis
- The wider community and visitors to the town
- Tangata Whenua
- Pavilion committee
- Plunket
- Camp ground managers
- Sporting clubs based at or using the reserve
- Friends of Greytown Memorial Soldiers Park
- Greytown Community Sport and Leisure Society Inc
- Friends of the Park
- Greytown Community Heritage Trust
- RSA

Community support is integral to the management and development of Soldiers Memorial Park. Council would like to manage the reserve through a cooperative process with the local community. Such a process will identify management and development needs, and allow cooperative implementation of the objectives and policies in the Management Plan.

## **2.3 Administration Objectives**

To provide for integrated management of the different resource areas of Soldiers Memorial Park, protecting and enhancing the historic, open space and recreation values of the reserve, while allowing for the use and enjoyment of the reserve.

To manage Soldiers Memorial Park through a cooperative approach between the Council, Community Board, Tangata Whenua, the community and users of the reserve.

To actively promote Soldiers Memorial Park as having locally and regional significant historic values and recreational resources.

## **2.4 Administration Policies**

- a. To ensure management and administration of Soldiers Memorial Park is in accordance with statutory requirements, including Sections 17 (recreation classification) and 18 (historic classification) of the Reserves Act 1977 and the district plan.
- b. The Council will continue to consult with the community, Tangata Whenua, and other interest groups on matters affecting the ongoing management and

## Soldiers Memorial Park Management Plan August 2007

development of Soldiers Memorial Park.

- c. The Council will arrange at least 1 meeting each year of the main park users as a forum to discuss operational issues. The users will include but not be limited to the Greytown Community Sport and Leisure Society Inc, Greytown Swimming Club, Greytown Cricket Club, Pavilion Committee, Greytown Tennis Club, Plunket, Camp Ground managers, Friends of Greytown Soldiers Memorial Park and Greytown Community Board. The facilitation of the meeting may be delegated to the Greytown Community Board. The first meeting of the year must be held prior to Labour Day each year in preparation of the summer sports season.
- d. The Council will encourage community participation in the planning, development, management and maintenance of Soldiers Memorial Park.
- e. Consultation relating to this plan and the matters covered by this plan shall be undertaken in accordance with the process and timeframes of the Local Government Act 2002.
- f. The Council will monitor the preparation of the Proposed Wairarapa Combined District Plan and any subsequent amendments to ensure that the plan provisions do not adversely impact upon the Community's use and enjoyment of Soldiers Memorial Park.
- g. To ensure that the management of the reserves is responsive the Council will delegate daily management decisions to the Council's Chief Executive where appropriate.

Note: the Chief Executive has powers to delegate management decisions to Council staff to ensure management of the reserve is timely and efficient

- h. An information base of Soldiers Memorial Park's historic significance, recreational opportunities and open space values will be developed and maintained.
- i. Promotional material on the reserve's historic significance and recreational opportunities will be developed to promote the profile and importance of the reserve.
- j. An information data base on the ecological and botanical values of Soldiers Memorial Park be developed and maintained.

Note: the Friends of the Park hold valuable information on the history and botanical values of the park and should be consulted over the preparation of promotional and educational material.

- j. That the Council use its web site to promote the dissemination of information on the historical and botanical values of the park and on the leases and licences.

### **3 RESERVE RESOURCES**

There are four resource categories that apply to Soldiers Memorial Park: open space, recreational facilities, camping ground, and O'Connor's Bush. Figure 1 shows the location of the reserve resource areas.

#### **3.1 Open Space**

##### **3.1.1 Description**

The playing fields at the north-western end of Soldiers Memorial Park provide an open space resource. These fields are used for soccer, hockey and cricket, as well as informal recreational uses.

The playing fields are surrounded on three sides by Memorial Trees. These Memorial Trees were planted as a memorial to fallen soldiers. A plaque providing background information on the trees is located in this area. These trees are identified in the South Wairarapa District Plan as "Noteworthy Trees" and in the proposed Wairarapa District Plan as "Notable Trees".

##### **3.1.2 Objectives**

To protect and enhance the open space character of the playing fields area of Soldiers Memorial Park.

To promote and encourage the use of Soldiers Memorial Park's open space for a range of recreational activities, including sports and other activities, that are complementary to the reserve's recreational, open space and historic values.

To preserve and protect the historic values of the Memorial Trees bordering the open space area of the Park.

##### **3.1.3 Policies**

- a. Planting to be undertaken on the open space area of Soldiers Memorial Park shall not detract from the open space character of the reserve or the historic values of the Memorial Trees.
- b. Any new permanent fences on the open space area of Soldiers Memorial Park will require the approval of the Council's Chief Executive, to ensure that new fences do not compromise the open space character of the reserve.
- c. Temporary fences maybe erected for specific events if approved by the Council's Chief Executive.
- d. Council will encourage a range of recreational activities on the open space area of Soldiers Memorial Park where these do not adversely affect the open space values of the reserve.
- e. The installation and operation of irrigation systems shall not adversely affect the lime trees.
- f. No motor vehicles or motor cycles are permitted on the playing fields unless authorised as part of an event or maintenance activities.



**Memorial Tree policies:**

- g. Removal of Memorial Trees shall only be undertaken if approved by the Council. Where public health and safety requires urgent removal, this shall be done on the approval of the Chief Executive. The Council may consult the Greytown Community Tree Advisory Committee.
- h. Maintenance of the Memorial Trees shall be carried out only on the direction of the Chief Executive where this maintenance has been assessed as being necessary to ensure continued health of the trees and the protection of public health and safety by a suitably qualified arborist. The maintenance works shall also be carried out by a suitably qualified arborist.
- i. The root zone of the Memorial Trees shall be protected. No earthworks or ground disturbance will be permitted within the root zone of the Memorial Trees, except where necessary to protect public health and safety and on the approval of the Chief Executive.

**3.2 Recreational Facilities**

**3.2.1 Description**

Soldiers Memorial Park has a number of recreational facilities, including:

- 1. Cricket Pavilion
- 2. Memorial Baths swimming pool and Club Rooms
- 3. Cricket nets
- 4. Croquet and petanque green and associated buildings
- 5. Tennis courts and tennis clubrooms
- 6. Children's playground

The Memorial Gates at the entrance to the park, the Memorial Baths and the children's playground also have historic values associated with them.

**3.2.2 Objectives**

To maintain the existing recreational facilities on Soldiers Memorial Park.

To protect the historic values associated with the Memorial Gates, Memorial Baths and children's playground.

**3.2.3 Policies**

- a. Existing recreational facilities on Soldiers Memorial Park will be maintained as priorities and resources allow. Public safety should be the priority for maintenance spending.
- b. Minor maintenance and upgrade work to the recreational facilities on Soldiers Memorial Park, undertaken by those other than the Council, will require the prior approval of the Chief Executive or delegate.
- c. Maintenance and up-grade of the Memorial Gates, Memorial Baths and the

children's playground must protect the historic values associated with these facilities.

- d. Any new buildings on Soldiers Memorial Park shall be located to ensure new buildings do not detract from the open space character of the reserve.

### **3.3 Greytown Camping Ground**

#### **3.3.1 Description**

The Greytown Camping Ground is located in the middle of Soldiers Memorial Park. It includes tent sites, powered sites, and two buildings containing ablution, kitchen, storage and laundry facilities. The camping sites are grassed and there are a number of mature native trees scattered across the area. Access into the camping area is mainly via sealed road, with one length of metalled road.

#### **3.3.2 Objectives**

To continue to provide the recreational and leisure facilities associated with the camping ground through a lease to a third party to manage the camping ground.

To maintain the recreational and leisure facilities provided by the camping ground.

To maintain the character of the camping ground created by the native trees scattered across the camping ground area.

#### **3.3.3 Policies**

- a. The camping ground area will be set aside under Section 53(h)(i) of the Reserves Act 1977 to enable the area to be leased and managed as a camping ground under Section 54 Reserves Act 1977.
- b. The lease to manage the camping ground shall be in accordance with the provisions of the Reserve Act 1977 and shall provide for, among other things, the day to day management of the camping ground and the maintenance of and minor upgrade works for the camping ground.

#### **Native Tree Policies:**

- c. Removal of native trees from within the camping ground area shall only be undertaken if approved by the Council. Where public health and safety requires urgent removal, this shall be done on the approval of the Chief Executive. The Council may consult the Greytown Community Tree Advisory Committee.
- d. Maintenance of native trees within the camping ground area shall be carried out only on the direction of the Chief Executive where this maintenance has been assessed as being necessary to ensure continued health of the trees and the protection of public health and safety by a suitably qualified arborist. The maintenance works shall also be carried out by a suitably qualified arborist. The Council may consult the Greytown Community Tree Advisory Committee.
- e. The root zone of the native trees within the camping ground shall be protected. No earthworks or ground disturbance will be permitted within the root zone of

any native trees, except where necessary to protect public health and safety and on the approval of the Chief Executive. The Council may consult the Greytown Community Tree Advisory Committee.

- f. The camping ground should be managed to avoid any vehicle parking on the root zones of trees.
- g. Any native tree that falls over or dies due to natural causes shall be offered in the first instance to Tangata Whenua.

### **3.4 O'Connor's Bush**

#### **3.4.1 Description**

O'Connor's Bush covers a large area of south-eastern half of Soldiers Memorial Park and is classified as historic reserve. The bush is significant as it is a remnant of the original lowland forest that once covered the Wairarapa area. Trees within the bush area include totara, matai, titoki and kanuka. Native bird life is also present. The bush area has been fenced, and steps have been taken by the local community to control weeds and possums.

#### **3.4.2 Objectives**

To preserve, protect and enhance the historic and ecological values of O'Connor's Bush.

#### **3.4.3 Policies**

- a. The fence enclosing O'Connor's Bush shall be maintained.
- b. Any cutting or destroying of native vegetation from O'Connor's Bush requires the approval of the Minister of Conservation due to its historic classification. Council shall enter into an agreement with the Department of Conservation to cover maintenance of the native vegetation within O'Connor's Bush.
- c. Any cutting or destroying of exotic (non-native) vegetation from O'Connor's Bush requires the approval of Council due to its historic classification. Council shall work with the community and in particular with Friends of the Park and Greytown Community Heritage Trust to develop a programme for the removal of weeds from O'Connor's Bush.
- d. Any native tree that falls over or dies due to natural causes shall be offered in the first instance to Tangata Whenua.
- e. Access to O'Connor's Bush shall be confined to the established walkways through the bush area. There shall be no unauthorised access to the area enclosed by the fence.
- f. Access to the fenced areas of O'Connor's Bush shall only be for maintenance, enhancement, and scientific purposes and shall be with the approval of the Chief Executive.
- g. Dogs and bicycles are prohibited within O'Connor's Bush.

Soldiers Memorial Park Management Plan August 2007

- h. The installation and operation of irrigation systems for O'Connors Bush shall not adversely affect the botanical or ecological values of the area.



**Figure 1: Soldiers Memorial Park Resources**



Key

OS Open Space Playing Fields

MT Memorial Trees

1 Park Pavilion & Cricket Nets

2 Memorial Baths

3 Croquet & Petanque Green

4 Tennis & Netball Courts

5 Children's Playground

GCG Greytown Camping Ground

O'C B O'Connor's Bush

## **4 DEVELOPMENT**

### **4.1 Introduction**

Development of Soldiers Memorial Park needs to reflect the recreation and historic classifications of the reserve and be consistent with the objectives and policies of this management plan. Development also needs to be undertaken in consultation with the community. Issues that may arise from developing the reserve need to be identified prior to the development occurring. Development plans may be created to guide the development of the reserve.

### **4.2 Objective**

To allow specific individual development projects to be undertaken on the area of Soldiers Memorial Park that is classified as recreation that will enhance the recreational and historic values and opportunities of the reserve.

To allow for the preparation of a development plan for the area of Soldiers Memorial Park that is classified as recreation that recognises the recreation classification, is consistent with the objectives and policies of this management plan, and addresses community issues within available resources.

To allow no development of O'Connor's Bush, which is classified historic reserve, except vegetation and pest management programmes approved under Section 3.4 of this Management Plan.

### **4.3 Policies**

#### **Individual Development Projects (recreation area only):**

- a. New buildings or structures on Soldiers Memorial Park, or major additions or alterations to existing buildings or structures on the reserve are permitted if allowed for in an approved development plan or approved by Council.
- b. Unless covered by a development plan, consultation regarding new buildings or structures, or major alterations or additions to buildings or structures, will be undertaken in accordance with the policies contained in section 2.4 of this plan.
- c. Minor additions or alterations to existing buildings or structures can be approved by the Council's Chief Executive.

Note: Minor addition or alteration is considered to be a change that does not change the footprint of a building by more than 10% or its bulk by more than 20%. Any internal changes are considered minor.

Note: The Council in assessing individual development projects will consider the relevant issues identified in (f) below

#### **Reserve Development Plans (recreation area only):**

- d. The Council will consult with the community when creating or changing a development plan, in accordance with the policies contained in section 2.4 of this plan.

## Soldiers Memorial Park Management Plan August 2007

- e. A development plan must be approved by the Reserves Working Party of the Council before it takes effect.
- f. The following issues will be considered when creating a development plan:
  - The recreational and historic classifications of the reserve
  - The need, current use, and potential of the reserve
  - The need to develop existing facilities and/or to create new facilities
  - The requirement for development to be consistent with the recreational and historic values of the reserve
  - The need to develop infrastructure to support better management and enjoyment of the reserve
  - The requirement for amenity planting within the reserve
  - The need to develop pedestrian and/or vehicle access to/within the reserve
  - The need to minimise impact of development on neighbouring properties
  - The availability of funding and other resources required to undertake the development
  - The priority of development tasks
  - The objectives and policies of this management plan
  - Ongoing maintenance costs
  - Maintaining the overall character of the reserve

### **Memorials and Monuments:**

- g. New memorials or monuments or modifications to existing memorials or monuments in keeping with the objective of remembering and honouring the contributions of New Zealanders in war are allowed subject to Council approval of the scale and nature of the memorial or monument.

## **5 MANAGEMENT AND ASSET MAINTENANCE**

### **5.1 Management**

This section sets out the objectives and policies for the day-to-day management of Soldiers Memorial Park. Management needs to be consistent with the requirements of the Reserve Act 1977 and other relevant legislation, and with other Council plans such as the Annual Plan.

The following objectives and policies apply in addition to any requirements contained in leases or licences of parts of the reserve.

#### **5.1.1 Objective**

To effectively manage and maintain Soldiers Memorial Park on a day-to-day basis in line with statutory requirements and other Council plans, including this management plan.

#### **5.1.2 Policies**

##### **Maintaining Reserve Boundaries:**

1. The boundaries of the reserves will be maintained and no encroachments will be permitted.

##### **Fences and hedges:**

2. Existing fences and hedges on the reserves shall be maintained and replaced as necessary. No specific approval for this maintenance will be required.

##### **Smoking:**

3. Smoking shall not be permitted in the O' Connors Bush, playground, camping ground and swimming pool areas of Soldiers Memorial Park.
4. In the event of the Council formulating a District wide smoking policy the Council's smoking policy will have precedence over 3 above.

##### **Hours of use:**

5. With the exclusion of the camping ground area, the public shall be able to use the reserve between the hours of dawn and dusk. Any use outside of these hours is prohibited, unless approval has been provided by Council's Chief Executive.

##### **Bylaws:**

6. The following bylaws will apply in the management of the reserves:
  - The New Zealand Standards 9201: Model General Bylaws 1999: Part 2: Public Places
  - The South Wairarapa District Council Control of Dogs Bylaw 2005
7. Council will modify existing bylaws and create new bylaws as and when necessary, in accordance with the relevant provisions of the Reserves Act 1977 and the Local Government Act 2002.



**Funding:**

8. Funding for maintenance programmes, ongoing protection, development and enhancement programmes will be identified in the Annual Plan and Long Term Council Community Plan.
9. All programmes will be prioritised and funded when opportunity allows.
10. Alternative sources of funding (other than rates) and other means of implementing programmes will also be considered. Examples of alternative sources include, but are not limited to:
  - Grants (e.g. New Zealand Lottery Grants, Eastern and Central Community Trust)
  - Funds arising from bequests
  - Work schemes
  - Community fundraising
  - Sponsorship
  - Sale of surplus land (subject to the provisions of Reserves Act 1977)
  - Donations
  - Ground hire

**Events:**

11. No events will be permitted within the historic classification area of Soldiers Memorial Park (O'Connor's Bush).
12. Events and activities that comply with this Management Plan and which effects do not extend beyond the area of the reserve will be encouraged and promoted.
13. An event that involves exclusive use of the reserve, the sale of goods, or is not covered by this Management Plan, will require specific approval under this Management Plan before it can proceed. Specific approval means the approval of the Reserves Working Party of the Council or Chief Executive.
14. For major events on the reserves that impact beyond the reserve area and affect traffic movement, parking, public health and safety, and may cause inconvenience to residents and local retailers, the promoter must provide information on how these matters may be addressed. Depending upon the size and scale of the event Council may consult with key interest groups.
15. Should major events become a common feature of the reserve the Council, in consultant with the community, may prepare event guidelines. Key interest groups will be consulted in the development of event guidelines.
16. An event organiser shall be responsible for repairing any damage to the reserve (other than normal wear and tear) caused as a result of any event. This repair shall be to the satisfaction of the Council's Manager Works and Services.
17. A refundable bond may be required from organisers of an event to cover repair of any damage to the reserve used where this is required under the guidelines or

as a condition of resource consent.

18. The event organiser will ensure the cricket wicket area is fenced off during the event to prevent damage to the wicket.

**Lighting:**

19. Additional outside flood lighting in the open space and recreational facilities area is allowed. Prior to the installation of the lighting Council will approve the design and hours of operation.

**Signs:**

20. The permanent use of signs on the reserves shall be limited to signs providing visitor information, information about facilities and features, and traffic signs.
21. Temporary signs advertising specific events (those displayed only for the duration of the event they advertise) shall be allowed on the reserves.
22. Any other signs that are not covered by 17 and 18 above, including semi permanent signs, will require Council approval.

**Concessions – Leases, Licences and Permits:**

23. No leases, licence or permit shall be granted for use of the area of Soldiers Memorial Park classified historic (O'Connor's Bush).
24. All leases, licences and permits relating to the reserves will be in accordance with the provisions of the Reserve Act 1977 and take into account the objectives and policies of this Management Plan.
25. If a lease, licence or permit is not consistent with the recreation classification of the reserve, re-classification of that area of the reserve will be considered.
26. All groups/persons operating facilities and/or occupying buildings on the reserve will require a lease or licence from the Council.
27. Existing leases and licences will be reviewed when they are due for renewal to ensure that the leases are in accordance with the provisions of the Reserve Act 1977 and take into account the objectives and policies of this Management Plan.
28. A lease, licence or permit is required for the occupation of reserve land by a public utility.
29. A lease or licence is required for any commercial activities.
30. Subject to the above policies, this Management Plan contemplates the following types of leases and licences for the area of Soldiers Memorial Park classified as recreation:
  - Sports and recreation activities (eg cricket club)
  - Concerts
  - Markets
  - Rallies

- Gymkhana
- Camping Ground
- Commercial activities that may restrict open public access to the reserve for a limited time and where these activities might promote the reserve (e.g. use as a film location)

**Access:**

31. Foot access to the reserve will be allowed at all times where it is safe, except for management purposes such as weed spraying operations, special events where a notice is displayed to say otherwise, or where a lease or licence grants exclusive occupation to an area of the reserve.
32. Access to O'Connor's Bush shall be as defined in Section 3.4.3 of this management plan.
33. Vehicle access will not be permitted on the reserve, except within car parks or driveways, or for servicing requirements, emergencies, disabled access, or permitted events.

**User Charges:**

34. Entry to the reserves will generally be free.
35. Charges will be made for the following:
  - Overnight stay in the camping ground
  - Commercial recreation operations and concessions
  - Use of the reserve for commercial activities
  - New rights of way, other easements and communication stations
36. Charges may be made for the following:
  - Special events
  - Access to reserve facilities such as swimming pool and clubrooms
  - Bookings for clubs and group activities
37. The Council will set its charge for the use of the reserves and facilities for events and functions and other activities in the reserve through the Annual Planning process, where issues of fairness and equity are given full consideration.

**Utilities (rights of way, other easements and communication stations):**

38. All new utilities shall only be located on the reserve where there is no alternative location on any other site.
39. No new utilities shall be allowed to be located within the area of Soldiers Memorial Park classified as historic, or in a location within the area classified as recreation where historic values will be compromised.
40. Where it is necessary to have services located above ground, the design and

location should be sympathetic to the recreation and historic values of the reserve and not impact on the area available for recreational use.

41. Applications for the construction of public utilities on the reserve must be made to SWDC under this Plan. Such applications must be publicly notified for comment under this plan. Applications must be accompanied by an assessment of the effects of the utility on the reserve and must take into account:
  - alternative sites
  - the selected location
  - timing and duration of the works
  - impact on cultural heritage sites, trees and amenity values, historic values, buildings, turf and paving and how these are to be protected
  - Where not a Council utility, consideration should be given to seeking a ground rental
42. Any approval given for a public utility on the reserve shall be conditional upon the Council being able to:
  - Enter, inspect, require maintenance or upgrading
  - Approve designs and colour schemes for all structures
  - Require the restoration of sites after the completion of work
  - Require sites to be cleaned up, cared for, and superfluous, material removed

**Utilities (water extraction):**

43. Any new pumping facilities or modifications to the existing pump house structure will require Council approval after public consultation.
44. Maintenance and modification to the pumping equipment is allowed.

**Native Trees**

45. Any native trees felled due to disease or other causes will be replaced with a similar native species.

**Dogs:**

46. Dogs are not permitted within O'Connor's Bush, the Camping Ground, or the children's playground.
47. Dogs must be on a leash and under control at all times.
48. Dog litter must be removed from the reserve by the dog owners.
49. In the event of the Council changing its District wide dog policy, the Council's dog policy will have precedence over 46, 47 and 48 above.
50. Signage identifying the requirements in respect of dogs will be displayed in the Park.



**Recreation Monitoring:**

51. The impact from recreation activities will be assessed from time to time to ensure there are no adverse effects on the reserve.
52. The Council may modify or stop activities that cause environmental degradation or significant modification or nuisance, including nuisance to adjoining properties.
53. The Council may appoint rangers to manage recreational activities and monitor any impacts on the reserve. The ranger will be officially recognised, formally appointed, given training and acknowledged for their work.

**Fires**

54. No fires are permitted within the park unless approved by the Chief Executive.
55. At time of high fire risk notices shall be placed at park entrances warning of the danger

**5.2 Asset Maintenance**

**5.2.1 Objectives**

To ensure public health and safety are met.

To ensure the reserve area functions effectively and is maintained in an appropriate manner.

**5.2.2 Policies**

**General:**

1. The reserves will be given high priority by the Council in its maintenance programme.
2. The Council will review the current levels of service in the Asset Management Plan (AMP) to ensure the appropriate maintenance standard for services and facilities are provided on the reserves.
3. The AMP and the Council's Reserves Contract Agreement will be reviewed to ensure they are in accordance with this Management Plan.
4. The Council will identify any maintenance and other activities extending beyond the basic service levels provided by the Council that can be carried out by the community.
5. Any maintenance work carried out by the community will be done within an agreed framework and within the Council's financial planning and budgetary framework.

**Toilets:**

6. Existing toilets will be maintained.
7. Organisers of events may be required to provide portable toilet facilities.

**Rubbish:**

8. Rubbish bins will be kept to a minimum and priority will be placed on removal of litter from the reserves.
9. The standards of litter management will be monitored to ensure the reserves remain clean and tidy.
10. Organisers of events will be responsible for rubbish during events and removal of rubbish after events.

**Public Safety:**

11. The Council will identify hazards affecting the reserves and take appropriate precautions to minimise risks through the provision of information.
12. The Council will provide for the safe use of pesticides and other chemicals used in its management operations.
13. Leases, licences or permits for commercial activities on the reserve will make it clear that the holder is responsible for public safety relating to their activity.
14. Trees in the reserve, other than those in the area classified as historic (O'Connor's Bush), the Memorial Trees, and the native trees within the camping ground, will be assessed every 3 years by an arborist for their health and longevity, and remedial work will be programmed into reserve maintenance. Following a storm event a Council employee or the Council's maintenance contractor will inspect the trees to determine if the arborist needs to undertake an assessment. The Council may consult the Greytown Community Tree Advisory Committee.
15. Unauthorised damage to, or removal of, plant material is prohibited.
16. Spraying will only be carried out by Council approved and certificated operators.
17. Ground marking can only be carried out with the approval of the Manager, Works & Services.

# Appendix I – Outcomes of Engagement

**From:** [Greytown Sport & Leisure Society](#)  
**To:** [Rasmus Altenkamp](#)  
**Cc:** [Louise Allwood](#); [Steven Kelliher](#)  
**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant  
**Date:** Thursday, 14 January 2021 12:52:21 PM  
**Attachments:** [image009.png](#)  
[image010.png](#)  
[image011.png](#)  
[image012.png](#)  
[image013.png](#)

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Hello team,

Sorry about the holiday delay...

I have spoken with the Cricket chairman and Pavilion Committee who represent the Swim, Cricket & Football club user groups who use the area.

The proposed position makes the most sense so no field space is encroached upon. It will be of no hindrance for pavilion users to park on the road side when the works commence and the only big busy events with cricket are happening over the next two weekends.

Thanks for keeping us in the loop and feel free to call if you require any further information or specific contacts.

Regards,

Jackie Gray  
Executive Officer  
Greytown Sport & Leisure Society Inc.



Postal Address: PO Box 106, Greytown, 5742

Office Address: Greytown Town Centre, 89 Main Street, Greytown, 5712

P: (06) 3048310

M: 021 1553902

E: [greytownsport@xtra.co.nz](mailto:greytownsport@xtra.co.nz)

W: [www.greytownsport.org.nz](http://www.greytownsport.org.nz)

F: [www.facebook.com/GreytownSportLeisure](https://www.facebook.com/GreytownSportLeisure)

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**From:** Rasmus Altenkamp [mailto:[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)]

**Sent:** Tuesday, 22 December 2020 3:55 p.m.

**To:** [greytownsport@xtra.co.nz](mailto:greytownsport@xtra.co.nz)

**Cc:** Louise Allwood <[Louise.Allwood@ghd.com](mailto:Louise.Allwood@ghd.com)>; Steven Kelliher <[Steven.Kelliher@ghd.com](mailto:Steven.Kelliher@ghd.com)>

**Subject:** Consultation for proposed upgrade of Memorial Park water treatment plant

Dear Jackie,

As part of the South Wairarapa District Council's programme of investment to ensure all drinking water in the district meets national quality standards, Wellington Water is planning to carry out work at the water treatment plant in Soldiers Memorial Park, Greytown.

In accordance with the Soldiers Memorial Park Reserve Management Plan, and the Reserves Act 1977, prior to doing this work we're consulting with the local community, tangata whenua and other interest groups.

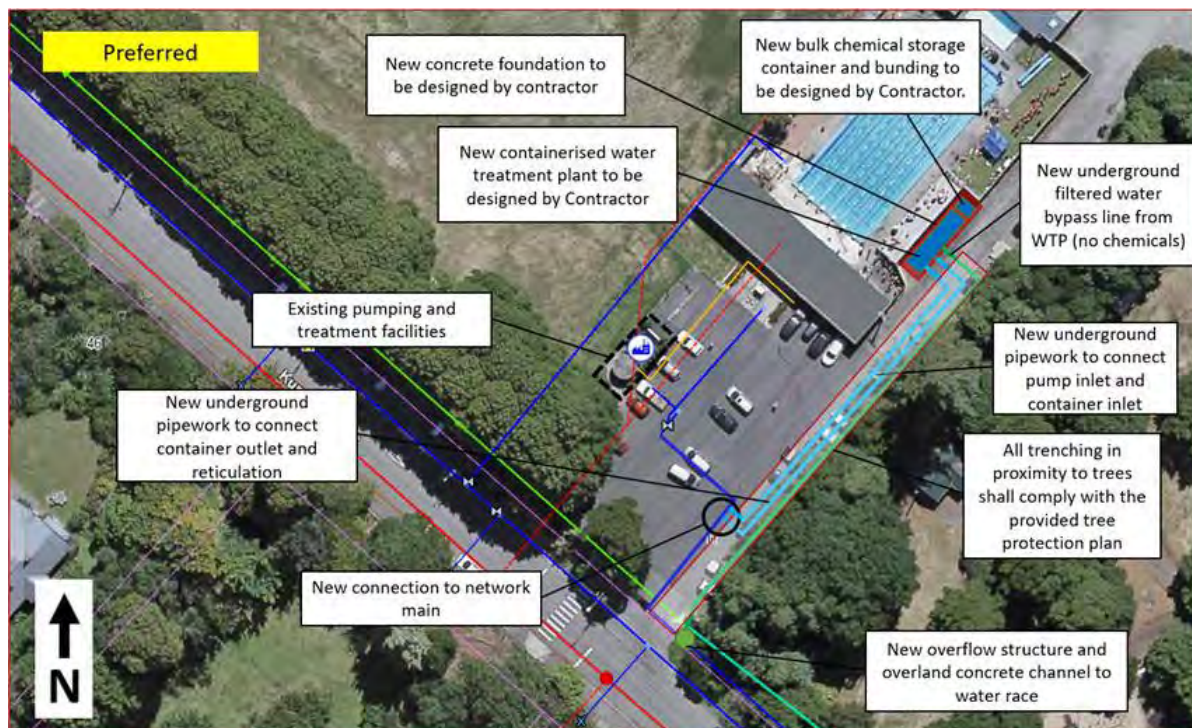
If you'd like to provide feedback on the proposed work, summarised below, please let us have this by 15<sup>th</sup> January 2021. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

**Soldiers Memorial Park water treatment plant: proposed work**

Due to the age of existing pumping and other equipment, we are planning to:

- Install a new bore pump in the existing borehole;
- Install a new water discharge pipe and water overflow chamber that flows to the Moroa water race;
- Clear sediment from an existing stormwater culvert and the immediate area of the Moroa water race; and
- Install of a new containerised building to house new process equipment and chemical systems.

The proposed site plan is provided below. This is subject to a certain degree of change based on detailed design, arboricultural and construction contractor input. Initial consultation with the South Wairarapa District Council's planning team and the parks department have been undertaken.



Major construction works are not scheduled to take place until the Greytown Pool is closed on 14 March 2021. Access to the carpark will be maintained until this time.

#### **Why these works are required**

The proposed upgrade works will address the following issues:

- Water wastage – the existing pump is not designed to meet the low night time flows of the water network and consequently must pump at higher volumes than necessary, resulting in wastage.
- Equipment failure – the existing pump and systems are at the end of their useful life. It is best to replace this equipment before it breaks down, as water storage capacity in the Featherston-Greytown network won't be able to meet demand if the pump fails.
- Improved water safety – the new equipment will address the risk of protozoa such as Cryptosporidium and Giardia being present in treated drinking water.
- Chemical storage – chemicals currently used for water treatment are stored in a room adjacent to the changing facilities of the swimming pool, creating a public and environmental safety risk. The proposal will move chemical storage areas away from the pool facilities into and/or adjacent to the containerised treatment plant.

The proposed location for the container is Council-owned land and is close to the existing groundwater bore.

As noted, we'd welcome any comments or questions you have about this work, and we'll be in touch again about this in the new year. In the meantime, we wish you and your family a happy and safe holiday.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

**GHD**  
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P.O. Box 169 Greytown 5712  
greytownheritagetrust@gmail.com  
www.greytownheritagetrust.co.nz

12 January 2021

Attn; RASMUS ALTENKAMP

Thank you for working with the Heritage Trust on your proposals for Soldiers Memorial Park water treatment plant.

We would like to be consulted if the detailed design involves any visual changes for either the street or car park.

We confirm that the Greytown Heritage Trust supports your proposed works as depicted in the documents emailed to us earlier.

Yours faithfully

Vivienne O'Reilly  
Chair Greytown Heritage Trust

**From:** [Rob Smith](#)  
**To:** [Rasmus Altenkamp](#)  
**Subject:** Re: FW: rob.helen.smith@xtra.co.nz  
**Date:** Saturday, 30 January 2021 4:38:54 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image007.png](#)

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confirmed

Rob Smith,Croquet

On 29/01/2021 10:34 am, Rasmus Altenkamp wrote:

Hi Rob,

As discussed on the phone just now, if you are happy with the works as currently proposed please confirm this by return email.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

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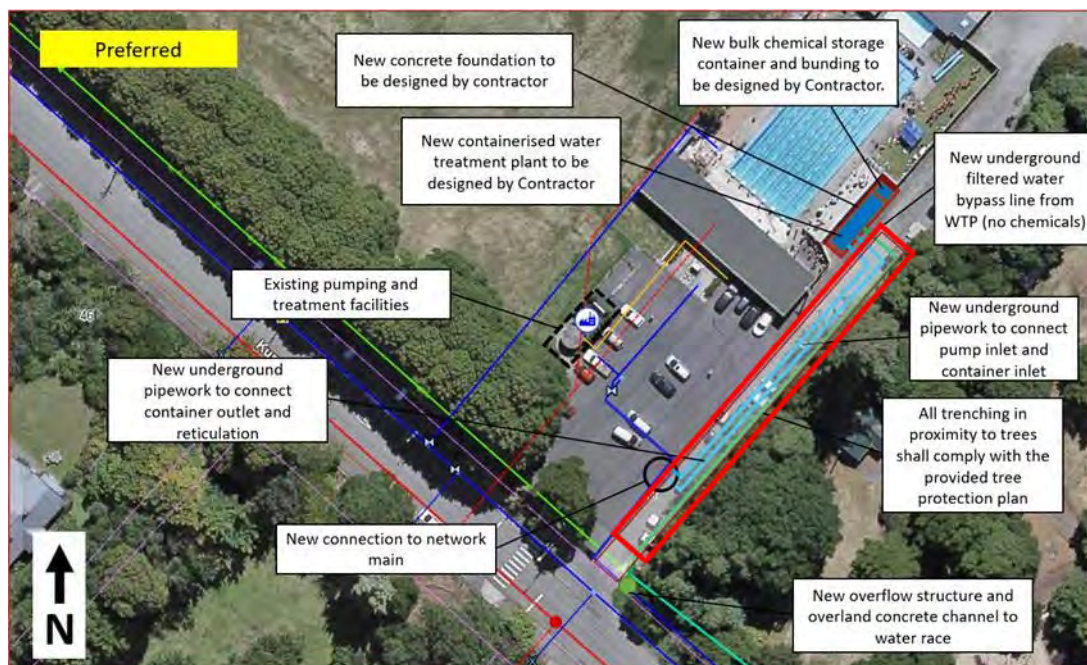
**From:** Rasmus Altenkamp  
**Sent:** Thursday, 14 January 2021 8:45 AM  
**To:** 'Rob Smith' <[rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)>  
**Subject:** FW: [rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)

Hi Rob,

Thank you for your time on the phone yesterday. Please see below a summary of our discussion and proposed measures to deal with the issues you have raised.

You indicated that members of the croquet club prefer to park as close as possible to the croquet green at the rear of the Memorial Park carpark. On Sundays there is the occasional cricket game and cricket practice, which coincides with up to 30-35 people playing croquet. You also noted that the carpark space in front of the swimming pool is used for commemorative services on Anzac Day.

Regarding carpark management and closures, we anticipate that the trenching works to lay pipes will only take 2-3 days, and will be approximately 1m wide. I have indicated the area affected by these works in the red rectangle in the site plan below. We therefore anticipate that access to parking close to the croquet green may be affected for half a week to a week at most. Anytime the site is not attended, the trenches will be back filled or covered with a road plate so as not to affect users of the car park.



Regarding Anzac Day activities, we will manage construction activities to minimise impacts around this time. Under our current timeline we will be in the commissioning stage at this time, therefore limited works would be occurring. We will avoid any trenching around Anzac Day to minimise impacts.

If you have any further questions or would like to discuss over the phone please don't hesitate to give me a call.

Kind regards,

**RASMUS ALTENKAMP**

BCP(Hons), Int.NZPI  
Environmental Planner

**GHD**

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Level 2, Grant Thornton House, 215 Lambton Quay, PO Box 1746, Wellington, 6011  
D +64 4 495 5806 E [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com)

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**From:** Rasmus Altenkamp

**Sent:** Wednesday, 23 December 2020 3:24 PM

**To:** Rob Smith <[rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)>

**Subject:** RE: [rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)

Hi Rob,

The carpark will be partially closed from approximately 14<sup>th</sup> March until works are complete, however a section of the carpark is proposed to remain available throughout works. Access to the courts will not be compromised.

Kind regards,

**RASMUS ALTENKAMP**

BCP(Hons), Int.NZPI  
Environmental Planner

**GHD**

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**From:** Rob Smith <[rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)>  
**Sent:** Wednesday, 23 December 2020 11:29 AM  
**To:** Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>  
**Subject:** Re: [rob.helen.smith@xtra.co.nz](mailto:rob.helen.smith@xtra.co.nz)

Thank you on behalf of Greytown Croquet.

I do not think your plans will adversely affect us unless access to the Courts and parking will be compromised

Rob Smith

On 23/12/2020 11:16 am, Rasmus Altenkamp wrote:

Dear Rob,

As part of the South Wairarapa District Council's programme of investment to ensure all drinking water in the district meets national quality standards, Wellington Water is planning to carry out work at the water treatment plant in Soldiers Memorial Park, Greytown.

In accordance with the Soldiers Memorial Park Reserve Management Plan, and the Reserves Act 1977, prior to doing this work we're consulting with the local community, tangata whenua and other interest groups.

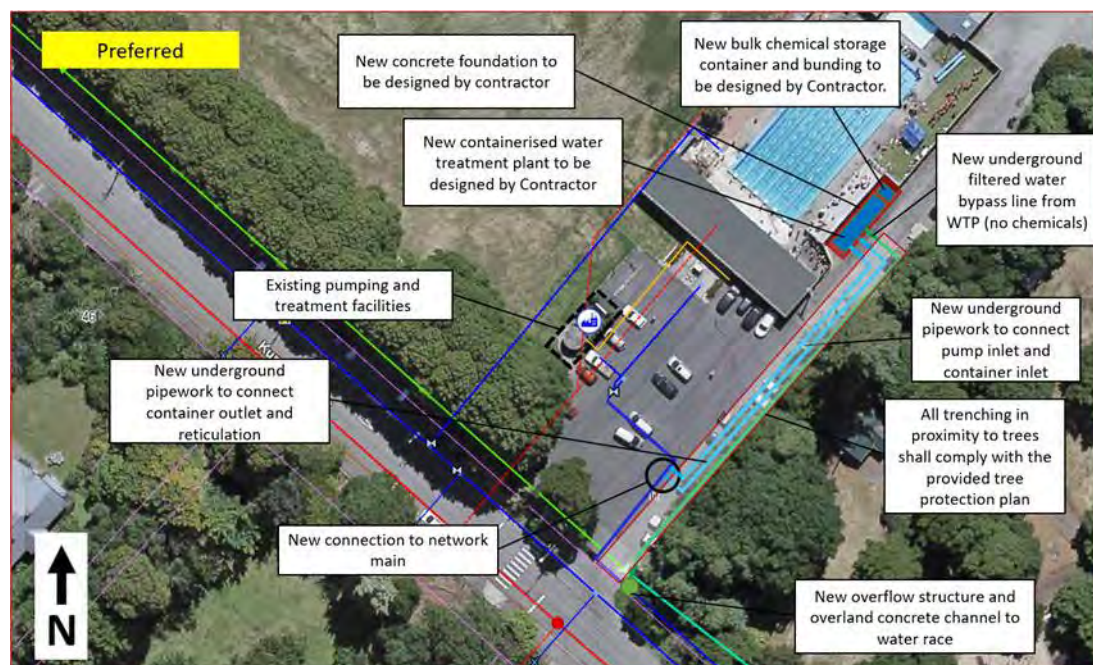
If you'd like to provide feedback on the proposed work, summarised below, please let us have this by 15<sup>th</sup> January 2021. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

#### **Soldiers Memorial Park water treatment plant: proposed work**

Due to the age of existing pumping and other equipment, we are planning to:

1. Install a new bore pump in the existing borehole;
2. Install a new water discharge pipe and water overflow chamber that flows to the Moroa water race;
3. Clear sediment from an existing stormwater culvert and the immediate area of the Moroa water race; and
4. Install of a new containerised building to house new process equipment and chemical systems.

The proposed site plan is provided below. This is subject to a certain degree of change based on detailed design, arboricultural and construction contractor input. Initial consultation with the South Wairarapa District Council's planning team and the parks department have been undertaken.



Major construction works are not scheduled to take place until the Greytown Pool is closed on 14 March 2021. Access to the carpark will be maintained until this time.

#### **Why these works are required**

The proposed upgrade works will address the following issues:

1. Water wastage – the existing pump is not designed to meet the low night time flows of the water network and consequently must pump at higher volumes than necessary, resulting in wastage.

2. Equipment failure – the existing pump and systems are at the end of their useful life. It is best to replace this equipment before it breaks down, as water storage capacity in the Featherston-Greytown network won't be able to meet demand if the pump fails.
3. Improved water safety – the new equipment will address the risk of protozoa such as Cryptosporidium and Giardia being present in treated drinking water.
4. Chemical storage – chemicals currently used for water treatment are stored in a room adjacent to the changing facilities of the swimming pool, creating a public and environmental safety risk. The proposal will move chemical storage areas away from the pool facilities into and/or adjacent to the containerised treatment plant.

The proposed location for the container is Council-owned land and is close to the existing groundwater bore.

As noted, we'd welcome any comments or questions you have about this work, and we'll be in touch again about this in the new year. In the meantime, we wish you and your family a happy and safe holiday.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

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**From:** [Frank Minehan](#)  
**To:** [Rasmus Altenkamp](#)  
**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant  
**Date:** Thursday, 11 February 2021 11:27:00 AM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

---

Morning/morena Rasmus

I confirm that the Friends of O'Connor's Bush, Greytown Soldiers' Memorial Park, Greytown, are satisfied that all appropriate protective measures are being put in place and therefore the Friends are satisfied with the proposals with respect to the proposed upgrade of the water treatment plant located near the Memorial Swimming baths.

Thanks/kia ora

Frank Minehan  
Co-Convenor  
Friends of O'Connor's Bush

---

**From:** Rasmus Altenkamp [mailto:[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)]  
**Sent:** Tuesday, 9 February 2021 1:39 pm  
**To:** Frank Minehan <[frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)>  
**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant

Hi Frank,

I am just following up on the below, when we spoke last week you noted you were happy with the proposal and would provide written confirmation?

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

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**From:** Rasmus Altenkamp  
**Sent:** Wednesday, 27 January 2021 11:44 AM  
**To:** Frank Minehan <[frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)>  
**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant

Hi Frank,

Apologies for the slow response. We have a qualified arborist who has prepared an Arboricultural Assessment and recommended specific tree protection measures. The heritage trees mentioned are some distance from the proposed works and will not be affected.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

**GHD**  
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**From:** Frank Minehan <[frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)>

**Sent:** Tuesday, 19 January 2021 8:14 PM

**To:** Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>

**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant

I forgot to mention the Soldiers' Memorial Ave. of Trees – running very close to your waterworks. First World War commemorative plantings – heritage/listed trees, sacred to Greytown – ring that part of the park where they play cricket and soccer.

Cheers

Frank Minehan

---

**From:** Rasmus Altenkamp [<mailto:Rasmus.Altenkamp@ghd.com>]

**Sent:** Monday, 18 January 2021 2:25 pm

**To:** Frank Minehan <[frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)>

**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant

Hi Frank,

Thanks for providing these details.

In terms of discharges to the water race:

- One-off discharge: During commissioning of the new water treatment plant, there will be a one-off 8m<sup>3</sup> volume of groundwater that will be discharged. This water will be filtered and UV treated, but no chemicals will be added.
- Daily discharges: The upgraded water treatment plant will continue to draw groundwater from the existing bore intermittently one to two times per day. During each plant startup, water in the pipes of the plant needs to be discharged to the water race. After passing through the new cartridge filters and UV unit, water will traverse through the RTW pipe (again, no added chemicals) and flow into the water race. The flow being conveyed through the RTW pipe each time will be approximately 12L/s for 5 mins, which equates to an approximate volume of 3.6m<sup>3</sup>. Based on a worst case scenario of two discharges per day, this would equate to an approximate total volume of 7.2m<sup>3</sup>/day discharging into the Moroa water race.

Based on these additional flows, we do not anticipate any negative impact on water quality or increased risk of flooding in the water race.

Kind regards,

**RASMUS ALTENKAMP**

BCP(Hons), Int.NZPI

Environmental Planner

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**From:** Frank Minehan <[frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)>

**Sent:** Sunday, 17 January 2021 3:46 PM

**To:** Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>

**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant

Afternoon Rasmus

My cellphone number is 027 252 1084. My landline is 06 304 8151.

I don't think I can make any helpful comment or provide useful feedback.

I am a convenor of the Friends of O'Connor's Bush. We are an ad hoc small group who main do weeking work and re-planting in the nature bush reserve of that name – it has protection under the Reserves Act and is within the Greytown Soldiers' Memorial Park.

I do not think your project would impact on O'Connor's Bush as it is located some distance away from the Swimming

Baths site.

There is a water race that flows through the Bush. So there may be some impact from runoff or overflow?

I'll do my best to read the project details this Tuesday/Wed.

Thanks/kia ora

Frank Minehan

---

**From:** Rasmus Altenkamp [<mailto:Rasmus.Altenkamp@ghd.com>]  
**Sent:** Wednesday, 13 January 2021 3:31 pm  
**To:** [frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)  
**Subject:** FW: Consultation for proposed upgrade of Memorial Park water treatment plant

Hi Frank,

I am just following up on the below. Unfortunately I have not been able to obtain your phone number, if you would like to discuss over the phone please don't hesitate to give me a call on 04 495 5806.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

**GHD**

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**From:** Rasmus Altenkamp  
**Sent:** Wednesday, 23 December 2020 11:15 AM  
**To:** [frankminehan3@gmail.com](mailto:frankminehan3@gmail.com)  
**Cc:** Louise Allwood <[Louise.Allwood@ghd.com](mailto:Louise.Allwood@ghd.com)>; Steven Kelliher <[Steven.Kelliher@ghd.com](mailto:Steven.Kelliher@ghd.com)>  
**Subject:** Consultation for proposed upgrade of Memorial Park water treatment plant

Dear Frank,

As part of the South Wairarapa District Council's programme of investment to ensure all drinking water in the district meets national quality standards, Wellington Water is planning to carry out work at the water treatment plant in Soldiers Memorial Park, Greytown.

In accordance with the Soldiers Memorial Park Reserve Management Plan, and the Reserves Act 1977, prior to doing this work we're consulting with the local community, tangata whenua and other interest groups.

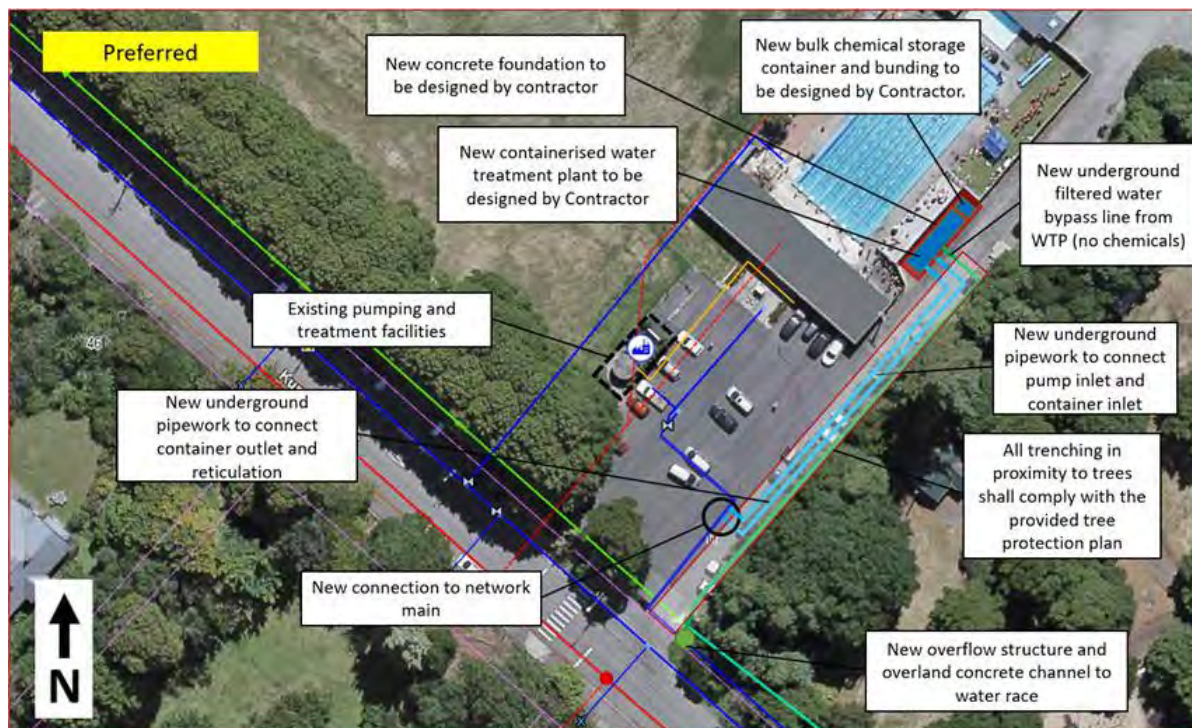
If you'd like to provide feedback on the proposed work, summarised below, please let us have this by 15<sup>th</sup> January 2021. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

**Soldiers Memorial Park water treatment plant: proposed work**

Due to the age of existing pumping and other equipment, we are planning to:

- Install a new bore pump in the existing borehole;
- Install a new water discharge pipe and water overflow chamber that flows to the Moroa water race;
- Clear sediment from an existing stormwater culvert and the immediate area of the Moroa water race; and
- Install of a new containerised building to house new process equipment and chemical systems.

The proposed site plan is provided below. This is subject to a certain degree of change based on detailed design, arboricultural and construction contractor input. Initial consultation with the South Wairarapa District Council's planning team and the parks department have been undertaken.



Major construction works are not scheduled to take place until the Greytown Pool is closed on 14 March 2021. Access to the carpark will be maintained until this time.

#### **Why these works are required**

The proposed upgrade works will address the following issues:

- Water wastage – the existing pump is not designed to meet the low night time flows of the water network and consequently must pump at higher volumes than necessary, resulting in wastage.
- Equipment failure – the existing pump and systems are at the end of their useful life. It is best to replace this equipment before it breaks down, as water storage capacity in the Featherston-Greytown network won't be able to meet demand if the pump fails.
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- Chemical storage – chemicals currently used for water treatment are stored in a room adjacent to the changing facilities of the swimming pool, creating a public and environmental safety risk. The proposal will move chemical storage areas away from the pool facilities into and/or adjacent to the containerised treatment plant.

The proposed location for the container is Council-owned land and is close to the existing groundwater bore.

As noted, we'd welcome any comments or questions you have about this work, and we'll be in touch again about this in the new year. In the meantime, we wish you and your family a happy and safe holiday.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

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**From:** [Tia Tuuta](#)  
**To:** [Rasmus Altenkamp](#)  
**Subject:** Re: Consultation for proposed upgrade of Memorial Park water treatment plant  
**Date:** Wednesday, 10 February 2021 4:13:02 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

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Kia ora Rasmus

The information was forwarded onto the Iwi, and the marae trustee decided to leave it to the Iwi to submit a submission.

Ngā mihi  
Tia Tuuta

On Thu, 4 Feb 2021, 10:11 am Rasmus Altenkamp, <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)> wrote:

Hi Tia,

Just following up on the below, are you in a position to provide feedback? If you have any questions please don't hesitate to contact me.

Kind regards,

**RASMUS ALTENKAMP**

BCP(Hons), Int.NZPI  
Environmental Planner

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**From:** Tia Tuuta <[tiatuuta@gmail.com](mailto:tiatuuta@gmail.com)>  
**Sent:** Friday, 22 January 2021 9:58 AM  
**To:** Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>  
**Subject:** Re: Consultation for proposed upgrade of Memorial Park water treatment plant

Kia ora Rasmus

My apologies our meeting is on the 31st

On Mon, Jan 18, 2021 at 10:27 AM Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)> wrote:

Hi Tia,



Thank you for your time on the phone just now. As discussed, please find below details of the project we are seeking feedback on.

As part of the South Wairarapa District Council's programme of investment to ensure all drinking water in the district meets national quality standards, Wellington Water is planning to carry out work at the water treatment plant in Soldiers Memorial Park, Greytown.

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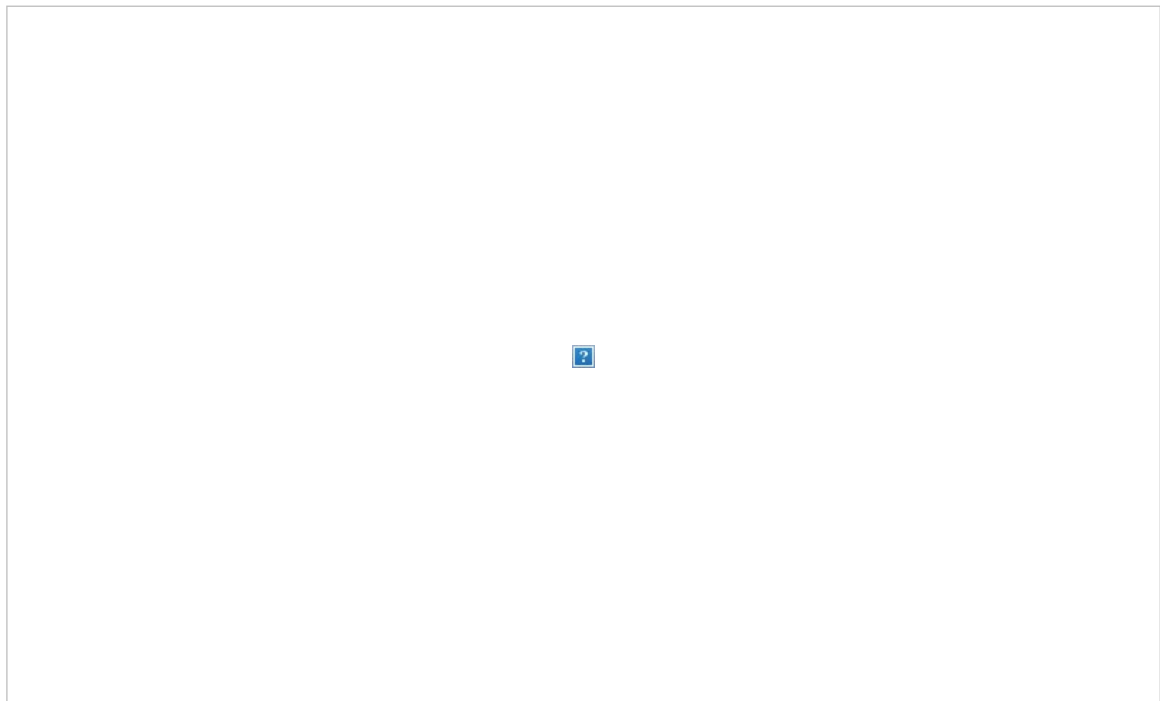
If you'd like to provide feedback on the proposed work, summarised below, please advise when you will be in a position to do this. We are seeking feedback as soon as possible however understand that given the time of year this may take some time. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

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As noted, we'd welcome any comments or questions you have about this work.

Kind regards,

**RASMUS ALTENKAMP**

BCP(Hons), Int.NZPI  
Environmental Planner

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**From:** [Ra Smith](#)  
**To:** [Rasmus Altenkamp](#)  
**Cc:** [Tia Tuuta](#)  
**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant  
**Date:** Wednesday, 10 February 2021 3:48:18 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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[Feedback](#)

---

**From:** Tia Tuuta [<mailto:tiat@mstn.govt.nz>]  
**Sent:** Friday, 22 January 2021 9:57 a.m.  
**To:** Ra Smith <[ra@kahungunuwairapa.iwi.nz](mailto:ra@kahungunuwairapa.iwi.nz)>; Horipo Rimene ([horipo@rangitane.iwi.nz](mailto:horipo@rangitane.iwi.nz)) <[horipo@rangitane.iwi.nz](mailto:horipo@rangitane.iwi.nz)>; Amber Craig <[amber@tahetoka.nz](mailto:amber@tahetoka.nz)>; Tirau Te Tau <[tirau.svp@gmail.com](mailto:tirau.svp@gmail.com)>  
**Subject:** FW: Consultation for proposed upgrade of Memorial Park water treatment plant

Kia ora koutou

I received this the other day. Its not a biggie, however they specifically wanted to have Iwi input and assumed that the Marae could do that. Because we haven't had that discussion with either Iwi I am sending it to both KKW and RoW. I explained to Rasmus that we do not have the mandate to speak on behalf of the Iwi nor act on their behalf and will not be undertaking that role.

Just an FYI though, I will be forwarding this onto our Marae Trustees to submit a consideration as the marae.

Nga mihi  
Tia

**From:** Tia Tuuta <[tiatuuta@gmail.com](mailto:tiatuuta@gmail.com)>  
**Sent:** Friday, 22 January 2021 9:51 am  
**To:** Tia Tuuta <[tiat@mstn.govt.nz](mailto:tiat@mstn.govt.nz)>  
**Subject:** Fwd: Consultation for proposed upgrade of Memorial Park water treatment plant

Kia ora Rasmus

Thank you for your patience. Your proposal has many advantages and I am happy to recommend it to my whanau at Papawai Marae as a development to progress. My understanding is that it is working with UV treatment and this is a significant improvement on what is at the Memorial Park now.

Nga mihi

Rawiri Smith, Environment Manager for Kahungunu Ki Wairarapa

----- Forwarded message -----

**From:** Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>  
**Date:** Mon, Jan 18, 2021 at 10:27 AM  
**Subject:** Consultation for proposed upgrade of Memorial Park water treatment plant  
**To:** [Tiatuuta@gmail.com](mailto:Tiatuuta@gmail.com) <[Tiatuuta@gmail.com](mailto:Tiatuuta@gmail.com)>

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In accordance with the Soldiers Memorial Park Reserve Management Plan, and the Reserves Act 1977, prior to doing this work we're consulting with the local community, tangata whenua and other interest groups.

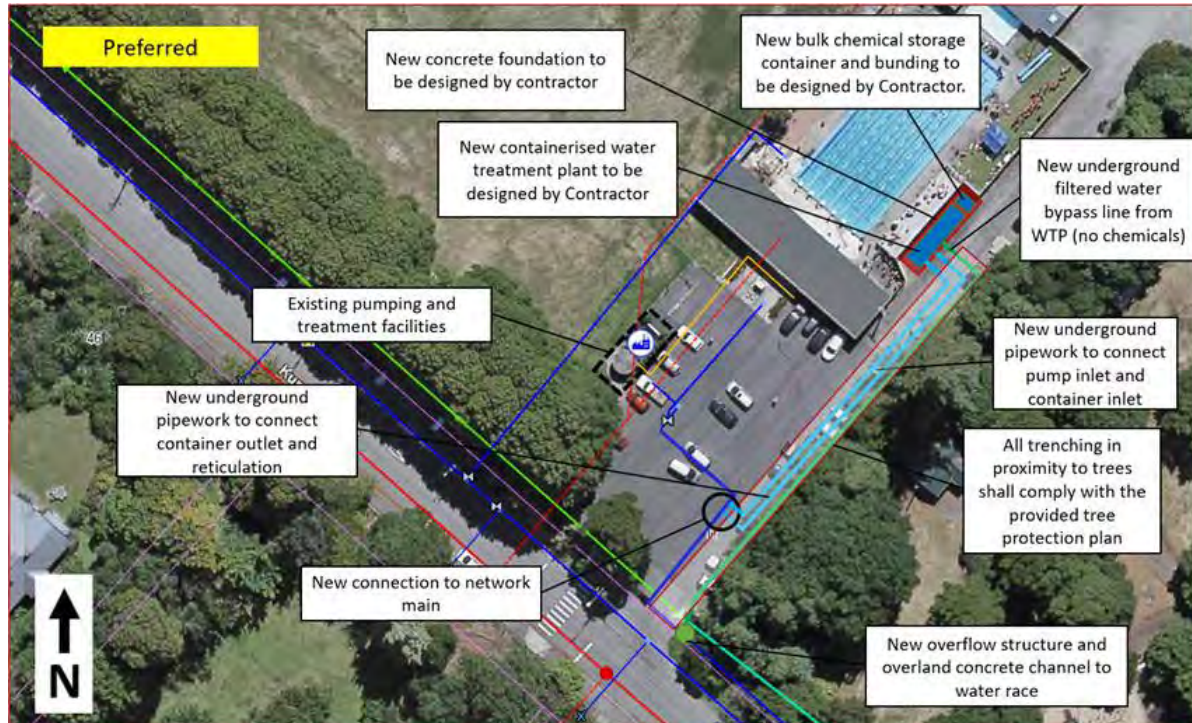
If you'd like to provide feedback on the proposed work, summarised below, please advise when you will be in a position to do this. We are seeking feedback as soon as possible however understand that given the time of year this may take some time. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

**Soldiers Memorial Park water treatment plant: proposed work**

Due to the age of existing pumping and other equipment, we are planning to:

- Install a new bore pump in the existing borehole;
- Install a new water discharge pipe and water overflow chamber that flows to the Moroa water race;
- Clear sediment from an existing stormwater culvert and the immediate area of the Moroa water race; and
- Install of a new containerised building to house new process equipment and chemical systems.

The proposed site plan is provided below. This is subject to a certain degree of change based on detailed design, arboricultural and construction contractor input. Initial consultation with the South Wairarapa District Council's planning team and the parks department have been undertaken.



Major construction works are not scheduled to take place until the Greytown Pool is closed on 14 March 2021. Access to the carpark will be maintained until this time.

#### **Why these works are required**

The proposed upgrade works will address the following issues:

- Water wastage – the existing pump is not designed to meet the low night time flows of the water network and consequently must pump at higher volumes than necessary, resulting in wastage.
- Equipment failure – the existing pump and systems are at the end of their useful life. It is best to replace this equipment before it breaks down, as water storage capacity in the Featherston-Greytown network won't be able to meet demand if the pump fails.
- Improved water safety – the new equipment will address the risk of protozoa such as *Cryptosporidium* and *Giardia* being present in treated drinking water.
- Chemical storage – chemicals currently used for water treatment are stored in a room adjacent to the changing facilities of the swimming pool, creating a public and environmental safety risk. The proposal will move chemical storage areas away from the pool facilities into and/or adjacent to the containerised treatment plant.

The proposed location for the container is Council-owned land and is close to the existing groundwater bore.

As noted, we'd welcome any comments or questions you have about this work.

Kind regards,

**RASMUS ALTENKAMP**  
BCP(Hons), Int.NZPI  
Environmental Planner

**GHD**

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**From:** [Suzanne Fryer](#)  
**To:** [Rasmus Altenkamp](#)  
**Subject:** Re: Consultation for proposed upgrade of Memorial Park water treatment plant  
**Date:** Tuesday, 9 February 2021 1:40:21 PM

---

Hi Rasmus.

I did...as he hasn't, I'll send you what I asked him send.

Regards.

Suzanne

Begin forwarded message:

**From:** Suzanne Fryer <suzanne\_fryer@hotmail.com>  
**Date:** 2 February 2021 at 8:16:03 PM NZDT  
**To:** Greytown Rsa <greytownrsa@gmail.com>  
**Subject: Consultation for proposed upgrade of Memorial Park water treatment plant**

Hi David.

We've been asked to comment officially on this.

Can you please send a response...I hope this is ok.

Kia Ora

Thank you for the opportunity to comment on the upgrade plans.

Greytown RSA have concerns only about the timing of the works as our ANZAC commemoration on April 25 is centred on the WWII Memorial at the swimming pool. If the works go overtime, and metal sheeting is used to cover trenches, our elderly are at risk.

In saying this, we do have a contingency plan in place to move the ceremony to the WWI gates. This is not ideal due to road management, so we would appreciate updates as to how the works are progressing.

Thanks and regards.

D Hayden  
Secretary Greytown RSA.

On 9/02/2021, at 1:37 PM, Rasmus Altenkamp  
<Rasmus.Altenkamp@ghd.com> wrote:

Hi Suzanne,

I am just following up on the below, when we spoke last week you noted you were happy with the proposal and would ask Dave Heyden to provide written confirmation?

Kind regards,

**RASMUS ALTENKAMP**

**BCP(Hons), Int.NZPI  
Environmental Planner**

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[<image003.png>](#)[<image004.png>](#)[<image005.png>](#)[<image006.png>](#)

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**From:** Rasmus Altenkamp

**Sent:** Thursday, 14 January 2021 8:53 AM

**To:** Suzanne Fryer <[suzanne\\_fryer@hotmail.com](mailto:suzanne_fryer@hotmail.com)>

**Subject:** RE: Consultation for proposed upgrade of Memorial Park water treatment plant

Hi Suzanne,

The portion of works that will have the greatest impact on the car park is trenching works to lay pipes. This work is anticipated to take around 2-3 days and will be approximately 1m wide. I have indicated the area affected by these works in the red rectangle in the site plan below. We therefore anticipate that a portion of the car park will be closed for half a week to a week at most. Under our current timeline we will be in the commissioning stage around Anzac Day (i.e. trenching will be complete), therefore limited works will be occurring.

<image007.png>

Kind regards,

**RASMUS ALTENKAMP**

**BCP(Hons), Int.NZPI  
Environmental Planner**

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<image002.png> **The Power of Commitment**

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[<image003.png>](#) [<image004.png>](#) [<image005.png>](#) [<image006.png>](#)

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-----Original Message-----

From: Suzanne Fryer <[suzanne\\_fryer@hotmail.com](mailto:suzanne_fryer@hotmail.com)>

Sent: Wednesday, 13 January 2021 3:06 PM

To: Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>

Subject: Consultation for proposed upgrade of Memorial Park water treatment plant

Kia Ora.

Just wondering please, how long the swimming pool car park will be closed for? It is the hub of our ANZAC commemorations on April 25.

Regards.

Suzanne Fryer

Greytown

RSA.

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**From:** [Dave Hayden](#)  
**To:** [Rasmus Altenkamp](#)  
**Subject:** Re: Greytown RSA  
**Date:** Monday, 18 January 2021 2:56:55 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)

---

Thank you

That is very helpful

Regards

Dave

---

**From:** Rasmus Altenkamp <Rasmus.Altenkamp@ghd.com>  
**Sent:** Monday, 18 January 2021 1:35 PM  
**To:** Dave Hayden <dkh777@outlook.co.nz>  
**Subject:** RE: Greytown RSA

Hi Dave,

Thank you for providing these details of the proposed Anzac Day parade.

Under our current timeline we will be in the commissioning stage around Anzac Day (i.e. trenching will be complete), therefore limited works will be occurring. However, in the case that trenching were to be occurring around Anzac Day, the trenches would be filled or covered with a steel road plate to ensure the area is safe and available for use. Given the 25<sup>th</sup> is a Sunday, no works will be occurring at this time and the site will be made safe prior to workers leaving the site on Friday the 23<sup>rd</sup> April.

The only restrictions we can foresee will be that a number of parking spaces may be fenced off to provide for machinery and materials used during construction. However, these could be located at the rear of the carpark beyond the swimming pool, therefore we do not anticipate this would impact on the area of the carpark in front of the pool.

We will be liaising with our construction contractor to make them aware of Anzac Day in the construction schedule and to minimise construction impacts as much as possible on the 25<sup>th</sup> April.

If you have any further queries please don't hesitate to get in touch.

Kind regards,

**RASMUS ALTENKAMP**  
**BCP(Hons), Int.NZPI**  
**Environmental Planner**

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**From:** Dave Hayden <dkh777@outlook.co.nz>  
**Sent:** Thursday, 14 January 2021 3:56 PM  
**To:** Rasmus Altenkamp <Rasmus.Altenkamp@ghd.com>  
**Subject:** Greytown RSA

Good Afternoon Rasmus

I am the secretary of the Greytown RSA

I understand a couple of people have been in touch with you regarding the work to be done in and around the Greytown swimming pool.

For information:

The Anzac Day Parade forms up in the car park in front of the pool at **10.30am on 25 April 2021**

We usually get close to 1,000 people including returned and serving service armed service people, fire brigade, Ambulance staff, schools and youth groups.  
A large number of members of the public also attend.

Given that last year's parade was cancelled due to Covid-19 we will be endeavouring to ensure this year's parade is as good as possible.

We have a committee meeting and Parade planning meeting on Tuesday 19 Jan 2021.

Please advise any likely restrictions to facilitate planning.

Your help and advice is appreciated

Regards

Dave Hayden



Secretary

Greytown RSA

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**From:** [Rasmus Altenkamp](#)  
**To:** [Horipo Rimene](#)  
**Bcc:** [12520249](#)  
**Subject:** FW: upgrade - Memorial Park water treatment plant  
**Date:** Thursday, 18 February 2021 2:04:00 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

---

Hi Horipo,

I am following up on the below again. We are just after a broad steer from iwi whether you are comfortable with the proposal or not. The proposed works will be publicly notified by Council for one month as per the requirements of the Reserves Act, so you will still have the opportunity to make detailed comments at a later stage. If you could provide any high level comments on the proposal that would be great!

If you have any further questions I am also happy to respond to these over the phone or via email.

Kind regards,

**RASMUS ALTENKAMP**

**BCP(Hons), Int.NZPI  
Environmental Planner**

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**From:** Rasmus Altenkamp  
**Sent:** Friday, 29 January 2021 8:54 AM  
**To:** Horipo Rimene <[Horipo@rangitane.iwi.nz](mailto:Horipo@rangitane.iwi.nz)>  
**Subject:** RE: upgrade - Memorial Park water treatment plant

Hi Horipo,

Thanks for your email. See our responses to your queries below.

We originally consulted with Narida Hooper from the Maori Standing Committee, who provided me the contact of Tia Tuuta from the Papawai Marae Trust Committee. Tia advised that the

marae will provide feedback, however they do not have the mandate to provide feedback on behalf of iwi, and hence forwarded our request for engagement on to both Rangitane o Wairarapa and Ngati Kahungunu.

Correct, this consultation is only for the upgrade of the existing water treatment plant, which treats groundwater to drinking water standard for Greytown. Yes, chemicals are only used to purify the water. No chemicals will be discharged to the environment.

The swimming pool is not connected to the water treatment plant or the water race.

The water to be discharged to the water race from the water treatment plant will be of the same quality as that going into reticulation (being both filtered and UV treated), however it will not have the chemicals that are added to reticulated drinking water. The turbidity and UV transmittance of the water discharged to the water race will be monitored.

If you have any further questions please don't hesitate to contact me at the details below.

Kind regards,

**RASMUS ALTENKAMP**

**BCP(Hons), Int.NZPI  
Environmental Planner**

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**From:** Horipo Rimene <[Horipo@rangitane.iwi.nz](mailto:Horipo@rangitane.iwi.nz)>  
**Sent:** Thursday, 28 January 2021 10:23 AM  
**To:** Rasmus Altenkamp <[Rasmus.Altenkamp@ghd.com](mailto:Rasmus.Altenkamp@ghd.com)>  
**Subject:** upgrade - Memorial Park water treatment plant

You don't often get email from [horipo@rangitane.iwi.nz](mailto:horipo@rangitane.iwi.nz). [Learn why this is important](#)

[Feedback](#)

Ata marie Rasmus

My details are below;

Questions: have you consulted with Papawai marae and the Maori Standing Committee?

This consultation process is only for the UPGRADE OF THE TREATMENT PLANT FOR DRINKING WATER?

Chemicals are only use to purify the water?

Because I can see the swimming pool in the picture, this doesn't have any interference with the

treatment plant?

or emptying the swimming pool is NOT connected to the discharge pipe which empties into the Moroa water race?is the discharge been monitored?

Nga mihi

Horipo Rimene

Pou-tiaki whenua

DDI 06 3700608 Mobile 0276919103

Email: [horipo@rangitane.iwi.nz](mailto:horipo@rangitane.iwi.nz)

12 Kokiri Place, Whakaoriori: 5810



**From:** [info@greytowncampground.co.nz](mailto:info@greytowncampground.co.nz)  
**To:** [Rasmus Altenkamp](#)  
**Subject:** Re: Consultation for proposed upgrade of Memorial Park water treatment plant  
**Date:** Wednesday, 13 January 2021 5:43:54 PM  
**Attachments:** [image002.png](#)  
[image003.png](#)  
[image004.png](#)  
[image005.png](#)  
[image006.png](#)

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Dear Rasmus,

Thank you for the information about the planned work at the water treatment plant, and enabling the opportunity to provide feedback.

As the current leasees of Greytown Campground, our main concern is the impact of noise both from the construction process and the operation of the new pump and treatment facilities on the campers who will be camping nearby.

We have discovered through the recent Xmas and New Year holidays with the campground being full, that campers in the front half of the campground are experiencing noise pollution at night from the current pump that has affected the quality of their holiday, and particularly their sleep. It appears that remedial works completed last year for the old pump has increased the noise that it makes when functioning. Although this noise is barely discernible during the day, the noise becomes a problem at night for campers. We have had campers complain, shift to other parts of the campground, and even shorten their stay due to this noise nuisance. Unfortunately, when the campground is full, as it is many times during summer, we are unable to shift campers to quieter locations. Another issue, this creates is that guests will leave reviews for our business complaining about the pump noise, indicating it might not be a pleasant place to camp. This, obviously impacts upon our business, with people deciding not to camp at our campground due to this issue.

Although, the above is with regard to the old existing pump, this raises many concerns for us with regards to the proposed new pump and construction works required for the new pump and new chemical treatment building. Could information please be provided to us on the likely noise level of the new pump and what measures will be undertaken to mitigate potential noise pollution of the new pump to the campground when it is in operation? Will there be any noise associated with the functioning of the new chemical treatment building (e.g. filtration machinery) as this is planned to be only 20m away from where many of our campers stay and closer to the campground to the existing pump. If there is any noise associated with the functioning of the new chemical treatment building, what measures will be undertaken to mitigate this noise pollution? What steps will be undertaken to monitor and reduce any noise from the operation of the new pump and chemical treatment facility to ensure that there is no noise pollution that will impact on campers nearby, and consequently impact on our business.

The summary of the proposed works indicates that major works will not be scheduled to be undertaken until after the 14th March, when the Greytown Pool closes. Our campground is likely to remain reasonably busy until after Easter weekend at the beginning of April. Therefore, we respectfully ask you to consider not scheduling the beginning of construction works until after this major public holiday. Many families come to enjoy Greytown Campground over the summer and early Autumn period, and will stay in the front half of the campground which is the area of the campground nearer the pump. This part of the campground offers more shade for tents and is closer to the playground for children. Any construction works at the pump/pool will adversely impact on the quality of camping experience for our guests, and subsequently our business, due to noise issues.

Recently, there has been exploratory work completed for tree roots in the area where the new piping network is to be installed for the new pump. We were not forewarned that this work would be undertaken, and unfortunately it consisted of a very loud water blaster that disrupted the camping experience for many of our guests. If preliminary work prior is required prior to the major construction works, we would be grateful if this work could not occur over a weekend and that we are advised several days beforehand. If our campground is not full, this provides us the opportunity to forewarn our guests and possibly place them in a location in the campground that will not be too adversely impacted by the noise. Also, the time that any loud mechanical work begins needs to be considered; our guests are usually staying to have a restful holiday and early awakenings due to loud machinery is obviously an unpleasant experience.

In summary our points of concern are:

- What is the noise pollution from the new pump and new chemical treatment building once they are in operation. How will this be monitored, and any noise pollution mitigated?
- Could the initiation of major construction works please be delayed until mid April, when business at our campground slows down and we can attempt to place all campers to the back of our campground as far away from construction noise as possible?
- Can we please be advised several days beforehand of any preliminary work that requires loud mechanical noises? This will help us to forewarn campers and hopefully be able to place them on camping sites furthest away from the noise.
- Can any loud preliminary or construction works please only be started at a reasonable time in the mornings, and can we please be advised what time(s) this will be.
- Could there please be no preliminary works or construction works over the weekends, as these are our busiest operation periods.

Kind regards

Nina Kyle and Ken Ryan

(Greytown Campground business owners)

On 2020-12-22 15:53, Rasmus Altenkamp wrote:

Dear Ken,

As part of the South Wairarapa District Council's programme of investment to ensure all drinking water in the district meets national quality standards, Wellington Water is planning to carry out work at the water treatment plant in Soldiers Memorial Park, Greytown.



In accordance with the Soldiers Memorial Park Reserve Management Plan, and the Reserves Act 1977, prior to doing this work we're consulting with the local community, tangata whenua and other interest groups.

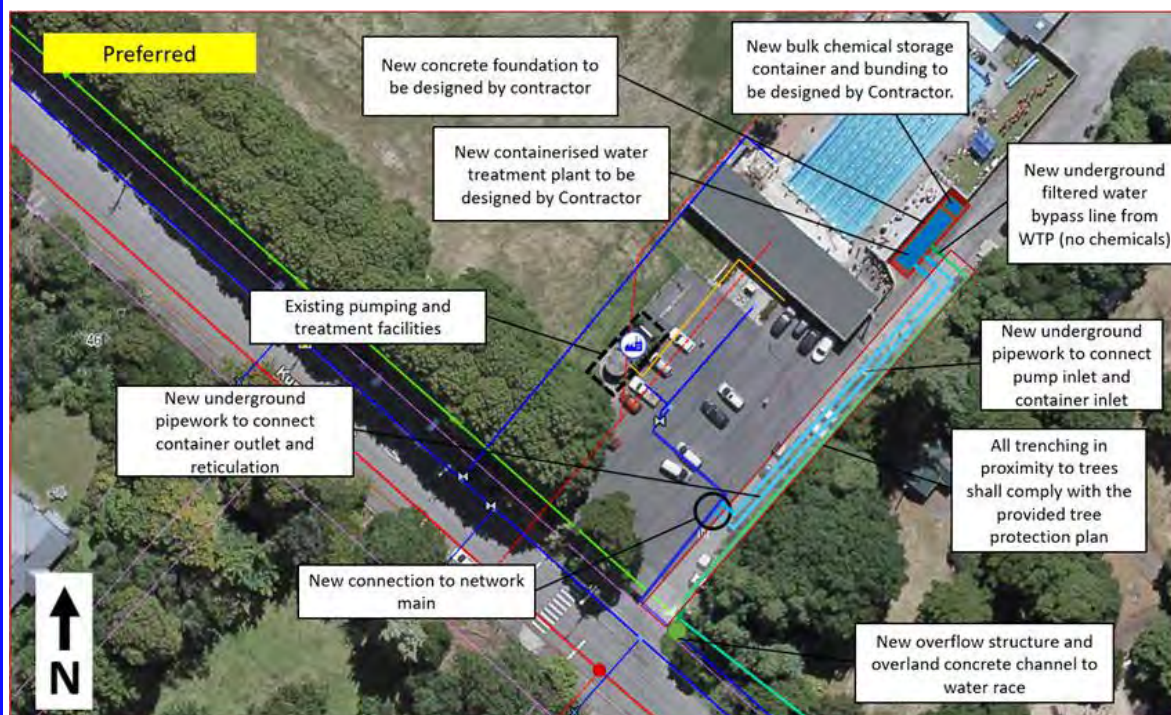
If you'd like to provide feedback on the proposed work, summarised below, please let us have this by 15<sup>th</sup> January 2021. If you have any questions about the work or the process, please don't hesitate to call Rasmus Altenkamp (GHD Environmental Planner) on 04 495 5806. Alternatively please provide any comments to [rasmus.altenkamp@ghd.com](mailto:rasmus.altenkamp@ghd.com).

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The proposed location for the container is Council-owned land and is close to the existing groundwater bore.

As noted, we'd welcome any comments or questions you have about this work, and we'll be in touch again about this in the new year. In the meantime, we wish you and your family a happy and safe holiday.

Kind regards,

**RASMUS ALTENKAMP**

**BCP(Hons), Int.NZPI  
Environmental Planner**

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Investigations/Memorial Park - Planning/New folder/Soldiers Memorial Park AEE for Reserves Act Approval.docx

Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	Rasmus Altenkamp	Helen Anderson		Craig Brown		09/02/21

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