NAPIER
CITY COUNCIL
Te Kaunihera o Ahuriri

Napier Civic Building
231 Hastings Street
t +64 **6 835 7579**
e info@napier.govt.nz
www.napier.govt.nz

MĀORI COMMITTEE

Open Agenda

Meeting Date:	Friday 12 June 2020
Time:	9.00am
Venue:	Large Exhibition Hall Napier War Memorial Centre Marine Parade Napier

Committee Members	Mayor Kirsten Wise Maungaharuru Tangitū Trust – James Lyver Ngāti Pārau Hapū Trust – Chad Tareha Maraenui & Districts Māori Committee – Adrienne Taputoro Pukemokimoki Marae Trust – Tiwana Aranui
Officer Responsible	Director Community Services, Senior Māori Advisor
Administration	Governance Team
	Next Māori Committee Meeting **Friday 10 July 2020**

ORDER OF BUSINESS

Karakia

Apologies

Nil

Conflicts of interest

Public forum

Nil

Announcements by the Chairperson

Announcements by the management

Confirmation of minutes

That the Minutes of the Māori Committee meeting held on Friday, 13 March 2020 be taken as a true and accurate record of the meeting ……113

That the Minutes of the Māori Committee meeting held on Friday, 8 May 2020 be taken as a true and accurate record of the meeting. 118

Agenda items

Public excluded 113

Whakamutunga Karakia

AGENDA ITEMS

1. WASTEWATER OUTFALL REPORT

Type of Report:	Legal and Operational
Legal Reference:	Resource Management Act 1991
Document ID:	935283
Reporting Officer/s & Unit:	Catherine Bayly, Manager Asset Strategy Cameron Burton, Manager Environmental Solutions

1.1 Purpose of Report

To inform the Committee of an update to the status of the Awatoto Submarine Wastewater Outfall which conveys treated wastewater to the Pacific Ocean.

Officer's Recommendation

The Māori Committee:

a. Receive the update report regarding the wastewater outfall

b. Note the recent Council resolution to:

a. Note the current status of the submarine wastewater outfall:

i. As previously reported, there remains some seepage of wastewater from sealing gaskets which form part of a bespoke fibreglass joint section of the subsurface outfall pipe structure;

ii. Despite efforts, staff have not been able to identify a way to quickly fix this seepage without putting the fibreglass joint at risk of rupturing;

iii. That frequent testing of the coastal waters surrounding the area of seepage continues to show de minimus environmental effect of those waters, caused by this seepage;

iv. That Hawkes Bay Regional Council (HBRC) have recently indicated (on 25 March 2020) that Council must take the following actions:
1) Undertake short-term repairs to mitigate the leak from the joint leak by 30 October 2020
2) Provide long-term options for repairing the joint in the outfall pipe by the same date (30 October 2020)

v. That HBRC have informally notified Council of their intention to pursue enforcement action against Napier City Council to cease the discharge at the joint if the timeframes above are not met.

vi. That a further leak has been discovered within 100m of the fibreglass joint. Divers have been to the site with the aim to repair and have found that this is an old repair that has been damaged by an anchor, or other, and will need an additional repair.

vii. Tight timeframes to effect a repair increases the risk associated with delivering a short-term fix, rather than facilitating long-term solutions which will provide better outcomes.

b. Endorse staff to:

i. Seek a variation to the current resource consent to authorise the discharge of wastewater via seepage at a position other than that currently authorised (at the fibreglass joint location);

ii. Seek early provision of funding assigned for later financial years in the Long Term Plan (LTP) to enable the strategic and planned replacement of the wastewater outfall, including better treatment options to facilitate a more highly treated wastewater in the future.

c. Approve funding to be released from Wastewater Reserves to attempt a fix of the two seepages and to start on investigation works for replacement of the outfall ($2m has been put forward in the 20/21 Annual Plan).

d. Approval to attempt the lowest risk repair option of the fibreglass joint to address Regional Council's repair timelines.

e. Receive the Beca Ltd Report entitled "Napier City Council – Wastewater Outfall – Issues and Options" dated 15 May 2020

1.2 Background Summary

- The 1.54km long wastewater sea outfall pipe was installed in the 1970s. The outfall pipe had issues from early stages due to poor construction methodology and design. The pipe has been installed in two sections and connected with an in-situ joint approximately 700m offshore. Due to a misalignment of the pipe ends at the joint, a fibreglass joint was installed in 1984. This joint is the weakest point of the outfall pipe.
- According to available information, the designed vertical alignment of the pipe was not met during construction. The seaward end of the diffuser settled below the seabed at an early stage after construction, causing issues with performance of the diffuser. Inspection of the pipe has revealed several historical leak repairs to the pipe. Overall, there have been many issues with the outfall pipe and diffuser from the beginning.
- Historically the submarine outfall has not been regularly inspected. As part of recent improvements to planned maintenance, divers inspect the pipeline and diffusers annually. During these inspections, ports of the diffusers are cleaned. However, not all the diffuser ports are functioning due to blockages, missing diffuser parts (damaged

by fishing trawlers or logs rolling on the sea bed) or they are buried under an ever-changing seabed.

- In 2018 specialist diving contractors were engaged to undertake a condition assessment over the full length of the outfall pipeline.
- In August 2018, diving investigations found several sticks, pine cones, fishing net and weed inside the outfall.
- The specialist divers found a small leak coming from the pipeline approximately 70 metres from the shore. This leak was subsequently fixed using stainless clamps and rubber sheaths and subsequent assessments have found this to be in good condition.
- The divers also found an area of more significant seepage discharging from rubberised gaskets between a one-of-a-kind custom-built fibreglass joint section, 700m from shore. The seepage has been calculated at approximately 10 litres per second, when normal flow is in the order of 300-400 litres per second.
- Visibility is zero at the site, due to coastal interaction with the river sediment in the area.
- In late April 2020 an additional plume slightly closer to shore from the joint was discovered during a drone monitoring inspection. This seepage is from a previous repair that has now failed. The dive team believe that the pipeline at this point has sustained a significant impact. Divers were mobilised at the start of May and have identified an old repair with a steel clamp and cement bags. There are longitudinal and radial cracks in the pipe under the clamped section and there has been some displacement of the pipe. Although it was intended that a repair be made at that time, this was not possible as the required repair was deemed to be more complex than anticipated.
- HBRC were notified of the second seepage by phone and email on the 5th May 2020.
- Work is underway to legally protect the outfall under the Submarine Cables and Pipelines Protection Act 1996, (the same piece of legislation that protects the power cables under Cook Strait). This allows much larger penalties for those who are found to have caused damage, than what is currently available.
- The consent for the Outfall expires in 2037
- The capacity of the outfall is currently constrained due to the integrity of the historical repairs. The Wastewater Treatment and Outfall Master Plan that is currently being developed and produced later this year will help to determine future requirements for the full replacement of the outfall.

Systematic seepage detection:

- There is no formal process for seepage detection and for such a challenging coastal environment. It is very difficult to detect small seepages.
- Pressure monitoring is undertaken and recorded, but the nature of the system is such that the operation of the pump and air valve along with the tide and wave action are likely to mask any small seepages.
- There are frequently large movements of sediment in the bay (up to 1.5m) following storms which can bury the pipeline which can also have an effect on monitoring.

Offshore Environmental Monitoring:

As well as monitoring the quality of the raw and treated wastewaters being discharged to the outfall and subsequently the ocean, the Environmental Solutions Team carry out environmental effects monitoring by boat at the authorised discharge site.

Since the discovery of the seepage from the joint in 2018 the Environmental Solutions Team have increased surveillance of the site, including:

- review of footage from the specialist divers;
- scheduled deployment of our drone to provide aerial imagery of any visible plumes;
- additional environmental effects monitoring by boat in set positions immediately above and in a series of positions surrounding the joint;
- bacteriological nearshore sampling along the coast from East Clive to Town Reef to ascertain trends and effects;
- installed cages of mussels which after a period of saturation were analysed for viruses to ascertain impacts of the wastewater outfall and seepage upon human health of those collecting kai moana;
- initiated a variation to the current resource consent to authorise the additional seepage from the joint.

It is this proactive monitoring that has ascertained the second area of seepage, further towards the shore from the joint.

To date, the laboratory analysis of samples collected have shown very little impact caused by the seepage at the joint. Results are variable due to multiple factors at the site, but the following table provides a summary of findings of Faecal coliforms:

Date	Faecal coliforms at diffuser	Faecal coliforms at the joint
27 Aug 2018	N/A	<1 cfu/100mL
12 Nov 2018	700 cfu/100mL	<1 cfu/100mL
12 Mar 2019	500 cfu/100mL	38 cfu/100mL
09 May 2019	3,500 cfu/100mL	30 cfu/100mL
16 Aug 2019	2,100 cfu/100mL	<1 cfu/100mL
06 Nov 2019	<1 cfu/100mL	<1 cfu/100ml
13 Jan 2020	8,100 cfu/100mL	<1 cfu/100mL
29 Jan 2020	11 cfu/100mL	6 cfu/100mL
18 May 2020	Samples still being analysed at time of writing	

In addition to this ocean surface monitoring, we have had the divers conduct sampling of waters surrounding the joint to ascertain levels of dilution at the joint, and at 2 metres and 5 metres above and 2 metres and 5 metres away on North, South, East, West headings.

Again, results are variable depending upon ocean swells, currents and pumping rates at the time of the sampling, but do not show significant impacts.

For the nearshore coastal waters monitoring since 2018 the highest recorded levels of Faecal coliforms were 130 cfu/100mL at Short Groyne (adjacent the Hastings wastewater discharge), and 38 cfu/100mL at the joint (as shown above). From a public

health perspective, through the possible collection of kai moana at Town Reef, the highest reading to date is 4 cfu/100mL.

The Environmental Solutions Team will continue required monitoring and additional monitoring, and will soon carry out another virus assessment using mussel cages and will continue to build on data including additional subsurface dispersion sampling from the divers when next engaged.

Possible Repair Option:

NCC engaged Beca Ltd to provide an "Issues and Options" report for the main leak on the outfall. All of the options have similar risks, with the most notable being the potential to damage the joint to the point where a large volume of wastewater is discharged at 700m offshore instead of the consented discharge point, 1.5km offshore.

Repairing the fibreglass joint leak has a number of constraints. The main constraints are:

- Available storage at the treatment plant for a shutdown of the plant is enough only for approximately 4 hours at normal dry weather flows. There is a risk of not completing the repair within this time period, only simple repairs can be completed without having additional storage at the plant.
- The fibreglass joint is fragile and any disturbance to the fibreglass or pipe supports during the repair may disjoint the pipe making it difficult to re-joint / re-attach the fibreglass joint.
- This is a pre-stressed pipeline and maintaining the continuity of structural integrity of the pipe during the repair is not easy in a soft, changing seabed.
- Site conditions: Working on the seabed in often zero visibility, weather and sea state.

Council's Infrastructure team, and the Beca team have identified a number of repair options, these are summarised in the following table:

Repair Option	**Indicative cost ($)**	**Comments**
Inserting a caulking cord or hemp into the flanged joints. **Recommended**	$200,000 plus 1 week to undertake	Medium risk. Cost is *relatively* low. The success of this option is unknown and may be limited. This option can be actioned prior to HBRC's deadline.
Grout encasement of whole joint including supports **Not Recommended**	$500,000 Specialist Construction. 2 months	Medium to high risk. May take a longer time to repair causing storage issues at the plant. This places a large deadweight at two pipe sections, potential for settlement and further damage to the surrounding concrete pipe. Additional storage at the treatment plant would be required.
Grout filling of the fibreglass box **Not Recommended**	$500,000 1 week	High to Extreme risk. Grout may block the pipe and diffusers partially or fully. The structure inside of the fibreglass box has not been confirmed.
Install a PE sleeve liner **Not Recommended**	Not costed 3 months Not currently feasible	Outfall might have to be taken out of service for up to 8 weeks. This option is not viable given the unknown internal pipe condition and obstructions, miss alignment at the fibreglass joint, no

		storage, and a reduction in internal diameter impacting flow rates.
Install a chamber and new seaward half of the outfall **Not Preferred**	$12m estimate Several Months	It is not advisable to replace half of the outfall without the results of the WW Treatment and Outfall and Master plan. It would be more cost effective to undertake a full planned replacement.
Consent Variation **Underway**	$100,000	Enable the fibreglass joint leak to continue until the assets is replaced if the repair is not effective.
Early Replacement of the Outfall **Preferred**	$33-$40 million (requires investigation) 12 months plus investigation and consenting period	Investigation works can be started to get the replacement project underway. The value of the replacement could be $20-$40m, more work is required to develop a reasonable cost estimate.

The lowest risk option for the repair of the fibreglass joint section and associated o-ring seals and bolted sections would be:

- Diving on the pipeline at a time where tidal action, wave action and availability of specialist divers aligned;
- Cessation of discharge of wastewater by shutting down the wastewater treatment plant for a period of time;
- Unbolting the top part of the fibreglass joint section;
- Scraping detritus build-up to enable a smooth working area;
- Inserting greased rope and o-ring seals;
- Re-installing the top part of the fibreglass joint section.

There are significant risks associated with any repair option. Risks associated with the proposed option are identified in section 1.5.

Variation to Resource Consent

- A variation to the current resource consent is nearing completion which seeks to authorise the discharge of treated wastewater at an additional position, being the joint.
- The intention is to conditionally authorise the seepage discharger of treated wastewater at the joint, as Council are not currently legally authorised to do so. This will be a short-term consent to relieve some pressure until a permanent solution to the outfall pipe is implemented.
- An Environmental Effects Assessment has been developed by the Environmental Solutions Team, and this is awaiting an external peer review from a marine ecotoxicologist to enable independence prior to lodging with Hawkes Bay Regional Council.
- This application will proffer under the Augier Principle an emergency response plan which is to be developed both to address any sudden break in the outfall pipe (in any position), but also to address concerns of a breakage caused by the expeditiousness imposed upon Council to enable a short-term repair attempt. The choice of repair type and the methods of said repair, will mean the emergency response plan has to be dynamic enough to address the implications of a failure due to that repair.

- It is likely that lodgement of this application for variation to the resource consent could be made as soon as the week of the presentation of this paper.

Outfall Renewal

The Wastewater Outfall is nearly 50 years old. The recently identified seepage at an old joint is indicative of the condition of the structure and highlights that Council will need to increase expenditure to keep the outfall operational and operating within its consent conditions. This additional seepage also highlights the increasing risk of failure of the asset.

With escalating maintenance costs, current capacity constraints and increased risk of failure, it is recommended that Council start preparing for the replacement of the outfall and identify required funding to start this process prior to the consent renewal.

1.3 Issues

- Pre 2003 there have been 8 significant leaks that have been repaired.
- 2018 Small seepage at 70m – repaired.
- 2018 Larger seepage at 700m.
- End of diffuser is plugged as it is 1-5m below seabed, full length not used.
- Diffuser 120m long, including pre-tensioned structure.
- News smaller seepage discovered at 600m offshore in May 2020.
- The outfall is constrained and does not meet the required levels of service.
- Difficult repair conditions with no visibility and dangerous conditions for divers in a contaminated environment.
- Undertaking a repair on the outfall could result in further damage to the outfall.
- There is the likelihood of enforcement action if we do not undertake a repair on the fibreglass joint by October 2020.
- The outfall is nearing end of life and the costs to maintain it and repair leaks is escalating.

1.4 Significance and Engagement

The work proposed in both the short term and longer term to repair and replace the outfall represents a significant level of investment. The proposed repair cost is included in the draft annual plan to be consulted on in May/June of this year. Investment for the renewal of the outfall will need to be consulted upon in the 2021-31 LTP.

1.5 Implications

Financial

Council's specialist consultants have provided a quotation to undertake repairs on both of the existing leaks. While the cost of these repairs is estimated at around $250,000, Council officers recommend that Council provide $400,000 for repair attempts. This will allow for poor weather conditions or issues with repairs.

The consent variation process is estimated at around $100,000.

In the 20/21 Annual Plan, Council officers have put forward $2,000,000 for rehabilitation works for the outfall. This funding would be able to cover the costs of the two leaks repairs to rehabilitate the asset. The additional funding can be used to commence investigation and design works for the outfall replacement.

With increased risks around failures, Council will need to increase expenditure on maintenance of the outfall pipeline and will need to allow for additional leaks. These annual costs are escalating and during the next LTP period staff will be forecasting $400,000 per year to inspect and maintain the outfall.

Due to the issues with the outfall, Officers would like to bring forward the replacement of this asset. In the current Long Term Plan, a total of $11,650,000 of funding was forecast, with the majority of this occurring between 2024 to 2028 for the assets replacement.

The total cost of the replacement is estimated to be significantly more than that identified in the last LTP. Council staff recommend that the replacement of the Outfall Pipeline be brought forward, with planning works starting in 2020 and replacement provided for in the next LTP.

Social & Policy

N/A

Risk

There are significant risks associated with any repair option. Risks associated with the lowest risk option include:

- There is limited storage capacity at the treatment plant, the wastewater system wet wells and pipework which could cause an overflow to a more sensitive environment than the area at the ocean outfall;
- Time pressure because of the lack of storage being put on the specialist divers;
- High risk diving work;
- The top part of the fibreglass joint section could warp, leaving that part unable to be replaced meaning most or all wastewater would then be discharged at the 700 metre offshore position for the foreseeable future;
- Due to the top part of the fibreglass joint section being constructed in a bespoke fashion and off-alignment of the pipes, it is not able to be readily replaced;
- The removal of the top part of the fibreglass joint section could release pressure on the concrete block below the structure and cause rupture of the remaining part of the structure also meaning that all wastewater would then be discharged at the 700 metre offshore position for the foreseeable future;
- The structural capacity of the fibreglass joint section and its resilience to the removal of the top section is unknown.

1.6 Options

The options available to Council are as follows:

a. **Option 1** – Do nothing. It is unlikely that the Regional Council will not agree with this option, resulting in taking enforcement action against the Council. This can also cause damage to the Council's reputation. This option is not recommended.

b. **Option 2** – Applying for a variation to the existing consent to allow discharge from the existing leak as mentioned above. Sampling results suggest that the environmental impact may be minor. There is also a risk of worsening the leak resulting in larger discharge from this location over time. A proper contingency plan has to be in place as a precaution. This option is worth proceeding with.

c. **Option 3** – Repairing the damaged leak by caulking method as this is the lowest risk and least cost option. There is a risk of an incomplete seal. Careful execution of work will reduce this leak. There is still the potential that the pipeline could be damaged.

d. **Option 4** – Repairing the leak by grout encasement of the whole joint. There is a high risk with this option by damaging the joint further due to weight of the repair material, which may cause further damage. This option has not been recommended by the consultant or officers.

e. **Option 5** – Repairing the leak by grout filling of the fibreglass box. The repair is easier, but there is a high risk of blocking the pipe and diffusers. This option is not recommended.

f. **Option 6** – replace the seaward half of the outfall and install a joint chamber – this may cost around $12m, will not address other issues around the outfall's capacity, and does not address the risks associated with the other half of the outfall.

g. **Option 7** – Replacement with a new outfall. The recent failures point to the need to expedite the renewal of the outfall and note that Council spending on maintaining the outfall is starting to increase significantly.

1.7 Development of Preferred Option

The preferred options for managing our risks of failure and enforcement actions by Regional Council are b and c above, and will involve the following:

1. Apply for a consent variation for the leakage at 700m to enable an ongoing discharge at this point until the joint is fully repaired or the outfall is replaced.
2. Develop an emergency response plan to manage additional damage or failure of the pipeline
3. Engage our specialist dive team to undertake the lowest risk repairs possible for both leaks.
4. Start planning the early replacement of the outfall to minimise risks, increase levels of service and tie in with improvements to the Wastewater Treatment Plant

1.8 Attachments

A Beca Ltd "Napier City Council - Wastewater Outfall - Issues and Options" 15 May 2020 ⇩

Napier City Council - Wastewater Outfall - Issues and Options

Prepared for Napier City Council
Prepared by Beca Limited

15 May 2020

Creative people together transforming our world

Contents

Revision History

Revision N°	Prepared By	Description	Date
A	**Ian Goss**	Draft for Discussion	2/09/2019
B	Ian Goss	Final	18/10/2019
C	Ian Goss	Outfall Replacement Options Added	20/01/2020
D	Ian Goss	Fibreglass Leak Options Refined	18/02/2020
E	Garry Macdonald	Updated following NCC feedback	01/05/2020

Document Acceptance

Action	Name	Signed	Date
Prepared by	**Ian Goss**		19/10/19
Reviewed and Approved by	**Garry Macdonald**		14/05/2020
on behalf of	Beca Limited		

Executive Summary

This report provides the issues and options identified following a review of the current status of the Napier City Council wastewater outfall at Awatoto. The report is based on background information provided by Napier City Council, and discussions with Council staff, and personnel from New Zealand Diving and Salvage Limited, the current maintenance contractor. The history of the outfall construction issues and subsequent performance, and features of the structural design which need to be considered in relation to repair options are summarised in the report, and current status reviewed.

Three main issues related to the performance of the existing outfall were apparent from the review and the options for dealing with them are summarised below. Indicative costing for the construction of a replacement outfall pipeline based on recent construction costs at other New Zealand sites was provided with the assistance of Brian Perry Civil Limited, and McConnell Dowell Constructors.

The report provides a background to the configuration, construction, and performance and repair history of the outfall and that notes that there are significant risks that further disturbance of the pipeline through environmental events or repair procedures may exacerbate existing problems, or create new ones.

The main interventions available to Napier City Council and the key risks with each are presented and a "traffic light" risk rating assigned to each based on Beca experience and assessment of the outfall condition. Options for which Beca has significant concerns are stated as being "not recommended" based on this risk rating and on an assessment of viability and certainty of outcome..

Option	Key Risks	Timeframe to complete works[note 1]	Outfall shutdown window	Cost	Storage required	Risk rating
Diver intervention to repair specific leaks to fibreglass joint [Short term recommendation]	May not give 100% leakproof repair Disturbance of pipe support Integrity of fibreglass repair	Within one weather window	Brief shutdown times	$0.2M+	Existing capacity	
Concrete encasement fibreglass joint & support [Not Recommended]	Specialist construction Potential disturbance of pipeline causing new leaks Incomplete seal due to working underwater Logistics issues with working offshore	2 months	Brief shutdown times	$0.5M	Existing capacity	
Grout/filling material fill fibreglass joint [Not Recommended]	Unknown condition of joint Fill could leak into pipeline	1 week	Brief shutdown times	Approx $0.5M		
PE line pipeline [Not Recommended]	Unknown restriction due to misalignment of joint Reduced internal diameter of pipeline reduces flow rates to critical level	3 months	2 months	Not costed	Alternative required	
Consent variation to allow ongoing leak until outfall is replaced or permanently repaired [Short term recommendation]	Regional Council will not consider, uses enforcement action	N/A		$0.1M	NA	
Replacement Outfall Pipeline	Funding provision in LTP Normal marine construction risks	12 months		$33-40M		

	Low risk
	Medium risk
	High risk
	Extreme risk

	Underway

Note 1: Time to complete works is weather dependent and does not include preparation such as investigations, design, permits, planning, tendering etc.

Leaks from flanges at approximate chainage 700 m

Leaks from the bolted flanges of a buried fibreglass joint repair between pipe strings at approximate chainage 700 m. The repair of these leaks usually requires seabed excavation to expose them and are regularly inspected although checking of the bolted joints which was reportedly part of earlier maintenance work (1990s) does not appear to have been regularly done until after 2017. The leak from this location is visible under some combinations of flow rate and sea state at the water surface halfway to the diffuser. Bolts were tightened at the most recent inspection (January 2020) with some expected improvement achieved. Options considered for leak repair are

- Diver intervention to repair or reduce leakage from specific sections of the bolted flanges by caulking specific areas of leakage – this is a low-key option with minimal pipeline disturbance that can be carried out in conjunction with and using the same scale of operation as current regular routine inspection and maintenance work. Risks arising from this approach include the possibility that a 100% leakproof repair may not be achieved, but a significant improvement is expected. A short construction period is required that is likely to be completed within one planned weather window and requires only brief outfall shutdown times. Indicative cost is $130,000, comparable to an annual inspection and maintenance operation. This option is not recommended as a long term a solution to the leak repair but has the potential to provide temporary improvement. If this option is adopted as a strategy then it would need to be routine maintenance practice

- Enclose the fibreglass joint in a grouted surround by installing a fabric (or solid) form sealed to the pipeline in conjunction with providing seabed foundation support beneath the pipeline to support the additional mass without further settlement, and encase the fibreglass repair and enclosed original in grout or concrete. This is a specialist and larger scale construction operation which would restore the intended structural capacity. The preparatory work would require the installation of support frames to prevent deflection of the pipe either side of the grouted section, and the placement of a structural foundation below the pipe to prevent settlement of the pipe and the added mass of the new surround. A large volume of grout or concrete is needed to surround the fibreglass unit requiring a separate vessel to deliver it and fill the form in the single operation necessary to provide homogeneous encasement. Risks related to this approach include potential disturbance of the pipeline adjacent to the joint initiating leaks at new locations, incomplete sealing of leaks due to underwater construction constraints, and logistics issues with the delivery and placement of concrete offshore. Indicative cost of this approach is estimated at $500,000. This option is not recommended on the grounds of the risk of potential disturbance of pipeline support and damage to repairs carried out at the time of construction.

- Grout (or alternative sealing material) fill the fibreglass repair casing – this option is not recommended at this stage because of the unknown condition of the original joint. The fill could leak into the pipeline.

- Install a PE liner to the pipeline. This option is limited by the unknown restriction due to the misalignment of the joint. It could provide rehabilitation of the full outfall pipeline, but due to the reduced internal diameter would provide a flow capacity that is not adequate for current or future design flows. This option is not recommended as providing for the long term discharge capacity requirements of the wastewater system.

- Options for a consent variation to accommodate potential ongoing leak, possibly in conjunction with the diver repair approach outlined above are underway. This would be a stopgap option pending full replacement outfall installation.

Diffuser Issues

Performance issues with the diffuser which suffers from sea sediment build-up both inside and outside the pipe. The diffuser has suffered problems since completion and records from 1975 show the seaward third of the diffuser had settled below seabed. The remaining 80 m remains effectively flush with the seabed and continues to perform adequately with constant maintenance to ensure the operation of risers installed to discharge above sediment level, and to keep the diffuser clear of internal sediment build-up. Risers and duckbill valves have been retrofitted to the diffuser, and are regularly lost as a result of external damage. Options for maintenance of diffuser operation are:

- Establish and enforce a no fishing zone around the diffuser to limit trawl damage
- Maintain the operation of the diffuser with regular inspection and maintenance to ensure ports are all fitted with risers and duckbill valves, and monitor and remove internal sediment to ensure even discharge over 40 ports. This is effectively the present situation.
- The option of resurrecting the performance of the seaward section of the diffuser was considered. Because it is buried up to 1.2 m this option is expected to add risk in terms of potential sediment infilling of the pipeline. Provided adequate discharge and dilution performance is achieved by the existing inshore section of the diffuser, this option is not recommended. The potential use of a new pipe riser at the end of the pipeline to flush sediment from the outfall is not considered feasible as it would require the maintenance of high flows and pipeline pressure in the already compromised pipeline to establish scouring velocities. This would also require temporary blocking of the existing operational ports to achieve flushing of the seaward section.

Potential for Further Leakage

The recent need to repair a leak at the 70 m chainage illustrates the potential for development of further problems with this aging pipeline. It is suspected that the leak arose due to temporary exposure and movement of the pipeline in the active surf zone where the required depth of burial was not achieved during construction, and where curvature of the pipeline during installation or natural settlement processes has caused weakened construction joints. The integrity and durability of the internal pipe string joints is not known, but it is suggested that exposure and operations that have the potential to allow the pipeline to move or settle should be avoided or carefully managed

Indicative Outfall Replacement Cost

An indicative construction cost for replacement of the existing outfall by a 1500m outfall of 1.0m diameter for a flow of 1400 l/s was provided by Brian Perry Civil Limited at $33M. This was based on construction industry assessment of the information available and does not allow for investigations, consenting, engineering, funding or onshore reticulation. Allowance of 20% for these components brings the total estimate to $40M. This is an indicative estimate with uncertainties in the order of 30%.

McConnell Dowell Constructors has proposed a “Direct Pipe” construction methodology for a new ocean outfall at Mt Maunganui and have indicated the cost for an outfall to the capacity and length parameters above to be in the order of $32M. The Mt Maunganui outfall has similar structural problems to the Awatoto outfall and was constructed about the same time.

Recommendations

On the basis of present outfall condition and capacity it is recommended that the appropriate long term course of action is to proceed with investigations and consenting to construct a new wastewater outfall.

In the interim continued operation under the existing regime will be necessary, with maintenance and monitoring required to ensure that the diffuser remains operational at the current level, and the known leak at the 700m fibreglass joint is kept to an acceptable level. Recommended steps to achieve this are:

- Continue efforts to obtain consent variation to operate with the existing leak
- Proceed with low level diver intervention to reduce the leaks from the fibreglass joint if required in relation to the consent variation above, or if the leak rate worsens

The remaining repair options involve the risk of exposing or creating greater leak potential and do not provide long term solutions for the integrity of outfall performance or future flow capacity.

1 Introduction

1.1 Background

Wastewater from Napier City, following conveyance, collection and treatment, is discharged to the ocean through a 1500 m outfall pipeline from Awatoto, some 5.5 km south of the Napier CBD. Current discharge is authorised under Napier City Council consent - CD090514W to discharge domestic sewage and industrial wastewater into Hawke Bay via a marine outfall. This consent was granted for a period of 25 years and will expire in November 2036. The outfall capacity is a constraint to the City's current and future wastewater treatment infrastructure performance, and may require replacement in the short to medium term.

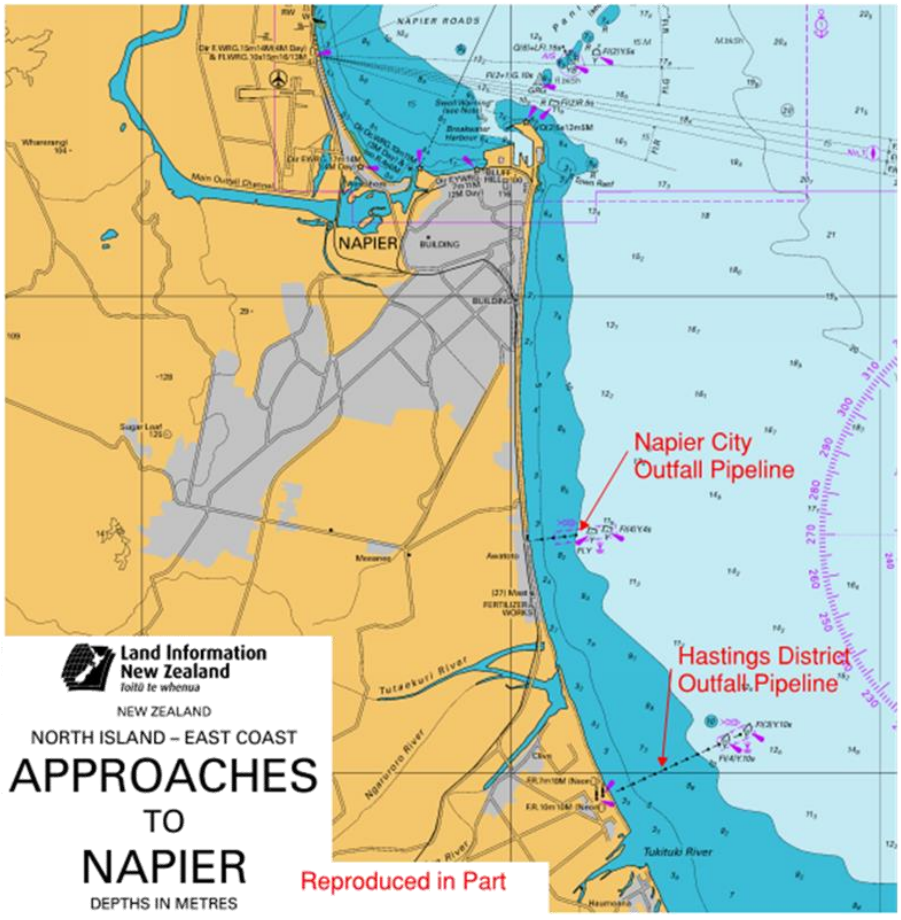


Figure 1 Location Plan on LINZ Marine Chart

This review has arisen as the result of the development of a leak from the outfall approximately halfway between the shore and the diffuser which records indicate became gradually more obvious from 2015. The leak, which occurs below seabed level, has been located and exposed by divers, and shown to be from a

fibreglass encasement of the pipe installed in 1984 when an earlier leak occurred. The primary intention of this review is to establish the characteristics of this leak at the 700 m mark and consider options for repair to provide continued satisfactory outfall performance. A further and separate leak was observed close to the shore (nominal chainage 70 m) in 2017. This was successfully repaired by divers in August 2018 with a sealed stainless-steel band clamp, and has subsequently been inspected and shown to be sound.

Maintenance issues have also arisen in relation to the diffuser performance, with the diffuser section of pipeline situated so that the crown of the pipe is generally at or below seabed level, requiring diffuser openings to be fitted with risers and duckbill check valves to help prevent the ingress of seabed sediment to the diffuser. Regular loss of risers is common, leaving the diffuser open to sediment infill and the need to clean material from the pipeline on a regular basis.

1.2 Approach to Review

The approach to undertaking this review has been as follows

- Obtain existing records held by Council including
  - Original drawings and construction documents
  - Maintenance diving inspection records
  - References to repair works undertaken
- Meet with NCC staff to identify and discuss issues and solution options, including procedures for maintenance inspections, identification of issues, and work undertaken
- Discuss and seek information and ideas from current dive contractor
- Review information and develop options for treatment of leak
- Summarise in report

1.3 Information Available

Napier City Council staff has provided a substantial amount of documentary information from various stages of the life of the outfall pipeline which was constructed in 1972. In addition, discussions with current staff members, and with inspection and maintenance contractor personnel, have provided additional background to some aspects of operational, performance, and historical issues.

While this information has been reviewed to assist in understanding the history and condition of the outfall, there remain issues that were not documented and were not able to be explained by currently available personnel. Such issues include details of the construction process which resulted in the now fibreglass encased joint repair, and the background to the settlement of the seaward end of the diffuser. Details of the nearshore profile issues, and the means of trenching to bury the pipeline have not been seen. Interpretation of the condition of the outfall is based on the records available and discussion with existing council staff and dive contractor and may be further clarified if more information can be located. Recent hydraulic performance records that would allow comparison of theoretical and observed head losses are not available. Flow rates from pumping can be derived, but the pipeline configuration does not allow easy access to head requirements to drive the outfall pipeline.

2 Outfall Pipeline History

2.1 Introduction

This section presents a brief outline of the history of the outfall pipeline as deduced from the documents provided and discussions with various parties. Further details may become available after review by Council and on completion of the report.

2.2 Original Design and Construction

The Napier City Council Outfall construction was commenced in 1972 following the initial design drawings (included in Appendix A) and contract preparation in 1968. It is not clear if the construction drawings used were the same as the original design drawings. The outfall pipeline comprises precast concrete pipe sections 1.220 m OD, 0.914 m ID and nominally 1540 m long from the pressure manhole behind the beach. It is made up of 2.4 m lengths of flush jointed pipe with rubber skid rings and rubber bearing pad gaskets between pipe bearing faces, assembled and stressed into 60 m lengths, and then the longer strings assembled, stressed and grouted into two approximately 700 m lengths for installation. From the documentation available it is not clear when construction was completed and the outfall commissioned, although the drawing record (relevant construction survey drawings are included in Appendix B) suggests that surveying of the pipe profile as it settled in the nearshore area following installation continued to about mid-1975. There is no detailed as-built information available, nor a description of the construction procedure or deviations from the intended methods as the job progressed.

Comments in the later records refer to difficulties encountered during construction which appear to have been related to three issues:

- Difficulties in maintaining the design launch profile through the surf zone with the nearshore section installed high and eventually settling to its present position
- Difficulties in installing an insitu pipe-joint between the two pipe-strings that comprise the outfall length with horizontal and vertical misalignment of the pipe ends (this is the area of the current leak, and an area of susceptibility – potentially leakage – since construction completion). It should also be noted that there were several stainless bands fitted to pipe joints on the continuous concrete pipe in the vicinity of the sea joint which are presumed to have provided repair to damage to the pipe resulting from efforts to align the free ends.
- The settlement of the seaward end of the diffuser to below seabed in a relatively short time after installation due to it having no structural support to the free end of the pipeline and scouring of the seabed around the end of the diffuser

The design intention was that the pipe be installed in a single length (1540 m) to a prescribed nearshore profile below the foreshore (to a seabed depth of about 6m below chart datum), and placed on the existing seabed beyond, where it was intended that the burial to further seaward would be achieved by subsequent offshore trenching by jetting of the seabed adjacent to the installed pipeline. The contractor's installation procedure used two pipe launches of two separate pipe strings requiring an insitu joint to connect the two sections. The contractor also installed a sheet piled trench and access pier across the near shore to allow the nearshore design profile to be excavated and maintained, but in the event the seabed both within and beyond the sheetpile remained high. The pier appears to have extended some 50 m beyond the sheet piling. The pipe was launched on to and over this profile, and subsequently settled or was lowered by excavation to its final level which appears to have been 1.2 – 2.4 m above the design level. It is not clear if or how the curvature of the pipe was controlled during this process, but it seems that the recent repair

required at the nominal 70 m chainage would have been in this section and may have been damaged at installation as a result of the bed profile or subsequent attempts at burial.

There is little information relating to the more seaward sections as to whether there were efforts made to bury the pipe as intended, or it has settled naturally to its current position. Problems were clearly encountered with the insitu joint between the ends of the two launched pipestrings which were too close together and misaligned to the extent that the designed joint closure was not practical. There are no more than indicative records available of the degree of misalignment, nor of how the pipe bore was maintained when the joint was formed within a cast in place concrete block. This misalignment is likely to be a barrier to installing a liner to the pipeline that does not significantly reduce flow capacity, and is likely to be a cause of additional headloss to the present outfall performance.

Also related to the construction process was the settlement of the diffuser which annotations to drawings of survey plots dated May 1975 indicate that it was ¼ buried at that time. The same drawing has a note which refers to "a new crack has appeared 3' west of the joint approx. 2' long and 6" deep". This presumably refers to the pipe junction, and it is not clear what was done about this – it may have been eventually enclosed within in the fibreglass repair and could thus complicate any repairs requiring disturbance of the fibreglass box enclosure.

On completion in 1975 the pipeline was recorded in annotations on the drawings as half buried between the joint and the diffuser. This did not comply with the construction drawings which showed profile with a minimum cover of 4 ft immediately beyond the beach face, and a minimum of 3 ft of cover to about chainage 1325 m where the pipe was shown to curve upwards to establish the seaward 123 m of the pipeline comprising the diffuser to be half buried.

On completion, the outer end of the diffuser had settled to below bed level, and an insitu concrete encased joint was constructed at mid pipe length on the misaligned connection between the two pipe strings. While there does not appear to be any record of the detail of this joint, it appears that it differed from the prepared drawing because the pipe ends were too close together following the launch of strings to accommodate the precast components proposed, and too close to accommodate the misalignment.

Survey records from the construction period show the initial installed profile in the nearshore to be significantly higher than the design condition, with subsequent settlement to the final position which itself was higher than specified. It is not clear how the settlement was achieved, but the records suggest that the process was unlikely to have met the pipe curvature limits, and as a result potentially suffered damage to joint components.

In summary, the pipeline was commissioned with a number of issues that could affect its performance and durability. Inspection and analysis to assess likely performance life is unrealistic based on the physical nature of the location and conditions – the pipeline is substantially buried, inspection conditions are, at best, limited by visibility and the requirement to expose components which are naturally backfilled within a week or so. The condition of the stressing strands that were used to assemble and provide structural continuity to the pipe is unknown – the strands which were specified to be encased in lubricated plastic sleeves to prevent effective bonding to the concrete between the strand anchorages at the ends of the pipe strings and at 60m centres along the pipe, were grouted in ducts which cross the joint sections and could potentially have been damaged by the installation procedures noted above. The structural concept was intended to provide a pipeline that was able to sustain the tension loads required to launch the pipeline, as well as to provide a degree of flexibility to accommodate an unprepared launch profile. The continuous nature of the pipeline structure provided by the stressing strands resists differential settlement along the pipeline in a situation where bed preparation was not possible, and where the construction procedure envisaged that the buried design profile would be achieved by sinking the pipeline by jetting of the adjacent seabed.

As the anchorages for the prestressing cables are at the end of the pipestrings, any modification of the pipe, for example to provide adequate clearance to install a spliced joint at the 700m leak location, would release

the effective restraining force holding the pipeline together, removing tensile and flexural continuity and resistance to settlement. It may be that the destressed pipeline section pipeline is adequately bedded and supported to provide service as a conventional flush jointed pipeline, but there is no way of knowing this and deliberate release of the stressing force constitutes a risk of joint movement, rotation and leakage, particularly as the pipe is buried below the seabed and difficult to access for repair. For this reason, it is recommended that any remedial works that may disturb the pipeline itself are avoided or carefully considered.

2.3 Subsequent Performance and Intervention

2.3.1 Introduction

Since commissioning, the outfall pipeline has served its purpose, although not without a lot of time and cost accumulated in terms of inspection and maintenance work, particularly in ensuring the diffuser remains operational and that pipeline leaks that develop are remedied. Issues with the construction joint at 700m and the settlement of the outer end of the diffuser below the seabed have been the main problems to contend with and are described below.

2.3.2 Fibreglass Joint Repair

Following commissioning, the pipeline continued to settle and leakage from the pipe string connecting joint became an issue. This may have been the result of differential settlement at the joint caused by the additional mass of concrete surround, with consequent loss of seal and opening of the joint as further settlement occurred.

While there is some difference in recollections of the history of the installation of the fibreglass enclosure to repair this leak, the records suggest that the enclosure was installed in 1984 before the pumping of effluent commenced. Outfall pumping capability was installed in conjunction with milliscreening of effluent, which removed solid material comprising rags etc which were suggested to us as helping to limit leakage at the pipe joint (note: prior to the installation of milliscreening, the raw sewage was simply comminuted through comminutors installed at the landward end of the outfall).

The fibreglass enclosure (shown in the photograph on the front cover being test fitted to an onshore mock-up) was fabricated to enclose the concreted joint and seal around the adjacent misaligned pipe strings either side of the concrete block. These seals around the pipes at either end of the fibreglass box were achieved with grouted firehose between the pipe and fibreglass, and remain sound with no observed leak under diver inspections. The main body of the enclosure comprises a fibreglass shell bolted between the fibreglass seal components with horizontal longitudinal flanges allowing the shell to be installed around the block in two halves. The shell flanges were initially fitted with a glued linatex seal which has more recently been identified by divers as having been dislodged in places from the joint faces.

The fibreglass enclosure has been regularly inspected since installation, with the observation that regular tightening of the flange bolts was required as they loosened between inspections. Recent discussions indicate this process was not carried out as persistently over recent years, and has allowed the linatex seals to be displaced by internal pressure and leaking from the flanged joints to develop. The process of bolt loosening was attributed to the release of air from the internal leak, although we suspect that the regular exposure of the joint by removal of the surrounding seabed support may have resulted in further settlement at the joint, and consequent distortion in the fibreglass shell.

The current status of leakage from the fibreglass joint is that it has increased to the point that effluent is clearly visible on the surface above the joint position. The possible increase of leakage over time is difficult to quantify given the location and variation in environmental conditions, and the wide range of outfall discharge parameters. Diver inspection has identified the leakage as from between bolted flange faces. A proposal to further encase the joint in a grouted fabric formed encasement has been developed by the

current dive contractor. A mark-up to the original drawing of the fibreglass component showing the diver observation of the latest and previous leaks is included in Appendix C.

2.3.3 Diffuser

The diffuser section does not appear to have been able to provide its design performance capability since the installation of the outfall, with its settlement below seabed at the seaward extent during construction. The installed diffuser configuration comprised cast-in diffuser ports in the pipe wall which were opened by divers following the pipe installation. When the diffuser became buried or the ports were close to bed level seabed material was able to enter the pipeline contributing to sediment build-up and potential blockage of the pipeline. The present situation is that the latest inspection shows 37 ports discharging over the inshore 2/3 of the 120 m diffuser. The diffuser is buried over the outer 1/3 or 40 m with the diffuser ports blocked and the pipe full of sediment over that section.

Regular inspection and maintenance of the diffuser is undertaken with frequent repair and replacement of diffuser risers and duckbills which are fitted to keep the effluent discharge above the fluctuating seabed level, and to remove the build-up of sediment in the diffuser pipeline. We are advised that monitoring of the outfall performance shows that dilution performance meets consent requirements with the reduced diffuser length, but that the maintenance levels are required to keep the diffuser operating over the length that remains at or generally above seabed level.

Regular loss of riser and duckbill components is recorded in the dive inspections. This is reported as being possibly caused by trawling or by logs rolling on the seabed. The diving contractors suggest that trawling is the cause of this damage, with limited evidence of vegetation material observed on the seabed or in excavations to expose components, and the need to remove net remnants from the diffuser from time to time. As it is important to maintain the risers and duckbill valves to prevent sediment ingress to the pipeline, a strategy is required to limit this damage. This may require more stringent monitoring and policing of fishing activities to ensure the outfall continues to meet performance requirements. It is understood this is done currently, but with limited success in terms of ongoing compliance.

The maintenance strategy up to 2017 was to maintain and clear the diffuser of sediment seaward over the operating length – i.e. where ports were observed to be discharging. A concerted effort by New Zealand Diving and Salvage (NZDS) in 2017 using this approach and to attempt to extend this operating length seawards increased the effective discharge length of the diffuser. This approach ensures that the diffuser remains operational.

An attempt to clear the seaward end of the diffuser was commenced in 2017, initially by installing a caisson at the seaward end of the outfall pipeline to obtain access to the buried end flange to commence removal of sediment from that point. Problems were encountered with the details of the pipe construction to gain entry in this manner, and clearance of the pipeline was commenced from the seaward end by lancing and airlifting through the port openings. The job remains incomplete due to the budget for this work being exhausted, as lengthy complicated and expensive work is required to achieve any positive outcomes. The ports were closed after cleaning so resumption of this pipeline clearing is possible.

2.3.4 Leak at 70 m Mark

A nearshore leak was observed from shore in 2018, nominally at the 70 m chainage. This leak was located by NZDS, and a repair comprising a stainless-steel clamp band installed and successfully completed. The divers reported problems initially achieving a seal at the leaking pipe joint because of an area of damage to the pipe outer surface which appeared to be an area of spalled concrete at the joint. The cause of the commencement of this leak is unknown although it occurred in the nearshore zone where cover required by the design was greater than found at the location, and also it was in the section of pipeline that may have

been subjected to tighter curvature than specified during installation. The potential for leaks remains in this area where seabed movements will occur seasonally reducing cover and exposing the pipeline to movement and possible leaking from joints.

2.3.5 Historic Joint Repairs

Drawing records show six stainless steel band repairs on the pipeline in close vicinity to the fibreglass joint repair. The history of these repairs is not known, but based on the locations shown it is surmised that they were required as the result of damage to the pipe joints that arose in attempting to align the pipe ends between the two original pipe strings. The position of these repairs is an obvious cluster around the fibreglass box location, and further highlights the potential for disturbance of the pipeline in the vicinity of the current leak to affect adjacent sections and most probably increase the leakage.

3 Current Status of the Outfall Pipeline – Issues and Options

3.1 Introduction

This section provides a summary of the current issues and options for approach to overcome or accommodate these issues to provide adequate ongoing performance of the outfall. Details of the methods proposed will require closer review and development, and should be considered in relation to the expected remaining life of the current outfall. Cost estimates are indicative only and provide an indication of the relative scale of the options considered.

3.2 Fibreglass Repair Joint Leak

This leak is the most serious issue in terms of performance and compliance, with a visible plume observed at surface level under certain flow rates and weather conditions. Recent dive inspection (January 2020) of the fibreglass repair location showed the box to be leaking from the flanged joints, largely as reported following inspections over previous years both in terms of leak locations and extents, and the general magnitude of the leakage. Some of the previously identified leak locations occur close to the position of remaining obviously damaged linatex rubber gaskets, where there is a transition between the remaining material and no gasket. It is noted that leakage rates are variable and related to the outfall discharge rate which impose a higher pipeline pressure with higher flows. This inspection was attended by Beca, and the dive team requested to check the tightness of flange bolts. This was done, with many of the bolts particularly in the end flanges of the fibreglass box presenting as loose and accepting up to a full turn to firm closure (the equivalent of a 2.5mm opening). While the divers were able to confirm that leaks from the flanges remained after tightening, it is expected that some reduction would have been achieved by this procedure. It was understood from discussion with the dive crew that bolt tightening was not a regular part of the recent annual inspections (at least over the last 8 years), which may have resulted in a gradual increase in leakage over this period.

Constraints to the successful implementation of a repair include:

- The requirement to keep the outfall operational apart from short periods (hours) during low flows when the distribution network can be used as storage. There is also 4,300 m3 storage at the WWTP which can be utilised. Depending on conditions, this would allow a few hours without discharge through the outfall providing limited opportunity for significant repair work.
- Previous repairs to the pipeline in the vicinity of the fibreglass repair that indicate the requirement for minimal disturbance of support at the joint itself, and on the adjacent sections of pipeline
- The nature of the prestressed pipeline which provides the present structural continuity and joint integrity which would be lost by modifications that release the internal tension

Options for improvement or accommodation of this situation are discussed in the following sections. Risks common to all the options considered arise from the location of the pipeline in the marine and sub seabed environment, and the age and condition of the age and condition of the pipeline itself as outlined in the previous section. Such risks include:

- The potential for intervention work to damage other joints on the pipeline through disturbance of the pipeline, removal of support by excavation, and settlement of the pipeline as a result of adding mass by way of additional encasement
- Such damage has the potential to create new leaks at different locations

- Weather and seastate conditions have the potential to interfere with and extend the work programme by reducing underwater visibility, causing delay with unworkable sea conditions, and backfilling or burying work components during the construction process
- Quality control of work underwater is limited by visibility and working environment
- The intended sealing of leaks from the fibreglass joint on the outfall which occur under hydraulic pressure may be compromised by minor movements during curing, or by incomplete curing before resumption of flow

3.2.1 Diver Intervention to Repair Leaks at Fibreglass Box Closure

This option would involve work by divers to expose the buried fibreglass box, and work to reduce the leaks observed from between the fibreglass flange faces by inserting caulking cord or hemp into the flanged joints. This would be achieved by successively loosening off the flange bolts slightly to allow the cord to be forced into the joint over the identified leaks and retightening once complete. Assessment by the dive team will be required to assess the best approach to each section of leak as the work proceeds. Careful planning will be required to ensure that only limited sections of flange are treated at a time to avoid movement of the box itself or the apparently sound circumferential pipe seals at either end.

This is a low-level intervention approach which is intended to repair or at least reduce the overall magnitude of leakage without requiring the mobilisation of additional plant and equipment. Best results would be achieved with no outfall discharge during the caulking work to allow the filler component to be installed and secured by the tightening of the flange bolts without being exposed to internal pressure, and with a range of cord sizes available to provide optimum effect. An appropriate underwater applied compatible sealant (e.g. Aqua Guard Underwater Sealant 3200) would be applied in conjunction with the caulking before re-securing the bolted flanges to assist with joint closure seal and help retain the caulking against washout by internal effluent pressure. Effective use of the sealant will require the consideration of minimum curing time to be factored into the available outfall shutdown time.

Dive resources required would be the same degree of support set-up required for the annual inspections, with work programmed to be carried out during discharge shutdowns and joints being closed prior to resumption. This would require planning of the approach sequence to optimise the repairs, and of timing to optimise the duration of shutdown availability.

Risks

The risks of this approach include

- Complete seal of the joint may not be achieved although significant improvement is expected
- Available discharge shutdown time may affect productivity
- Exposure of the flanges around the bottom of the enclosure will reduce support to adjacent pipe span (excavation of joint should be kept to minimum). There is the potential for loss of support to result in further settlement of the pipeline which may affect existing repairs to the pipeline either side of the joint
- Loosening of sections of the joints may not allow exact re bedding of flanges especially if the fibreglass unit is stressed by deflection (repair sequence planning is required, and joint opening should be minimised to ensure practical closure can be achieved)

Advantages

- Low key approach in terms of intervention and cost

- Minimal pipeline disturbance with appropriate management
- Short construction times tailored to be within shutdown windows minimising potential weather downtime

Indicative Cost

Based on the annual inspection work undertaken by the present dive contractor and assuming the same vessel and diver resources allowing for 5 days on site the indicative cost of this approach is $130,000.

3.2.2 Grout Encasement of Whole Joint

This approach has been proposed previously by NZDS and an order of cost estimate prepared by NCC. The use of a fabric bag installed over the joint to provide formwork is proposed, and requires the provision of a prepared support foundation below the pipe to prevent settlement of the additional weight of the grout encasement (as has happened with the pipeline itself), and the prefabrication and attachment to the pipe of spacer cage to hold the fabric form off the pipe to ensure that the grouting process does not fill the bottom part only of the fabric bag and allows the full encasement of the joint. A cylinder of reinforcing mesh would be installed within the grout annulus to ensure its structural integrity.

Excavation to enable placement of an appropriate foundation will be substantial and would be expected to remove support to at least the first pipe joint in each direction (individual pipes have an effective length of 2.63m). Support frames each side of the proposed repair will be required to prevent these pipes from deflecting when the excavations are carried out, and could comprise steel H frames on jetted pile supports. As discussed earlier, there is the potential that any movement of, or loading applied to, the outfall pipeline could affect the structural integrity or water tightness of the joint components adjacent to the repair work.

It may be necessary to provide support to the base and lower sides of the fabric bag with, for example, cement bags to support the shape of the grout fill to assist with maintaining the shape, or to consider the alternative of providing a rigid permanent form to retain the encasing non-shrink grout or self-levelling concrete.

To achieve an effective repair and the desired seal for leak repair, the grouting/concreting should be carried out in a single pour with good quality control to ensure full and homogenous encasement without construction joints. This requires the delivery of a large volume (more than 12 cubic metres) of grout or concrete to be delivered to the form by pumping or tremie pipe. Delivery of this amount of material would require a barge for this operation to mix grout or transport agitator trucks to the site from the port. Outfall discharge would be required to cease as the filling process proceeds to improve the chance of achieving a seal.

This option is feasible, but on the basis that the work is underwater where problems can arise through the inability to see the full extent of the work at once, and where labour on the job is generally restricted to one person at a time.

Risks

Risks related to this operation include

- Disturbance of the pipeline adjacent to the joint during excavation and construction initiating leaks at new locations
- Inadequate foundation support to prevent settlement of the added grout mass and pipeline as above
- Loss of time due to backfilling of excavation over the job period

- Ensuring the formwork selected is leakproof and secured to be central on the leak area
- That an adequate seal of the leak is not achieved given underwater placement of grout or concrete, and potential movement of the formwork or settlement of the joint
- Potential for weather delays and resulting rework

Advantages

- This option has the potential to establish the originally intended continuous structural capacity of the outfall pipeline
- The work outlined can be undertaken within the constraints of the short shutdown times available

Indicative Cost

This is a relatively large-scale job compared to the sealing of the fibreglass box both in terms of vessel capability and dive resources. Materials components include pipe support frames, bed foundation material expected to comprise cement or grout bags, or a gravel mat, fabric or rigid permanent formwork, and grout or concrete filling. Vessel requirements include a dive vessel for the duration of the job that is capable of handling and installing pipe support frames formwork components etc, as well as supporting airlift and compressor and jetting pump. A barge and support vessel will be required for the grouting/concreting operation. Estimated indicative cost for this operation is $500,000.

Potential Variation to Method

Removal of the fibreglass box unit prior to encasement would reduce the required size of the encasement, but the unknown condition of the original repair between the two pipe ends has the potential to require localised repair or wrapping prior to the encasement operation. The risk of required outfall shutdown exceeding effective reticulation storage capacity as this condition is established, and potential difficulties with repairs to the joint to prevent grout ingress to the outfall is considered excessive.

3.2.3 Grout Filling of the Fibreglass Box

The fibreglass repair provides a purpose-built form around the damaged joint which, if filled with an appropriate sealant material, could achieve a repair of the leak. The procedure would involve introducing pumped fill into the bottom of the anulus until it discharges from an opening at the highest point. The problem with this approach is that the characteristics and condition of the original insitu concrete repair are not known, and the possibility that the fill material could enter the outfall exists. It may be possible to use a material less dense than grout and consider balancing the internal outfall pressure and the insitu fill material density, but more information related to the condition of the original splice joint between pipestrings is required for this approach to be taken with confidence.

Risks

- Grout or sealant used may flow into the pipeline and fully or partially block the pipe rather than act to fill the annulus within the fibreglass case.
- Advantages
- This approach makes the best use of the existing joint components and would minimise the mass added to the joint location in reducing leakage

Indicative Cost

This option has not been costed because of the limited information available. It is expected to be in the same order as the work described in Section 3.2.1.

3.2.4 Install a PE Sleeve Liner

Installation of a PE liner to this pipeline would be a major operation, and difficult to achieve in this outfall pipeline given that it comprises the only discharge facility for the NCC wastewater catchment. A relining operation if compatible with the condition of the existing pipeline is expected to take the outfall out of service for up to six weeks, thus requiring alternative discharge from the wastewater catchment. It would also require the proving of the effective pipe opening at the pipe joint location where the pipe ends are offset from each other, and which based on the geometry of the fibreglass box, is expected to comprise a relatively sharp change in direction that is unlikely to accommodate a PE liner of similar diameter to the existing pipe. A smaller liner diameter may be required because of this, potentially reducing hydraulic capacity.

The use of a folded PE liner may be possible, although again the possible constriction at the joint location may prevent full inflation under pressure, and curing of the installed liner underwater is unlikely to be reliable.

This lining option is considered unlikely to be favoured as it would be a major operation to provide a discharge capacity that is clearly below predicted future requirements, and is not recommended.

3.2.5 Review the Effects of the Leak in Terms of Consent Variation

It is understood that steps are under way for establishing consent variation to cover a discharge component from the existing leak. This option provides a low risk (and cost) approach to dealing with the current issue but will require the goodwill and intent of all parties. This may be a good combination with the diver intervention option outlined in 3.2.1 to attempt to reduce the rate of leakage.

Risks

- That the leak becomes more significant from the fibreglass joint and it is difficult to monitor changes
- That a sudden deterioration or failure of the fibreglass joint occurs with increased discharge at the outfall midpoint location.
- Both of these possibilities can be mitigated by the low level joint repair option, and ongoing regular monitoring of the leak, although this will not reduce the possibility of a sudden significant failure

Advantages

- The advantages of this approach are that the compromised outfall can continue to be used under controlled conditions while investigations, planning and design are undertaken to provide for consenting and construction of a replacement outfall.

3.2.6 Install a Replacement Section of Pipe Across Fibreglass Joint

Provision of adequate access to insert a leakproof joint between the two separate pipestrings would require the removal of two pipe lengths from adjacent to the joint to allow the insertion of a section of PE pipe that could be sealed internally or externally to the concrete pipestrings. This would be a major operation requiring extended shutdown of the outfall pipeline, and resulting in release the prestressing force from one of the pipestrings with the potential consequences described in Section 2.2.

This work would be expected to restore the full hydraulic capacity to the pipeline while risking the structural integrity of a portion of it through the loss of prestress. The history of joint repairs on adjacent sections of the

outfall and its age would require careful assessment along with the development of a construction procedure that would maintain restraint to the destressed pipe section to establish if this approach could be justified.

3.3 Diffuser Maintenance

Maintenance of the diffuser performance to achieve at least the consented level of dilutions is essential, and this has been managed and achieved to date. The close relative level of the inshore diffuser to the seabed requires that stub risers and duckbill check valves are required to prevent ingress of seabed sediment to the diffuser. These should be installed and maintained on all active ports. If duckbill valves can be maintained on all ports, this also assists with the even distribution of flow among the active ports. The build-up of sediment in the seaward section of the active diffuser will continue, as flow velocity in the main pipeline decreases with decreasing flow rate past each discharging port, but if sediment that is able to accumulate is only sourced from the screened effluent as opposed to the seabed, the accumulation will be much more gradual and the potential exists for an equilibrium level of build-up to establish in relation to flow velocities.

Options to maintain adequate diffuser performance are outlined as follow.

3.3.1 Establish and Enforce a No Fishing Zone

Work on this is already underway and requires cooperation with the Hawkes Bay Regional Council to assist with enforcement. This is seen as an important step in ensuring that the annual improvements to the diffuser performance are maintained. Duckbills in place optimise dilution performance and prevent sediment build-up which is the cause of significant maintenance costs. Any duckbills removed by trawling activities directly affect these aspects.

3.3.2 Maintain the Existing Diffuser Operation

Recent diffuser inspection and cleaning operations (NZDS 2017 and 2019) achieved significant improvement in the extent of the active section of the diffuser (increasing operating ports from 17 to 40 no) to the point where it falls below the general seabed. The maintenance of this extent of the diffuser has the potential to optimise performance without extending seawards where there is more cover to the pipe and hence more risk of sediment infill. This is the recommended approach and is in line with current operations.

3.3.3 Extend the Range of Ports Seaward

This option would improve the diffuser performance, but at the cost of having to provide, install and maintain extended risers to discharge clear of the seabed. More and longer risers increase exposure to damage. If removed by damage they expose the diffuser to significant sediment exposure, and require excavation to repair. If adequate performance is provided by the inshore 40 ports, further use of the buried ports is a potential risk.

3.4 Potential for Further Leaks

The leak recently repaired at the 70 m mark is an issue that illustrates the potential for unexpected defects. It is suspected that the leak was the result of pipe movement due to inadequate cover in the surf zone region. The age and nature of the pipeline structure is such that any physical disturbance may open pipe joints. For this reason, it is recommended that remedial works are carefully considered to limit such movement.

4 Options for Outfall Replacement

4.1 Introduction

A preliminary review of options and potential costs for replacement of the existing outfall which is understood to be planned for implementation in 2026. The information presented is intended to provide preliminary scoping information that will require significant refinement as performance parameters and site conditions are refined. It is noted that detailed investigations will be required to support consent application, establish long term capacities, appropriate dilution performance, geotechnical conditions etc to allow the range of construction options that may be appropriate to be assessed.

4.2 Information Required

4.2.1 Performance Requirements – Capacity

The essential nature of the wastewater outfall to the City treatment system requires full assessment of performance requirements over the expected operating lifetime of a new outfall. This includes flow capacities under present and future conditions, and in particular the establishment of peak design flows and pumping requirements to confirm pipe specification requirements, and normal operating conditions to ensure that scouring conditions are achieved.

4.2.2 Performance Requirements - Dilution

Detailed assessment of outfall discharge performance is likely to be required for consenting for a new outfall. The recent new diffuser installed at East Clive for Hastings District Council was based on a substantial and detailed hydrodynamic modelling study. The physical environment inputs for the establishment of the Hastings model were based on site specific current records and wider scale hindcasting of wind and wave conditions. Given that the two outfalls are 4.5 km apart it is likely that many of these inputs are common, and this may offer opportunities to reduce the requirement for data collection, but this will need to be confirmed. It is noted that the Hastings outfall at 2750m length is significantly longer than the existing Awatoto pipeline (1540m), an issue that may be highlighted at consent stage.

Modelling, if required, is expected to confirm acceptable outfall length and diffuser configuration for the level of treatment applied to the Napier City wastewater. There is also the potential for the interaction of effluent plumes from the two outfalls which was not considered in the Hastings modelling, but which could affect consented outfall performance requirements for a new Napier City discharge.

4.2.3 Site Construction Conditions

With the advance of options for outfall pipeline construction now including directional drilling, microtunnel, and direct pipe installation, each of which offer certain advantages for outfall construction and durability, a good understanding of geotechnical conditions is required. A series of onshore boreholes was undertaken for the construction of the current outfall, but deeper and more refined investigation requiring offshore information or adequate extrapolation of onshore bores, will be required to assess the feasibility of these options.

The location of the treatment plant and pump station inshore of the busy highway and railway corridor, and the significant industrial development that has occurred in the interim removes the option of onshore prefabrication and launch of an outfall pipeline near the existing alignment as constructed in the early 1970s. Upgrading or replacement requirements of a pipe crossing of these components needs to be considered in the outfall design process, with trenchless installation options, and land ownership effects requiring investigation to identify practical location and configuration for such a pipeline.

Detailed bathymetry is also required to determine a design profile for the pipeline that maintains cover to the pipeline over the range of expected seabed variations, especially in the near shore where frequent and significant changes can occur at the beach face. Bed level variations well offshore have been observed in relation to the Panpac outfall extension in Hawke Bay about 18km north of Awatoto, and need to quantified to ensure that pipeline and diffuser design can accommodate such events. Repeated regular bathymetric survey is required to identify and quantify such changes.

4.2.4 Options for Staging

The present condition of the existing Awatoto outfall has raised issues with its security and performance. These issues are related to leaks, but the pipeline remains in place and could potentially be sleeved with a smaller PE liner to convey effluent to a new diffuser. Because of the required availability of the existing outfall facility, work required for this type of upgrading can only be undertaken once an acceptable alternative discharge is in place. Consideration could be given to installing a new directional drilled outfall and diffuser to provide for pumped present discharge requirements, followed by subsequent installation of a liner to the existing outfall to provide full design capacity and improved pumping requirement.

4.3 Construction Options

4.3.1 Introduction

The existing Awatoto outfall pipeline was constructed with prestressed concrete pipes which because of their weight and stiffness required assembly onshore on the final pipe alignment, and bottom launch to the outfall position along the seabed. At the time, a suitable onshore construction site was available to allow the pipeline to be assembled in two lengths, and substantial temporary works were required to maintain a launch trench across the steep gravel beach. Problems were encountered with joining the two stiff pipestrings offshore and the joint installed has eventually become the site of an increasing leak. There has also been significant settlement of the outer end of the diffuser to the extent that it is buried and not functional.

Options for outfall construction have advanced since the installation of the existing outfall with the availability of large bore, flexible and robust polyethylene (PE) pipe that can be floated and towed to location. Advances in horizontal drilling technology that allow significant sections of an outfall to be constructed from onshore can avoid issues with traditional problem areas of shore crossing and surf zone construction, and with achieving pipeline burial which provides stability against hydrodynamic loadings (waves and currents), and from trawls etc.

These preliminary comments are based on the construction of an outfall of the same length of the existing Awatoto pipeline which extends 1540m seaward of the onshore manhole. Specific option selection is expected to be contractor driven by a tender process and requiring specialist input applicable to each of the construction methods available and driven by analysis of geotechnical conditions and contractor expertise. It is noted that advance in trenchless technology and the local availability of specialist plant for this kind of work is fast moving and capability may change quickly.

4.3.2 Float and Sink

Assembly onshore of weighted PE pipelines that were subsequently launched and towed to site has been the construction method used for recent outfall installation work in Hawke Bay. Both the Hastings diffuser replacement and the Panpac outfall extension used this approach for successful construction. However, neither of these installations required construction through the surf zone or upper beach as both were extensions to existing outfalls, nor did they require burial below seabed which is considered to be prudent for a new outfall at Awatoto on the basis of the observed differential settlement that has occurred on parts of the pipeline and the damage sustained by the diffuser components.

Using this construction method, the new outfall pipeline could be assembled parallel to the shore along the coastal reserve, launched offshore by towing off the beach and towed back inshore to a prepared trench extending to an onshore connection point. The pipe would then be flooded and sunk into final position. Construction through the shoreline and nearshore of the steep gravel beach will require a deep sheetpiled trench, and pipe burial would need to be achieved by the sinking process into a dredged trench. Discussions with an experienced contractor indicated their concerns with the risks involved in the shore crossing component, and with preparing and maintaining a trench which can easily infill and need ongoing maintenance prior to pipe installation. These concerns led the Float and Sink method to be the contractor's least preferred construction approach in compared to the tunnelling/drilling options.

It may be possible to reduce the risks, for example jetting the installed pipeline to bury it rather than installation in a trench but this kind of solution would require environmental scrutiny.

4.3.3 Micro-Tunnelling/Direct Pipe

The use of micro-tunnel (pipe jacking) and direct pipe methods which involve pushing a permanent carrier pipe behind a tunnelling machine, have been successfully employed for outfall pipelines at Tahuna (Dunedin City), Christchurch, and Army Bay. Direct pipe has the advantage that the pipe trajectory profile is more flexible with a steel liner, but both methods require transport of spoil back through the driven pipe and can be steered within certain limits to maintain profile. A PE liner or carrier pipe is usually installed inside the steel direct pipe to maintain corrosion resistance from the effluent. The direct pipe method is capable of coping with large cobbles and rock, but difficult to recover if problems are encountered.

Either of these methods, which require specialised construction plant and expertise, provides a viable option for outfall construction, but feasibility and comparative cost will be dependent on quality and assessment of geotechnical conditions. Either method will require the installation of a diffuser section to discharge above bed level, which would comprise a weighted PE section installed by float and sink method and piled to the seabed to prevent settlement and interference with port discharge.

4.3.4 Horizontal Directional Drilling

This method requires the establishment of a drilled pilot hole on the design profile of the pipeline followed by the reaming of the hole to enlarge it until the liner/carrier pipe can be pulled into place. The difference between this and the micro-tunnelling options is that the pipeline is established after the pilot hole has been proven and subsequently enlarged by reaming, with the pulling through of the carrier pipe. In suitable conditions, this offers advantages of flexibility of approach, and to withdraw and relocate the alignment in the case of obstruction being met in the pilot hole establishment. In some situations, two smaller pipes can be considered to provide flexibility and backup.

4.4 Indicative Costings

Based on historic construction costs and discussions with contractors, unit rates for ocean outfall and harbour crossing construction have been reviewed to provide an indication of the order of costs that can be expected for construction of a replacement for the Awatoto outfall. Assessment of recent outfall costs and construction methods has been provided by Don Tilbrook of Brian Perry Civil for a range of pipe sizes and conditions, and based on full construction tender build-up. Some construction methods (micro tunnel/Direct Pipe/HDD) are clearly better suited to particular ground conditions providing site specific advantages in some cases (e.g. Direct pipe at Army Bay related to ground conditions), and in others prices for the different methods were advised as being very similar (Snells Algies, and Southern Pipeline Tauranga).

On the basis of the limited geotechnical information available from boreholes established in 1969 it was concluded by Brian Perry Civil that directional drilling would offer the best construction option, and an overall unit rate including a seabed diffuser of $17,000/m was derived as appropriate for a 1500m pipeline of 1.0m internal diameter for a design flow capacity of 1400 l/s. Mr Tilbrook recommends a construction contingency

of 30% at this early stage of project scoping, and based on the limited information available, bringing the total construction cost allowance to $33M, a similar value to the Army Bay outfall.

In terms of the overall project costings, additional budget should be provided for site investigations and modelling studies, consenting, engineering, council and financing costs for which an allowance of 20% is considered reasonable and brings the total estimate to $40M. This is an indicative estimate with uncertainties in the order of 30%.

Recent advice received from McConnell Dowell considering indicative costs for the construction of a similar diameter outfall pipe at Mount Maunganui using their Direct pipe equipment resulted in all-inclusive estimates for two options of 950 and 2000m length of $27.7M and $34.12M respectively. Interpolation suggests a 1500m length would be in the order of $32M, somewhat below the comparable $40M figure for HDD. This method proposed a 1200 mm Direct Pipe (effectively a carrier duct) within which the service pipe would be installed.

Note that these estimates consider only the outfall replacement from the terminal manhole seawards. Options to consider extending further inshore to the treatment plant site, changes in pipe size due to establishment of long term design flow capacity, or outfall length as a result of consenting issues will affect cost. Other options, for example the consideration of the feasibility a smaller capacity drilled outfall in conjunction with installing a PE liner in the existing pipeline, may provide advantages with redundancies for operation but would require cost comparison with the alternatives.

5 Acknowledgements

Our thanks to the following personnel who provided helpful assistance in establishing the background and characteristics of the NCC outfall at Awatoto, and current construction information.

Napier City Council

Santha Agas

Lance Titter

Gary Schofield

New Zealand Diving and Salvage Limited

Matua Moeke

Dougal Fergus

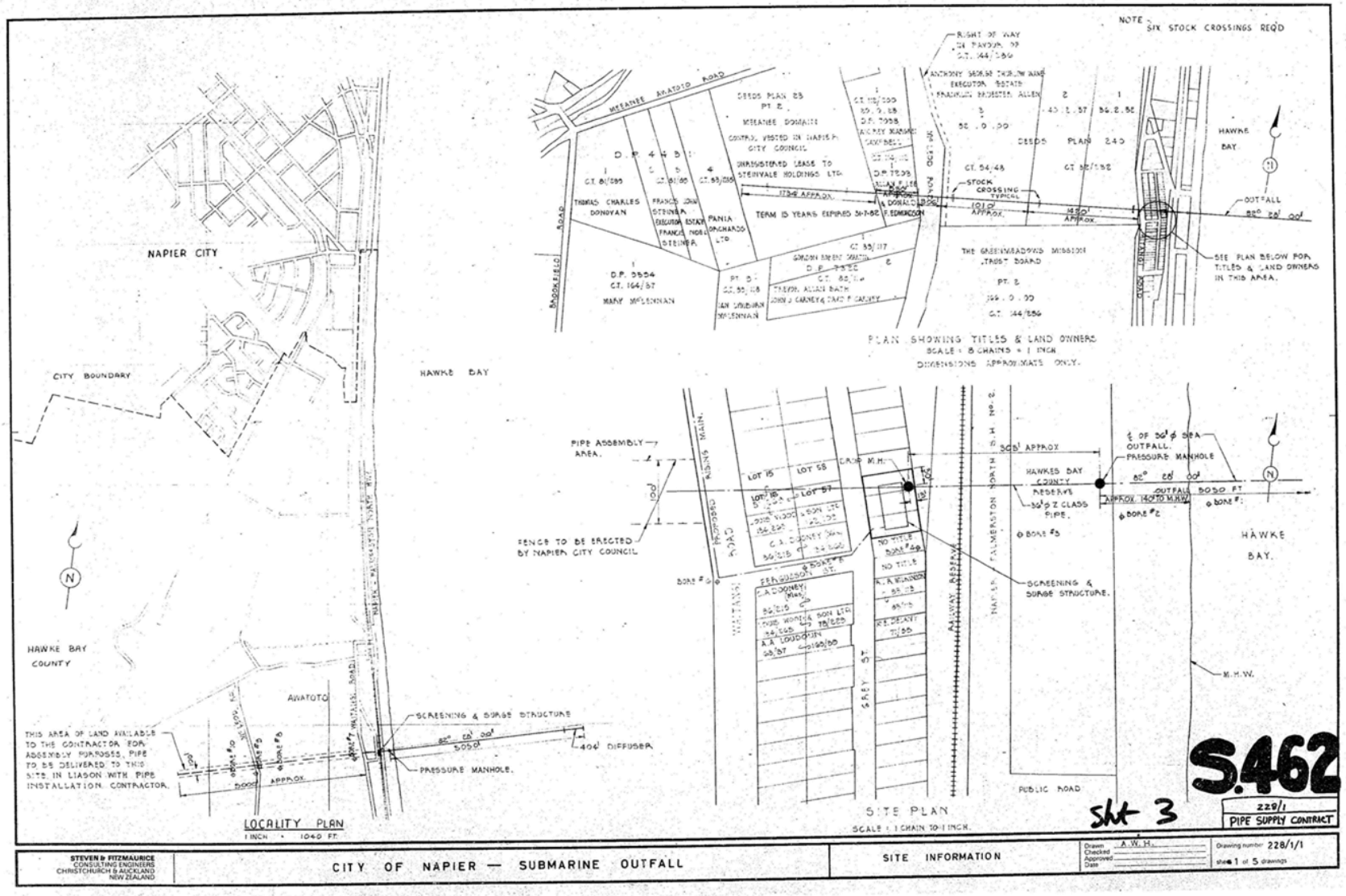
Tim McKenzie

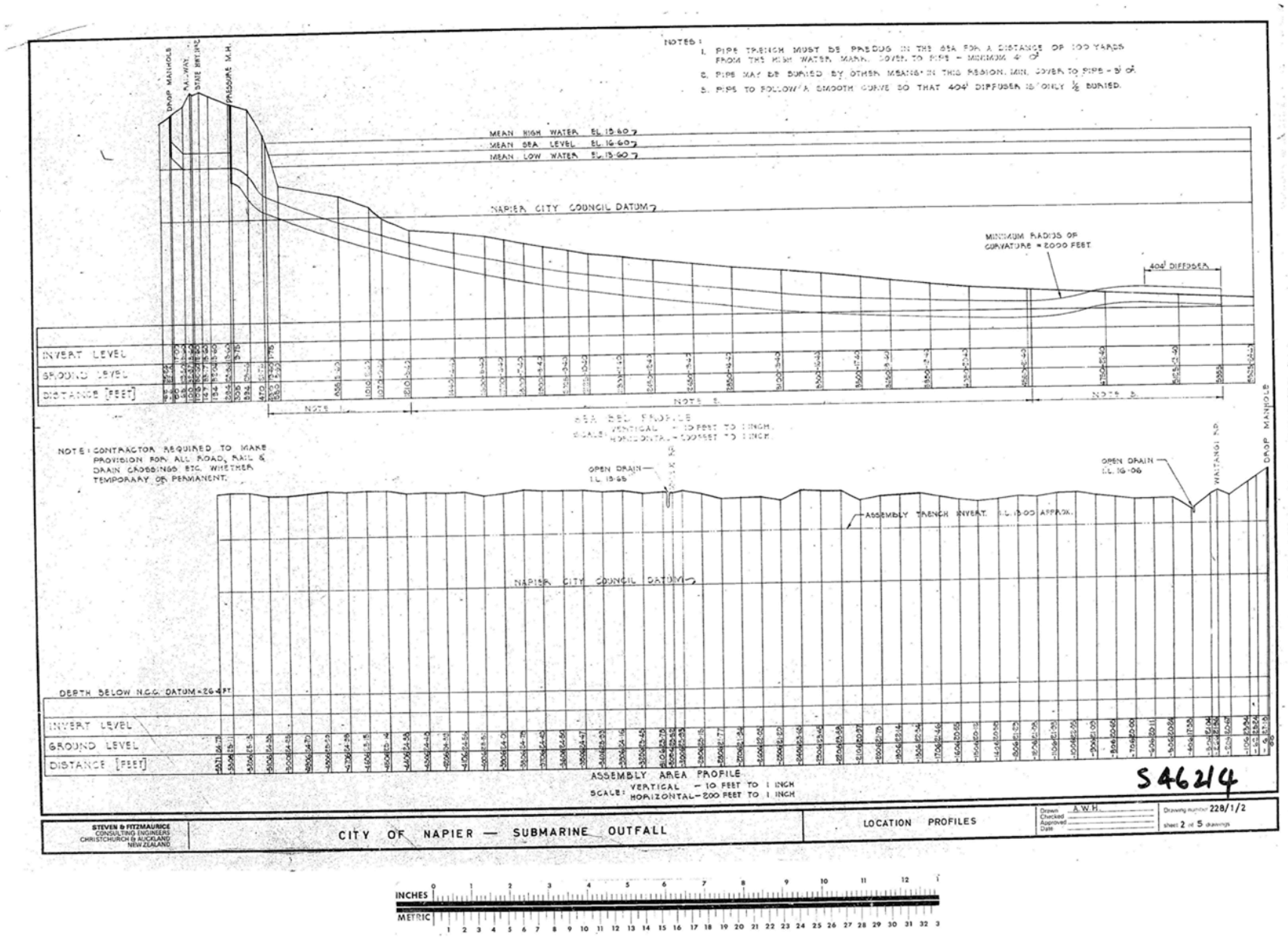
Brian Perry Civil Limited

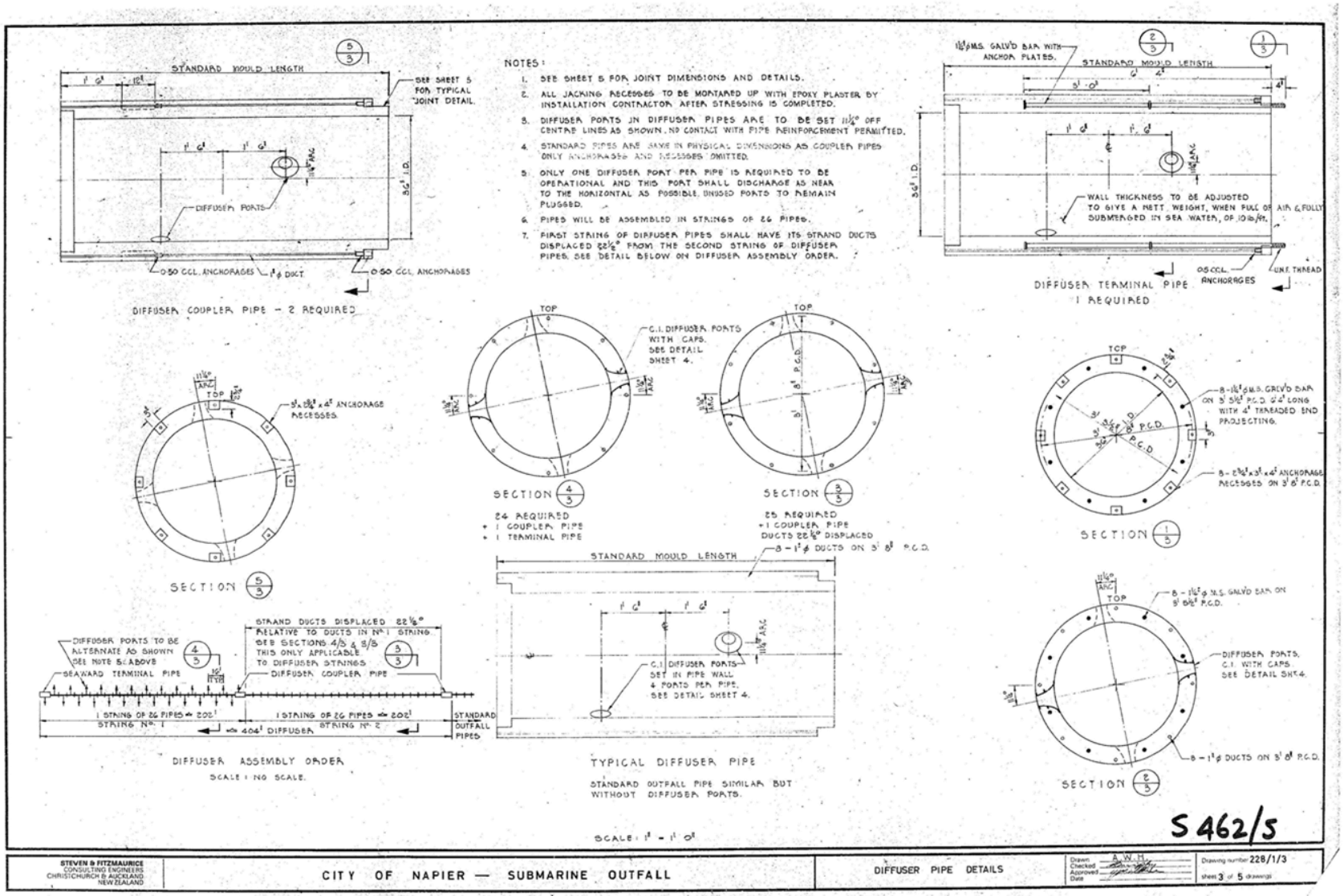
Don Tilbrook

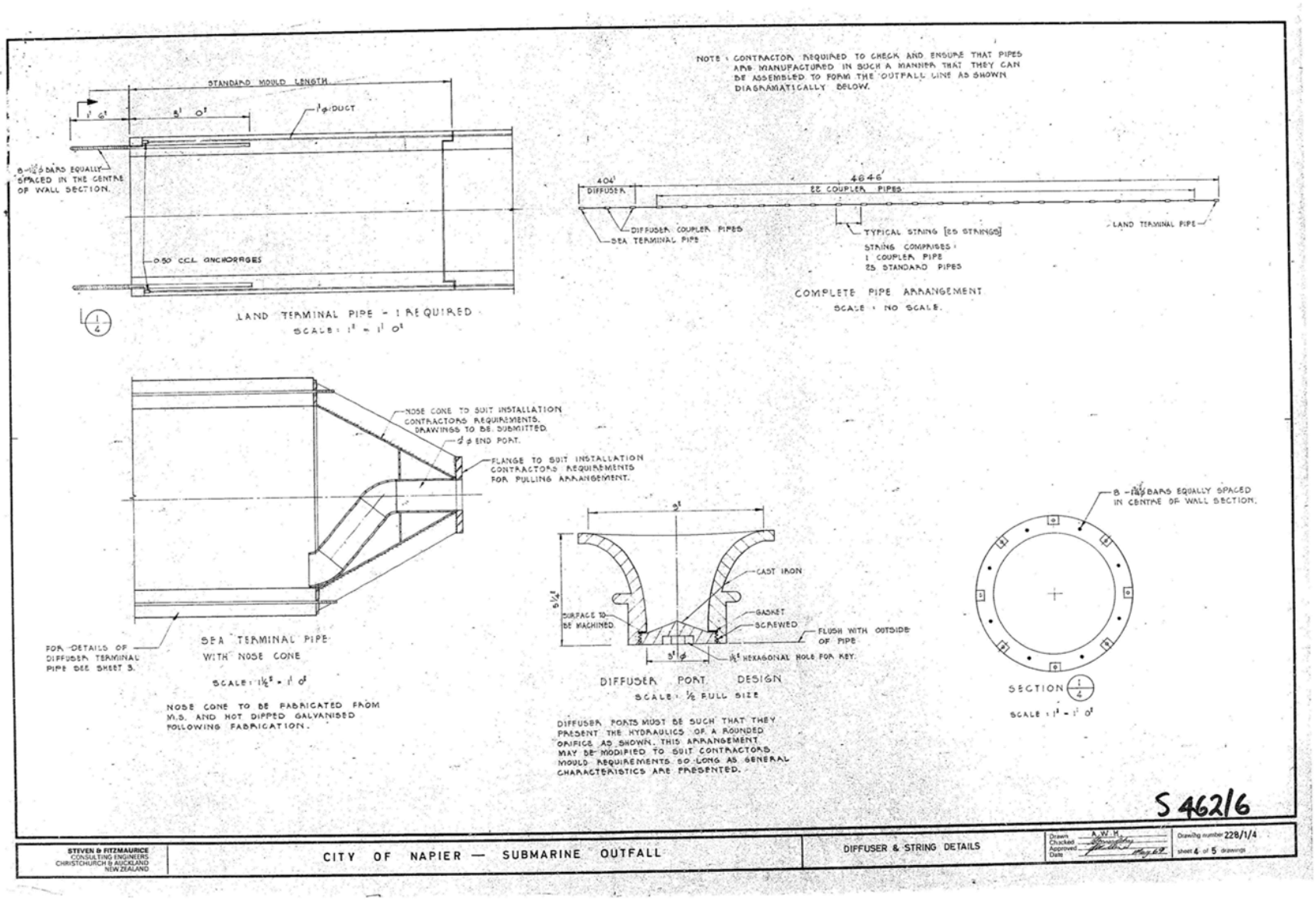
A

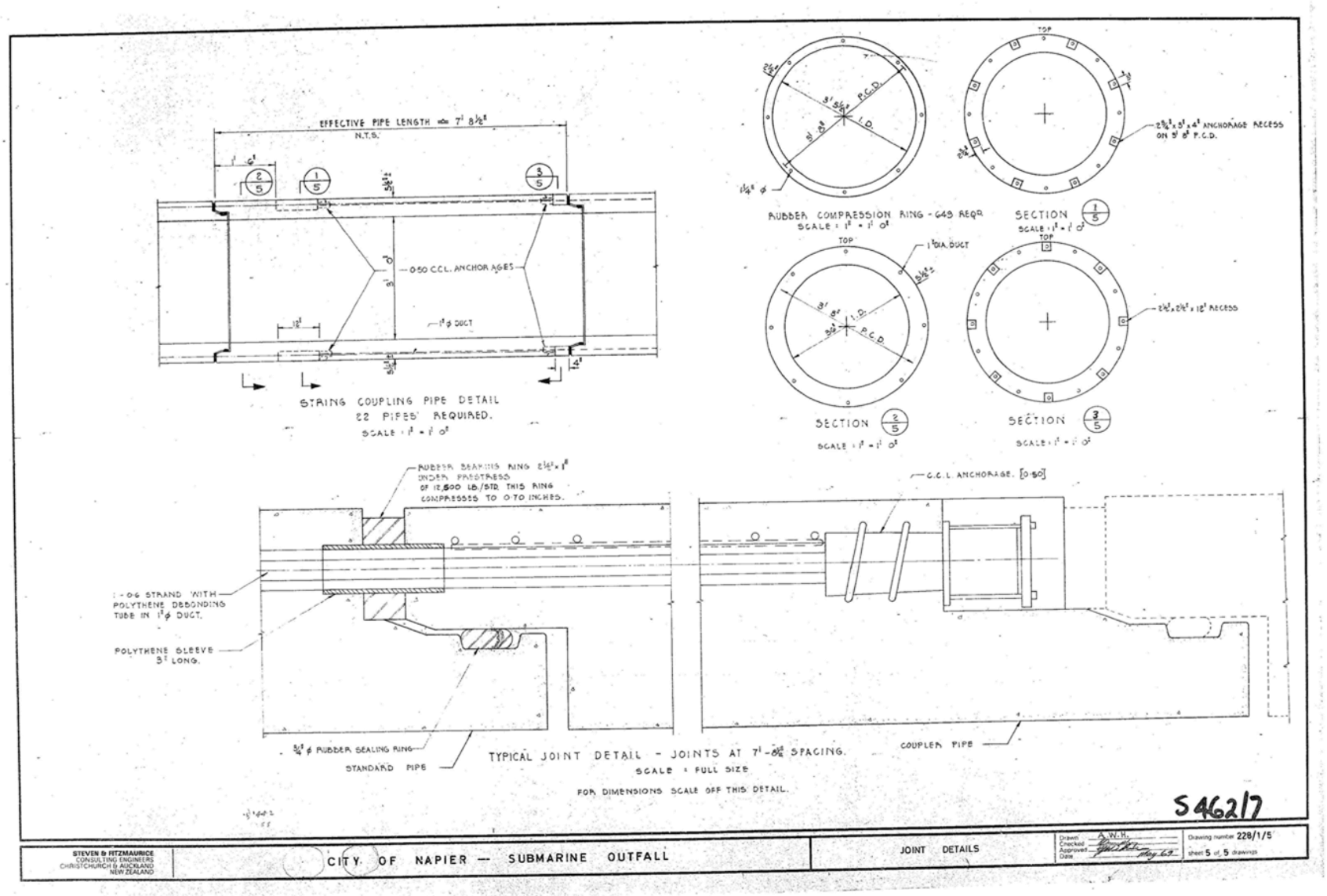
Appendix A – Original Design Drawings

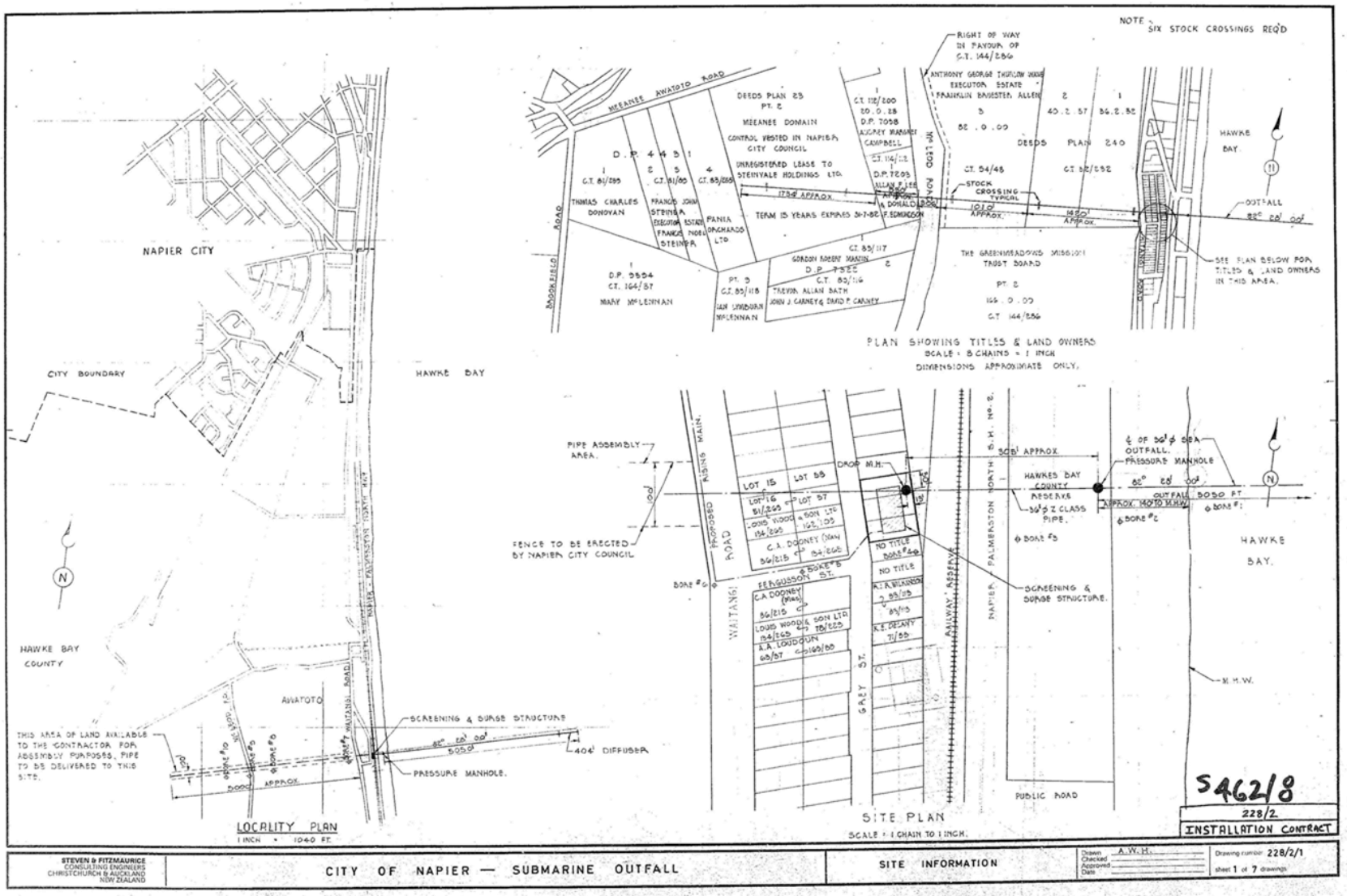

NOTE : SIX STOCK CROSSINGS REQ'D
NAPIER CITY
CITY BOUNDARY
HAWKE BAY
HAWKE BAY COUNTY
AWATOTO
LOCALITY PLAN
1 INCH = 1040 FT.
THIS AREA OF LAND AVAILABLE TO THE CONTRACTOR FOR ASSEMBLY PURPOSES. PIPE TO BE DELIVERED TO THIS SITE IN LIAISON WITH PIPE INSTALLATION CONTRACTOR.
SCREENING & SURGE STRUCTURE
PRESSURE MANHOLE.
400' DIFFUSER
PLAN SHOWING TITLES & LAND OWNERS
SCALE : 8 CHAINS = 1 INCH
DIMENSIONS APPROXIMATE ONLY.
MEEANEE AVATOTO ROAD
BROOKFIELD ROAD
MEEANEE DOMAIN
CONTROL VESTED IN NAPIER CITY COUNCIL
UNREGISTERED LEASE TO STEINVALE HOLDINGS LTD.
TERM 15 YEARS EXPIRED 30-7-82 F. EDMONDSON
THOMAS CHARLES DONOVAN
FRANCIS JOHN STEINER & EXECUTOR ESTATE FRANCIS NOEL STEINER
PANIA ORCHARDS LTD
D.P. 3554 CT. 164/87 MARY MCLENNAN
THE GREENMEADOWS MISSION TRUST BOARD
PT. 8 399.0.00 CT. 144/856
STOCK CROSSING TYPICAL
1011' APPROX
1450' APPROX
OUTFALL 80° 20' 00"
SEE PLAN BELOW FOR TITLES & LAND OWNERS IN THIS AREA.
PIPE ASSEMBLY AREA.
FENCE TO BE ERECTED BY NAPIER CITY COUNCIL
NGAIO MAIN DRAIN
CROSS M.H.
505' APPROX
HAWKES BAY COUNCIL RESERVE
30" ϕ Z GLASS PIPE.
℄ OF 30" ϕ SEA OUTFALL PRESSURE MANHOLE
OUTFALL 5050 FT
APPROX 140' TO M.H.W.
SCREENING & SURGE STRUCTURE.
PALMERSTON NORTH N.Z.R. No 2.
RAILWAY RESERVE
NAP. S.P.
WHITAKER ST
GREY ST
FERGUSSON ST
PUBLIC ROAD
M.H.W.
SITE PLAN
SCALE : 1 CHAIN 50-1 INCH.
S.462
228/1
PIPE SUPPLY CONTRACT
Sht 3
STEVEN & FITZMAURICE CONSULTING ENGINEERS CHRISTCHURCH & AUCKLAND NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
SITE INFORMATION
Drawn A.W.H.
Checked
Approved
Date
Drawing number 228/1/1
sheet 1 of 5 drawings
INCHES
METRIC

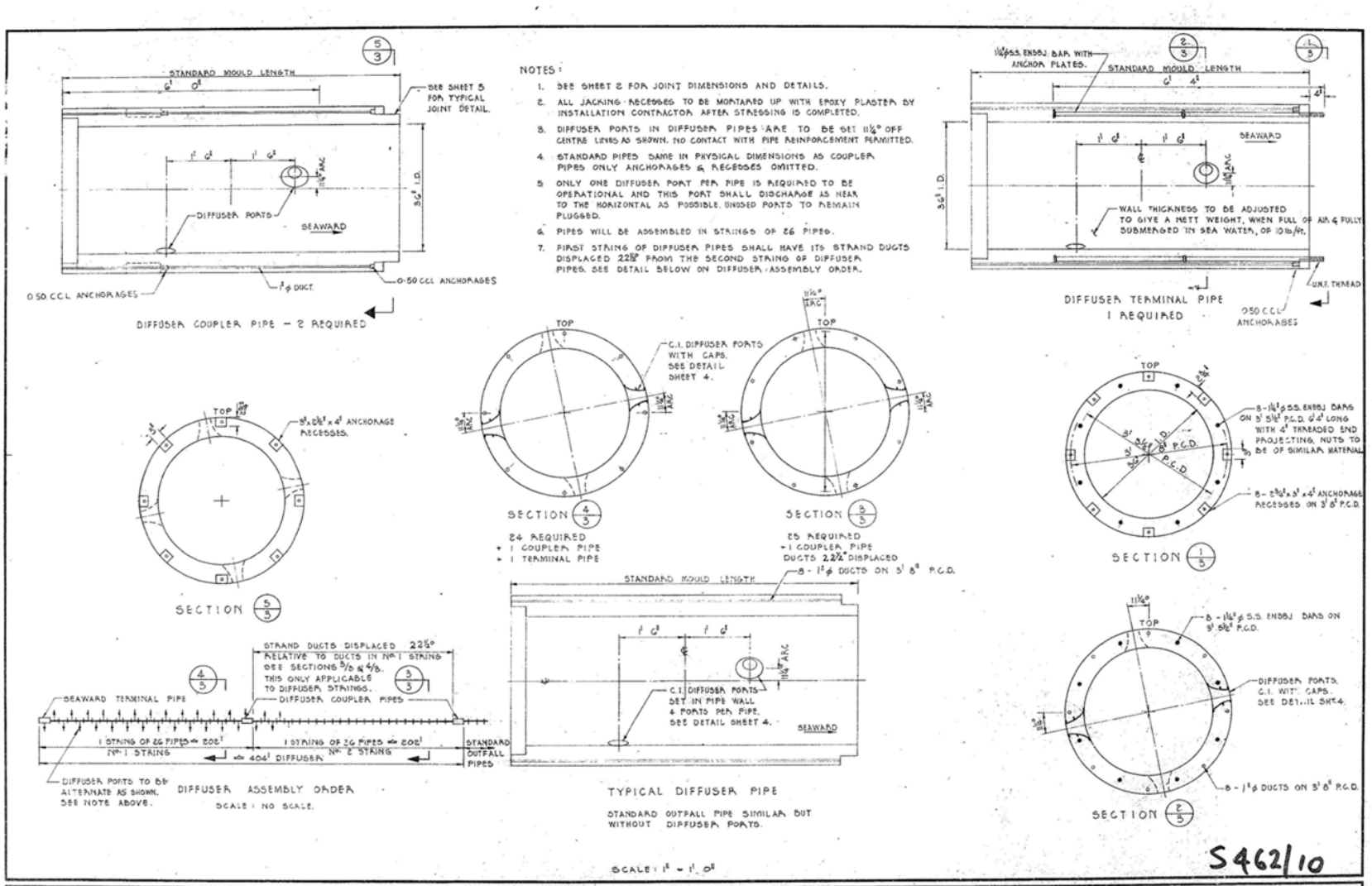

NOTES:
1. PIPE TRENCH MUST BE DREDGED IN THE SEA FOR A DISTANCE OF 100 YARDS FROM THE HIGH WATER MARK. COVER TO PIPE = MINIMUM 4' 0"
2. PIPE MAY BE BURIED BY OTHER MEANS IN THIS REGION. MIN. COVER TO PIPE = 3' 0"
3. PIPE TO FOLLOW A SMOOTH CURVE SO THAT 40' DIFFUSER IS ONLY ½ BURIED.
DROP MANHOLE
RAILWAY
STATE HIGHWAY
PRESSURE M.H.
MEAN HIGH WATER EL 13.60 ?
MEAN SEA LEVEL EL 10.60 ?
MEAN LOW WATER EL 13.60 ?
NAPIER CITY COUNCIL DATUM ?
MINIMUM RADIUS OF CURVATURE = 2000 FEET
40' DIFFUSER
INVERT LEVEL
GROUND LEVEL
DISTANCE [FEET]
NOTE 1
NOTE 2
NOTE 3
SEA BED PROFILE
SCALE: VERTICAL - 10 FEET TO 1 INCH.
HORIZONTAL - 1000 FEET TO 1 INCH.
NOTE: CONTRACTOR REQUIRED TO MAKE PROVISION FOR ALL ROAD, RAIL & DRAIN CROSSINGS ETC. WHETHER TEMPORARY OR PERMANENT.
OPEN DRAIN I.L. 13.68
OPEN DRAIN I.L. 16.06
WAITANGI RD.
DROP MANHOLE
ASSEMBLY TRENCH INVERT. E.L. 13.00 APPROX.
NAPIER CITY COUNCIL DATUM
DEPTH BELOW N.C.C. DATUM = 26.4 FT
INVERT LEVEL
GROUND LEVEL
DISTANCE [FEET]
ASSEMBLY AREA PROFILE
SCALE: VERTICAL - 10 FEET TO 1 INCH
HORIZONTAL - 200 FEET TO 1 INCH
S46214
STEVEN & FITZMAURICE
CONSULTING ENGINEERS
CHRISTCHURCH & AUCKLAND
NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
LOCATION PROFILES
Drawn A.W.H.
Checked
Approved
Date
Drawing number 228/1/2
sheet 2 of 5 drawings
INCHES
METRIC

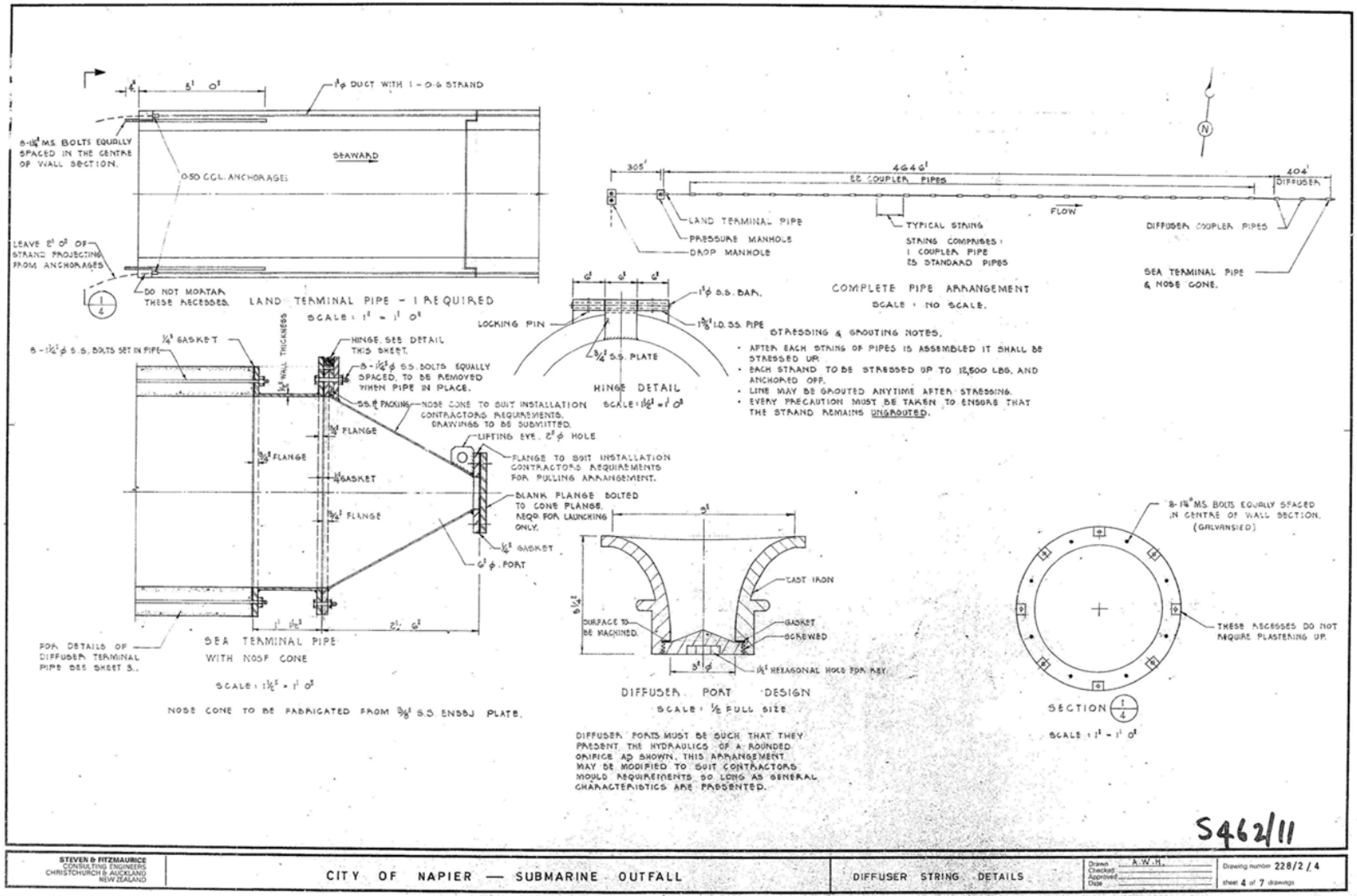

STANDARD MOULD LENGTH
SEE SHEET 5 FOR TYPICAL JOINT DETAIL.
DIFFUSER PORTS
3.6' I.D.
0·50 CCL. ANCHORAGES
1' ϕ DUCT
DIFFUSER COUPLER PIPE - 2 REQUIRED
NOTES:
1. SEE SHEET 5 FOR JOINT DIMENSIONS AND DETAILS.
2. ALL JACKING RECESSES TO BE MONTARED UP WITH EPOXY PLASTER BY INSTALLATION CONTRACTOR AFTER STRESSING IS COMPLETED.
3. DIFFUSER PORTS IN DIFFUSER PIPES ARE TO BE SET 11¼° OFF CENTRE LINES AS SHOWN. NO CONTACT WITH PIPE REINFORCEMENT PERMITTED.
4. STANDARD PIPES ARE SAME IN PHYSICAL DIMENSIONS AS COUPLER PIPES ONLY ANCHORAGES AND RECESSES OMITTED.
5. ONLY ONE DIFFUSER PORT PER PIPE IS REQUIRED TO BE OPERATIONAL AND THIS PORT SHALL DISCHARGE AS NEAR TO THE HORIZONTAL AS POSSIBLE. UNUSED PORTS TO REMAIN PLUGGED.
6. PIPES WILL BE ASSEMBLED IN STRINGS OF 26 PIPES.
7. FIRST STRING OF DIFFUSER PIPES SHALL HAVE ITS STRAND DUCTS DISPLACED 22½° FROM THE SECOND STRING OF DIFFUSER PIPES. SEE DETAIL BELOW ON DIFFUSER ASSEMBLY ORDER.
1¼ϕ MS. GALV'D BAR WITH ANCHOR PLATES.
STANDARD MOULD LENGTH
WALL THICKNESS TO BE ADJUSTED TO GIVE A NETT WEIGHT, WHEN FULL OF AIR & FULLY SUBMERGED IN SEA WATER, OF 10 lb/ft.
0·5 CCL. ANCHORAGES
UNF. THREAD
DIFFUSER TERMINAL PIPE
1 REQUIRED
TOP
C.I. DIFFUSER PORTS WITH CAPS. SEE DETAIL SHEET 4.
SECTION
24 REQUIRED
+ 1 COUPLER PIPE
+ 1 TERMINAL PIPE
25 REQUIRED
+1 COUPLER PIPE
DUCTS 22½° DISPLACED
8 P.C.D.
8 - 1¼ϕ M.S. GALV'D BAR ON 3' 5½" P.C.D. 2'-4" LONG WITH 4" THREADED END PROJECTING.
8 - 2¾" x 3" x 4" ANCHORAGE RECESSES ON 3' 8" P.C.D.
3' x 2¾" x 4" ANCHORAGE RECESSES.
STRAND DUCTS DISPLACED 22½° RELATIVE TO DUCTS IN No 1 STRING SEE SECTIONS 4/5 & 3/5 THIS ONLY APPLICABLE TO DIFFUSER STRINGS
DIFFUSER PORTS TO BE ALTERNATE AS SHOWN SEE NOTE 5 ABOVE
SEAWARD TERMINAL PIPE
DIFFUSER COUPLER PIPE
1 STRING OF 26 PIPES = 202'
STRING No. 1
404' DIFFUSER
STRING No. 2
STANDARD OUTFALL PIPES
DIFFUSER ASSEMBLY ORDER
SCALE: NO SCALE.
8 - 1' ϕ DUCTS ON 3' 8" P.C.D.
C.I. DIFFUSER PORTS SET IN PIPE WALL 4 PORTS PER PIPE. SEE DETAIL SHEET 4.
TYPICAL DIFFUSER PIPE
STANDARD OUTFALL PIPE SIMILAR BUT WITHOUT DIFFUSER PORTS.
8 - 1¼ϕ M.S. GALV'D BAR ON 3' 8½" P.C.D.
DIFFUSER PORTS. C.I. WITH CAPS SEE DETAIL SHT 4.
SCALE: 1" = 1' 0"
S 462/5
STEVEN & FITZMAURICE CONSULTING ENGINEERS CHRISTCHURCH & AUCKLAND NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
DIFFUSER PIPE DETAILS
Drawn A.W.H.
Checked
Approved
Date
Drawing number 228/1/3
sheet 3 of 5 drawings
INCHES
ME

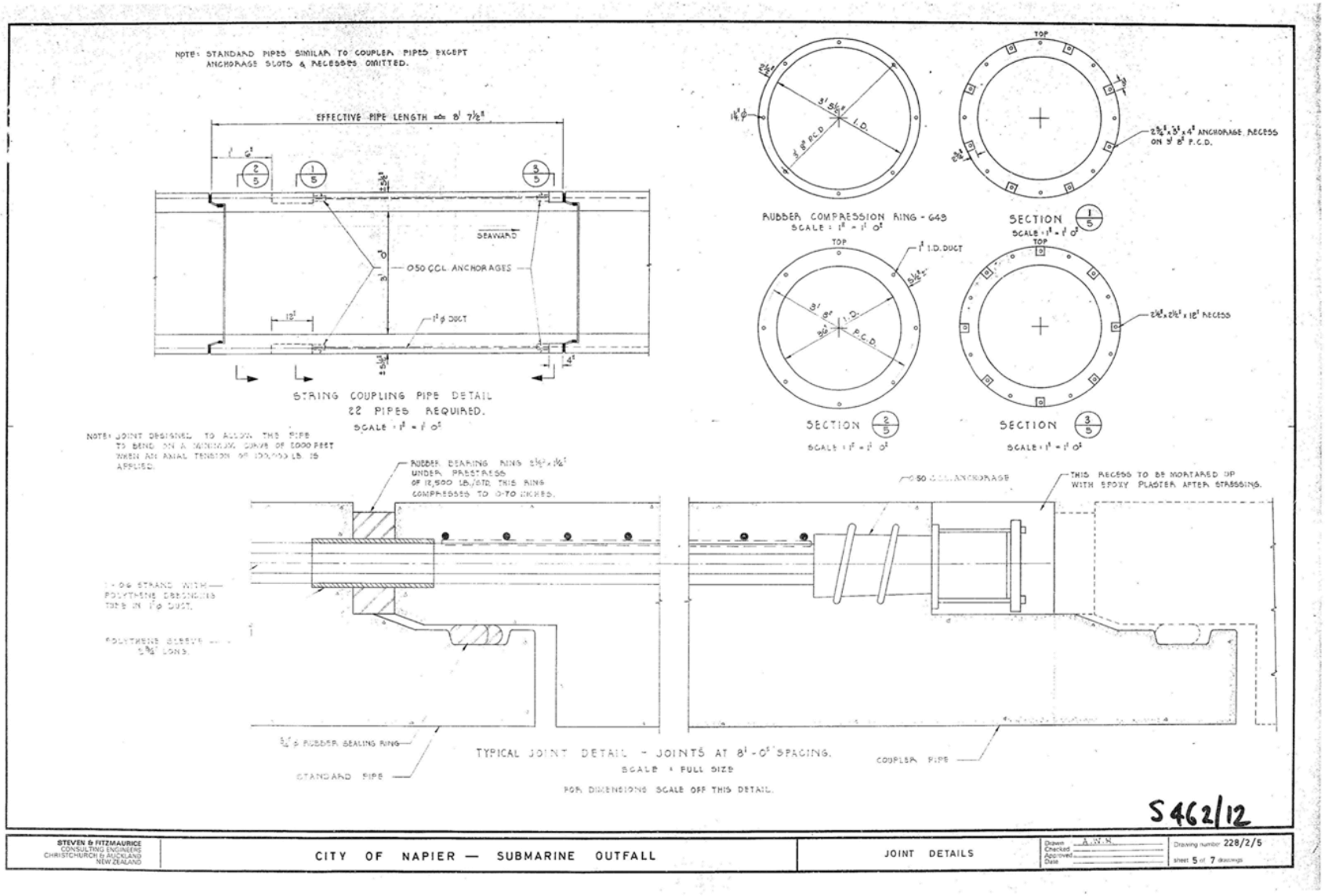

STANDARD MOULD LENGTH
1'6"
8'0"
1¢ DUCT
8-1½ BARS EQUALLY SPACED IN THE CENTRE OF WALL SECTION.
0.50 CCL ANCHORAGES
LAND TERMINAL PIPE - 1 REQUIRED
SCALE: 1" = 1'0"
NOTE: CONTRACTOR REQUIRED TO CHECK AND ENSURE THAT PIPES ARE MANUFACTURED IN SUCH A MANNER THAT THEY CAN BE ASSEMBLED TO FORM THE OUTFALL LINE AS SHOWN DIAGRAMATICALLY BELOW.
40'
DIFFUSER
4646
25 COUPLER PIPES
DIFFUSER COUPLER PIPES
SEA TERMINAL PIPE
TYPICAL STRING (25 STRINGS)
LAND TERMINAL PIPE
STRING COMPRISES:
1 COUPLER PIPE
25 STANDARD PIPES
COMPLETE PIPE ARRANGEMENT
SCALE: NO SCALE.
NOSE CONE TO SUIT INSTALLATION CONTRACTORS REQUIREMENTS. DRAWINGS TO BE SUBMITTED.
4¢ END PORT.
FLANGE TO SUIT INSTALLATION CONTRACTORS REQUIREMENTS FOR PULLING ARRANGEMENT.
FOR DETAILS OF DIFFUSER TERMINAL PIPE SEE SHEET 3.
SEA TERMINAL PIPE WITH NOSE CONE
SCALE: 1½" = 1'0"
NOSE CONE TO BE FABRICATED FROM M.S. AND HOT DIPPED GALVANISED FOLLOWING FABRICATION.
CAST IRON
GASKET
SCREWED
FLUSH WITH OUTSIDE OF PIPE
SURFACE TO BE MACHINED
1½" HEXAGONAL HOLE FOR KEY.
DIFFUSER PORT DESIGN
SCALE: ½ FULL SIZE
DIFFUSER PORTS MUST BE SUCH THAT THEY PRESENT THE HYDRAULICS OF A ROUNDED ORIFICE AS SHOWN. THIS ARRANGEMENT MAY BE MODIFIED TO SUIT CONTRACTORS MOULD REQUIREMENTS SO LONG AS GENERAL CHARACTERISTICS ARE PRESENTED.
8-1½ BARS EQUALLY SPACED IN CENTRE OF WALL SECTION.
SECTION
SCALE: 1" = 1'0"
S 462/6
STEVEN & FITZMAURICE
CONSULTING ENGINEERS
CHRISTCHURCH & AUCKLAND
NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
DIFFUSER & STRING DETAILS
Drawn A.W.H.
Checked
Approved
Date May 62
Drawing number 228/1/4
sheet 4 of 5 drawings


EFFECTIVE PIPE LENGTH = 7' 8 1/2"
N.T.S.
050 C.C.L. ANCHORAGES
1" ϕ DUCT
STRING COUPLING PIPE DETAIL
22 PIPES REQUIRED.
SCALE : 1" = 1' 0"
RUBBER COMPRESSION RING - 649 REQR
SCALE : 1" = 1' 0"
P.C.D.
I.D.
TOP
2 3/4" x 3" x 4" ANCHORAGE RECESS ON 9' 0" P.C.D.
SECTION 1/5
SCALE : 1" = 1' 0"
1" DIA. DUCT
2 3/4" x 2 3/4" x 12" RECESS
SECTION 2/5
SECTION 3/5
RUBBER BEARING RING 2 1/2" x 1"
UNDER PRESTRESS
OF 12,500 LB/STD. THIS RING
COMPRESSES TO 0.70 INCHES.
C.C.L. ANCHORAGE. [0.50]
7 - 0.6 STRAND WITH
POLYTHENE DEBONDING
TUBE IN 1" ϕ DUCT.
POLYTHENE SLEEVE
3' LONG.
3/4" ϕ RUBBER SEALING RING
STANDARD PIPE
TYPICAL JOINT DETAIL - JOINTS AT 7'-6 3/4" SPACING.
SCALE = FULL SIZE
FOR DIMENSIONS SCALE OFF THIS DETAIL.
COUPLER PIPE
S462/7
STEVEN & FITZMAURICE
CONSULTING ENGINEERS
CHRISTCHURCH & AUCKLAND
NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
JOINT DETAILS
Drawn A.W.H.
Checked
Approved
Date May 69
Drawing number 228/1/5
sheet 5 of 5 drawings


NOTE :- SIX STOCK CROSSINGS REQ'D
NAPIER CITY
CITY BOUNDARY
HAWKE BAY
HAWKE BAY COUNTY
AWATOTO
MEEANEE AWATOTO ROAD
MOOKFIELD ROAD
D.P. 4431
DEEDS PLAN 23 PT. 2
MEEANEE DOMAIN
CONTROL VESTED IN NAPIER CITY COUNCIL
UNREGISTERED LEASE TO STEINVALE HOLDINGS LTD.
THOMAS CHARLES DONOVAN
FRANCIS JOHN STEINER
FRANCIS NOEL STEINER
PANIA ORCHARDS LTD
TERM 15 YEARS EXPIRES 31-7-82
RIGHT OF WAY IN FAVOUR OF C.T. 144/256
ANTHONY GEORGE THURLOW HOWE EXECUTOR ESTATE FRANKLIN BAYNSTEN ALLEN
DEEDS PLAN 240
HAWKE BAY
STOCK CROSSING TYPICAL
1010' APPROX.
1650' APPROX.
OUTFALL
88° 20' 00"
SEE PLAN BELOW FOR TITLES & LAND OWNERS IN THIS AREA.
THE GREENMEADOWS MISSION TRUST BOARD
GORDON ROBERT MARTIN
TREVOR ALLAN BATH
JOHN J. CARNEY & DAVID P. CARNEY
MARY McLENNAN
IAN LINDBURN McLENNAN
PLAN SHOWING TITLES & LAND OWNERS
SCALE : 8 CHAINS = 1 INCH
DIMENSIONS APPROXIMATE ONLY.
PIPE ASSEMBLY AREA.
FENCE TO BE ERECTED BY NAPIER CITY COUNCIL
EXISTING MAIN
PROPOSED ROAD
DROP M.H.
300' APPROX
HAWKES BAY COUNTY RESERVE
30" ϕ Z CLASS PIPE.
ϕ OF 30" ϕ SIBA OUTFALL.
PRESSURE MANHOLE
OUTFALL 3050 FT
APPROX 140 TO M.H.W.
ϕ BORE #1
ϕ BORE #2
ϕ BORE #3
ϕ BORE #4
ϕ BORE #5
HAWKE BAY.
SCREENING & DURGE STRUCTURE.
M.H.W.
PUBLIC ROAD
FERGUSSON ST.
GREY ST.
RAILWAY RESERVE
NAPIER PALMERSTON NORTH G.M. No. 2.
WAITANGI
LOT 15
LOT 58
LOT 16
LOT 57
C.A. DOONEY (Mrs)
LOUIS WOODS & SON LTD
A.A. LOUDOUN
NO TITLE
A.J.A. WILKINSON
K.E. DEANY
SITE PLAN
SCALE = 1 CHAIN TO 1 INCH.
LOCALITY PLAN
1 INCH = 1040 FT.
THIS AREA OF LAND AVAILABLE TO THE CONTRACTOR FOR ASSEMBLY PURPOSES. PIPE TO BE DELIVERED TO THIS SITE.
SCREENING & DURGE STRUCTURE
404' DIFFUSER
PRESSURE MANHOLE.
5000' APPROX
S462/8
228/2.
INSTALLATION CONTRACT
STEVEN & FITZMAURICE
CONSULTING ENGINEERS
CHRISTCHURCH & AUCKLAND
NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
SITE INFORMATION
Drawn A.W.H.
Checked
Approved
Date
Drawing number 228/2/1
sheet 1 of 7 drawings

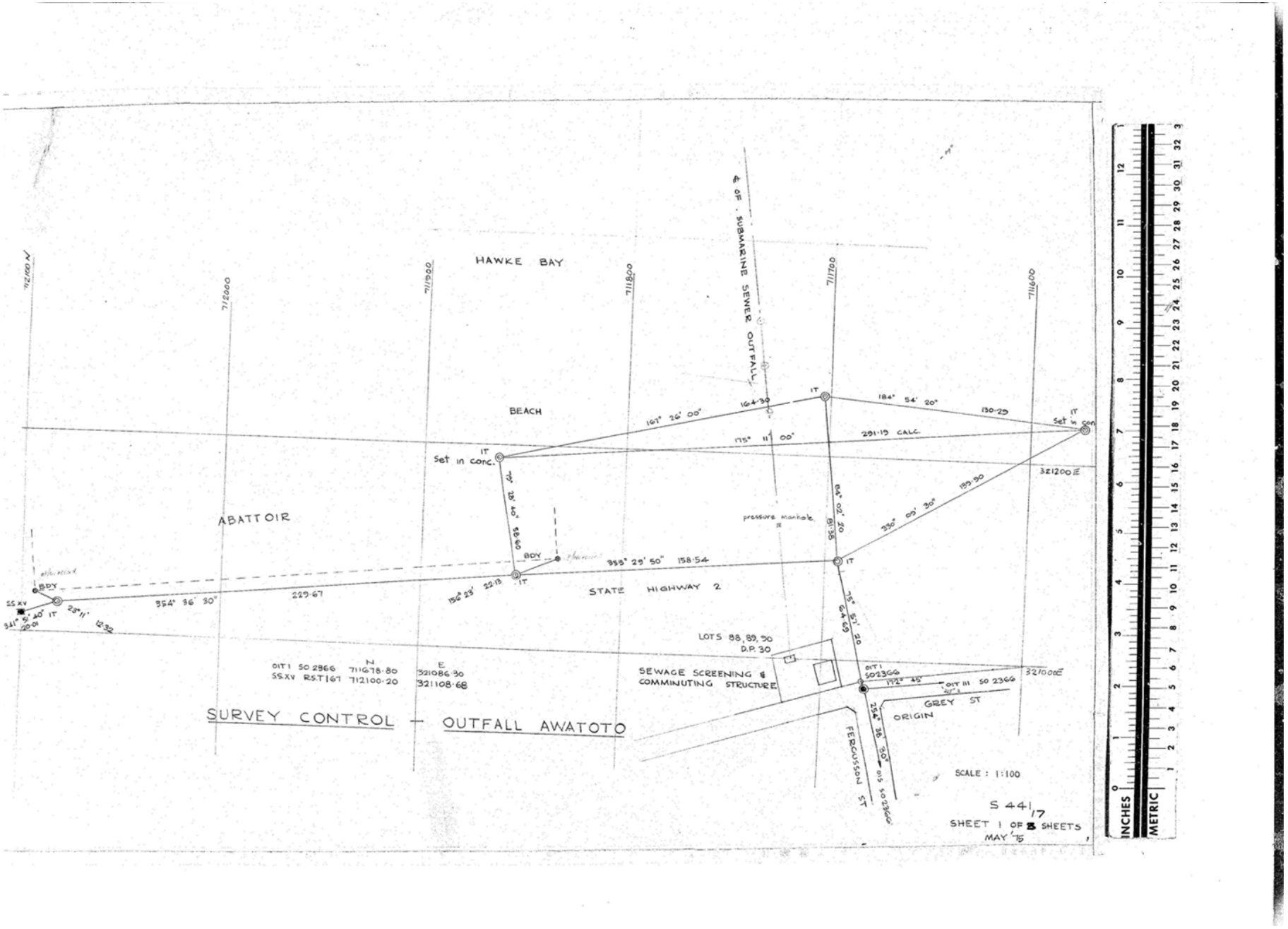

STANDARD MOULD LENGTH
SEE SHEET 5 FOR TYPICAL JOINT DETAIL.
DIFFUSER PORTS
SEAWARD
0·50 CCL ANCHORAGES
DIFFUSER COUPLER PIPE – 2 REQUIRED
NOTES:
1. SEE SHEET 2 FOR JOINT DIMENSIONS AND DETAILS.
2. ALL JACKING RECESSES TO BE MONTARED UP WITH EPOXY PLASTER BY INSTALLATION CONTRACTOR AFTER STRESSING IS COMPLETED.
3. DIFFUSER PORTS IN DIFFUSER PIPES ARE TO BE SET 11¼° OFF CENTRE LINES AS SHOWN. NO CONTACT WITH PIPE REINFORCEMENT PERMITTED.
4. STANDARD PIPES SAME IN PHYSICAL DIMENSIONS AS COUPLER PIPES ONLY ANCHORAGES & RECESSES OMITTED.
5. ONLY ONE DIFFUSER PORT PER PIPE IS REQUIRED TO BE OPERATIONAL AND THIS PORT SHALL DISCHARGE AS NEAR TO THE HORIZONTAL AS POSSIBLE. UNUSED PORTS TO REMAIN PLUGGED.
6. PIPES WILL BE ASSEMBLED IN STRINGS OF 26 PIPES.
7. FIRST STRING OF DIFFUSER PIPES SHALL HAVE ITS STRAND DUCTS DISPLACED 22½° FROM THE SECOND STRING OF DIFFUSER PIPES. SEE DETAIL BELOW ON DIFFUSER ASSEMBLY ORDER.
1¼ϕ SS. ENDBJ. BAR WITH ANCHOR PLATES.
STANDARD MOULD LENGTH
SEAWARD
WALL THICKNESS TO BE ADJUSTED TO GIVE A NETT WEIGHT, WHEN FULL OF AIR & FULLY SUBMERGED IN SEA WATER, OF 10 lb/ft.
UNF. THREAD
0·50 CCL ANCHORAGES
DIFFUSER TERMINAL PIPE
1 REQUIRED
C.I. DIFFUSER PORTS WITH CAPS. SEE DETAIL SHEET 4.
SECTION
24 REQUIRED
+ 1 COUPLER PIPE
+ 1 TERMINAL PIPE
25 REQUIRED
+1 COUPLER PIPE
DUCTS 22½° DISPLACED
8 – 1½ϕ SS. ENDBJ BARS ON 3' 5½" P.C.D. 0'4" LONG WITH 4" THREADED END PROJECTING, NUTS TO BE OF SIMILAR MATERIAL
8 – 2½" x 3" x 4" ANCHORAGE RECESSED ON 3' 8" P.C.D.
3" x 2½" x 4" ANCHORAGE RECESSES.
STRAND DUCTS DISPLACED 22½° RELATIVE TO DUCTS IN No 1 STRING SEE SECTIONS 3/3 & 4/3. THIS ONLY APPLICABLE TO DIFFUSER STRINGS.
SEAWARD TERMINAL PIPE
DIFFUSER COUPLER PIPES
1 STRING OF 26 PIPES = 208'
No 1 STRING
1 STRING OF 26 PIPES = 208'
No 2 STRING
= 404' DIFFUSER
STANDARD OUTFALL PIPES
DIFFUSER PORTS TO BE ALTERNATE AS SHOWN. SEE NOTE ABOVE.
DIFFUSER ASSEMBLY ORDER
SCALE : NO SCALE.
8 – 1½ϕ DUCTS ON 3' 8" P.C.D.
C.I. DIFFUSER PORTS SET IN PIPE WALL 4 PORTS PER PIPE. SEE DETAIL SHEET 4.
TYPICAL DIFFUSER PIPE
STANDARD OUTFALL PIPE SIMILAR BUT WITHOUT DIFFUSER PORTS.
8 – 1½ϕ S.S. ENDBJ BARS ON 3' 5½" P.C.D.
DIFFUSER PORTS. C.I. WITH CAPS. SEE DETAIL SHT 4.
8 – 1¼ϕ DUCTS ON 3' 8" P.C.D.
SCALE : 1" = 1' 0"
S462/10
STEVEN & FITZMAURICE CONSULTING ENGINEERS CHRISTCHURCH & AUCKLAND NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
DIFFUSER PIPE DETAILS
Drawn A.W.H.
Checked
Approved
Date
Drawing number 228/2/3
sheet 3 of 7 drawings


1½ø DUCT WITH 1 - 0·6 STRAND
8-1½" MS. BOLTS EQUALLY SPACED IN THE CENTRE OF WALL SECTION.
SEAWARD
0·50 CGL. ANCHORAGES
LEAVE 2' 0" OF STRAND PROJECTING FROM ANCHORAGES
DO NOT MORTAR THESE RECESSES.
LAND TERMINAL PIPE - 1 REQUIRED
SCALE: 1" = 1' 0"
8-1½"ø S.S. BOLTS SET IN PIPE
¼" GASKET
HINGE. SEE DETAIL THIS SHEET.
8-1½"ø S.S. BOLTS EQUALLY SPACED, TO BE REMOVED WHEN PIPE IN PLACE.
S.S. PACKING
NOSE CONE TO SUIT INSTALLATION CONTRACTORS REQUIREMENTS. DRAWINGS TO BE SUBMITTED.
LIFTING EYE. 2" ø HOLE
FLANGE TO SUIT INSTALLATION CONTRACTORS REQUIREMENTS FOR PULLING ARRANGEMENT.
BLANK FLANGE BOLTED TO CONE FLANGE. REQD FOR LAUNCHING ONLY.
6" ø PORT
SEA TERMINAL PIPE WITH NOSE CONE
SCALE: 1½" = 1' 0"
FOR DETAILS OF DIFFUSER TERMINAL PIPE SEE SHEET 5.
NOSE CONE TO BE FABRICATED FROM ⅜" S.S EN58J PLATE.
1½ø S.S. BAR.
1⅝" I.D. S.S. PIPE
LOCKING PIN
⅝" S.S. PLATE
HINGE DETAIL
SCALE: 1½" = 1' 0"
305'
4646'
22 COUPLER PIPES
404'
DIFFUSER
LAND TERMINAL PIPE
PRESSURE MANHOLE
DROP MANHOLE
TYPICAL STRING
STRING COMPRISES: 1 COUPLER PIPE 23 STANDARD PIPES
FLOW
DIFFUSER COUPLER PIPES
SEA TERMINAL PIPE & NOSE CONE.
COMPLETE PIPE ARRANGEMENT
SCALE: NO SCALE.
STRESSING & GROUTING NOTES.
• AFTER EACH STRING OF PIPES IS ASSEMBLED IT SHALL BE STRESSED UP.
• EACH STRAND TO BE STRESSED UP TO 12,500 LBS. AND ANCHORED OFF.
• LINE MAY BE GROUTED ANYTIME AFTER STRESSING.
• EVERY PRECAUTION MUST BE TAKEN TO ENSURE THAT THE STRAND REMAINS UNGROUTED.
CAST IRON
SURFACE TO BE MACHINED.
GASKET
SCREWED
1½" HEXAGONAL HOLE FOR KEY
DIFFUSER PORT DESIGN
SCALE: ½ FULL SIZE
DIFFUSER PORTS MUST BE SUCH THAT THEY PRESENT THE HYDRAULICS OF A ROUNDED ORIFICE AS SHOWN. THIS ARRANGEMENT MAY BE MODIFIED TO SUIT CONTRACTORS MOULD REQUIREMENTS SO LONG AS GENERAL CHARACTERISTICS ARE PRESENTED.
8-1¼" MS. BOLTS EQUALLY SPACED IN CENTRE OF WALL SECTION. (GALVANSIED)
THESE RECESSES DO NOT REQUIRE PLASTERING UP.
SECTION
SCALE: 1" = 1' 0"
S462/11
STEVEN & FITZMAURICE CONSULTING ENGINEERS CHRISTCHURCH & AUCKLAND NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
DIFFUSER STRING DETAILS
Drawn A.W.H.
Checked
Approved
Date
Drawing number 228/2/4
sheet 4 of 7 drawings
INCHES
METRI

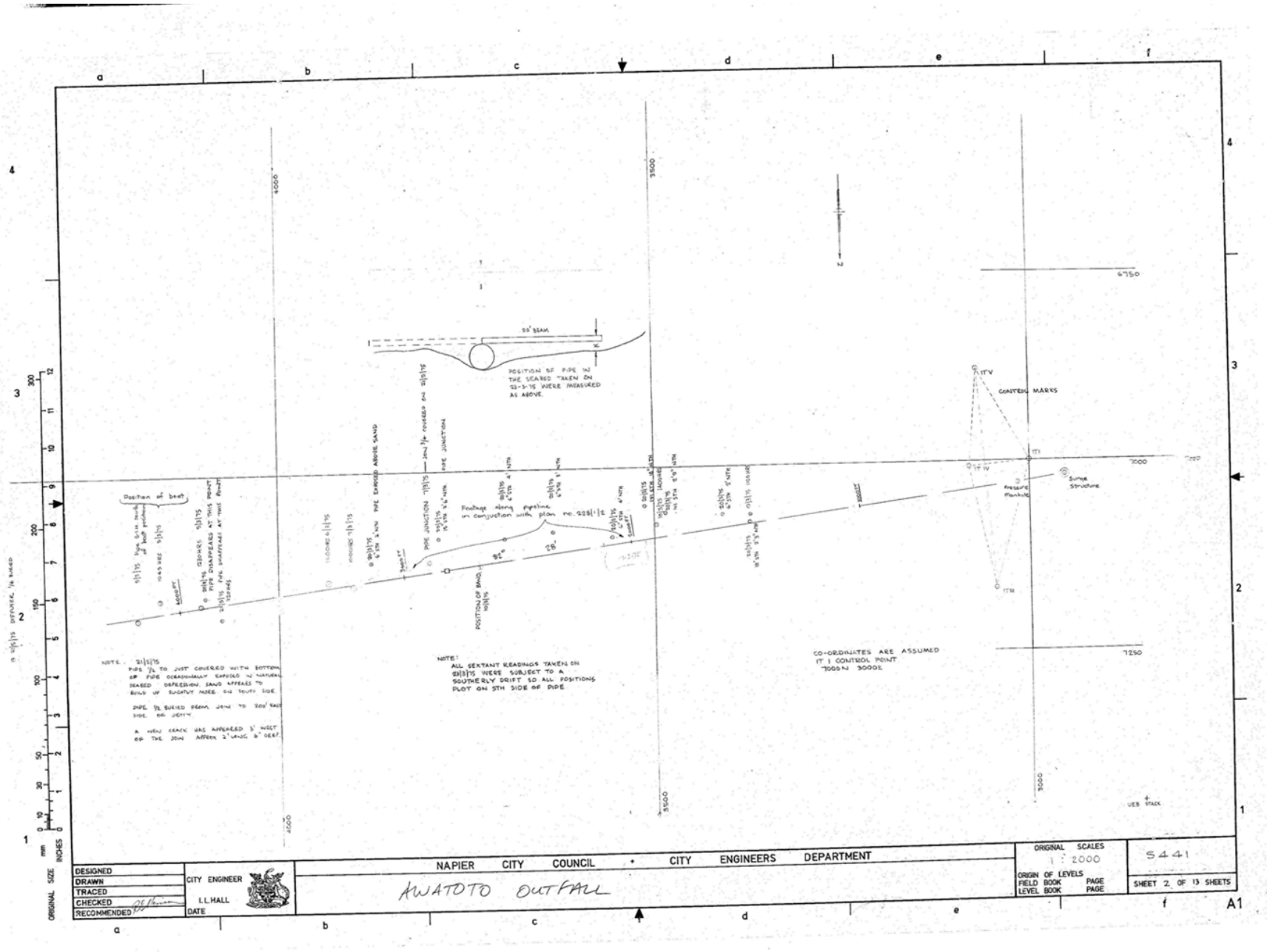

NOTE: STANDARD PIPES SIMILAR TO COUPLER PIPES EXCEPT ANCHORAGE SLOTS & RECESSES OMITTED.
EFFECTIVE PIPE LENGTH = 8' 7½"
SEAWARD
050 CCL ANCHORAGES
12"
STRING COUPLING PIPE DETAIL
22 PIPES REQUIRED.
SCALE 1" = 1' 0"
RUBBER COMPRESSION RING - G49
SCALE 1" = 1' 0"
SECTION 1/5
SCALE 1" = 1' 0"
TOP
I.D.
P.C.D.
SECTION 2/5
SCALE 1" = 1' 0"
SECTION 3/5
SCALE 1" = 1' 0"
NOTE: JOINT DESIGNED TO ALLOW THIS PIPE TO BEND ON A MINIMUM CURVE OF 5000 FEET WHEN AN AXIAL TENSION OF 100,000 LB. IS APPLIED.
RUBBER BEARING RING UNDER PRESTRESS OF 12,500 LB./SQ. THIS RING COMPRESSED TO 0·70 INCHES.
050 CCL ANCHORAGE
THIS RECESS TO BE MORTARED UP WITH EPOXY PLASTER AFTER GROUTING.
POLYTHENE SLEEVE
RUBBER BEARING RING
STANDARD PIPE
COUPLER PIPE
TYPICAL JOINT DETAIL - JOINTS AT 8'-0" SPACING.
SCALE = FULL SIZE
FOR DIMENSIONS SCALE OFF THIS DETAIL.
S462/12
STEVEN & FITZMAURICE
CONSULTING ENGINEERS
CHRISTCHURCH & AUCKLAND
NEW ZEALAND
CITY OF NAPIER — SUBMARINE OUTFALL
JOINT DETAILS
Drawn A.N.S.
Checked
Approved
Date
Drawing number 228/2/5
sheet 5 of 7 drawings

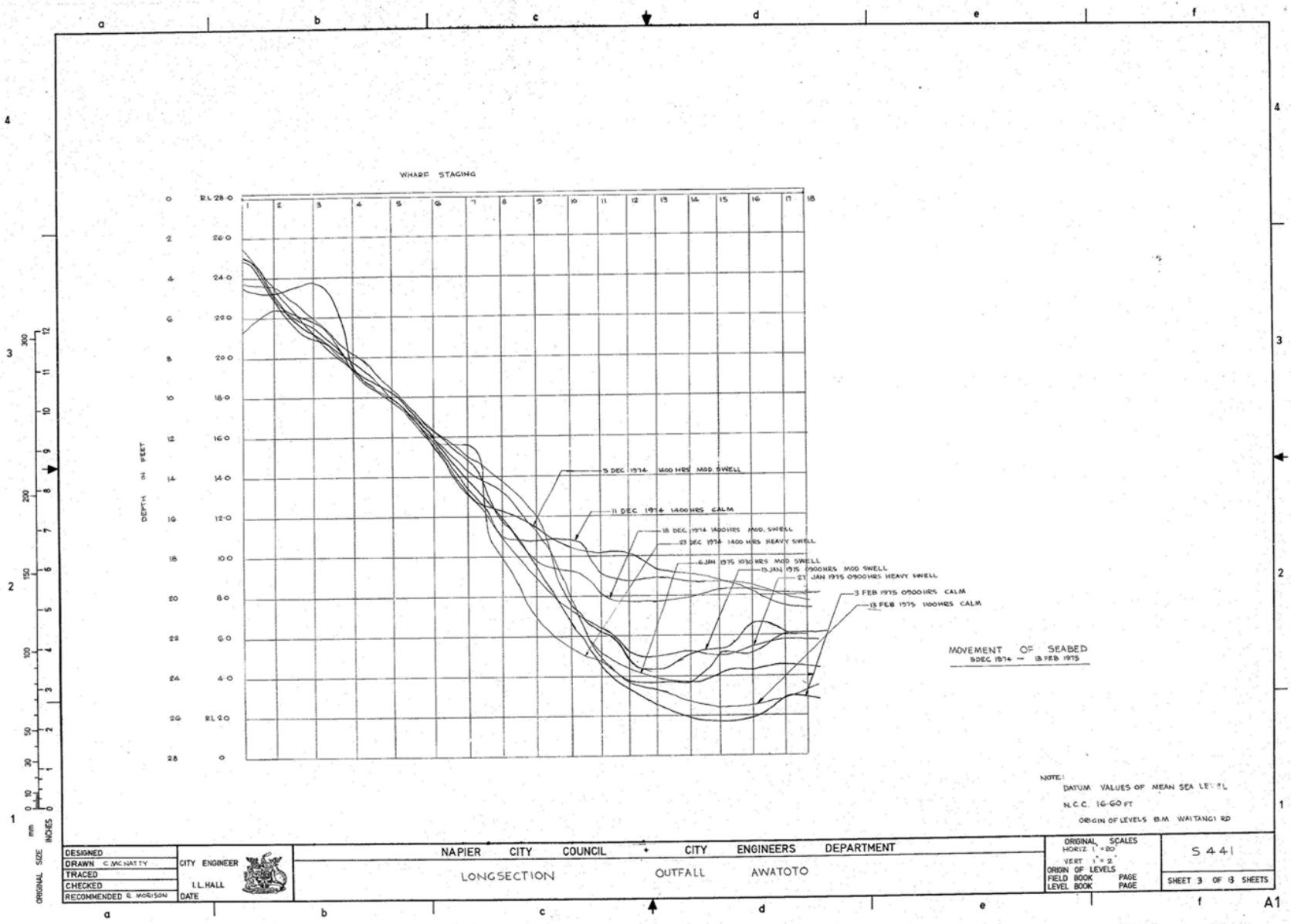
B

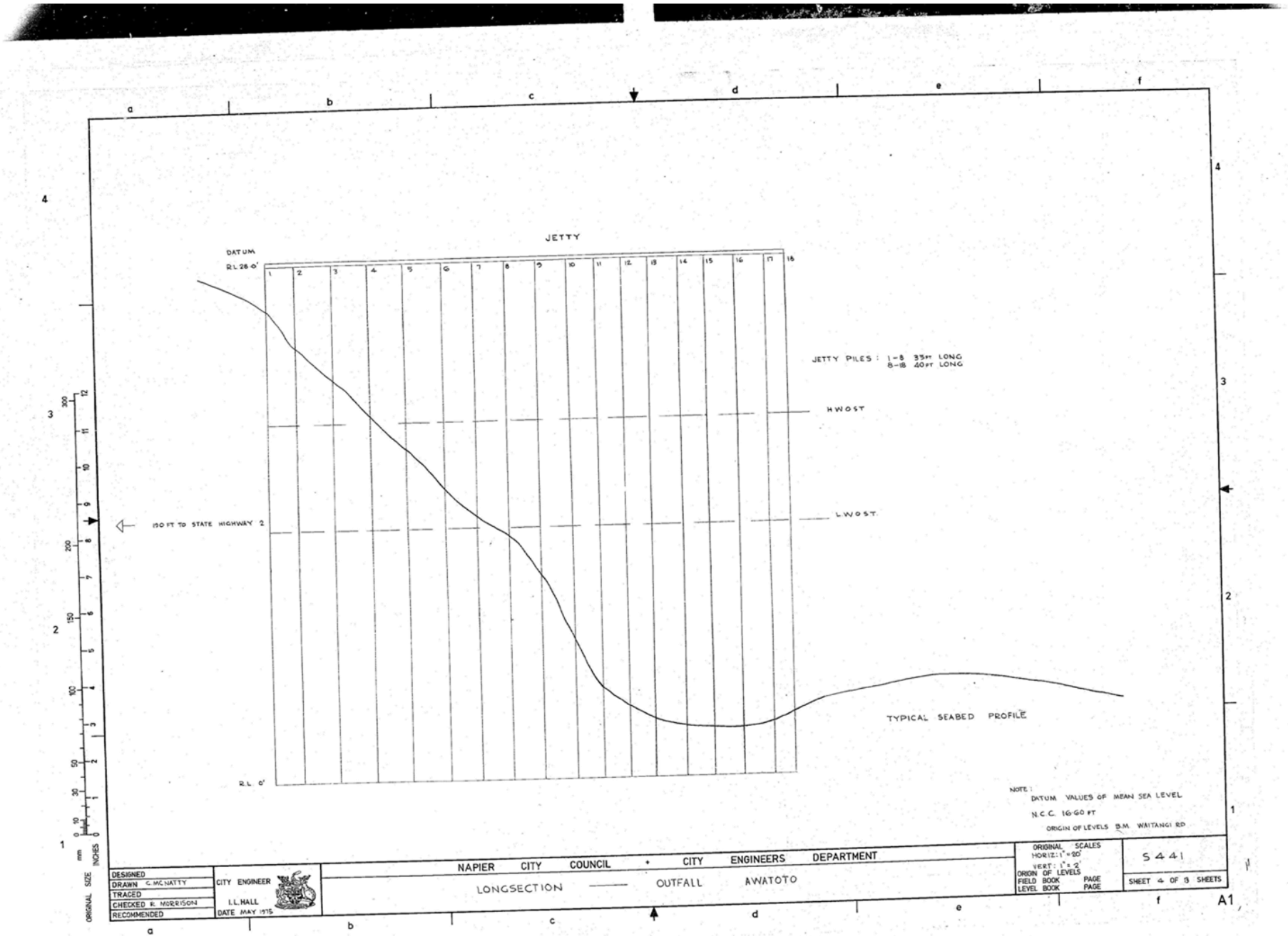
Appendix B – Construction Survey Records

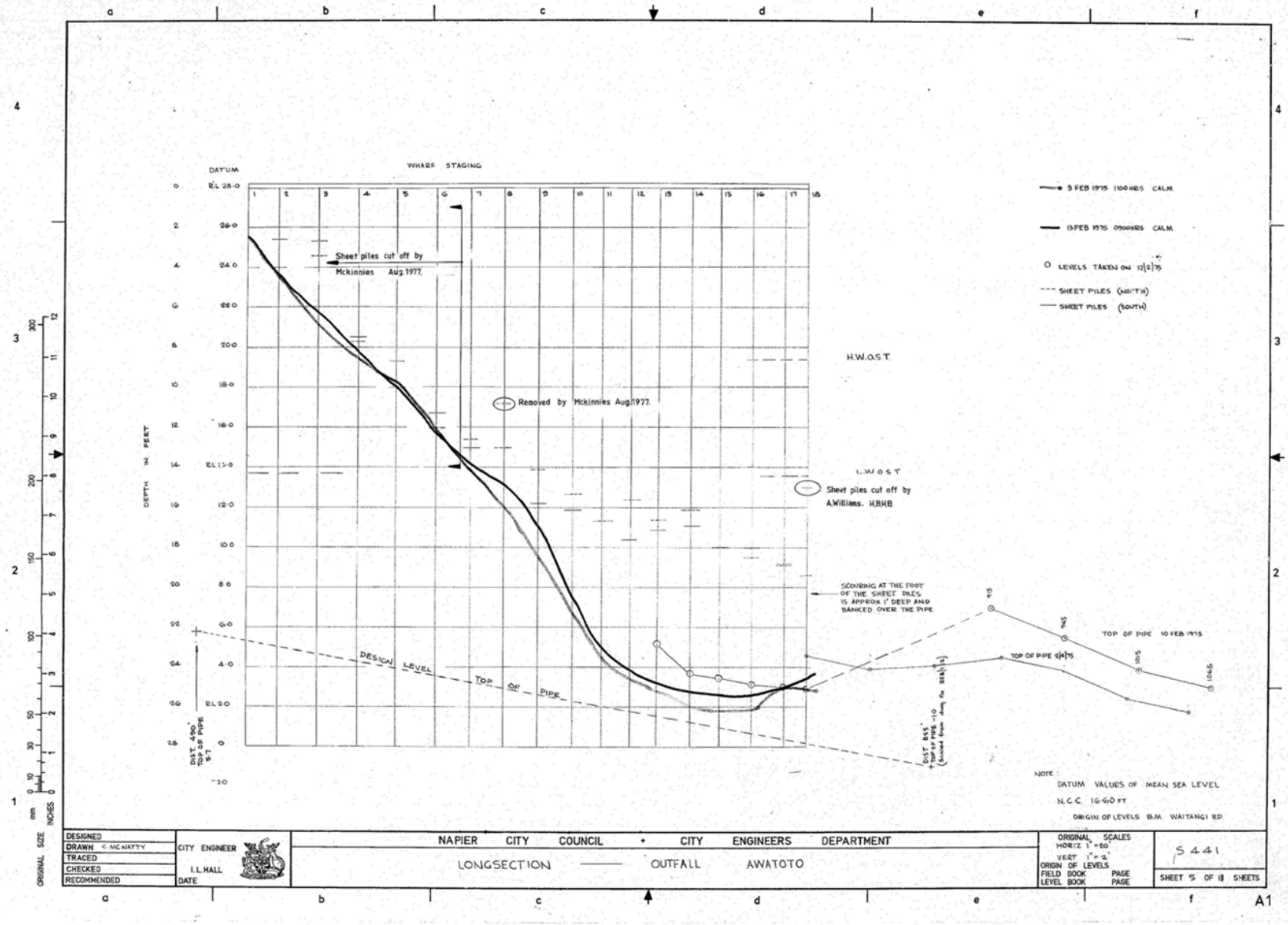


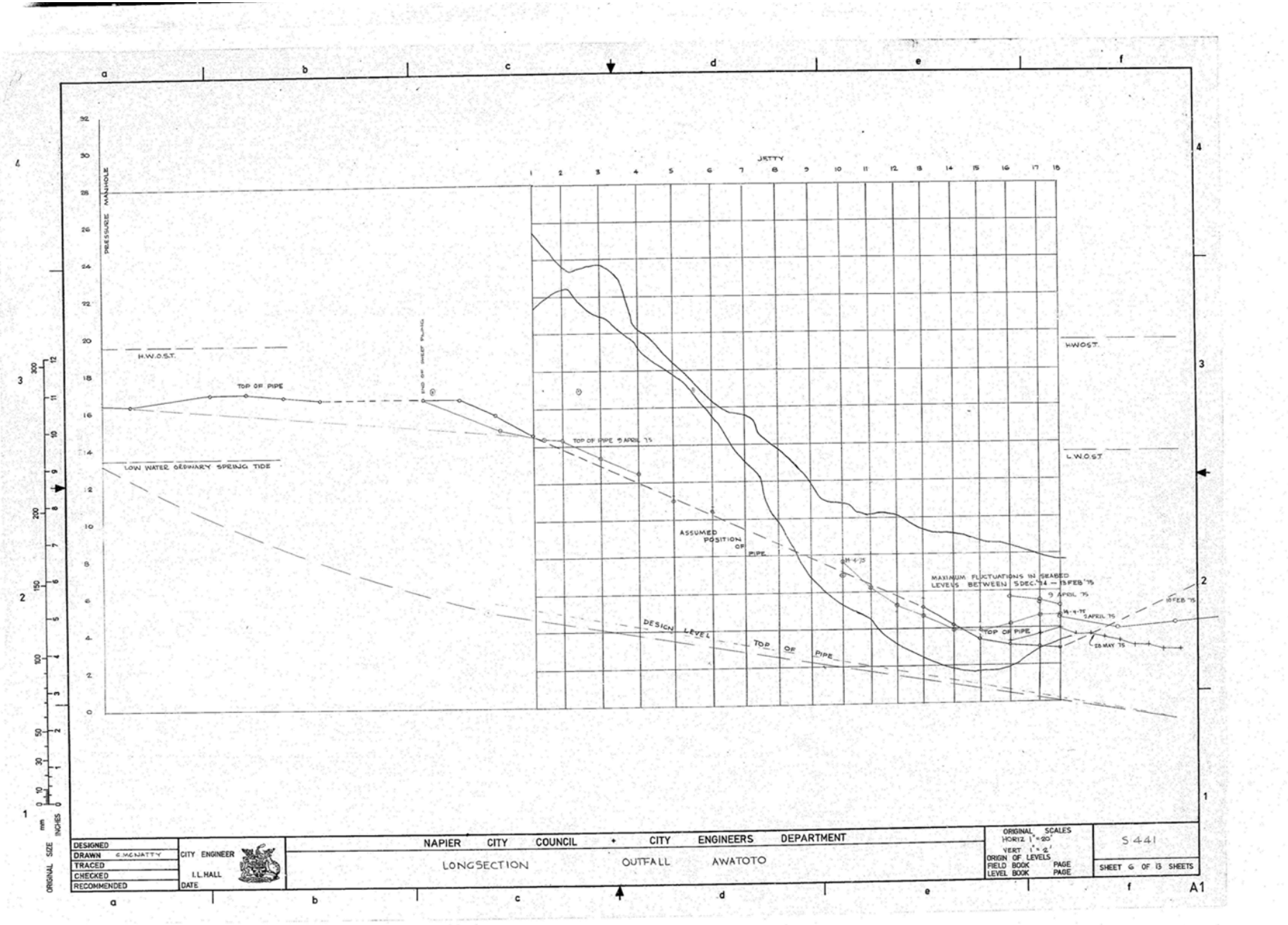
SURVEY CONTROL — OUTFALL AWATOTO

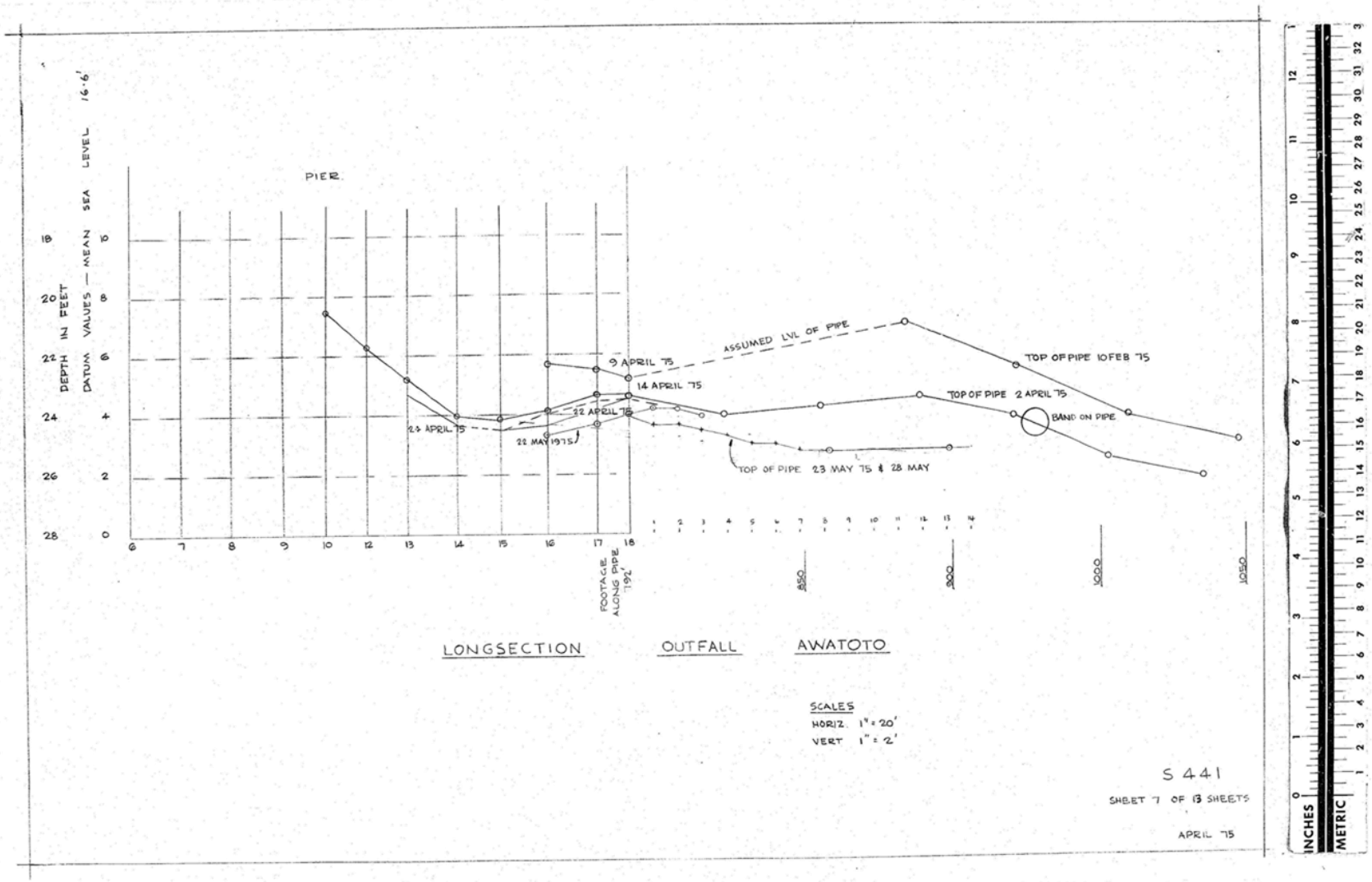

NAPIER CITY COUNCIL • CITY ENGINEERS DEPARTMENT
AWATOTO OUTFALL
DESIGNED
DRAWN
TRACED
CHECKED
RECOMMENDED
CITY ENGINEER
I.L.HALL
DATE
ORIGINAL SCALES
1 : 2000
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
5441
SHEET 2 OF 13 SHEETS
A1
20' BEAM
POSITION OF PIPE AS THE SEABED TAKEN ON 22-3-15 WERE MEASURED AS ABOVE.
CONTROL MARKS
Position of boat
Footage along pipeline in conjuction with plan no. 228/1/2
PIPE JUNCTION
POSITION OF BAND
Pressure Manhole
Surge Structure
NOTE! ALL SEXTANT READINGS TAKEN ON 22/3/15 WERE SUBJECT TO A SOUTHERLY DRIFT SO ALL POSITIONS PLOT ON STH SIDE OF PIPE
CO-ORDINATES ARE ASSUMED
IT 1 CONTROL POINT
7000N 3000E
7250
7000
6750
3500
3000
4000

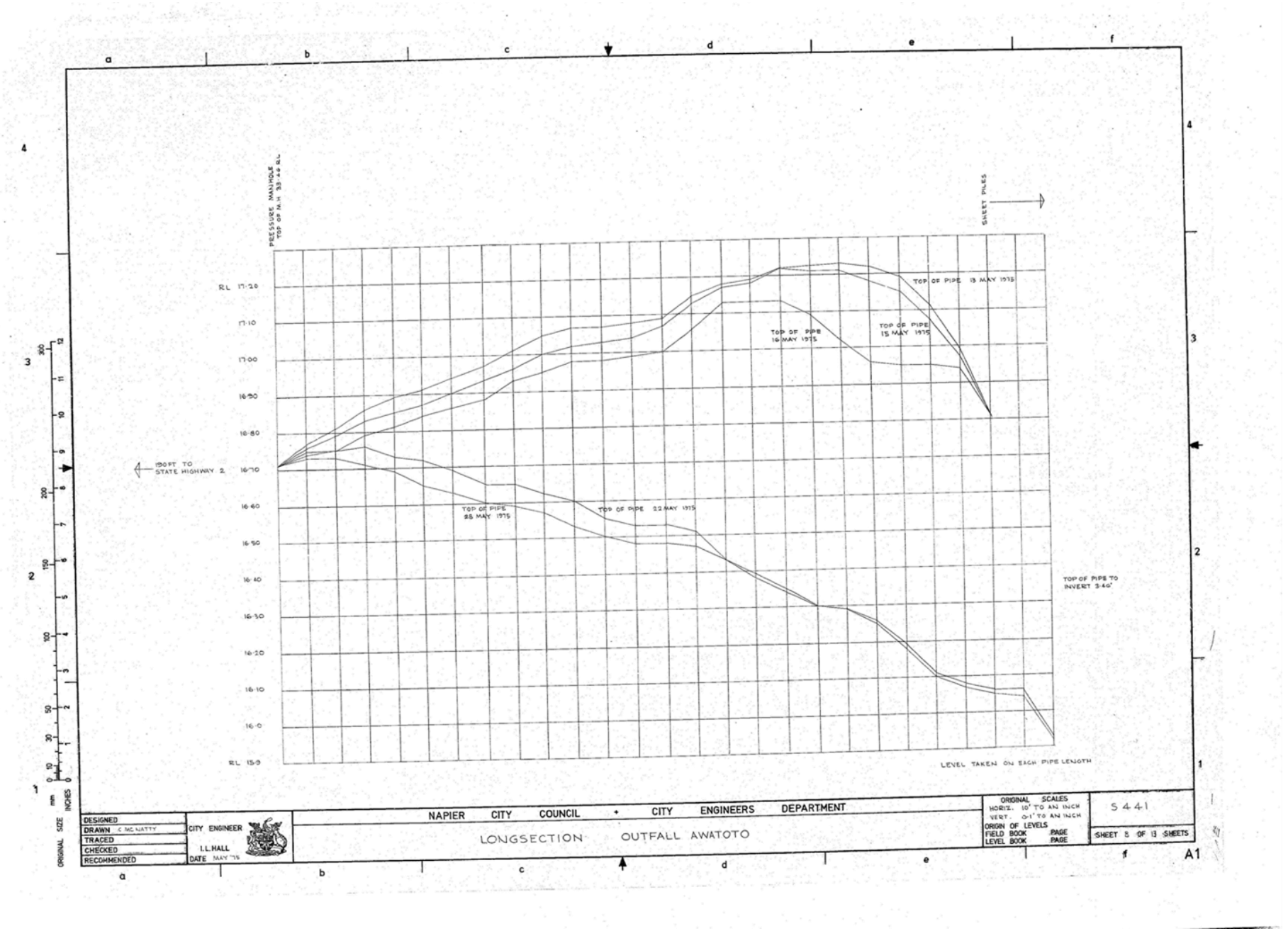

WHARF STAGING
DEPTH IN FEET
RL 28·0
26·0
24·0
22·0
20·0
18·0
16·0
14·0
12·0
10·0
8·0
6·0
4·0
RL 2·0
0
5 DEC 1974 1600 HRS MOD SWELL
11 DEC 1974 1400 HRS CALM
18 DEC 1974 1400 HRS MOD. SWELL
23 DEC 1974 1400 HRS HEAVY SWELL
6 JAN 1975 1030 HRS MOD SWELL
15 JAN 1975 0900 HRS MOD SWELL
27 JAN 1975 0900 HRS HEAVY SWELL
3 FEB 1975 0500 HRS CALM
13 FEB 1975 1100 HRS CALM
MOVEMENT OF SEABED
5 DEC 1974 — 13 FEB 1975
NOTE:
DATUM VALUES OF MEAN SEA LEVEL
N.C.C. 16·60 FT
ORIGIN OF LEVELS B.M. WAITANGI RD
DESIGNED
DRAWN C. MCNATTY
TRACED
CHECKED
RECOMMENDED R. MORISON
CITY ENGINEER
I.L. HALL
DATE
NAPIER CITY COUNCIL + CITY ENGINEERS DEPARTMENT
LONGSECTION OUTFALL AWATOTO
ORIGINAL SCALES
HORIZ 1" = 20'
VERT 1" = 2'
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 441
SHEET 3 OF 13 SHEETS
A1

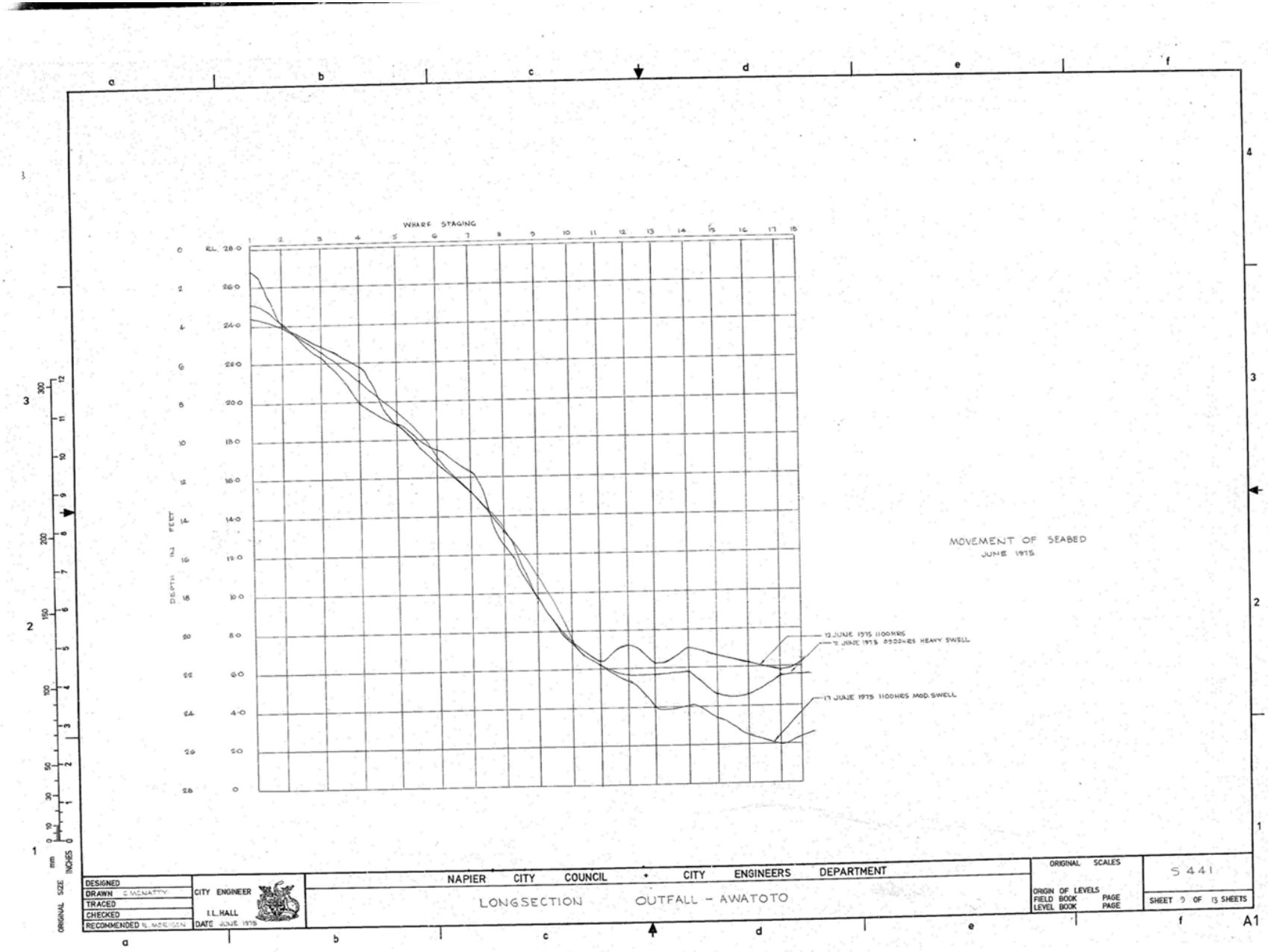

JETTY
DATUM
R.L 28 0'
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
JETTY PILES : 1-8 35FT LONG
8-18 40FT LONG
HWOST
LWOST
150 FT TO STATE HIGHWAY 2
R.L 0'
TYPICAL SEABED PROFILE
NOTE :
DATUM VALUES OF MEAN SEA LEVEL
N.C.C. 16·60 FT
ORIGIN OF LEVELS B.M. WAITANGI RD
DESIGNED
DRAWN C. MCNATTY
TRACED
CHECKED R. MORRISON
RECOMMENDED
CITY ENGINEER
I.L.HALL
DATE MAY 1975
NAPIER CITY COUNCIL + CITY ENGINEERS DEPARTMENT
LONGSECTION —— OUTFALL AWATOTO
ORIGINAL SCALES
HORIZ: 1" = 20'
VERT: 1" = 2'
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 441
SHEET 4 OF 8 SHEETS
ORIGINAL SIZE A1

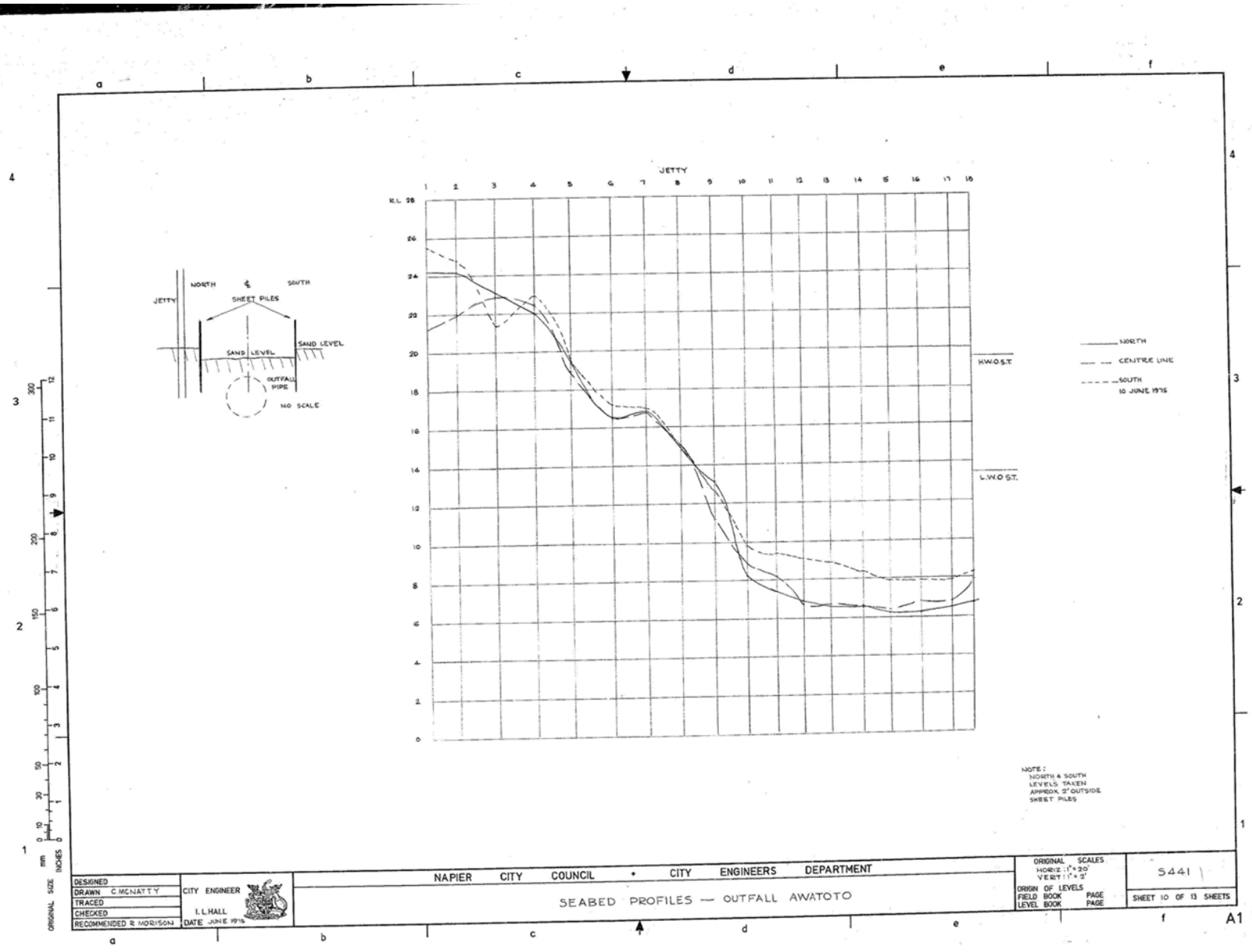

WHARF STAGING
DATUM
RL 28-0
DEPTH IN FEET
Sheet piles cut off by Mckinnies Aug.1977.
Removed by Mckinnies Aug.1977.
H.W.O.S.T
L.W.O.S.T
Sheet piles cut off by A.Williams. H.B.H.B
SCOURING AT THE FOOT OF THE SHEET PILES IS APPROX 1' DEEP AND BANKED OVER THE PIPE
DESIGN LEVEL
TOP OF PIPE
RL 2-0
DIST 490' TOP OF PIPE 9-7
DIST 855' TOP OF PIPE +10
3 FEB 1975 1100 HRS CALM
13 FEB 1975 0900 HRS CALM
LEVELS TAKEN ON 12/2/75
SHEET PILES (NORTH)
SHEET PILES (SOUTH)
TOP OF PIPE 10 FEB 1975
TOP OF PIPE 2/4/75
NOTE :
DATUM VALUES OF MEAN SEA LEVEL
N.C.C. 16-60 FT
ORIGIN OF LEVELS B.M. WAITANGI RD
DESIGNED
DRAWN C. MCNATTY
TRACED
CHECKED
RECOMMENDED
CITY ENGINEER
I.L.HALL
DATE
NAPIER CITY COUNCIL + CITY ENGINEERS DEPARTMENT
LONGSECTION —— OUTFALL AWATOTO
ORIGINAL SCALES
HORIZ 1" = 50'
VERT 1" = 2'
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 441
SHEET 5 OF 12 SHEETS
ORIGINAL SIZE
A1

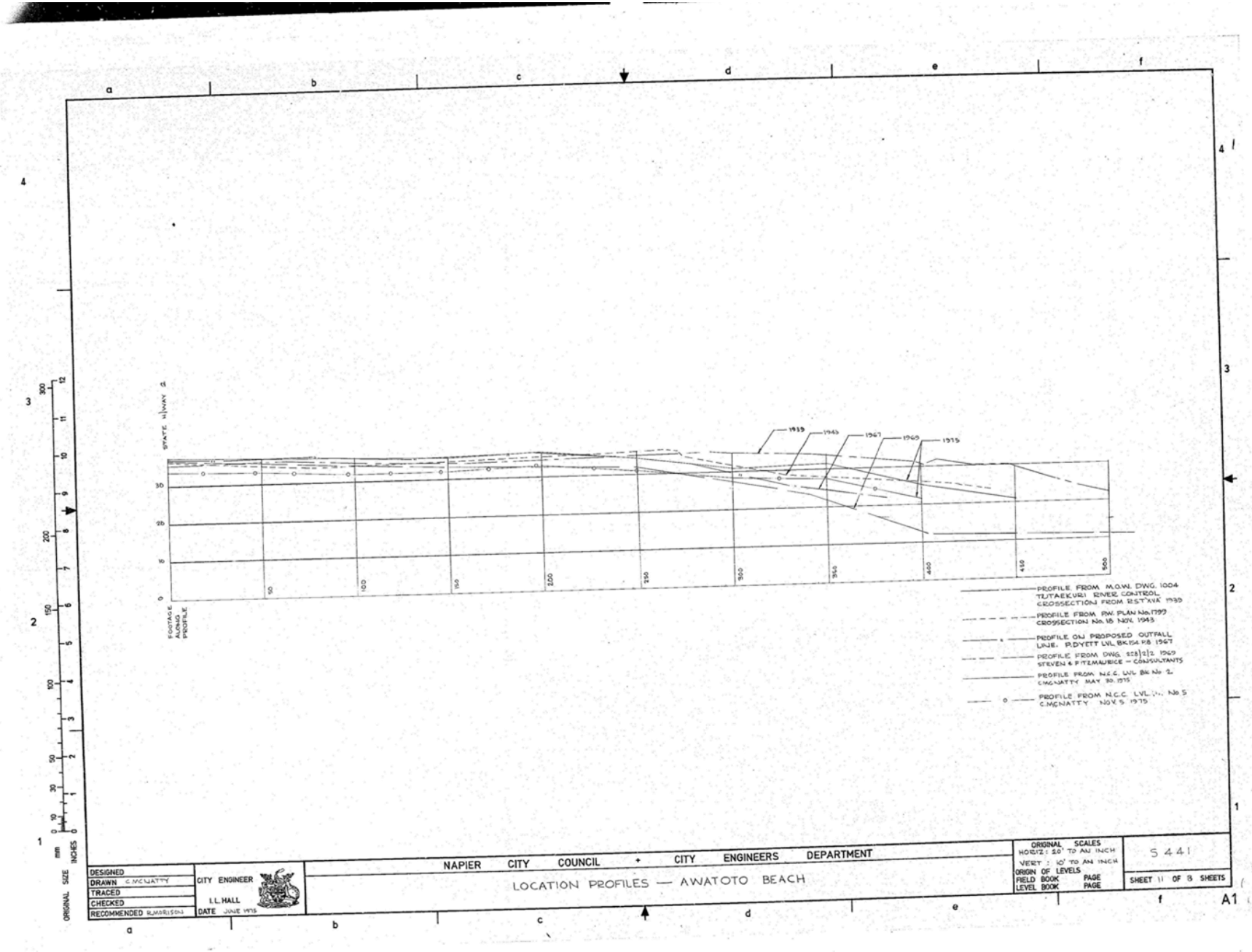

JETTY
PRESSURE MANHOLE
H.W.O.S.T.
TOP OF PIPE
END OF SHEET PILING
LOW WATER ORDINARY SPRING TIDE
TOP OF PIPE 3 APRIL 75
ASSUMED POSITION OF PIPE
DESIGN LEVEL
TOP OF PIPE
MAXIMUM FLUCTUATIONS IN SEABED LEVELS BETWEEN 5 DEC '74 — 13 FEB '75
9 APRIL 75
10 FEB 75
3 APRIL 75
28 MAY 75
TOP OF PIPE
H.W.O.S.T.
L.W.O.S.T.
DESIGNED
DRAWN C.MCNATTY
TRACED
CHECKED
RECOMMENDED
CITY ENGINEER
I.L.HALL
DATE
NAPIER CITY COUNCIL + CITY ENGINEERS DEPARTMENT
LONGSECTION OUTFALL AWATOTO
ORIGINAL SCALES
HORIZ 1"=20'
VERT 1"=2'
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 441
SHEET 6 OF 13 SHEETS
A1

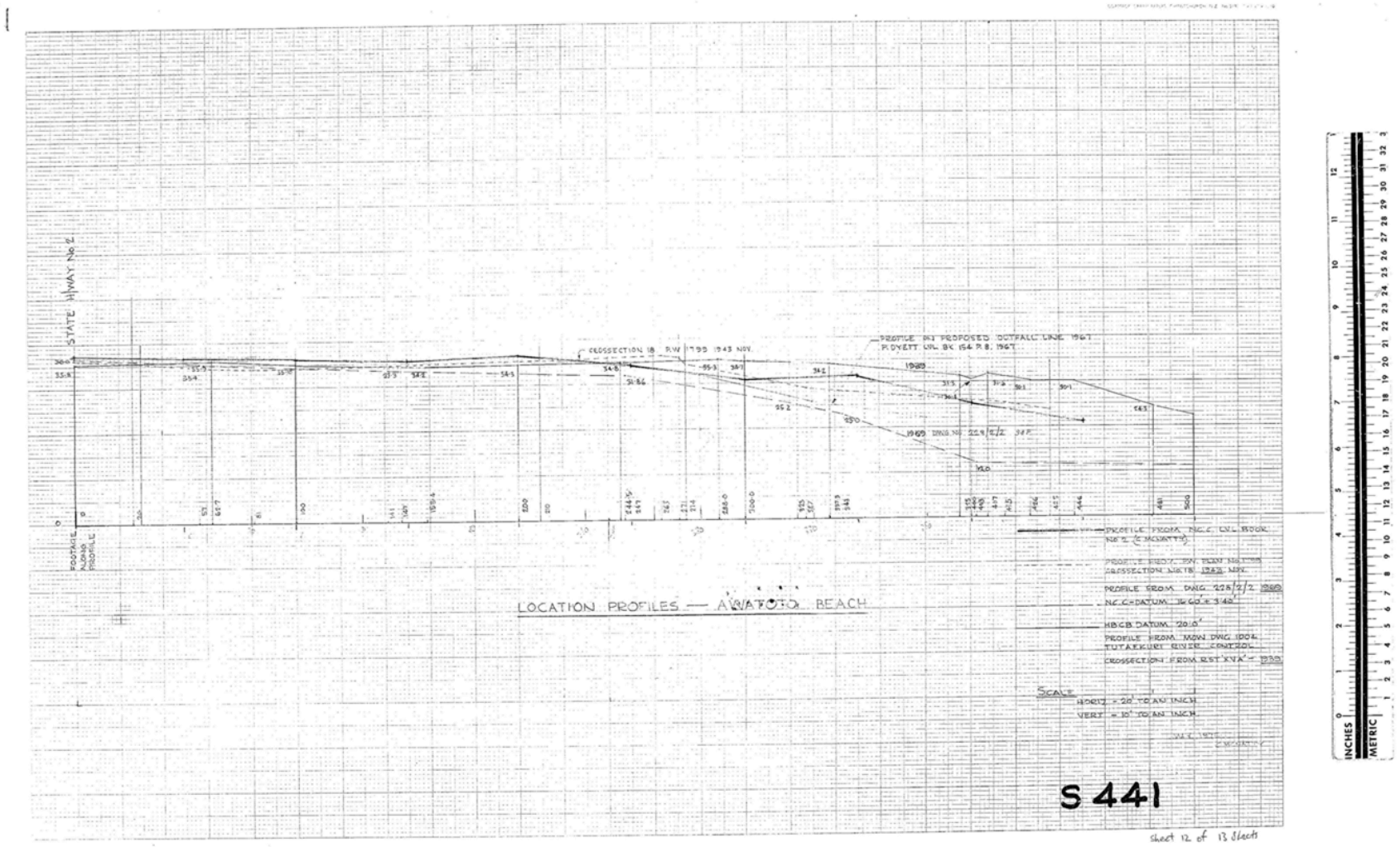

PIER.
DEPTH IN FEET
DATUM VALUES — MEAN SEA LEVEL 16·6'
18
20
22
24
26
28
10
8
6
4
2
0
6
7
8
9
10
12
13
14
15
16
17
18
FOOTAGE ALONG PIPE 1192'
850
900
1000
1050
9 APRIL 75
ASSUMED LVL OF PIPE
14 APRIL 75
22 APRIL 75
24 APRIL 75
22 MAY 1975
TOP OF PIPE 10 FEB 75
TOP OF PIPE 2 APRIL 75
BAND ON PIPE
TOP OF PIPE 23 MAY 75 & 28 MAY
LONGSECTION OUTFALL AWATOTO
SCALES
HORIZ. 1" = 20'
VERT 1" = 2'
S 441
SHEET 7 OF 13 SHEETS
APRIL 75
INCHES
METRIC


PRESSURE MANHOLE
TOP OF N.H. 33.49 R.L.
SHEET PILES
R.L. 17.20
17.10
17.00
16.90
16.80
16.70
16.60
16.50
16.40
16.30
16.20
16.10
16.0
R.L. 15.9
190 FT TO STATE HIGHWAY 2
TOP OF PIPE 13 MAY 1975
TOP OF PIPE 16 MAY 1975
TOP OF PIPE 15 MAY 1975
TOP OF PIPE 25 MAY 1975
TOP OF PIPE 22 MAY 1975
TOP OF PIPE TO INVERT 3.40'
LEVEL TAKEN ON EACH PIPE LENGTH
DESIGNED
DRAWN C. MC NATTY
TRACED
CHECKED
RECOMMENDED
CITY ENGINEER
I.L. HALL
DATE MAY '75
NAPIER CITY COUNCIL + CITY ENGINEERS DEPARTMENT
LONGSECTION OUTFALL AWATOTO
ORIGINAL SCALES
HORIZ. 10' TO AN INCH
VERT. 0-1' TO AN INCH
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 4 4 1
SHEET 5 OF 13 SHEETS
ORIGINAL SIZE
A1


WHARF STAGING
RL. 28·0
DEPTH IN FEET
MOVEMENT OF SEABED
JUNE 1975
12 JUNE 1975 1100 HRS
12 JUNE 1975 0900 HRS HEAVY SWELL
17 JUNE 1975 1100 HRS MOD. SWELL
NAPIER CITY COUNCIL • CITY ENGINEERS DEPARTMENT
LONGSECTION OUTFALL – AWATOTO
DESIGNED
DRAWN C.MENATTY
TRACED
CHECKED
RECOMMENDED N. MORRISON
CITY ENGINEER
I.L.HALL
DATE JUNE 1975
ORIGINAL SCALES
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 441
SHEET 9 OF 13 SHEETS
A1


JETTY
NORTH
SOUTH
SHEET PILES
SAND LEVEL
SAND LEVEL
OUTFALL PIPE
NO SCALE
R.L. 26
H.W.O.S.T.
L.W.O.S.T.
NORTH
CENTRE LINE
SOUTH
10 JUNE 1975
NOTE:
NORTH & SOUTH
LEVELS TAKEN
APPROX. 2' OUTSIDE
SHEET PILES
DESIGNED
DRAWN C.McNATTY
TRACED
CHECKED
RECOMMENDED R MORISON
CITY ENGINEER
I. L. HALL
DATE JUNE 1975
NAPIER CITY COUNCIL • CITY ENGINEERS DEPARTMENT
SEABED PROFILES — OUTFALL AWATOTO
ORIGINAL SCALES
HORIZ 1" = 20'
VERT 1" = 2'
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
5441
SHEET 10 OF 13 SHEETS
A1


STATE HIWAY 2
1939
1943
1967
1969
1975
PROFILE FROM M.O.W. DWG. 1004 TUTAEKURI RIVER CONTROL CROSSECTION FROM R.S.T.'XVA' 1939
PROFILE FROM PW. PLAN No.1799 CROSSECTION No.18 NOV. 1943
PROFILE ON PROPOSED OUTFALL LINE. P.D.YETT LVL BK 154 P.8 1967
PROFILE FROM DWG. 228/2/2 1969 STEVEN & FITZMAURICE — CONSULTANTS
PROFILE FROM N.C.C. LVL BK No 2. C.McNATTY MAY 30. 1975
PROFILE FROM N.C.C. LVL ... No 5 C.McNATTY NOV 5 1975
FOOTAGE ALONG PROFILE
NAPIER CITY COUNCIL + CITY ENGINEERS DEPARTMENT
LOCATION PROFILES — AWATOTO BEACH
DESIGNED
DRAWN C.McNATTY
TRACED
CHECKED
RECOMMENDED R.MORRISON
CITY ENGINEER
I.L.HALL
DATE JUNE 1975
ORIGINAL SCALES
HORIZ: 20' TO AN INCH
VERT: 10' TO AN INCH
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 441
SHEET 11 OF 13 SHEETS
A1
ORIGINAL SIZE


STATE HIWAY No 2
FOOTAGE ALONG PROFILE
CROSSECTION 18 R.W 1795 1943 NOV.
PROFILE 961 PROPOSED OUTFALL LINE 1967
P.DYETT VOL. BK 154 P.8. 1967
1969 DWG NO 229/2/2 SHT
PROFILE FROM DWG 229/2/2 1960
NC C-DATUM 1660 E 1340
HBCB DATUM 20.10'
PROFILE FROM MOWL DWG 1004
TUTAEKURI RIVER CONTROL
CROSSECTION FROM RST XVA - 1970
SCALE
HORIZ = 20' TO AN INCH
VERT = 10' TO AN INCH
LOCATION PROFILES — AWATOTO BEACH
S 441
Sheet 12 of 13 Sheets
INCHES
METRIC

DISTANCE FROM SHORE CONTROL * LOCATION IN ACCORDANCE WITH DRAWING NO. 228/112 DISTANCE FROM DROP M.H.		DEPTH FROM WATER LEVEL TO TOP OF PIPE	DEPTH FROM STAGING TO WATER LEVEL	TOTAL DEPTH	TIME DATE	POSITION OF PIPE IN RELATION TO SHEET PILING 12/2/75 NORTH SIDE	SOUTH SIDE	DEPTH	DEPTH OF PIPE ADJACENT TO WHARF STAGING STAGING TO WATER LEVEL	WATER LEVEL TO PIPE	TIME DATE	R.L. TOP OF PIPE	R.L. OF PIERS N.C.C M.S.L. 16·60FT
700 FT	12.65	5·2M 15·85'	15'10"	13'6"	29·3 — 1115 HRS 10/2/75							-0·9	
650 FT	1215	4·9M 14·94'	15'11"	13'5"	28·3 — 1120 HRS 10/2/75							-0·1	
600 FT	1165 *	4·5M 13·72'	13'9"	13'9"	27·4 — 1130 HRS 10/2/75							1·0	
550 FT	1115	4·2M 12·80'	12'10"	13'8"	26·5 — 1210 HRS 10/2/75							2·0	
500 FT	1065	3·8 M 11·58'	11'7"	13'10"	25·4 — 1210 HRS 10/2/75							3·0	
450 FT	1015	3·5M 10·67	10'8"	13'10"	24·5 — 1215 HRS 10/2/75							3·9	
400 FT	965	3·0M 9·14	9'2"	13'10"	22·9 — 1225 HRS 10/2/75							5·5	
350 FT	915	2·5M 7·62	7'7"	13'10"	21·4 — 1225 HRS 10/2/75							7·0	
PIER NUMBER 18	793	11'0"		11'10"	1000 HRS 11/2/75	4'8"	3'9"	-2"	10'10"	14·4 14'5"	0920 HRS 12/2/75	3·2	28·43
17	782					4'0" 16+1 4'3"	4'3" 5'0"	+ 2'3" + 2'6"		14·2 14'2" 16+1 13·9 13'11"		3·4	28·46
16	761	12'0"		11'10"	0955 HRS 11/2/75	4'0" 15+1 4'6"	5'6" 5'6"	+ 2'8" + 2'8"		14·0 14'0" 15+1 13·9 13'11"		3·6	28·44
15	751					3'9" 14+1 4'4"	5'3" 5'6"	+ 2'5" + 1'10"		13·7 13'8" 14+1 13·5 13'6"		3·9	28·43
14	737	11'0"		11'10"	0950 HRS 11/2/75	5'0" 13+1 4'8"	5'3" 5'0"	+3" +2"		13·5 13'6" 13+1 13·0 13'0"		4·2	28·49
13	722					5'0"	4'5"	0	10'5"	12·10 12'1"	0910 HRS 12/2/75	5·6	28·40
12	708	10'0"		11'10"	0945 HRS 11/2/75	5'2"	5'0"	-3"					28·42
11	694												28·43
10	680	9'0"		11'10"	0940 HRS 11/2/75								28·47
9	668												28·46
8	647	8'0"		11'6"	0920 HRS 11/2/75								28·49
7	630												28·39
6	613	7'6"		11'6"	0915 HRS 11/2/75								28·29

* SHORE CONTROL ESTABLISHED SOFT FROM WEST END OF STAGING BETWEEN PIERS 2 & 3 ON ℄ OF PIPE.

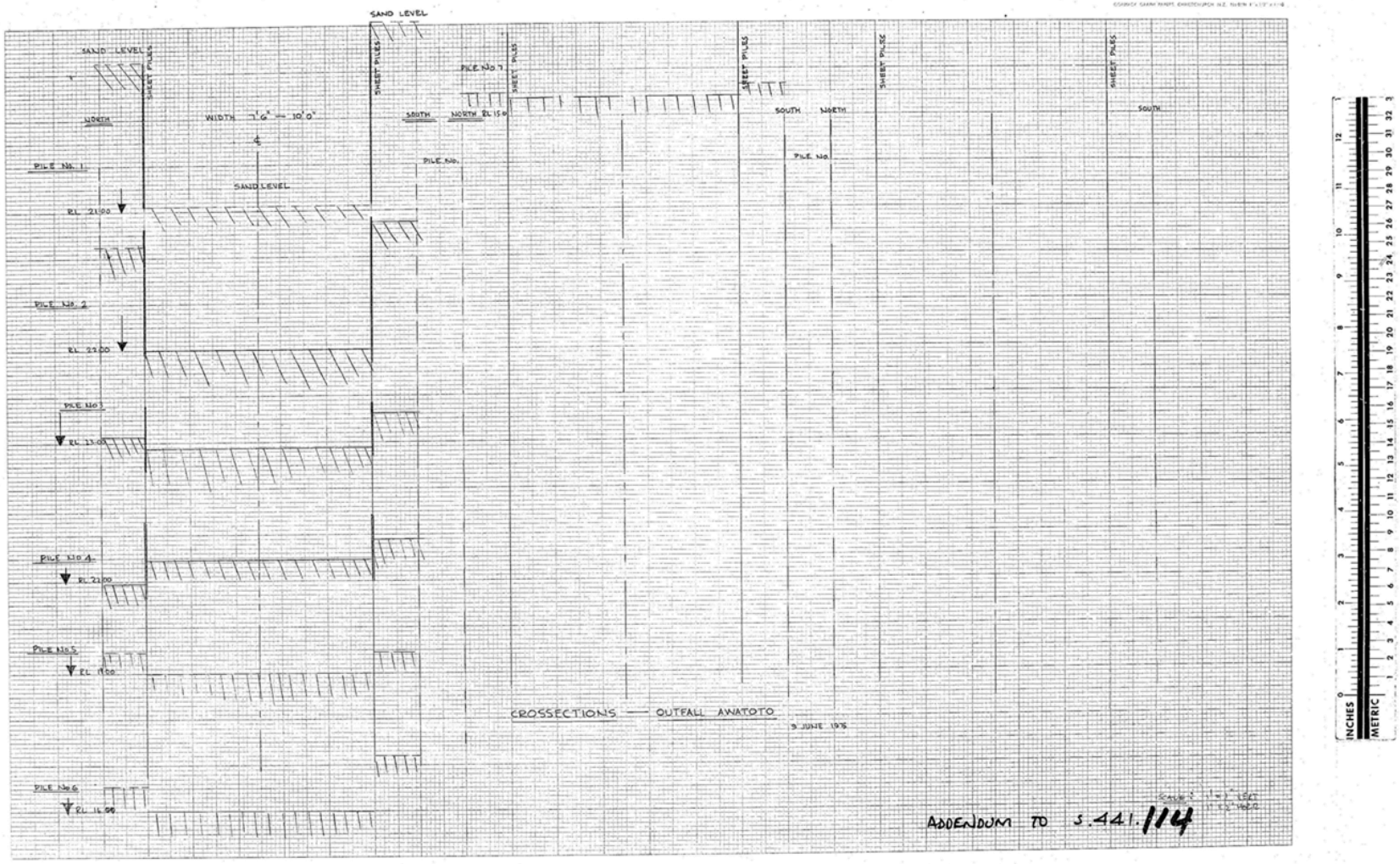
LEVELS TAKEN ON PIPE ON 11/2/75 BETWEEN PIERS 6—18 ARE SUSPECT BECAUSE OF FAULTY PENCIL BUOY - SWELL CAUSED BUOY TO DRIFT OFF VERTICAL.

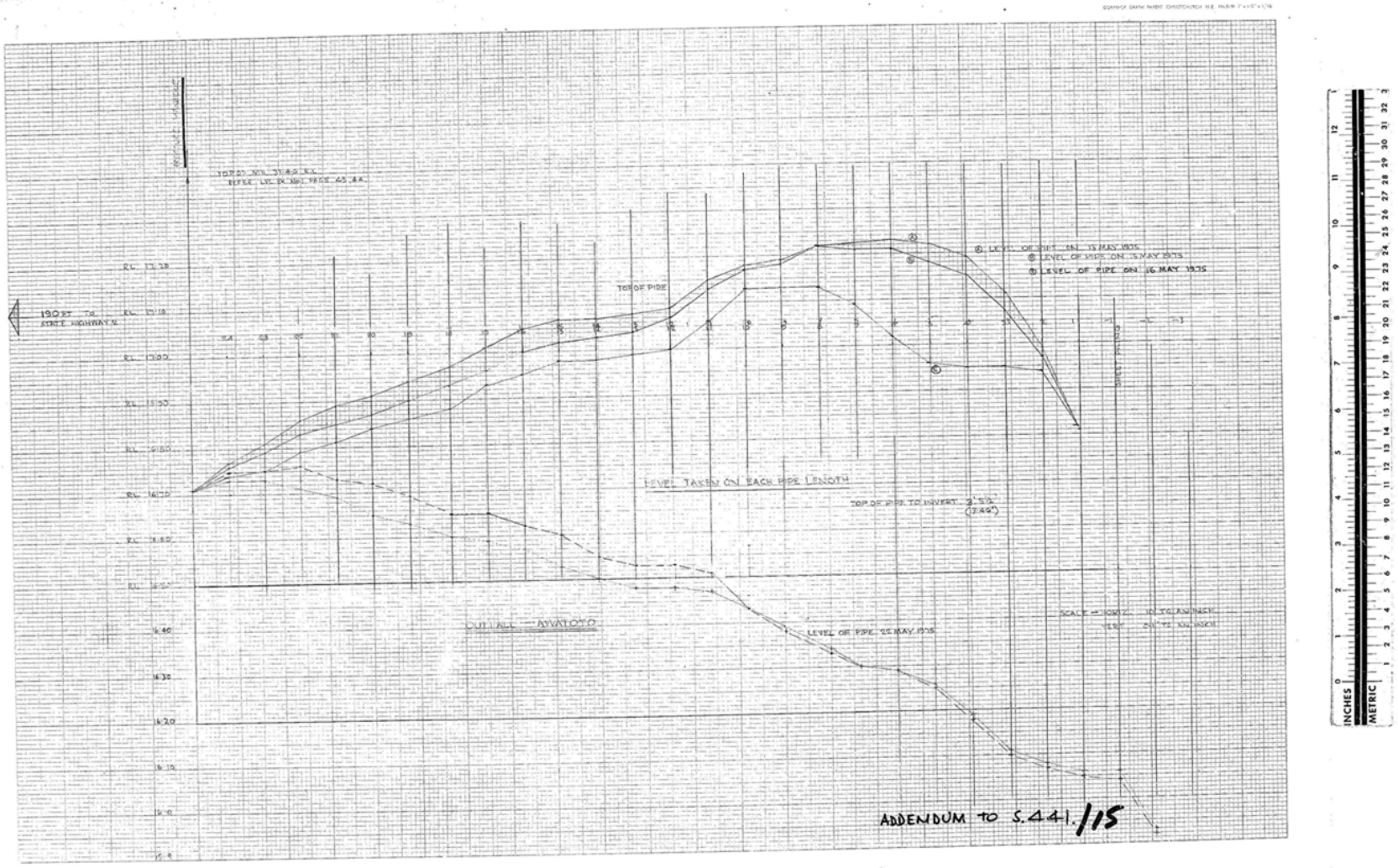
LEVELS TAKEN ON PIPE ON 12/2/75 WERE TAKEN BY A STAFF ON EACH 6' SECTION

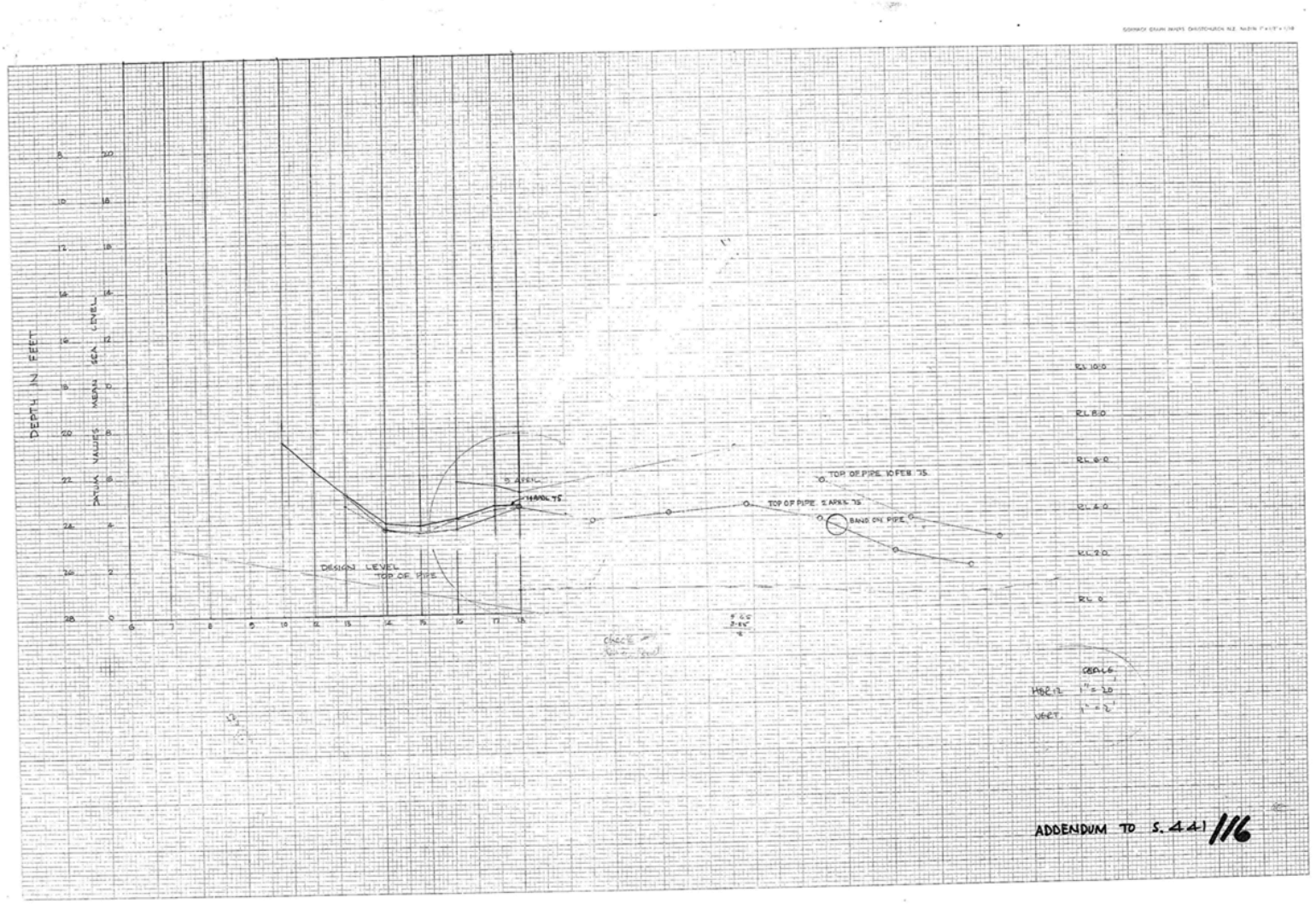
OUTFALL — AWATOTO

sheet 13 of 13 sheets

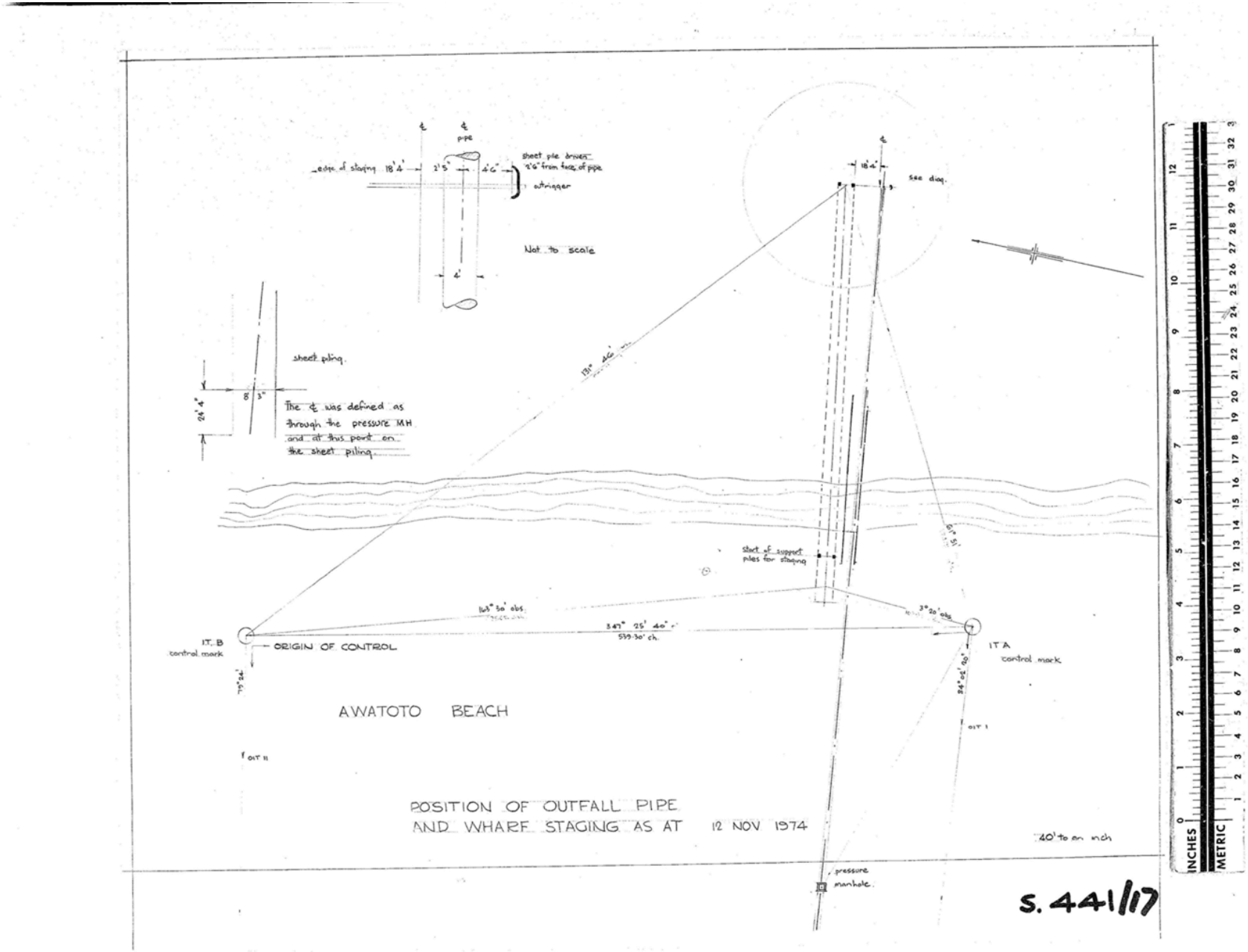
S441


SAND LEVEL
SHEET PILES
PILE No. 1
PILE No. 2
PILE No. 3
PILE No. 4
PILE No. 5
PILE No. 6
PILE No. 7
WIDTH 7'6" — 10'0"
SOUTH
NORTH
SAND LEVEL
RL 21.00
RL 22.00
RL 13.00
RL 21.00
RL 11.00
RL 14.00
RL 15.0
CROSSECTIONS — OUTFALL AWATOTO
9 JUNE 1975
ADDENDUM TO S.441.114
INCHES
METRIC


TOP OF PIPE
LEVEL TAKEN ON EACH PIPE LENGTH
OUTLET — AVATORO
LEVEL OF PIPE 22 MAY 1935
ADDENDUM TO S.441.115

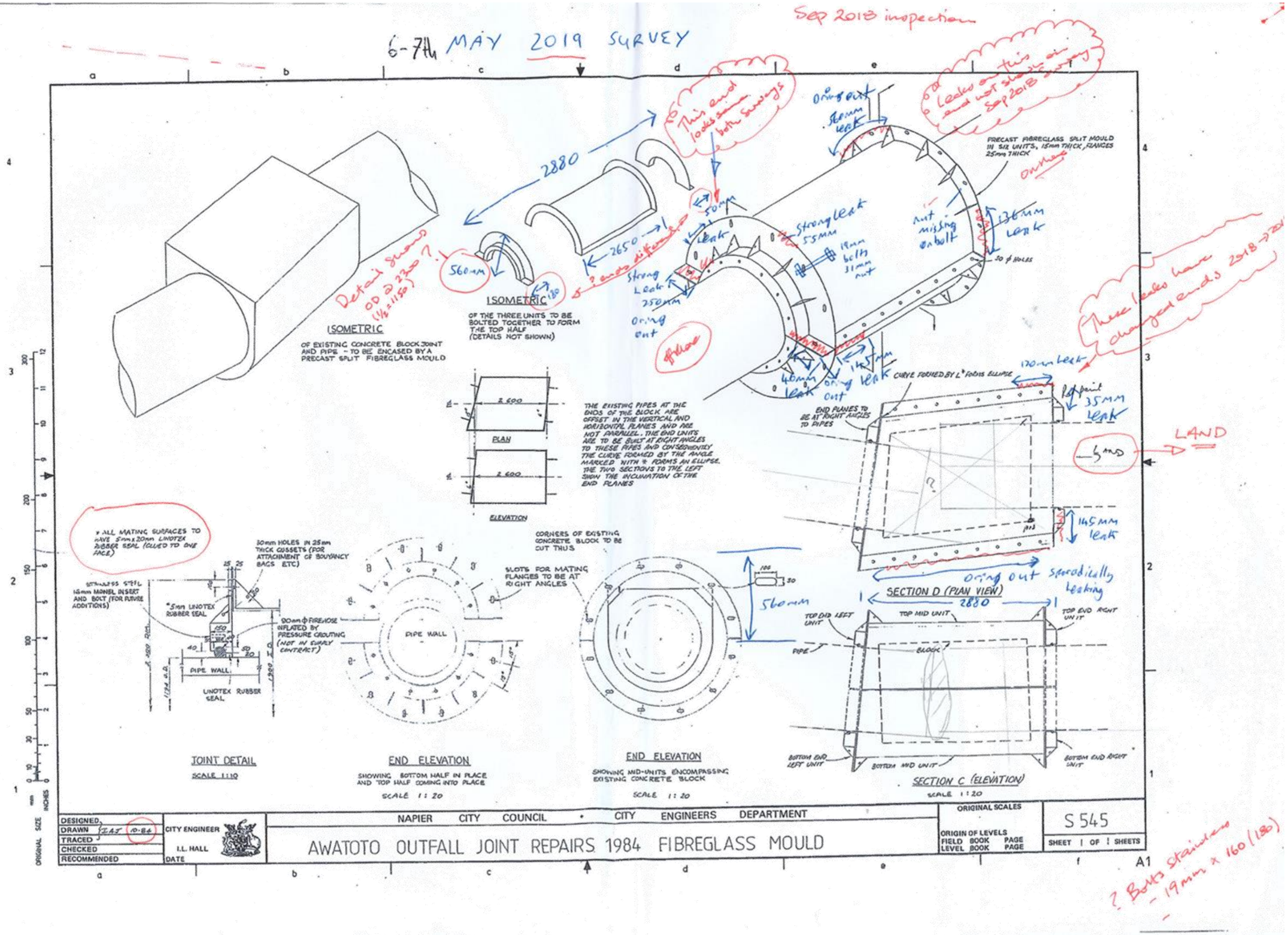

DEPTH IN FEET
DATUM VALUES MEAN SEA LEVEL
DESIGN LEVEL
TOP OF PIPE
TOP OF PIPE 10 FEET 75
TOP OF PIPE 5 APART 75
BAND ON PIPE
RL 10.0
RL 8.0
RL 6.0
RL 4.0
RL 2.0
RL 0
SCALE
HOR. 1" = 10'
VERT. 1" = 2'
ADDENDUM TO S.44 116


INCHES
METRIC


pipe
edge of staging 18'4"
2'5"
4'6"
sheet pile driven 2'6" from face of pipe
outrigger
Not to scale
4'
sheet piling.
24'4"
3"
The ℄ was defined as through the pressure MH and at this point on the sheet piling.
see diag.
18'4"
start of support piles for staging
138° 30' obs.
3° 20' obs.
347° 25' 40"
539·30' ch.
IT B
control mark
ORIGIN OF CONTROL
IT A
control mark
AWATOTO BEACH
POSITION OF OUTFALL PIPE
AND WHARF STAGING AS AT 12 NOV 1974
40' to an inch
pressure manhole.
INCHES
METRIC
S. 441/17

C

Appendix C – Fibreglass joint details with leak observations


6-7th MAY 2019 SURVEY
Sep 2018 inspection
This end looks same both surveys
Leaks on this end not shown on survey Sep 2018
2880
2650
560mm
ISOMETRIC
OF EXISTING CONCRETE BLOCK JOINT AND PIPE - TO BE ENCASED BY A PRECAST SPLIT FIBREGLASS MOULD
ISOMETRIC
OF THE THREE UNITS TO BE BOLTED TOGETHER TO FORM THE TOP HALF (DETAILS NOT SHOWN)
PRECAST FIBREGLASS SPLIT MOULD IN SIX UNITS, 15mm THICK, FLANGES 25mm THICK
Strong Leak 55MM
19mm bolts 31mm nut
Nut missing on bolt
136mm Leak
30 ϕ Holes
Strong Leak 250MM
Oring out
Yellow
40mm Leak
Oring leak
145mm
170mm Leak
CURVE FORMED BY L* FORMS ELLIPSE
Oring point 35MM leak
END PLANES TO BE AT RIGHT ANGLES TO PIPES
These leaks have changed ends 2018
LAND
PLAN
2 600
ELEVATION
THE EXISTING PIPES AT THE ENDS OF THE BLOCK ARE OFFSET IN THE VERTICAL AND HORIZONTAL PLANES AND ARE NOT PARALLEL. THE END UNITS ARE TO BE BUILT AT RIGHT ANGLES TO THESE PIPES AND CONSEQUENTLY THE CURVE FORMED BY THE ANGLE MARKED WITH * FORMS AN ELLIPSE. THE TWO SECTIONS TO THE LEFT SHOW THE INCLINATION OF THE END PLANES
* ALL MATING SURFACES TO HAVE 5mm x 20mm UNOTEX RUBBER SEAL (GLUED TO ONE FACE)
30mm HOLES IN 25mm THICK GUSSETS (FOR ATTACHMENT OF BOUYANCY BAGS ETC)
16mm MONEL INSERT AND BOLT (FOR FUTURE ADDITIONS)
*5mm UNOTEX RUBBER SEAL
300mm ϕ FIREHOSE INFLATED BY PRESSURE GROUTING (NOT IN SUPPLY CONTRACT)
PIPE WALL
UNOTEX RUBBER SEAL
JOINT DETAIL
SCALE 1:10
CORNERS OF EXISTING CONCRETE BLOCK TO BE CUT THUS
SLOTS FOR MATING FLANGES TO BE AT RIGHT ANGLES
PIPE WALL
END ELEVATION
SHOWING BOTTOM HALF IN PLACE AND TOP HALF COMING INTO PLACE
SCALE 1:20
560mm
END ELEVATION
SHOWING MID-UNITS ENCOMPASSING EXISTING CONCRETE BLOCK
SCALE 1:20
Oring out sporadically leaking
SECTION D (PLAN VIEW)
2880
TOP END LEFT UNIT
TOP MID UNIT
TOP END RIGHT UNIT
PIPE
BLOCK
BOTTOM END LEFT UNIT
BOTTOM MID UNIT
BOTTOM END RIGHT UNIT
SECTION C (ELEVATION)
SCALE 1:20
? Bolts stainless - 19mm x 160 (180)
DESIGNED
DRAWN EAS 10-84
TRACED
CHECKED
RECOMMENDED
CITY ENGINEER
I.L. HALL
DATE
NAPIER CITY COUNCIL • CITY ENGINEERS DEPARTMENT
AWATOTO OUTFALL JOINT REPAIRS 1984 FIBREGLASS MOULD
ORIGINAL SCALES
ORIGIN OF LEVELS
FIELD BOOK PAGE
LEVEL BOOK PAGE
S 545
SHEET 1 OF 1 SHEETS
A1
ORIGINAL SIZE
mm INCHES

2. LICENCE TO OCCUPY RECREATION RESERVE - SUNDAY MARKET

Type of Report:	Operational
Legal Reference:	Reserves Act 1977
Document ID:	933989
Reporting Officer/s & Unit:	Bryan Faulknor, Manager Property

2.1 Purpose of Report

To confirm the granting of a Licence to Occupy to Margaret Habib for the carpark on Marine Parade immediately north of Ocean Spa and an alternative site at Anderson Park if the Marine Parade site is unavailable, for the operation of the Sunday Market for a term of three years.

Officer's Recommendation

The Māori Committee:

a. Recommend that Council approve the granting of a Licence to Occupy to Margaret Habib for the carpark on Marine Parade immediately north of Ocean Spa and an alternative site at Anderson Park if the Marine Parade site is unavailable, for the operation of the Sunday Market for a term of three years.

2.2 Background Summary

The Sunday Market has been operating on the Marine Parade Foreshore Reserve in the car park immediately north of Ocean Spa for a number of years under a Licence to occupy. The initial Licence has expired. Council officers have reviewed the location and a new Licence now needs to be entered into.

The Marine Parade Foreshore is also used by other community and sporting groups, therefore, an alternative site at Anderson Park has been trialled for the Sunday Market for times when the Marine Parade site is unavailable. These trials have been successful.

Council has delegation under Section 54 of the Reserves Act 1977 to enter into a new Licence.

In July 2019 Council approved in principle the granting of a Licence to Occupy to Margaret Habib to operate the Sunday Market on the Marine Parade Reserve and Anderson park subject to the Section 54(1)(d) Reserves Act process being completed. This process has now been completed.

A copy of the proposed draft licence is attached.

2.3 Issues

There are no issues.

2.4 Significance and Engagement

The proposal, including time periods and locations, has been publicly notified. There have been no objections.

2.5 Implications

Financial

The Licence fee has been set at $200 per week plus GST. There are no financial costs to Council for the operation of the market.

Social & Policy

The Sunday Market provides the community with an opportunity for small business, social and cultural exchanges.

Risk

The risk to Council is low with the proposed licence document specifying conditions to ensure the operation of the market and nature of the goods being offered for sale does not cause any hazard or nuisance nor causes any damage to the Reserves.

2.6 Options

The options available to Council are as follows:

a. Confirming the granting of a Licence to Occupy to Margaret Habib for the carpark on Marine Parade immediately north of Ocean Spa and an alternative site at Anderson Park if the Marine Parade site is unavailable, for the operation of the Sunday Market for a term of three years.
b. Decline the granting of a Licence to Occupy to Margaret Habib for the carpark on Marine Parade immediately north of Ocean Spa and an alternative site at Anderson Park if the Marine Parade site is unavailable, for the operation of the Sunday Market for a term of three years.

2.7 Development of Preferred Option

Option (a) is the preferred option. The Sunday Market is an asset to the City and any safety or nuisance effects can be managed by the conditions of the Licence and through Council working in partnership with the Licence holder.

2.8 Attachments

A Draft Licence to Occupy ⇩

Dated: 2020

NAPIER CITY COUNCIL
Council

AND

MARGARET CAROLYN HABIB
Licensee

LICENCE TO OCCUPY

DRAFT

Willis
Willis Legal
NAPIER & HASTINGS

MLRG-404660-582-11-V1

THIS DEED made the day of 2020

BETWEEN

NAPIER CITY COUNCIL ("the Council")

AND

MARGARET CAROLYN HABIB ("the Licensee")

OPERATIVE PART

The Council, pursuant to Section 54(1)(d) of the Act, **hereby licenses** the Land to the Licensee on the terms and conditions following and the Licensee **hereby accepts** this Licence.

TERMS AND CONDITIONS

1. **Description of Land**

1.1. That part of Marine Parade, Napier, being the off-street car park more particularly defined in orange and blue on the plan attached hereto as Plan A ("**the Land**").

1.2. Where the alternative venue is being used pursuant to Clause 7.2 the term "the Land" shall mean, while said alternative venue is being used, that part of Anderson Park, Napier, as more particularly defined edged in orange on the plan attached hereto as Plan B.

2. **Term**

2.1. Subject to any express rights of earlier termination contained in this Licence, the term of this Licence shall be 36 months commencing on [*insert date*] 2020 and expiring on [*insert date*] 2023.

3. **Licence Fee**

3.1. The licence fee applicable to this Licence shall be $200.00 per week, plus GST, payable by the Licensee by monthly instalments in advance (without further demand by the Council) at Dunvegan House, Hastings Street, Napier, or such other location as the Council may from time to time require.

3.2. The Licensee will at all times pay punctually the licence fee as it may from time to time be due at the rate and place as described herein. Notwithstanding anything to the contrary contained herein, in the event of the late or non-payment of the licence fee, the Council reserves the right to suspend or terminate at its sole discretion the rights created by this Licence without payment of compensation to the Licensee or any third party.

4. **Licence to Occupy**

4.1. The Council hereby grants to the Licensee the non-exclusive right to occupy the Land on Sundays from 6am to 2pm in accordance with the terms of this Licence.

4.2. This Licence is granted as a personal privilege and shall not take effect as a lease or any other legal estate. Nothing herein expressed or implied shall be deemed to confer on the Licensee the right to exclusive occupation of the Land or to acquire the freehold or any other interest or estate thereof.

4.3. Subject to Clause 5.1 below, the Licensee shall not assign, sub-licence, charge, or part with this Licence or with any of the rights, powers and privileges thereby conferred.

5. **Licensee's Use of the Land**

5.1. The Licensee shall be permitted, at the times specified in Clause 4.1 and in accordance with the terms of this Licence, to operate a Sunday Market on the Land with stall operators selling a variety of goods (including food and non-alcoholic drink) and services to members of the public. The Licensee shall be entitled to sub-licence parts of the Land to third parties for the purposes of operating stalls at the said Sunday Market. The terms of such sub-licences must incorporate and be in accordance with the terms of this Licence. The Licensee will not charge members of the public for entering onto the Land during the period of the Licensee's occupation.

5.2. The Licensee shall not carry on or permit any trade or occupation or suffer any act or omission on the Land that will or is likely to cause annoyance, damage or disturbance to any owner or occupier (including members of the public) of any land or buildings adjoining or in the vicinity of the Land. And furthermore, the Licensee shall ensure that unlicensed food sellers (with the exception of those selling only fruit and vegetables) are prohibited access to the site for the purposes of sale. The Licensee shall further ensure no illegal or dangerous goods (including, but not limited to, air rifles, firearms, machetes, swords, knives and illegal drugs) are sold on the Land. In addition to the above prohibitions, the Council may at any time determine that any specific goods or services being sold or offered at the Sunday Market are not appropriate for a public reserve and the Licensee will, upon receipt of written notice from the Council, ensure such goods or services are no longer sold on the Land.

5.3. The Licensee shall (and shall ensure any sub-licensees) only use the Land for the purposes described herein and shall comply with all statutes, bylaws and regulations for the time being in force in the district in which the Land is situated as they relate to the Land and the Licensee's (or sub-licensee's) use thereof and shall obtain any relevant consents or approvals which may be required.

5.4. Nothing in this Licence shall be construed as guaranteeing that the Council warrants that the Land is suitable for the purposes of the Licensee (or sub-licensee).

5.5. The Licensee shall maintain the Land in the same repair, order and conditions as the Land was at the commencement of this Licence (fair wear and tear and damage by fire, tempest, earthquake, flood, subsidence of soil or inevitable accident excepted).

5.6. The Licensee shall make adequate provision for the disposal of rubbish, refuse, waste material of any description and shall not allow such matter to accumulate on the Land. The requirements of this Clause 5.6 shall include, but not be limited to, ensuring the Land is clear of all rubbish, refuse or waste material at the end of each Sunday Market (regardless of whether such rubbish, refuse or waste material was present on the Land prior to the commencement of the said Sunday Market). If this Clause 5.6 is not complied with within an hour of the end of each Sunday Market the Council will have the power to remove any rubbish, refuse or waste material and the costs of such removal will be payable by the Licensee. The Licensee's

obligations and the Councils rights as contained in this Clause 5.6 shall also apply in relation to any land adjoining the Land where the rubbish, refuse or waste material is dropped by the Licensee, any sub-licensees or members of the public attending the Sunday Market.

5.7. The Licensee shall not erect or place, and not allow any sub-licensee to erect or place, any buildings or improvements on the Land without the prior consent of the Council. Where, at the expiry or earlier termination of the Licence, any buildings or other improvements have been left on the Land (regardless of whether or not such buildings or improvements have been consented to by the Council) the Council may either:

5.7.1. Remove and dispose of such buildings or improvements, with the costs of such removal and disposal being payable by, and recoverable as a debt from, the Licensee; or

5.7.2. Retain the buildings or improvements on the Land in which case the ownership of such buildings or improvements shall revert to the Council without payment of compensation.

5.8. The Licensee shall not allow spikes or pegs to be driven into the Land and shall not chop down or damage, or allow to be chopped down or damaged, any trees or bushes on the Land or on any grass areas adjoining the Land. The Licensee shall ensure no vehicles are parked on the grass areas adjoining the Land at any time and shall ensure no vehicles use said grass areas for ingress or egress to the Land. The Licensee shall also ensure no stalls or other structures are placed on the grass areas adjoining the Land at any time. If any damage is caused to the grass areas adjoining the Land, the Licensee shall rectify such damage at the Licensee's cost.

6. **Licensee's Obligations**

6.1. The Licensee shall indemnify and keep indemnified the Council from and against all claims, actions, suits or demands by any person or persons in respect of any injury, damage or loss caused or suffered as a result of or arising from the use of the Land by the Licensee or member of the Licensee's family, employee, agents, servants or invitees.

6.2. The Licensee must throughout the term of the Licence keep current a public risk liability insurance policy applicable to the Land and the activities carried out on the Land for an amount of at least one million dollars ($1,000.000.00).

6.3. The Licensee shall not carry on or suffer or permit to be carried on the Land anything or any act or omission which may render any insurance policy against fire void or voidable or which may render or cause to be rendered an increased or extra penalty premium to be payable.

6.4. The Licensee shall at all times comply with (and ensure that its employees, invitees, sub-licensee's, hirers, workmen and assigns comply with) all statutes, bylaws, regulations and standards for the time being in force in the district in which the Land is situated as they relate to the Land and the Licensee's use and occupancy thereof and shall obtain any relevant consents, approvals or permits which may be required.

6.5. Nothing in this Licence shall be construed as guaranteeing that the Council warrants that the Land is suitable for the purposes of the Licensee.

6.6. The Council will not be liable for any accident, injury or damage suffered by or caused to any person or property arising out of or by reason of the use of the Land by the Licensee (including its employees, invitees, sub-licensee's, hirers, workmen, assigns) and any other persons using the Land with the Licensee's permission and/or knowledge and the Licensee will indemnify and keep the Council indemnified from any penalties imposed on the Council as a result of a prosecution under the Health and Safety at Work Act 2015 arising out of the use of the Land by the Licensee (including its employees, invitees, sub-licensee's, workmen, assigns) and any other persons using the Land with the Licensee's permission and/or knowledge.

6.7. The Licensee will consult, co-operate and co-ordinate activities and facilitate engagement with the Council and any other persons (including but without limitation all other hirers, users, suppliers, service providers and contractors to the Land) to the extent that the parties have overlapping duties in relation to health and safety, including in relation to the public and other invitees to the Land. The Licensee will ensure that during the term of this Licence it acts in accordance with and at all times complies with:

6.7.1. the Council's policies and procedures in respect of the Land regarding health and safety, including but not limited to evacuation procedures,

maximum number of persons on the Land, electrical safety, no smoking policy etc; and

6.7.2. all of the Council's directions.

6.8. The Licensee will immediately notify the Council of any risk or hazards which the Licensee observes or becomes aware of on the Land and/or any near miss, notifiable event, incident, injury, illness or accident it becomes aware of on the Land whether or not the same involved any equipment or any of the Council's employees. The Licensee will provide the Council with such assistance as may be necessary to conduct any health and safety review or investigation.

6.9. The Council shall have the full and unimpeded right to at all reasonable times by and through its officers, servants, employees, agents and workmen to enter the Land for any purpose and by any means whatsoever.

7. **Termination, Expiry and Suspension**

7.1. This Licence may be terminated by either party by giving to the other one month's notice in writing of their intention to do so. No reason for the termination notice needs to be given by the party terminating the Licence.

7.2. If, after making such enquiries as the Council thinks fit and giving the Licensee the opportunity of explaining the use if the Land, the Council considers the Land is not being used, or is not being used sufficiently, for the purposes specified in Clause 5.1 then the Council may terminate this Licence by giving one months' notice in writing.

7.3. The Council may give to the Licensee at least twenty-four (24) hours' notice (verbal or in writing) that the Licensee is to use the alternative venue referred to in Clause 1.2 for such period as is referred to in that notice. In that instance the licence fee will remain the same and no other compensation will be payable to the Licensee or any other third party as a direct or indirect result of the change of venue.

7.4. Notwithstanding anything to the contrary herein, the Council may give to the Licensee twenty-four (24) hours' notice (verbal or in writing) suspending for the time being the rights of the Licensee contained herein.

7.5. In none of the events contemplated by this Licence shall compensation be paid or payable to the Licensee for any improvements made to or put on the Land EXCEPT

THAT provided all covenants on the Licensee's part have been duly observed and performed any rent paid in advance in respect of the Land or any portion thereof reoccupied beyond the date when this Licence is suspended or terminated shall be refunded to the Licensee.

7.6. In the event of the Land being destroyed or damaged by fire or other inevitable accident without fault of the Licensee the Licence may determine at the option of either party or continue on such conditions as are agreed PROVIDED HOWEVER the Council will at no time be under any obligation to repair or reinstate the Land.

7.7. The Council shall not be liable to pay compensation to the Licensee for any damage to the Land or to any fixtures, fittings or chattels which it may contain or for any disturbance from any cause whatsoever, or for any business loss arising from any activity of the Council as a Local Authority.

8. **Miscellaneous**

8.1. The powers, rights and authorities provided to the Council by this Licence may be exercised by or on behalf of the Team Leader for Parks, Reserves, Sportsgrounds.

8.2. Any dispute or difference arising between the parties which cannot be resolved by agreement shall be referred to the Chief Executive, Napier City Council, Napier whose decision shall be final and binding on both parties.

8.3. Any costs incurred in the preparation of this Licence and obtaining consents from the Department of Conservation shall be met by the Licensee.

8.4. The expression "the Council" and "the Licensee" shall where not inconsistent with the context extend to and include the executors or administrators of the Licensee and any successor organisation of the Council.

8.5. The parties agree that this Licence shall be subject to the laws of New Zealand.

DATED the day of

SIGNED by)
MARGARET CAROLYN HABIB)
as Licensee in the presence of:) _____

Signature of Witness: _____

Printed Name of Witness: _____

Occupation of Witness: _____

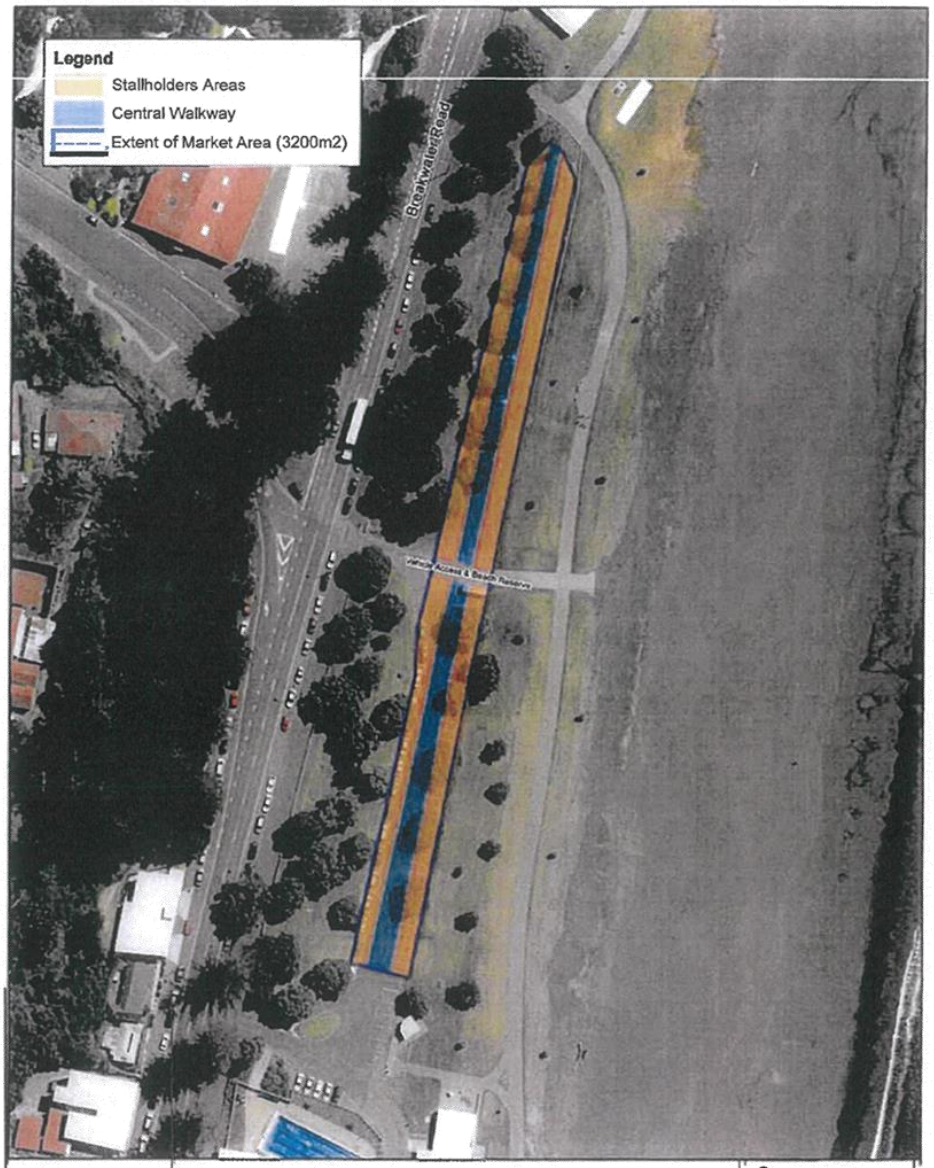
Address of Witness: _____

SEALED with the Common Seal)
of the **NAPIER CITY COUNCIL**)
in the presence of:)

_____ _____
Mayor Chief Executive

MLRG-404660-582-11-V1

"A"



Sunday Market

Scale 1: 1250

8 PitneyBowes
Mapini o

Date: 29/04/2016
Time: 15:56
By: TPGIS

CITY OF NAPIER

NAPIERThe Art DecoCit y

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Napier City Council 231 Hastings St, Private Bag 6010, Napier 4142 New Zealand P 06 835 7579 F 06 835 7574 www.napier.govt.nz

3. KAUMĀTUA O TE KAUNIHERA O AHURIRI

Type of Report:	Operational
Legal Reference:	N/A
Document ID:	934844
Reporting Officer/s & Unit:	Devorah Nícuarta-Smith, Team Leader Governance

3.1 Purpose of Report

To provide the history of Council's Kaumātua and facilitate discussion about the role moving forward.

Officer's Recommendation

The Māori Committee:

a. Discuss the options available to Council with regards to its Kaumātua and make a recommendation on the preferred approach and timing of succession.

3.2 Background Summary

The current status of Kaumātua has been a part of Napier City Council many years. This process was led by leaders of the past who provided guidance to the Mayor and Council Executives.

The manner of who would be the Kaumātua was passed over from one Kaumātua to the next when the time was right. This was mandated for when the current Kaumātua became too ill or when they passed.

If the Kaumātua was ill, they would advise who they saw as the best person to take the helm, or if they were unable to make this advice before their untimely death, the Kahui Kaumātua (group of Kaumātua) would nominate a successor to the role. Usually this has been done at the Tangi of the Kaumātua or there a meeting would be called to discuss this.

Piri Prentice has filled the role of Kaumātua of Napier City Council since he was handed the role from his predecessor Ruruarau Heitia Hiha, who was becoming too unwell to give value to the role (around 2012).

Council does not currently have anyone fulfilling the role of Kuia.

3.3 Issues

No issues

3.4 Significance and Engagement

This matter does not trigger Council's Significance and Engagement Policy

3.5 Implications

Financial

The incumbent currently receives an annual honorarium in recognition of their time and input to Council activities.

Social & Policy

N/A

Risk

N/A

3.6 Options

It is recommended that the committee discuss the options available to Council with regards to its Kaumātua and make a recommendation on the preferred approach and timing of succession.

3.7 Development of Preferred Option

N/A

3.8 Attachments

Nil

4. UPDATE FROM PARTNER ENTITIES

VERBAL REPORTS

PUBLIC EXCLUDED ITEMS

That the public be excluded from the following parts of the proceedings of this meeting, namely:

AGENDA ITEMS

1. Pukemokimoki Marae Reserve Revocation
2. Waipatiki Land Purchase Proposal

The general subject of each matter to be considered while the public was excluded, the reasons for passing this resolution in relation to each matter, and the specific grounds under Section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution were as follows:

General subject of each matter to be considered.	**Reason for passing this resolution in relation to each matter**.	**Ground(s) under section 48(1) to the passing of this resolution.**
1. Pukemokimoki Marae Reserve Revocation	7(2)(g) Maintain legal professional privilege	48(1)A That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist: (i) Where the local authority is named or specified in Schedule 1 of this Act, under Section 6 or 7 (except 7(2)(f)(i)) of the Local Government Official Information and Meetings Act 1987.
2. Waipatiki Land Purchase Proposal	7(2)(a) Protect the privacy of natural persons, including that of a deceased person 7(2)(h) Enable the local authority to carry out, without prejudice or disadvantage, commercial activities 7(2)(i) Enable the local authority to carry on, without prejudice or disadvantage, negotiations (including	48(1)A That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist: (i) Where the local authority is named or specified in Schedule 1 of this Act, under Section 6 or 7 (except 7(2)(f)(i)) of the Local Government Official

	commercial and industrial negotiations)	Information and Meetings Act 1987.

MĀORI COMMITTEE

Open Minutes

Meeting Date:	Friday 13 March 2020
Time:	9.14am-9.36am – Mihi Whakatau 10.11am-11.56pm
Venue	Small Exhibition Hall Napier Conference Centre Napier War Memorial Centre Marine Parade Napier
Present	Mayor Kirsten Wise (in the Chair) Te Taiwhenua o Te Whanganui-a-Orotū – Hori Reti Maungaharuru Tangitū Trust – James Lyver Ngāti Pārau Hapū Trust – Chad Tareha Maraenui & Districts Māori Committee – Adrienne Taputoro
In Attendance	Director Community Services, Senior Māori Advisor, Team Leader Governance [until 10.23am]
Administration	Governance Team

Mihi Whakatau

The Mihi Whakatau was led by the Senior Māori Advisor.

Karakia

Hori Reti opened proceedings with karakia.

Apologies

It was noted that Pukemokimoki Marae Trust representative Tiwana Aranui was not present due to a hui.

Declarations of Appointed Members

Hori Reti, James Lyver, Chad Tareha and Adrienne Taputoro each made their oral and written declarations in the presence of the Mayor and other attendees.

The meeting adjourned at 9.36am in order for a light morning tea to be shared by committee members, elected members and senior leadership in attendance.

AGENDA ITEMS

The first business of the committee resumed at 10.11am, with the Mayor agreeing to Chair the committee until such time as the members are ready to appoint their new Chair.

1. ***Induction documents – including Committee handbook, agenda circulation arrangements, date of April meeting, swipe cards, photograph for ID cards and group image***

   The Team Leader Governance introduced key staff and spoke to the induction documents, noting that a Handbook is currently being finalised by staff and will be circulated to members once this is complete. This document provides an overview of the role of committee members and other information that staff considered would be helpful to members.

   Swipe cards were provided to members, providing access to the 2nd floor of the Cape View building (weekdays 8am-5pm) for the purpose of meeting with the Mayor and Chief Executive, as well as access to the Ikatere Meeting room where the Māori Committee meetings will be held in future. It was noted that the photographs taken by the Council photographer earlier in the day were taken for the purpose of Council identification cards which will be produced and provided to members at the next meeting. A group image will be arranged for the next meeting that all members are expected to be present.

   Members agreed that they were happy to receive agendas via email for the time being and were advised that further opportunities in the technology space were being explored to assist with communication and document sharing moving forward.

   It was noted that the format for this committee has changed somewhat from the previous structure. Meetings will now be held monthly, with reports requiring input from the committee being brought to the committee prior to being taken to standing committees or full council meetings.

   Members were advised that a number of carparks alongside the old civic building would be made available for committee member to use during meetings.

   The Team Leader Governance left the meeting at 10.23am.

   The Mayor advised that she wanted to involve the committee in the conversation as early as possible and would like to see the committee evolve over the term. The Mayor did not want to dictate how the committee should work and noted that she hoped this would be an ongoing conversation over the next 2.5 years.

   It was noted that ‘consultative’ had been removed from the committee name as officers did not believe the word recognised the true intention of this committee, that being for the committee to work in partnership with Council. The Mayor confirmed that should the committee wish to rename the committee to something more meaningful in future then she would be open to this discussion.

2. ***Arrangements and recommendation for appointment of Committee Chair***

   The Mayor reiterated that she was happy to Chair the meeting until such time as the committee members appointed the new Chair of the Committee, and noted her preference for the committee to decide how that appointment should be made.

During a round table discussion, the following points were raised by committee members:

- A number noted they were still unsure whether they were the appropriate person to be on the committee and will wait to review the handbook for further detail around the role of committee members – should each representative be from the operational or governing body of each?
- Members recognised that Napier City Council has been consistent in their korero around building relationships with Māori.
- Chad and Adrienne noted that they would tautoko the other members in relation to the appointment of the new Chair.
- The Māori Committee is not currently a decision making committee; however, the Mayor noted that she is committed to working towards this, whether through this committee or another scenario and is happy to discuss this over the coming months.
- Committee members thanked the Mayor for taking on the Māori portfolio, and acknowledged the statement that this makes to Māori.

The initial discussion did not result in any nominations. The Mayor confirmed that she would remain in the role for the time being as the appointment did not need to happen at this meeting.

Committee members were asked to continue the discussion outside of the meeting and discuss the appointment at the one-on-one appointments with the Mayor set up between now and the next meeting, and come together at the next meeting to discuss further. It was further clarified that once the handbook is completed, the role of the committee members and Chair should become clearer.

3. Terms of Reference and Job Description familiarisation

The Mayor confirmed that these are very high level at this time and that she would be happy to discuss these further moving forward.

Members questioned the use of the terms hākui hākoro. It was noted by a number of the committee members that one of the criteria for these positions should be that the committee are aware of their whakapapa as this is extremely important for a role of this nature. The hākui hākoro are for the whole of Council and this should be made very clear in the terms of reference for this position.

It was noted that it would be appropriate for Committee members to become an extension of the hākui hākoro roles, in the way in which they interact with and support Council.

4. Brief update from each Māori entity

Ngāti Pārau Hapū Trust – Chad Tareha

- This week marked 18 years that Waiohiki has been without a wharenui. They expect to find out in April whether they are eligible for funding through the Oranga Marae fund.
- Six whanau members have recently completed the Growsafe course. Sitewise applications are currently underway in order to gain work through Hawkes Bay Regional Council.
- Funding from Council has provided a new trailer and life jackets, allowing for work around water safety for our tamariki to continue.

- Currently in negotiations with the MTG, Australian museum, whanau etc. in relation to the return of hei-tiki from an Australian museum.

Maraenui & Districts Māori Committee – Adrienne Taputoro

- Main concern at present is alcohol.
- The committee supports Napier Pilot City Trust in helping to make Napier a child friendly city, through Council and other agencies.
- Māori wardens are actively patrolling due to a recent spike in vandalism and break-ins. It is hoped that the Māori warden base can be utilised at night and they are currently waiting on approval for this.
- Youth at risk kaupapa. Their second workshop is coming up. They did not feel that the age group of 16-19 was appropriate, so this has been extended to 25, including the wider whanau – it is no good helping youth if whanau are left behind.

Te Taiwhenua o Te Whanganui-a-Orotū – Hori Reti

- The Board tour with Pat Parsons around Te Whanganui-a-Orotū took place this week. The bus was packed full and it was a successful day.
- The Taiwhenua are actively engaged in the MSD contract.
- The General Manager has been working alongside Council in relation to Resource Management Act issues. It is encouraging to see that everyone is wanting to work together in this space.

Maungaharuru Tangitū Trust (MTT) – James Lyver

- Tangoio Marae development – moving forward they are standing and protecting the marae location by looking after the stockbank.
- Recruitment of staff. They have been recruiting for some time and James noted the importance of getting the right people.
- Business as usual for MTT means five strategic priorities, those being:
    - Our people, kaumatua and rangitahi
    - Our culture and reo
    - Economy
    - Environment
    - Organisation

Whakamutunga Karakia

The Senior Māori Advisor asked Hori Reti to close the meeting with a karakia.

The meeting closed at 11.56am.

Approved and adopted as a true and accurate record of the meeting.

Chairperson .....

Date of approval .....

MĀORI COMMITTEE
Open Minutes

Meeting Date:	Friday 8 May 2020 Monday 11 May 2020
Time:	8 May 2020 10.12am – 11.35am adjourned Reconvened 11 May 2020 11.00am – 12.52pm
Venue	Zoom

Present	Mayor Kirsten Wise Maungaharuru-Tangitū Trust – James Lyver Ngāti Pārau Hapū Trust – Chad Tareha Pukemokimoki Marae Trust – Tiwana Aranui [from 11.19am Monday 11 May 2020]
In Attendance	Interim Chief Executive, Director Community Services, Director Infrastructure Services, Principal Māori Advisor, Senior Māori Advisor, Manager Design and Projects, HBLASS Programme Manager
Administration	Governance Team

Karakia

Principal Māori advisor (Charles Ropitini) opened the Friday 8 May meeting as per request from Snr Māori Advisor.

Apologies

The Committee accepted the apology from the Maraenui & Districts Māori Committee representative, Adrienne Taputoro.

The Pukemokimoki Marae representative Tiwana Aranui was absent from the meeting until 11.19am, Monday 11 May 2020.

Confirmation of minutes

The Draft Minutes of the Committee meeting held on 13 March 2020 were laid on the table pending corrections raised on Friday 8 May 2020.

AGENDA ITEMS

Project Management introduction and overview of "shovel ready" projects

An update was provided on Council's application to the Ministry of Business, Innovation and Employment's (MBIE) shovel ready projects fund by the Manager Design and Projects. It was noted that:

- The aim is to include all relevant parties from the beginning of a project, and to involve traditional Māori practices and protocols appropriately in projects. One way to achieve this will be by regular contact between this Committee and Council's Design and Projects Team.
- Phase 1 of the MBIE "shovel ready projects" application aims to give small businesses simple projects which will generate income in a short timeframe.
- Phase 2-4 in the MBIE "shovel ready projects" application will consider progressively bigger projects which will require more planning.
- Council is waiting to hear from Central Government about their application before proceeding.
- The Māori community, and its many resources, should not be forgotten in the urgency to get these projects started; the social needs of the community will also be taken into account in the prioritising of projects.

Three waters project

The HBLASS Programme Manager, who has also recently been appointed to lead the regional recovery programme following the COVID-19 response, provided a confidential update on the Three Waters project.

The meeting adjourned at 11.35am.

The meeting reconvened Monday 11 May 2020 at 11am. The appointment of a committee Chair was postponed until the Pukemokimoki Marae representative had joined the meeting.

Confirmation of Māori committee representatives

Chief Executive recruitment RFP tender evaluation team

Chad Tareha was formally confirmed as the Māori Committee representative on the Chief Executive Recruitment RFP tender evaluation team. The Committee members supported this appointment.

It was noted that in considering the Chief Executive's KPIs, the four key fundamentals highlighted during the Elected Members' induction should be incorporated. Those being early engagement, relationships, cultural competency and early whakaaro.

Recovery planning working group

Chad Tareha was formally confirmed as the Māori Committee representative for the Recovery Planning working group. The Committee members supported this appointment.

It was noted in the meeting that the terms of reference of this group were being drafted currently and the Māori Committee will be able to give feedback in due course.

Feedback on committee terms of reference and job description

The Māori Committee handbook is intended as a reference document and guide to how local government and Napier City Council operates; also how the Māori Committee fits in the overall governance structure of Council.

Tiwana Aranui joined the meeting at 11.19am

During a round table discussion, the following points were raised by Committee members:

- Having high level terms of reference which can be built on by current Committee members, future members, and the organisations they represent, is ideal and allows for continuous improvement.
- The terms of reference should be the Committee's tika.
- If the handbook, terms of reference, and job description were bi-lingual documents they would be more inclusive and reflect the desired partnership.
- The handbook could be improved by having the kaupapa at the start, and the context next, rather than the other way round as is currently the case

ACTION: A workshop will be scheduled to work through the three documents so all Committee members and relevant Council staff could review them in an open forum before being finalised.

Update from partner entities

Ngāti Pārau Hapū Trust – Chad Tareha

- All Ahuriri hapū have been focusing their efforts during the national lockdown on the Ahuriri Hapū Settlement Bill. Submissions are open at the moment.
- Funding has been sought, and the Trust has been working with the Taiwhenua, to support Ngati Pārau's Kaumātua and over 200 at risk whānau who are struggling due to the lockdown. One focus has been homes that have between 10 and 17 people living in them.
- The country moving to Alert level 2 is looked forward to so more mahi can be done with the at risk community members.

Maungaharuru-Tangitū Trust – James Lyver

- The Trust was able to prepare and implement their COVID-19 response in advance of the more stringent national lockdown in March 2020. They adopted a Whānau Champions model, where an individual who is well connected within their whānau cluster was identified and recruited to support the rest of their whānau with education about the lockdown and also social support. The social support was difficult as it is not Maungaharuru-Tangitū's core role, but they were able to connect with the Ahuriri Collective which lead utilising the Tihei Mauri Ora model of supporting whānau in crisis.
- Communication was developed to encourage whānau to follow the Prime Minister's and Government official's advice, and not be too proud to ask for help if it was needed.
- Business continuity was maintained during the lockdown which encouraged a feeling of normality.
- The Trust has two new staff, a Resource Consent and Policy Analyst role and a Projects Coordinator.
- Work on the Marine and Coastal Area Act (MCAA) application has been progressing; submissions need to be in by 30 June 2020. This has taken a lot of time and resource. The Trust is collaborating with other organisations for this, and that has had both advantages and challenges.

- The Trust has also continued with the Tangoio Marae development project, and has made good progress around the stopbank, despite the delay COVID-19 created.
- The time and resouces spent on the MCAA has limited the Trust's ability to contribute to the District Plan to date. However it is anticipated that some efficiencies will be created to feedb ack into the District Plan from the MCAA submission process once complete, in particular for coastal areas. For inland areas funding from Council may be required so an Archeologist, Historian and/or Mapping Expert can be engaged.

Pukemokimoki Marae Trust – Tiwana Aranui

- Many changes have come into place due to COVID-19 and the different Alert levels have had different impacts on Pukemokimoki's whānau and also at the hospital.
- Māori input into change needs to be maintained and tikanga be applied, in all areas. Then change will be accepted successfully. Change is difficult for some of their whānau, and also for Pākehā, but if it is carried out correctly it can positively challenge all to move forward and accept what is in the future. Being inclusive will help eliminate inequality.
- Tiwana has been supporting the whānau in Maraenui and Tamatea as the country goes through the lockdown, working with them on issues such as how to bring deceased whānau home from overseas in this time.

District Plan Review Update – Charles Ropitini

- The schedule of sites of significance to Māori is still being worked on. Once complete the rules and protective mechanisms for the schedule will need to be workshopped. This schedule is currently sitting with the Mana Whenua entities for their sign off.
- Time frames for the schedule of sites of significance may need to be adjusted so Maungaharuru-Tangitū Trust can participate once able to.
- A revised timeframe for the next two years has been completed so the Mana Whenua can see the process Council is following and see where each part of the process fits in.
- Mana Ahuriri have sent through four areas that they would like to work closer with Council on, as other Mana Whenua partners are also welcome to do, outside of the sites of significance work.

Team Napier Communications

An update was provided to the Committee about the new Team Napier branding. The Recovery Group have developed this for the whole Ahuriri community to use, not just Council, as a way to unite the community in the COVID-19 recovery effort. It can be used in many contexts to generate civic pride, for example on footpaths, bags, clothing or shop windows.

The picture is of two hearts sitting on top of one another; this represents unity, coming together as one. There is a koru on one of the hearts which represents growth. Some see a bird in the other heart, others see waves, and this could represent the ocean.

During a round table discussion, the following points were raised by Committee members:

- The Te Reo translation presented of the slogan 'We are team Napier' is currently 'Te kotahi tātou a Ahuriri'. It was felt the word kotahi was inclusive of all people in Ahuriri regardless of ethnicity. The use of 'ngātahi' in place of 'kotahi' was considered by the Committee as it celebrates individual cultures working together within a group, rather than grouping them together as one people.

- In the presentation about the logo it was felt the explanation of civic pride needs to be clearer and at the start of the presentation. Also the photos in the presentation should be taken in Ahuriri.
- Macrons should be added to the presentation.

General Business

At the meeting it was noted:

- The setting for the distribution of the agenda has been at the legislative requirement, which is two full working days prior to the meeting, due to this meeting being monthly rather than six weekly. This will be amended to seven calendar days, in line with Council's six weekly committees.
- Maungaharuru-Tangitū Trust would like to host a Committee meeting once out of lockdown.
- The current timing of the meetings, 10am-1pm, will be changed to 9am-12pm.

Chairperson/s for the Māori Committee

Nominations for the Committee Chair were called for.

Chad Tareha was endorsed by the other Committee members as Chair of the Committee.

Whakamutunga Karakia

James Lyver closed the meeting on behalf of the Committee with a whakamutunga karakia.

The meeting closed at 12.52pm

Approved and adopted as a true and accurate record of the meeting.

Chairperson .....

Date of approval .....