Appendix D

Consultation

Proposed NOR by Ministry of Education for a Primary School/Early Childhood Education Facility in Drury West

What:	Pre-lodgement meeting regarding a proposed Notice of Requirement by Ministry of Education (MoE) for a primary school and early childhood education facility in Drury West
Where:	135 Albert St, Level 23, Room 2
When:	17 April 2018, 1.00pm – 2.00pm
Council officers:	Michael Luong (ML), David Wong (DW), Sanjay Bangs (SB)
MoE representatives:	Danae Weston (MoE), Ying Liu (Beca), Kara Hartshorne (Beca)

Item	Discussion	Assign To/ Action
Land ownership	NOR area is split between four separate sites Majority was not owned or controlled by Charles Ma One landowner not happy with MoE's approach to discussing acquisition of their land	-
Site	An area of 3ha has been identified for the proposed school. Free of constraints according to MoE Transport accessibility – located in middle of Auranga A and B – will serve both areas and lots of potential, large catchment for walking and cycling AT do not support principle of locating on collector road. Site will eventually be a corner site with collector and local road frontages, so access issues could be resolved at more detailed design stage	-
Proposal	The proposal is for two facilities: - Primary school estimated up to 700 students - ECE up to 50 children.	
PC6 process	Indicative Suburban Park initially annotated at 221 Jesmond Road. Submitter landowner opposes annotation. MoE agreed to remove annotation and rely on Council's powers of negotiation/acquisition to provide a park in the future.	-
Consideration of alternatives	Key factor is ensuring that alternative sites have been adequately evaluated.	-
Timing	Provisionally lodging early May.	-

Item	Discussion	Assign To/ Action
	Expecting valuation this week. Decision on PPC6: - 18 April last day of hearing - Commissioner's decision - Opportunity for appeal by submitters – however only limited matters of contention at hearing. DW suggested that MoE could hold fire until the decision on PPC6 has been released before lodging NOR for more certainty. The facility has been funded and therefore would proceed immediately once the NOR is approved. Timeframe is for the school to begin operating in 2021.	
Engagement	MoE contacted Ngati Te Ata but did not get a firm answer. MoE has engaged with Franklin Local Board. Is there anyone else on the general engagement list that the customer should consult with? We suggest liaising with the Papakura Local Board given that they commented on the Auranga Plan Change. One of their key concerns is traffic generation and associated effects on the adjacent Papakura area. The MoE is encouraged to liaise with NZTA in terms of the effects on SH22. (Local traffic so unlikely to generate effects on SH1).	ML to clarify iwi contact Response: Please contact Karl Flavell from Ngati Te Ata at karl_flavell@hotmail.com
Alternatives	The MoE is actively looking for a high school site on Jesmond Road. Land adjoining Jesmond Road is not large enough to accommodate a high school. DW asked whether a combined primary/high school facility was considered, given efficiencies in NOR processing to be gained from consolidating two applications in one. The site identified for a primary school is not large enough to support a combined high school and primary school, and the condition of the land (intersected by a watercourse) is not suitable.	-
Information required	What level of info is required for: - **Infrastructure**, noting that this is being led by the plan change and bulk infrastructure provided by KDL. School will not operate until bulk infrastructure including roads are provided. - **Geotechnical**	

Item	Discussion	Assign To/ Action
	- **Watercare** – is it sufficient to propose connecting to the future WW network. Suggest discussing with WSL what their requirements / expectations are. Customer advises that schools generally use a lot less water than residential. Can the customer make the assumption that the effects will be less than residential uses provided for by PPC6? DW suggestion is to liaise with WSL regardless. Suggest soft lodgement to minimise the need for a s92 holding up the formal application process.	
Notification	MoE is thinking limited notification to adjacent landowners. Iwi notification – will this be determined following iwi engagement? It depends on the assessment by iwi – customer will get a feel for issues and potential notification through this process. Suggestion is to allow iwi to submit on the NOR.	
Reverse sensitivity	MoE should consider potential reverse sensitivity effects from neighbouring rural activities. MoE advises that adjacent sites do not support farming activities.	
Drury Structure Plan	The ministry is encouraged to engage in Council's Drury Structure plan process to contribute to determining the location of future schools in the wider area.	

Minutes of Meeting

Meeting Minutes with Auckland Transport - Drury West Primary

Held 17 April 2018 at 11am

at Auckland Transport

Present:	Evan Keating	Auckland Transport
	Lyndon Westlake	Auckland Transport
	Katherine Dorofaeff	Auckland Transport
	Danae Weston	Ministry of Education
	Kara Hartshorne	Beca
	Ying Liu	Beca
Apologies:		
Distribution:	All of above	

Item	Action
1 Project Background / Purpose ■ The project team provided project background for Drury West Primary, including reasons for looking for a primary school site, which included population growth and future development nearby. ■ The project team outlined why the chosen site is the preferred site, this included central position to the wider catchment, suitable location for walking and cycling, proximity to future town centre and site contours. ■ The project team advised the site is 3ha in size and currently landlocked. However, future development shows the site will have dual access from the north (Collector Road) and the east (local road). It was also noted a gas pipe is located along the western boundary of the site, and there is also opportunity for a third access road. ■ The programme for opening of the school is Term 1 2021 but this will depend on the infrastructure and roading on the site, which will be completed by the Auranga development before the school will open. ■ DW advised that the site has not been purchased by the Ministry of Education (MOE), but we have entered into discussions with the various parties. Site D as outlined in the plan shown in the meeting have been reluctant to engage with the Ministry over a land sale. However, designation and Notice of Requirement (NoR) is underway for the site and the MOE are looking to lodge the NoR in April 2018. ■ DW advised that only a desktop due diligence has been completed using available data and making certain assumptions based on this information. The project team are unable to access the site to do any on site testing so the Ministry has had to proceed with the information available.	-
2 Traffic Modelling ■ KH asked AT to confirm traffic modelling outlined in the report produced by Commute. **Post meeting:** KD confirmed the previous transport assessments did not assume a school within Auranga but assumed travel to the primary school within Drury township. Leo from Commute advised that this assumption was used because it was the worst case scenario. KD also checked with Terry Church at Flow as he has done a lot of work for AT in this	**KH**

area, and Terry agreed with Leo's response. ■ The approach for testing intersection performance within Auranga is likely to be each intersection is tested when different stages of the development come on-line and the school traffic will be included in these tests.	
3 Auranga Development – Proposed Roads and Cycleways ■ YL advised that the East-West Collector Road in its current location did not provide direct access to the school however an agreement has been reached with KDL to purchase the land to the south of the location of the East-West Collector Road which now forms part of the school site and has the potential to provide direct access to the site from the Collector Road. ■ KD advised that the design of cycle facility within the Auranga development is of a high quality, utilising Copenhagen style and separated cycle lanes. ■ Beca asked AT to provide any information regarding the collector road. Including any available cross sections. **Post meeting:** KD provided Beca the cross sections for the future collector road. Noted: The document has agreed revisions are currently being presented at Auranga B1 hearing. KDL has agreed to these cross-sections. Noted: The road will not be formed to full width initially. Noted: There are further changes being agreed to Rule 6.3(1)(d) but that shouldn't affect this project. ■ LW advised that a cross section of the proposed local road on the eastern boundary of the primary school site has been submitted as part of a resource consent application for an area to the east of the school site. LW advised that a cycle lane is proposed on the eastern boundary of the road (opposite side of the road from the school) and the road carriageway is 5.6m wide. **Post meeting**: LW provided cross-section for the local Road 70 which shows a shared path (3m) on the western boundary (school side) and a road carriageway width of 6m. This cross section is considered to be suitable for the location of a school. AT to provide confirmation that Road 70 is the correct cross-section. ■ AT's recommended that the main school access should be from the local road, rather than the East-West Collector road. AT policy is not to provide driveway access from collector roads. AT relayed that the final form of the East-West Collector Road will be four lanes, two lanes for traffic, and future proofed for two lanes for public transport. AT advised that although, a collector road this will have more of an arterial perception.	**KD/LW/KH**
4 Walking and Cycling Accessibility ■ KH provided a diagram which showed the walking and cycling radiis from the school. This covers a large future residential population, which will encourage walking and cycling to the site.	

Minuted by: Ying Liu

Minutes of Meeting

Drury West Primary Watercare Minutes

Held 7 May 2018 at 4pm

at Watercare Newmarket

Present:	Carl Tucker	Watercare
	Ilze Gotelli	Watercare
	Danae Weston	Ministry of Education
	Ying Liu	Beca
Apologies:	-	
Distribution:		

Item	Action
1 Watercare Capacity ■ YL advised that the Ministry are looking to purchase and designate a site which is partially in the stage 1 Auranga development. The remainder of the Ministry's preferred site is located within the private plan change Auranga B1. ■ YL advised, the roll for the primary school is approximately 700, and 50 for the ECE. DW noted that this may increase depending on future needs. ■ CT confirmed he had discussed the capacity proposal with KDC. ■ CT and IG confirmed that there is enough water and waterwater capacity for the primary school and ECE as long as the development is within the stage 1 and stage 2 Auranga development. ■ Pump station may need to be upgraded in the future, but suitable for current Auranga stage 1 and stage 2 projections.	-
2 Timeframe ■ DW noted that the desired opening for the primary school is term 1 2021, however this is subject to the Auranga development and how quickly they can provide infrastructure (including roading) to the site.	-
3 Infrastructure Growth Charge ■ CT confirmed this can be paid in full at the start or Watercare is prepared to enter an agreement to stage the IGCs as the roll increases.	-

Minuted by: Ying Liu

From: Purcell, Geoff
To: Ying Liu
Subject: RE: For your information - new Ministry of Education school site - Drury West
Date: Monday, 23 April 2018 9:43:59 a.m.
Attachments: image001.png

Hi Ying

Thank you for the update with this.
Appreciate this is for the future and we fully support the requirement for water supplies in the area before building commences.

Thanks
Geoff

Geoff Purcell
Area Commander
Counties Manukau Fire Area
15a Lambie Drive, Papatoetoe 2104
PO Box 97945, Manukau City, 2241, Auckland

DDI: (09) 263 5040
Mobile: 0274 600 234
Email: geoff.purcell@fireandemergency.nz
www.fireandemergency.nz

"It's OK, to say you're not OK"

Fire Fact "A House Fire Can Become Fatal within 5 Minutes"

From: Ying Liu [mailto:Ying.Liu@beca.com]
Sent: Friday, 20 April 2018 3:28 PM
To: Purcell, Geoff <Geoff.Purcell@fireandemergency.nz>
Subject: For your information - new Ministry of Education school site - Drury West

Hi Geoff,

I have been given your name as the best contact within FENZ with which to provide information on a new school site that has been identified by the Ministry of Education in the Drury West area. The Ministry would like to make you aware of this site (details attached) in the interests of ensuring that FENZ are aware of the future development, and to seek any comments you may have on the details below.

The Ministry is currently at the early stage of ensuring that the site is secured and designated for

future educational purposes (under the Resource Management Act).

The site has been identified in response to known urban growth that will be taking place in both areas in the short to mid-term future. In this case, no school will be established on the site until fully reticulated services and appropriate road upgrades/construction have been provided to the site as part of the wider urban development (as agreed with the current landowners of the site). This includes the provision of adequate and fully reticulated firefighting water supply as is suitable and required under SNZ PAS 4509:2008 for urban areas (as will be required for the wider urban development of the area).

- The site is located in Drury West (as attached). A school will eventually be designed and constructed on this site and become part of the wider residential development currently taking place in this area once adequate roads and infrastructure are provided to the site.

We welcome any comments you may have on behalf of FENZ on either/both these sites and the development eventually planned for them by the Ministry of Education. Feel free to give me a call to discuss further.

Kind regards,

Ying Liu
Planner
Akl Environments

Beca
DDI +649 300 9225
Fax +649 300 9300

Minutes of Meeting

Drury West Primary

Held Tuesday 27 March 2018 at 11:30am

at Local Board Chamber, 82 Manukau Road, Pukekohe

Present:	Angela Fulljames (AF)	Franklin Local Board Chair
	Andy Baker (AB)	Franklin Local Board Deputy Chair
	Malcolm Bell (MB)	Board member
	Alan Cole (AC)	Board member
	Brendon Crompton (BC)	Board member
	Sharlene Druyven (SD)	Board member
	Amanda Hopkins (AH)	Board member
	Murray Kay (MK)	Board member
	Niko Kloeten (NK)	Board member
	Danae Weston (DW)	Ministry of Education
	Robyn Shephard (RS)	Beca
	Ying Liu (YL)	Beca
Apologies:	N/A	
Distribution:	All of above	

Item	Action
1 Project Background / Purpose ■ YL gave a project background for Drury West Primary, including reasons for looking for a primary school site, which included population growth and future development nearby. ■ YL gave background on the process of finding the preferred primary school and early childcare education site. ■ YL gave an update on why the chosen site is the preferred site, this included central position to the wider catchment, suitable location for walking and cycling, proximity to future town centre and site contours. ■ YL advised the site is 3ha in size and currently landlocked. The programme for opening of the school is Term 1 2021 but this will depend on the infrastructure and roading on the site, which will be completed by the Auranga development before the school will open. ■ DW advised that the site has not been purchased by the Ministry of Education (MOE), but we have entered into discussions with the various parties. Site D as outlined in the plan shown in the meeting is not a willing seller. However, designation and Notice of Requirement (NoR) is underway for the site and the MOE are looking to lodge the NoR in April 2018.	**N/A**
2 Questions from the Local Board ■ YL advised the Drury sports complex was considered in the initial site selection assessment, however centrality of the new school site was a key criteria for accessibility by cycle and walking and therefore sites close to the sports complex were dismissed.	**N/A**

■ DW advised the school will be built in stages, so for example it might be built initially to cater for a role of 300 growing to its eventual maximum role of 700 students as development in the drives demand. ■ DW advised shared community facilities at primary schools are unusual but, as is common practice, the public are likely to have access to the school fields, playgrounds etc after hours. Any secondary school in the area may provide an opportunity for shared facilities, but that conversation would take place once the site is bought at the design/build stage. ■ The team acknowledge Angela's comments regarding future shared facilities with the community. ■ DW advised that there is a possibility the MOE may need to go down the compulsory acquisition route, however, robust site selection and alternatives have been considered in our review. ■ AB commented that two sisters had purchased the land at 41 Burberry Road for future development. ■ AB recommended the team consult with Auckland Council and understand future zoning and plans for the area. ***Post meeting:*** YL has organised a meeting with Auckland Council and Auckland Transport. ■ RS advised that the valuation process to acquire land must take into account the foreseeability of future zoning changes.	
3 General / Actions ■ YL to advise Angela and the board when the NoR is lodged. ■ The team thank Angela for offering local board advice for future development of this site and other future projects.	**YL**

Minuted by: Ying Liu

From: Madelon De Jongh
To: Ying Liu
Cc: Lee Manaia
Subject: RE: Drury West Primary School
Date: Friday, 4 May 2018 5:03:01 p.m.

Thank you for touching base and I can confirm that the Papakura Local Board is supportive of the Drury West Primary School proposal. I hope this is of assistance!

Kind regards,

Madelon

Madelon de Jongh | Senior Local Board Advisor - Papakura
Local Board Services
Mobile 021 822 619
Auckland Council, Papakura Local Board Office, Level 1
Papakura Service Centre, 35 Coles Crescent, Papakura
Visit our website: www.aucklandcouncil.govt.nz

From: Ying Liu [mailto:Ying.Liu@beca.com]
Sent: Friday, 4 May 2018 9:11 a.m.
To: Madelon De Jongh
Cc: Lee Manaia
Subject: RE: Drury West Primary School

Good morning Madelon,

Hope you had a lovely week.

Just wanted to touch base and see whether you have any response or feedback regarding the proposed Drury West Primary School from the Papakura Local Board.

Many thanks,

Ying Liu
Senior Planner
Akl Environments

Beca
DDI +649 300 9225
Fax +649 300 9300

From: Ying Liu
Sent: Tuesday, 24 April 2018 4:44 p.m.
To: 'Madelon De Jongh' <Madelon.DeJongh@aucklandcouncil.govt.nz>
Cc: Lee Manaia <Lee.Manaia@aucklandcouncil.govt.nz>
Subject: RE: Drury West Primary School

Hi Madelon,

Thank you for your prompt response. Tabling at next Wednesday workshop works for us, if we could

have any feedback or questions by end of next week, that will be much appreciated.

Many thanks,

Ying Liu
Senior Planner
Akl Environments

Beca
DDI +649 300 9225
Fax +649 300 9300

From: Madelon De Jongh [mailto:Madelon.DeJongh@aucklandcouncil.govt.nz]
Sent: Tuesday, 24 April 2018 4:42 p.m.
To: Ying Liu <Ying.Liu@beca.com>
Cc: Lee Manaia <Lee.Manaia@aucklandcouncil.govt.nz>
Subject: RE: Drury West Primary School

Thanks Ying for touching base which is most appreciated. Is there a deadline for the Local Board to provide feedback on the proposal? If I would table it at the workshop on Wednesday next week would that work for your timeframes? Awaiting your advice!

Kind regards,

Madelon

Madelon de Jongh | Senior Local Board Advisor - Papakura
Local Board Services
Mobile 021 822 619
Auckland Council, Papakura Local Board Office, Level 1
Papakura Service Centre, 35 Coles Crescent, Papakura
Visit our website: www.aucklandcouncil.govt.nz

From: Ying Liu [mailto:Ying.Liu@beca.com]
Sent: Tuesday, 24 April 2018 4:32 p.m.
To: Madelon De Jongh
Cc: RES Local Board Papakura
Subject: Drury West Primary School

Good afternoon Madelon,

This is Ying, planner from Beca. On behalf of the Ministry of Education, we would like to seek the Papakura Local Boards feedback on the proposal of a new primary school and early childhood education centre in Drury West, Auckland. Although, this site is outside the jurisdiction of the Papakura Local Board, at a recent meeting with Auckland Council regulatory, they advised the Ministry that the Papakura Local Board may have interest in developments in and around Drury West.

The area is expected to experience significant residential growth over the next few years, requiring additional educational facilities to absorb the demand. Further background on this project and details of the estimated timeframe is outlined in the letter attached. We have also sent a separate letter in the post.

Please let me know whether there are any questions or additional information that may be required,

and whether the Papakura Local Board would like to meet us to discuss the project.

Kind regards,

Ying Liu
Senior Planner
Akl Environments

Beca
DDI +649 300 9225
Fax +649 300 9300

NOTICE: This email, if it relates to a specific contract, is sent on behalf of the Beca company which entered into the contract. Please contact the sender if you are unsure of the contracting Beca company or visit our web page http://www.beca.com for further information on the Beca Group. If this email relates to a specific contract, by responding you agree that, regardless of its terms, this email and the response by you will be a valid communication for the purposes of that contract, and may bind the parties accordingly. This e-mail together with any attachments is confidential, may be subject to legal privilege and may contain proprietary information, including information protected by copyright. If you are not the intended recipient, please do not copy, use or disclose this e-mail; please notify us immediately by return e-mail and then delete this e-mail.

Ngāi Tai Ki Tāmaki

Ngāi Tai Ki Tāmaki Tribal Trust
PO Box 59
Beachlands
Auckland 2147

Kaitiaki Unit
09 537 9485
kaitiaki@ngaitai-ki-tamaki.co.nz

Ngāti Tamaoho

Ngāti Tamaoho Trust
PO Box 61 156
Ōtara
Auckland 2241

Hero Potini
09 274 4220
hero@tamaoho.maori.nz
or
Lucie Rutherfurd
rmaofficer@tamaoho.maori.nz

Te Akitai Waiohua

Te Akitai Waiohua Iwi Authority
PO Box 59 185
Māngere Bridge 2151

Nigel Denny
Kaitiaki Manager
021 400 921
kaitiaki@teakitai.com

Te Ahiwaru Waiohua

Makaurau Marae Trustees
PO Box 107078
Airport Oaks
Māngere 2022

Kowhai Olsen
kowhaiolsen@makauraumaraemaoritrust.co.nz

Ngāti Te Ata Waiohua

Te Ara Rangatu o Te Iwi o Ngāti Te Ata Waiohua
PO Box 451
Waiuku 2341

Metiria Kaihau
m.kaihau.12@gmail.com

Ngāti Paoa

Ngāti Paoa Iwi Trust
PO Box 72 702
Papakura 2244

Mahu Rawiri
0210 2841 017
Kaitiaki@ngatipaoaiwi.co.nz

Ngāti Maru

Ngāti Maru Rūnanga Trust
PO Box 37
Thames 3500

Geoff Cook
07 867 9104
office@ngatimaru.iwi.nz

Ngāti Whanaunga

Ngāti Whanaunga Incorporated
PO Box 160
Coromandel 3543

Honey Renata
07 866 1011
hrenata@ngaatiwhanaunga.maori.nz

Michael Baker
021 106 7117
mbaker@ngaatiwhanaunga.maori.nz

Ngāti Tamaterā

Ngāti Tamaterā Settlement Trust
PO Box 37
Thames 3540
frank.waitai@tamatera.iwi.nz

Waikato-Tainui

Te Whakakitenga o Waikato Incorporated
Private Bag 648
Hamilton

Lee Tane
07 858 0400
lee.tane@tainui.co.nz

From:	Ying Liu
To:	"lee.tane@tainui.co.nz"
Subject:	Proposed Primary School - Drury West
Date:	Tuesday, 13 March 2018 12:02:00 p.m.
Attachments:	Drury West Primary School -Waikato-Tainui.pdf

Tena koe Lee,

This is Ying, planner from Beca. On behalf of the Ministry of Education, we would like to seek your feedback on the proposal of a new primary school and early childhood education centre in Drury West, Auckland. The area is expected to experience significant residential growth over the next few years, requiring additional educational facilities to absorb the demand.

Further background on this project and details of the estimated timeframe is outlined in the letter attached. We have also sent a separate letter in the post. Please do not hesitate to contact us and arrange a time or to discuss these matters.

Nga mihi nui,

Ying Liu
Planner
Akl Environments

Beca
DDI +649 300 9225
Fax +649 300 9300

21 Pitt Street
PO Box 6345, Auckland 1141, New Zealand
T: +64 9 300 9000 // **F:** +64 9 300 9300
E: info@beca.com // **www.beca.com**

Ngāti Tamaoho Trust
PO Box 61 156
Ōtara
Auckland 2241

12 March 2018

Tēnā koe Lucie

New Primary School and Early Childhood Education Centre, Drury West, Auckland

Beca Ltd (**Beca**) is assisting the Ministry of Education with finding a site for a new primary school and early childhood education (**ECE**) centre in Drury West.

The Dury West area has been identified by the Ministry as an area which is expected to experience significant residential growth over the next few years. It is not expected that the existing schooling network will be able to absorb all the demand for primary schooling which this development activity is expected to generate and therefore, a new primary school is needed.

Following an evaluation of the various options in the area, the Ministry identified a 3ha site within an area of future urban development which is suitable for the new school (**Site**). The Site is zoned a mixture of 'Future Urban' and 'Mixed Housing Urban' under the Auckland Unitary Plan: Operative in Part (**Unitary Plan**).

The Ministry is contacting you to seek your feedback on both the proposal for the new primary school and ECE and Ministry's preferred Site. This letter provides some background to this project and details of the Ministry's estimated timeframe for establishing the new school.

If you wish to provide feedback, please email the writer or alternatively a meeting with the Ministry can be arranged at which your feedback can be tabled.

The Site

The map below shows the location of the Site. The Site comprises four separate land parcels, being part of the property at 41 Burberry Road and part of three adjacent sites located to the north of 41 Burberry Road.

The Site is located within close proximity to the future town centre being built as part of the Auranga development, giving additional opportunity for walking, cycling and shared facitlties within the community.

The Site is currently landlocked but access will be created by new roads which Auranga are proposing to construct adjacent to the Site to the north and east. These roads will also connect the Site to utilities and services.

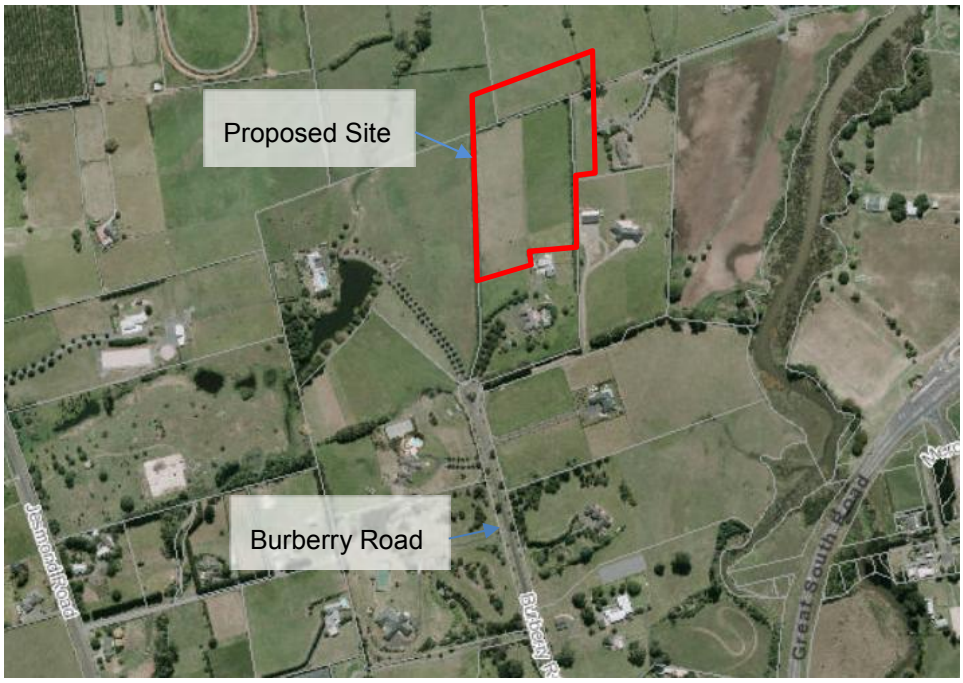


Figure 1: Approximate Location of New School Site in Drury West (AUP:OP)

Timing

The current programme has assigned the new school an opening date of Term 1, 2021. The construction received funding in Budget 17 and therefore, only a significant slowing of the pace of development in the area or unavailabitliy of infrastructure would result in a change to the estimated opening date.

Next Steps

The Ministry has started engagement with the owners of the four land parcels which comprise the Site.

At the earliest oppourtunity the Minister of Education is intending to lodge a Notice of Requirement with Auckland Council to designate the Site for “Educational Purposes – School (year 0-8) and an Early Childhood Education Centre”. This will identify the Site and its designated purpose in the Unitary Plan.

As noted above, the Ministry welcomes your feedback on the proposal for a new school and ECE in this area and on the Ministry’s prefered site.

If you have any further questions or require further infromation please do not hesitate to contact the undersigned to discuss these matters.

Ngā mihi nui,

Ying Liu
Planner

on behalf of

Beca Limited

Direct Dial: +64 9 300 9225
Email: ying.liu@beca.com

From: Kaitiaki support
To: Ying Liu
Subject: Re: Proposed Primary School - Drury West
Date: Tuesday, 13 March 2018 1:04:37 p.m.

Kia ora Ying,

Ngati Paoa would like to defer this project to other mana whenua who have expressed interest.

This is an secondary area of cultural interest for Ngati Paoa.

Nga mihi matakuikui atu

photo

Mahuika Rawiri
Paoa Ranger - Environment Manager, Ngati Paoa Iwi Trust
m:021 02841017 | e:kaitiaki@ngatipaoaiwi.co.nz | w:http://www.ngatipaoaiwi.co.nz

Whanake te tuu, rahirahi te taringa, pukunui te haere.

On 13 March 2018 at 11:52, Ying Liu <Ying.Liu@beca.com> wrote:

> Tena koe Mahu,
>
> This is Ying, planner from Beca. On behalf of the Ministry of Education, we would like to seek your feedback on the proposal of a new primary school and early childhood education centre in Drury West, Auckland. The area is expected to experience significant residential growth over the next few years, requiring additional educational facilities to absorb the demand.
>
> Further background on this project and details of the estimated timeframe is outlined in the letter attached. We have also sent a separate letter in the post. Please do not hesitate to contact us and arrange a time or to discuss these matters.
>
> Nga mihi nui,
>
> **Ying Liu**
>
> Planner
>
> Akl Environments
>
> Beca
>
> DDI +649 300 9225
>
> Fax +649 300 9300

From: Amanda Scobie
To: Ying Liu
Cc: Anne McLeod
Subject: RE: Proposed Primary School - Drury West
Date: Friday, 16 March 2018 9:27:03 a.m.

Morena,

Thank you for your email and supporting attachments. In this instance Ngai Tai Ki Tamaki will defer to other Iwi to review this application.

Nga mihi
Amanda Scobie
Ngai Tai ki Tamaki Tribal Trust
Physical Address: 102 Maraetai Drive, Maraetai
Postal: P.O Box 59, Beachlands , AUCKLAND - 2147
Office: (09) 537-9485
Email: kaitiaki@ngaitai-ki-tamaki.co.nz

From: Ying Liu [mailto:Ying.Liu@beca.com]
Sent: Tuesday, 13 March 2018 11:07 AM
To: Kaitiaki <kaitiaki@ngaitai-ki-tamaki.co.nz>
Subject: Proposed Primary School - Drury West

Tena koe Ngai Tai Ki Tamaki,

This is Ying, planner from Beca. On behalf of the Ministry of Education, we would like to seek your feedback on the proposal of a new primary school and early childhood education centre in Drury West, Auckland. The area is expected to experience significant residential growth over the next few years, requiring additional educational facilities to absorb the demand.

Further background on this project and details of the estimated timeframe is outlined in the letter attached. We have also sent a separate letter in the post. Please do not hesitate to contact us and arrange a time or to discuss these matters.

Nga mihi nui,

Ying Liu
Planner
Akl Environments

Beca
DDI +649 300 9225
Fax +649 300 9300

Minutes of Meeting

Meeting Minutes with Mana Whenua - Drury West Primary

Held 1 May 2018 at 10:30am

at Uenuku Room, Papakura

Present:	Lucille Rutherford	Ngāti Tamaoho
	Nigel Denny	Te Akitai Waiohua
	Edith Tuhimata	Ngati Te Ata
	Martin Te Moni	Ngaati Whanaunga
	Danae Weston	Ministry of Education
	Ying Liu	Beca
Apologies:	Karl Flavell	Ngati Te Ata

Distribution:

Item	Action
1 Project background / Purpose ■ DW and YL gave a project background for Drury West Primary, including reasons for looking for a primary school site, which included population growth and future development nearby. ■ DW and YL gave background on the process of finding the preferred primary school and early childcare education site. Noted in this case only a desk top due diligence was undertaken as unable to get access to the site. ■ DW and YL gave an update on why the chosen site is the preferred site, this included central position to the wider catchment, suitable location for walking and cycling, proximity to future town centre and site contours. ■ DW and YL advised the site is 3ha in size and currently landlocked. The programme for opening of the school is Term 1 2021 but this is dependent on the infrastructure and roading available to the site, which will be completed by the Auranga development before the school will open. ■ DW advised that the site has not been purchased by the Ministry of Education (MOE), but we have entered into discussions with the various parties. Site D as outlined in the plan shown in the meeting is reluctant to engage with the Ministry regarding land sale. However, designation and Notice of Requirement (NoR) is underway for the site and the MOE are looking to lodge the NoR in May 2018.	-
2 Establishment Board of Trustees (EBoT) ■ Overall Mana Whenua are supportive of a school in this area, and have indicated an interest in being involved when it comes to establishment of the school. ■ For new schools (i.e. Drury West): Mana Whenua could nominate someone to go on the EBOT when the Ministry of Education call for nominations or alternatively the appointed EBOT could co-opt a local Mana Whenua representative on to the Board. EBOTs have five appointed members and can co-opt up to four other members. ■ For relocation of schools or existing schools (I.e. Wesley primary): It is up to the existing board to decide.	**DW**

3 Mana Whenua Suggestions ■ Mana Whenua are mainly concerned about the environment and sustainability. They would like to see the school take on board sustainable practices (including water sensitive design (including rain gardens), solar panel and greener designs). Mana Whenua would like to see sustainable practices being designed into the school, so children are able to understand and see sustainable practices, such as water reuse in every day schooling. ■ Naming of the School - DW confirmed that the name of the school “Drury West Primary” is only a working name. A more appropriate name will be given later once the EBOT has been established.	-
4 Notice of Requirement (NoR) ■ LR outlined Mana Whenua strong involvement with the private plan change (Auranga B1) which a large portion of the site is located within. LR outlined that Mana Whenua have introduced more stringent controls and would like to see the future primary school also comply to the same level of design. ■ The Ministry has undertaken to consider how best to incorporate into the school design, the sustainable environmental management policies and objectives of the private plan change 6 – Auranga B1 (when finalised).	**YL**
5 Actions ■ YL to circulate minutes from the meeting to all attendees.	**YL**

Minuted by: Ying Liu

From:	Karl Flavell
To:	Danae Weston; Ying Liu
Cc:	editht71
Subject:	Ngati Te Ata iwi response: RE: Drury West Primary School
Date:	Saturday, 12 May 2018 11:45:09 a.m.
Attachments:	Ngati Te Ata response.pdf Bremner SHA Report - Ngati Te Ata.pdf

Kia ora Danae and Ying

Please find attached our response to this matter.

We appreciate the early consultation.

Look forward to further information in the future.

Nga mihi
Karl

Cc: Edith Tuhimata

Sent from Mail for Windows 10

From: Danae Weston <Danae.Weston@education.govt.nz>
Sent: Thursday, May 3, 2018 3:01:32 PM
To: Ying Liu; Karl Flavell
Cc: Lucille Rutherfurd; editht71; Nigel Denny
Subject: RE: Drury West Primary School

Hi Karl,

At this stage no design work has been done on the school itself, so there is no layout plan available. We also have not done a bulk and location as we are buying 3 hectares (minimum) which we know will be sufficient for a primary school of up to 700 children and a kohanga reo. The design work to produce a layout/masterplan of the site will be done at a later stage (after we acquire the land) and isn't needed for the notice of requirement.

We've only carried out limited due diligence at this stage due to access issues.

Kind regards,
Danae Weston | Project Manager | Acquisitions & Designations
DDI +64 9 632 9318 | Ext 99318 | Mobile +64 27 405 5463

From: Ying Liu [mailto:Ying.Liu@beca.com]
Sent: Thursday, 3 May 2018 2:47 p.m.
To: Karl Flavell <karl_flavell@hotmail.com>
Cc: Danae Weston <Danae.Weston@education.govt.nz>; Lucille Rutherfurd <lucierutherfurd@gmail.com>; editht71 <editht71@hotmail.com>; Nigel Denny <kaitiaki@teakitai.com>

NGATI TE ATA

"Ka whiti te ra ki tua o rehua ka ara a Kaiwhare i te rua"

11th May 2018

Danae Weston (Ministry of Education)
Ying Liu (Beca)

Ref: Proposed Drury West Primary School

Tena Korua

Further to the manawhenua meeting (our representative Edith Tuhimata attending), the checking of our iwi heritage database, and our familiarity of the locality (though previous onsites regarding the Auranga Development) – Ngati Te Ata can now confirm the following:

1. No cultural heritage sites (recorded) will be adversely impacted as a result of this site location being chosen. We have no issue with the chosen site.
2. We attach our cultural values assessment 2015 (undertaken for Auranga development) that covers this proposed area. We advise that our recommendations in this report are provided for in the overall design/development of school.
3. We acknowledge that the design work to produce a layout/masterplan of the site will be done at a later stage (after the land is acquired).
4. We acknowledge that population growth and future development nearby is why the 'chosen site' is preferred, and because of its central position to the wider catchment, suitable location for walking and cycling, proximity to future town centre and site contours.
5. We support the following Mana Whenua outcomes as outlined in the minutes (dated 1st May 2018):

   Manawhenua are mainly concerned about the environment and sustainability. They would like to see the school take on board sustainable practices (including water sensitive design (including rain gardens), solar panel and greener designs). Mana Whenua would like to see sustainable practices being designed into the school, so children are able to understand and see sustainable practices, such as water reuse in every day schooling. Naming of the School - DW confirmed that the name of the school "Drury West Primary" is only a working name. A more appropriate name will be given later once the EBOT has been established.

Heoi ano

Karl Flavell
Manager Te Taiao Unit (Environment/Heritage)
Ngati Te Ata
Ph: 027 932 8998

Cultural Values Assessment

Proposed Bremner Rd Special Housing Area, Drury.
Karaka and Drury Consultants and McKenzie & Co. Consultants

Figure 53: Maori trading canoe, c. 1890. Footprints 01959, South Auckland Research Centre, Auckland Libraries.

Prepared by Ngati Te Ata, October 2015

INTRODUCTION

Forward

It is intended that this report will assist with project development and decision-making by all parties involved and ensure that iwi issues, concerns, interests and values are provided for within the resource management process.

The ultimate goal for iwi is the protection, preservation and appropriate management of natural and cultural resources, including landscapes, in a manner that recognises and provides for our interests and values and facilitates positive environmental and social outcomes.

For Ngati Te Ata it is vital that three key considerations are provided for regarding the proposed Bremner Rd SHA subdivision:

1. That the mana of our people is upheld, acknowledged and respected
2. That our people have rangatiratanga (opportunity to participate, be involved and contribute to decision making) over our ancestral taonga
3. That as kaitiaki we fulfil our obligation and responsibility to our people (current and future generations) as custodians, protectors and guardians of our cultural interests and taonga.

"We would like to work with Karaka and Drury Consultants and McKenzie & Co. Consultants to ensure that our iwi interests are catered for in a way that fits in with their business model. We envisage this relationship as one of reciprocity – with mutual benefits to both parties".

Initial discussions among iwi members from both tribes identified the following uncertainties. In general:

Will the proposed Bremner Rd SHA subdivision proposal:

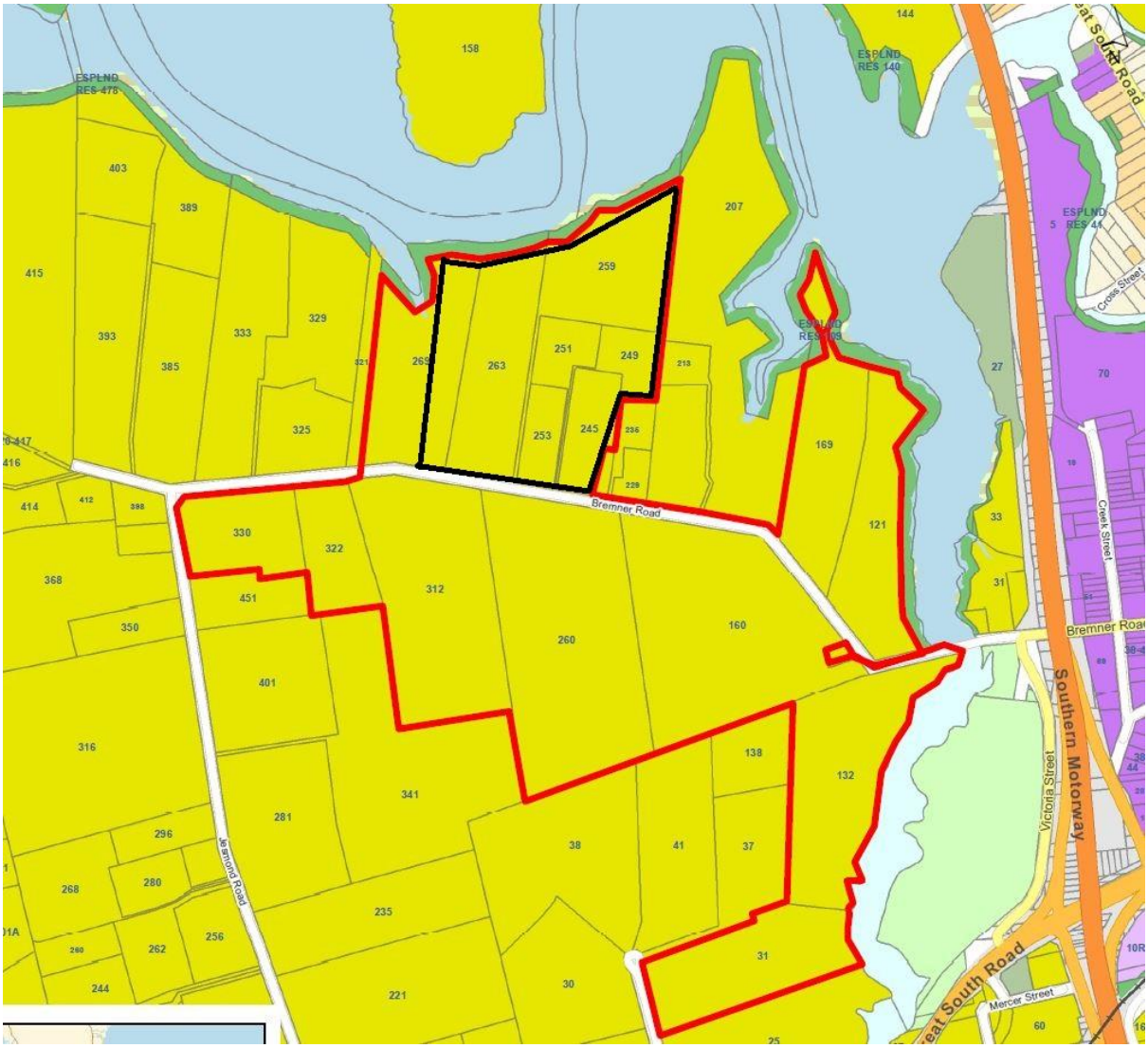
1. ***Conflict*** with our cultural, environmental and social values and our traditional relationship to our taonga within the Drury and Franklin district.

2. ***Degrade or adversely impact*** upon our waahi taonga (natural and physical resources) and our waahi tapu.

3. ***Visually and physically compromise*** the integrity of significant landscapes and natural features including landforms, ridgelines, trees, bush, wetlands, waterways, and any other natural outstanding features.

The purpose of the Report is to:

Provide an effective on-going working relationship between Ngati Te Ata and Karaka and Drury Consultants and McKenzie & Co. Consultants. That will acknowledge the special ancestral, cultural and spiritual association that Ngāti Te Ata have to the project site and surrounding land and observes (their) role as kaitiaki or guardians over the land.



Project Area (SHA Bremner Rd, Drury)

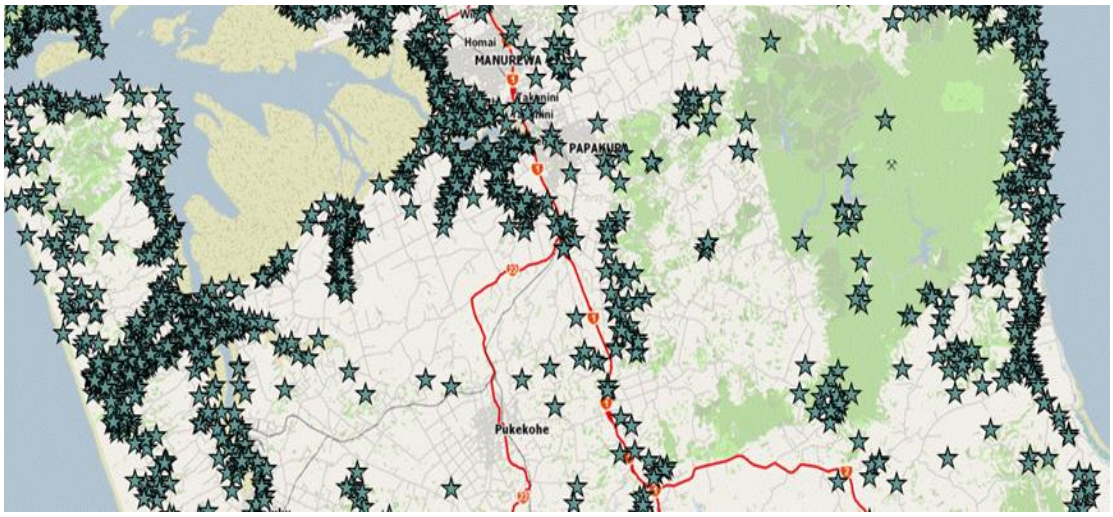
CULTURAL LANDSCAPE

The Cultural Landscape

To understand our connection to the project site there must be an 'overall' understanding of the tribal interactions – politically and socially that took place and established over many centuries. Members of the Tainui waka settled around the isthmus and began to intermarry with the ancestors of Te Waiohua.

It was this intermarriage and the development of other bonds between the people that settlements established around the Manukau and Tamaki (Auckland) areas. This was mainly on the eastern shores of the Manukau Harbour in places such as Karaka, Hingaia, Puhitahi, Pahurehure, Pararekau, Kopuahingahinga, Drury, Ihumatao, Mangere, Pukaki, Wiri, Papatoetoe, Manurewa, Otara and Papakura.

The Drury region has always been regarded by iwi as having a strategic position to Tamaki Makaurau (Auckland). Numerous Iwi and hapu were mobile throughout the area. Whether visiting, passing through or conquest, a number of complex inter-tribal relationships developed around the harbour shoreline.



NZAA ArchSite map for RUB South area and wider setting. http://nzaa.eaglegis.co.nz/NZAAPublic/ Accessed 19 July 2013

The CFG archaeological assessment stated the following:

> *"No evidence of pre-1900 archaeology or heritage, or significant 20th century heritage, was found in the Bremner Road SHA area, either during the historic research or the field survey. Site R12/1101 has been previously identified within the Esplanade Reserve, and although it was not able to be relocated, indicates pre-European use of this stretch of the coastline, as there is*

elsewhere along the harbour margins. Other areas within the SHA have been extensively modified through farming practices and construction, which may have obscured the archaeological landscape.

While no evidence has been found, it is probable that small archaeological sites exist within the study area, particularly along the costal margin. The area has been occupied by European settlers since the 1850s and it seems probable that some evidence of this occupation may also be present. However, no built heritage was identified in the SHA.

For Ngati Te Ata all sites are interconnected. No heritage sites are in isolation to each Other. They (individual sites) form but one component of the wider cultural landscape.

The archaeological report (with some historical references) and the cultural values in the Tamaoho and Te Akitai reports have been both evidenced – and you have a good understanding of what those are. Those cultural values are shared by iwi in general.

The following excerpts add to the rich history of Drury (taken from Dr McEwan report of which iwi under the Franklin Council were involved in.

Drury

In 1851 George Cole of Papakura was granted a Depasturing Licence for the Tuimata Run; in July 1852 Thomas Runciman was granted a licence for what was presumably the same Tuimata Run of 2000 acres.[151] Runciman is believed to have been the first Pakeha to have taken up permanent residence in the area south of Slippery Creek. Runciman, his wife Isobel and their four children, came from Scotland in 1840 and spent time in the Bay of Islands, Whangarei and Auckland before settling on the Great South Road at Drury in 1850. (The motorway goes through the property now.) He had 'the gratification of seeing the district ... become a tract of cultivated and smiling farms' according to an obituary written after his death in 1866.[152]

The northern part of Drury was surveyed by the Crown as a settlement some time after November 1852.[153] The first lots were offered for sale in October 1855 and in subsequent years.

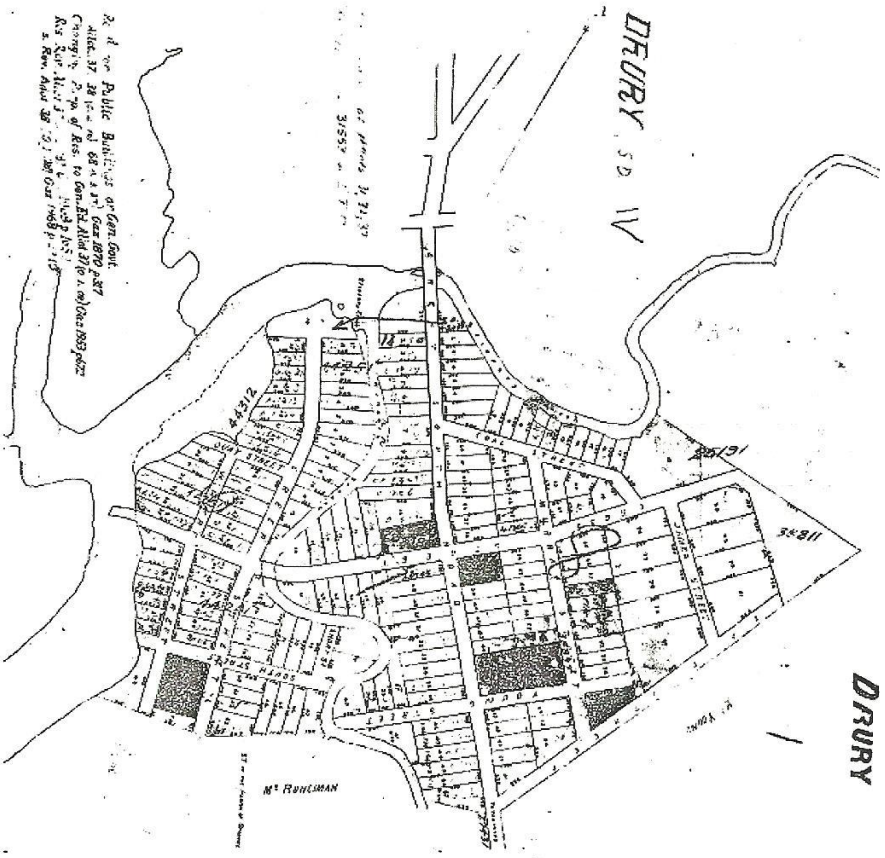


Figure 34: Plan SO 212 E (no date) shows the original township of Drury as laid out by the government (north to top right). Slippery Creek forms the northern boundary, Great South Road cuts through the middle. Land Information New Zealand.

One of the first to settle was William Young – he bought land on the east side of Drury and as well as farming he established a large two-storey hotel, a smithy and wheelwright's shop, and a coach service to Auckland.[154] His hotel was known variously as the Drury Hotel, Young's Hotel and the Farmers' Inn.[155] Another early businessman was Joseph Middlemas, who opened a store, and in 1857 opened a post office in the store. Another storekeeper, Edward Rhodes, supplied troops through his Drury store in 1863-64.[156]

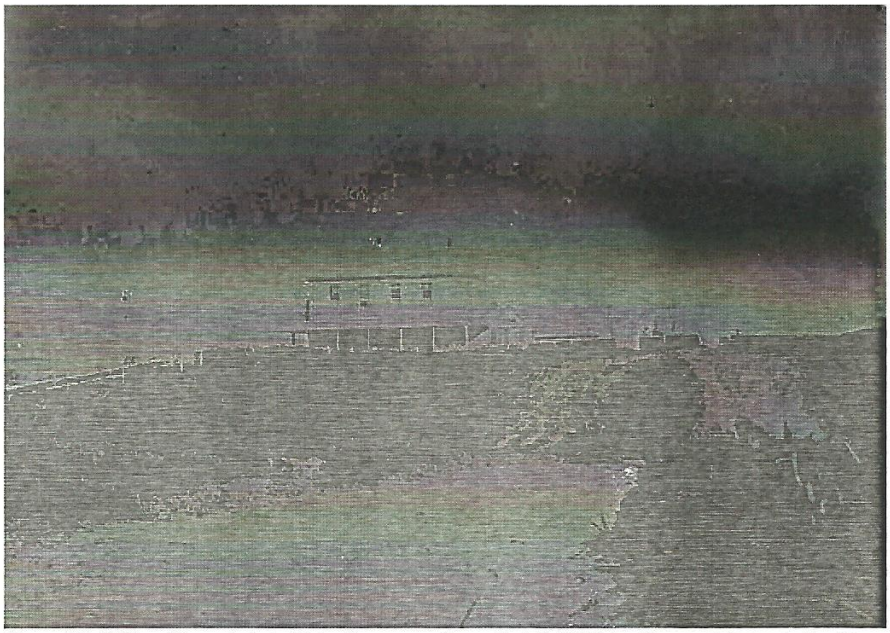


Figure 35: William Young's hotel (also known as Drury Hotel) 1859, looking east towards the Hunua ranges. Taken during the Government Scientific Exploring Expedition, conducted by Dr Ferdinand Hochstetter in 1859. Sir George Grey Special Collections, Auckland Libraries, 7-A310.

Figure 36: Farmer's Hotel, Drury; G Cookie, proprietor (no date). Sir George Grey Special Collections, Auckland Libraries, 4-9148.

Drury played a strategic role in the Waikato War, situated as it was on the Great South Road and at the southeastern reach of the Manukau Harbour. A redoubt was built on the south side of the town.

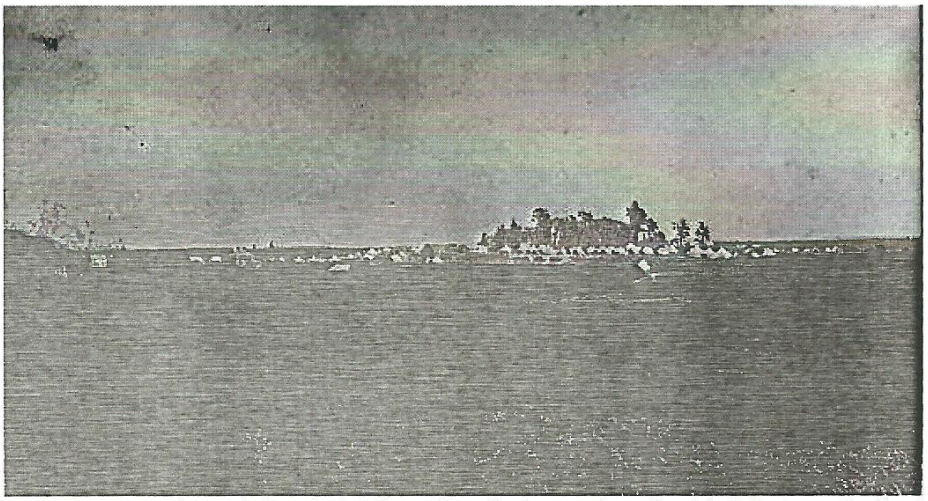


Figure 37: Drury Camp during the Waikato War. Sir George Grey Special Collections, Auckland Libraries, 4-1176.

In 1864 Thomas Runciman had the area by Slippery Creek surveyed as a township, the lots to be sold at auction in Auckland (see plans below). His township adjoined the established village on its southern side. The township was to be named Drury, after Captain Byron Drury who had surveyed the Manukau Harbour from the HMS *Pandora* in 1853 and who had bought land to the east of Drury in 1852, in Opaheke Parish.[157] Runciman's name was given to the district further south.

Figure 38: Plan SO 1415 D1 of Pt Runciman's Township of Drury (north is towards top left), shows a well-laid out residential town with a crescent reminiscent of Georgian England, a market square, a reserve for public buildings and smaller lots in the centre for commercial use. Great South Road skirts the northern and eastern sides of the township. Points of interest are Young's Hotel (top middle), Ligar's Bridge and the redoubt (centre of map). The blue area indicates the existing town in 1864.

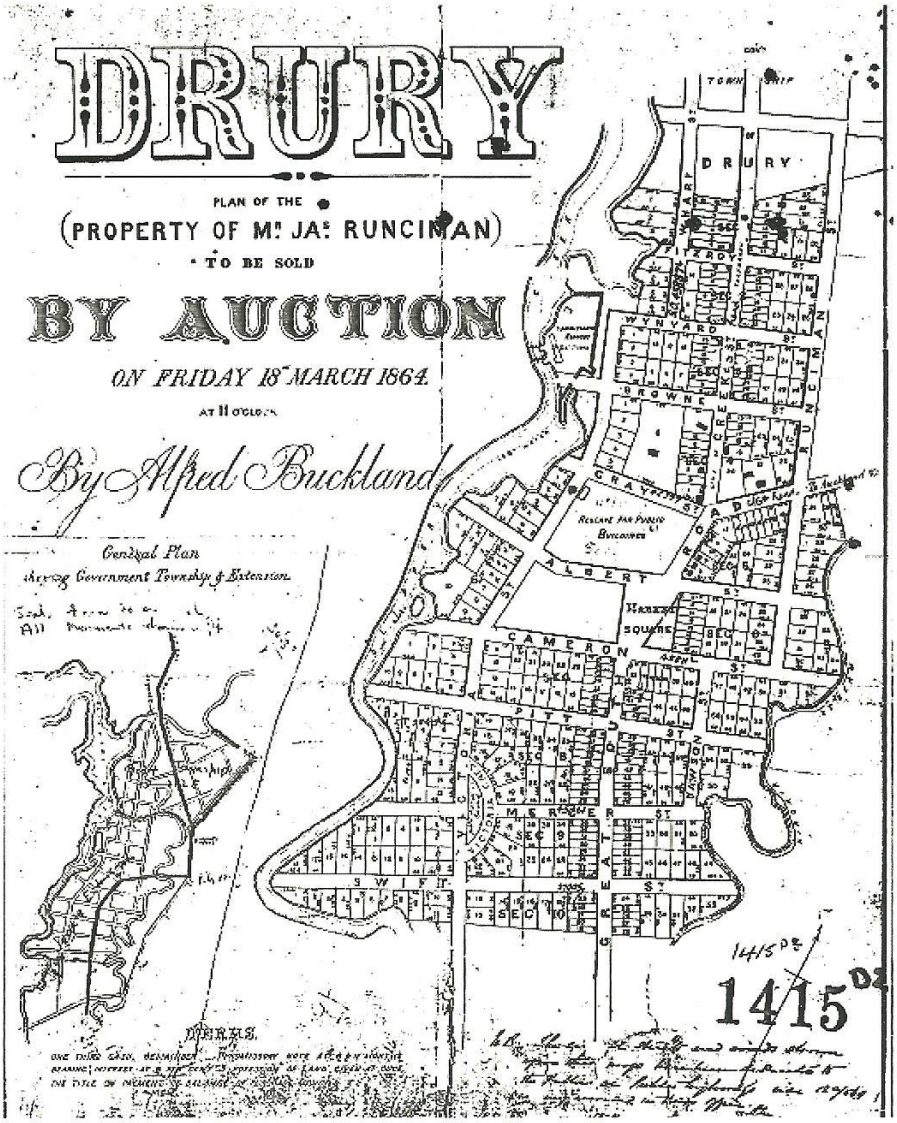


Figure 39: The sale poster for James Runciman's sale of lots in his private extension of the government township. A few buildings are shown. SO 1415 D2, Land Information New Zealand.

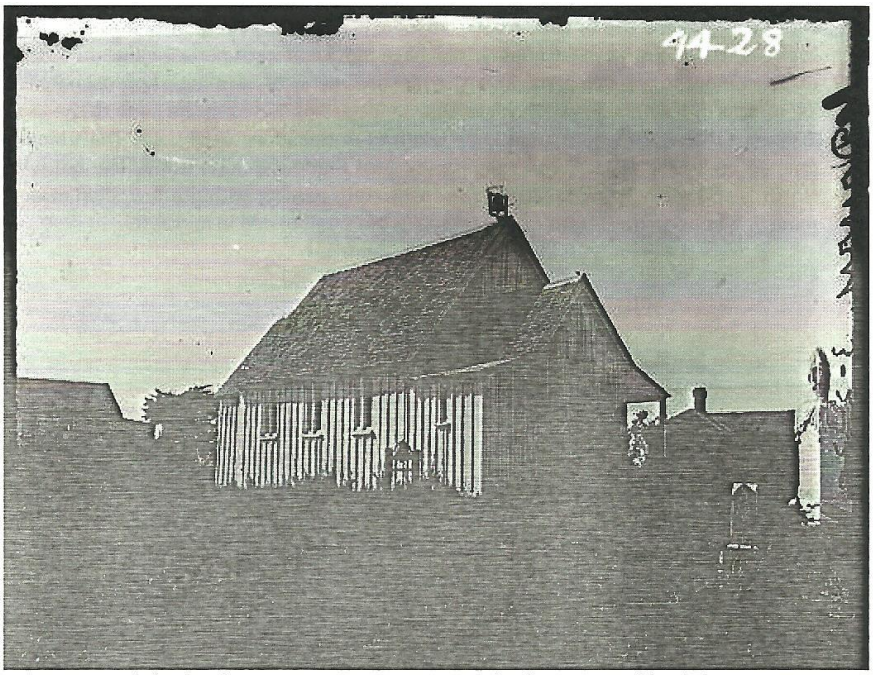


Figure 40: St John's Church, Drury. Sir George Grey Special Collections, Auckland Libraries, 4-4428.

Henry Chamberlin first bought land, the Waihoihoi estate, near Drury in 1853 but did not settle here until he bought further land in 1866 – this land included the Drury coalfields mapped by Hochstetter. Chamberlin died in 1888 but his widow Elizabeth remained on the property, which had an impressive two-storey homestead.[158]

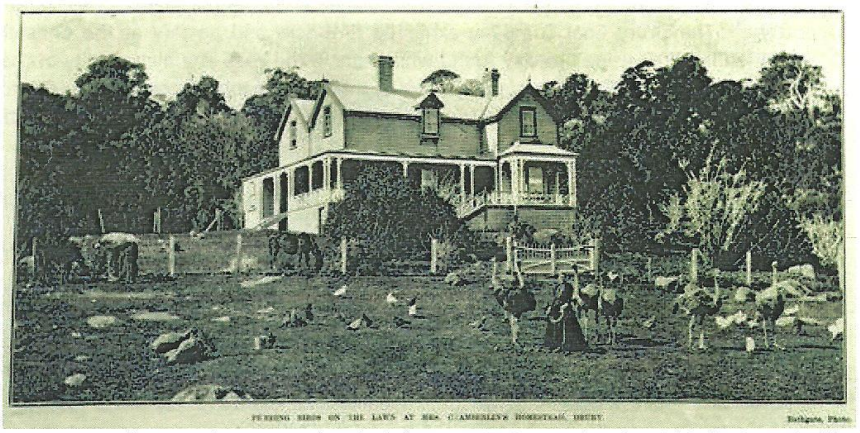
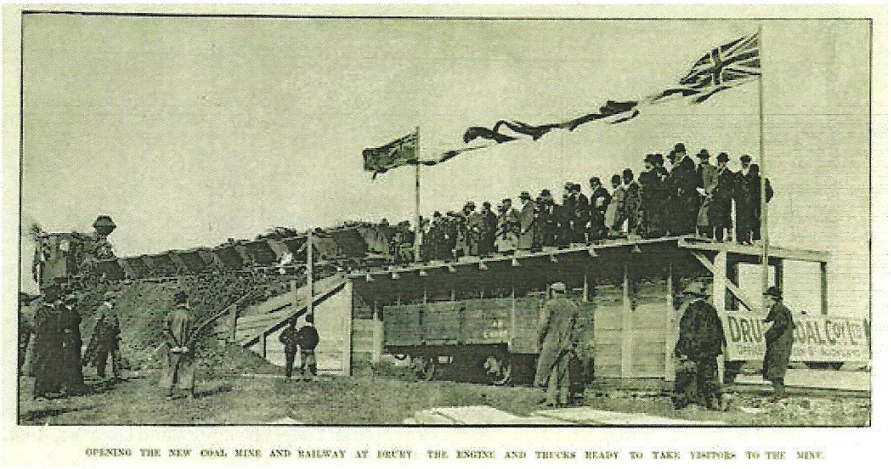


Figure 41: Feeding ostriches at Mrs Chamberlin's Drury. Sir George Grey Special Collections, Auckland Libraries, AWNS-19030924-1-4 *Auckland Weekly News* 24 September 1903.

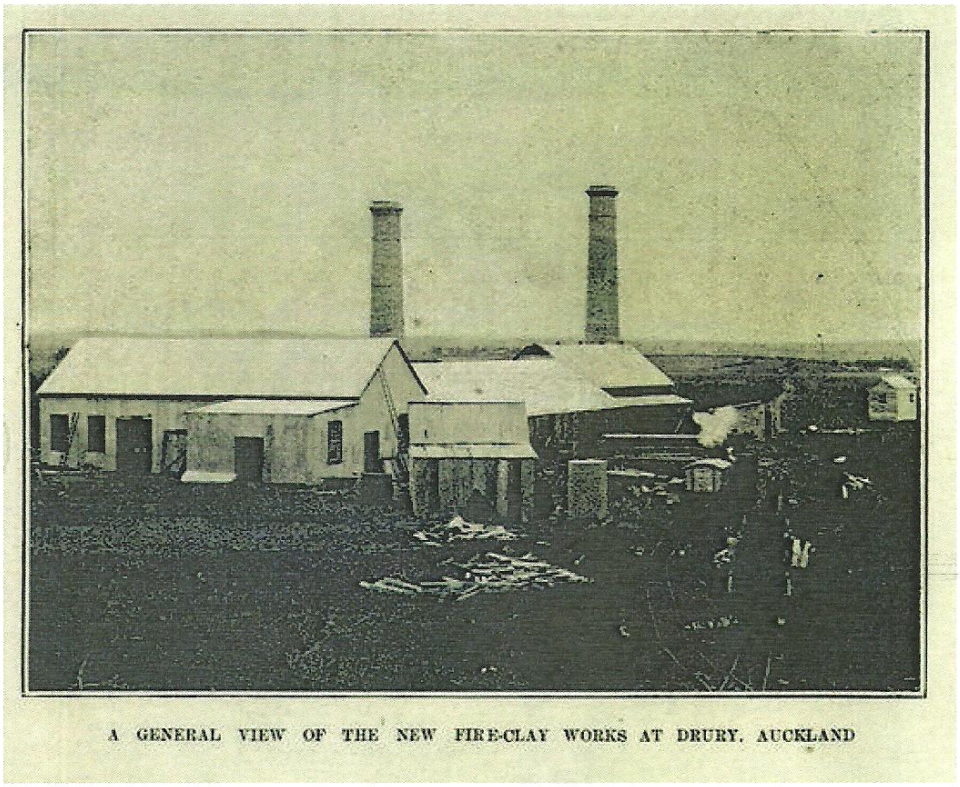
Drury was also the site of early extractive industries – the seam of brown coal in the Hunua foothills, while not of high quality, did have sufficient commercial value to lead to the establishment of a company and the development of a mine. Approximately seven kilometres of tram track, with bridges and viaducts, was laid from the mine to the landing at Slippery Creek from where it could be taken to Auckland via Onehunga. The tramway was opened on 1 May 1862.[159] The expense involved made the mine not viable, but when the North Island Main Trunk railway was constructed, passing within a few kilometres of the mine, it was again investigated. A new coal seam was opened in mid 1905.



OPENING THE NEW COAL MINE AND RAILWAY AT DRURY: THE ENGINE AND TRUCKS READY TO TAKE VISITORS TO THE MINE.

Figure 42:'Opening the new coal mine and railway at Drury: the engine and trucks ready to take visitors to the mine', *Auckland Weekly News* 3 August 1905. Sir George Grey Special Collections, Auckland Libraries, AWNS-19050803-11-1.

Another early industrial plant at Drury was the brick kiln established in 1863 by William Morgan, using local clay. In 1875 Chamberlin opened on his land a seam of clay suitable for pottery.[160] The Drury Coal Company exhibited firebricks and pottery at the Christchurch Exhibition in 1906, using fire-clay found while mining the coal. The high quality of the fire-clay led to a second kiln being opened in 1906; this was capable of holding 30,000 bricks.[161] The Drury Fireclay, Brick and Potteries Limited (in various forms) operated until the 1930s.[162]



A GENERAL VIEW OF THE NEW FIRE-CLAY WORKS AT DRURY, AUCKLAND

Figure 43: Auckland Weekly News 21 June 1906 Sir George Grey Special Collections, Auckland Libraries, AWNS-19060621-13-2.

There was at least one Chinese market gardener known in Drury area, Ted Lowe, who purchased 20 acres and grew glasshouse tomatoes, some time after the 1950s.[163] Drury is now a mix of residential and light industrial activities.

Te Aranga: Cultural Landscape Principles and Design Approaches

When it comes to urban design Ngati Te Ata are frustrated that our Maori culture is rarely reflected in the urban/built environment, particularly across Auckland, which we identify as a unique cultural landscape featuring significant historical pa on volcanic cones. Indigenous, local character is a vital ingredient in good urban design, in contrast to the increasingly homogenised urban environments that arise out of globalisation. Urban design that responds to iwi-specific values and features will foster healthy expressions of different cultural identities and realities within our urban environments.

Ngati Te Ata supports the 'Maori Cultural Landscape Principles and Cultural Landscape Design Approaches' that have been adopted by iwi to date. The extent to which these principles are fully embodied in the Bremner SHA subdivision will determine the success and ongoing integrity of the project.

Mana / Rangatiratanga

The need for relevant mana whenua groupings to have high quality formal relationships with all key stakeholders including Auckland Council. Without such relationships in place the other six principles of Te Aranga cannot be meaningfully applied.

This principle is the basis upon which this report has been invited and prepared.

Whakapapa (Names and Naming)

Reviving names revives mana through iwi connections to specific ancestors and events associated with them. In conjunction with iwi an inventory of names associated with a given site can be developed allowing iwi to choose the most appropriate names from which to develop design, interpretation and artistic responses.

Ngati Te Ata welcomes opportunities to reinscribe Maori names upon Auckland's suburban landscape. Further discussion about names for roads and reserves within the development site is requested.

Tohu (Landmarks)

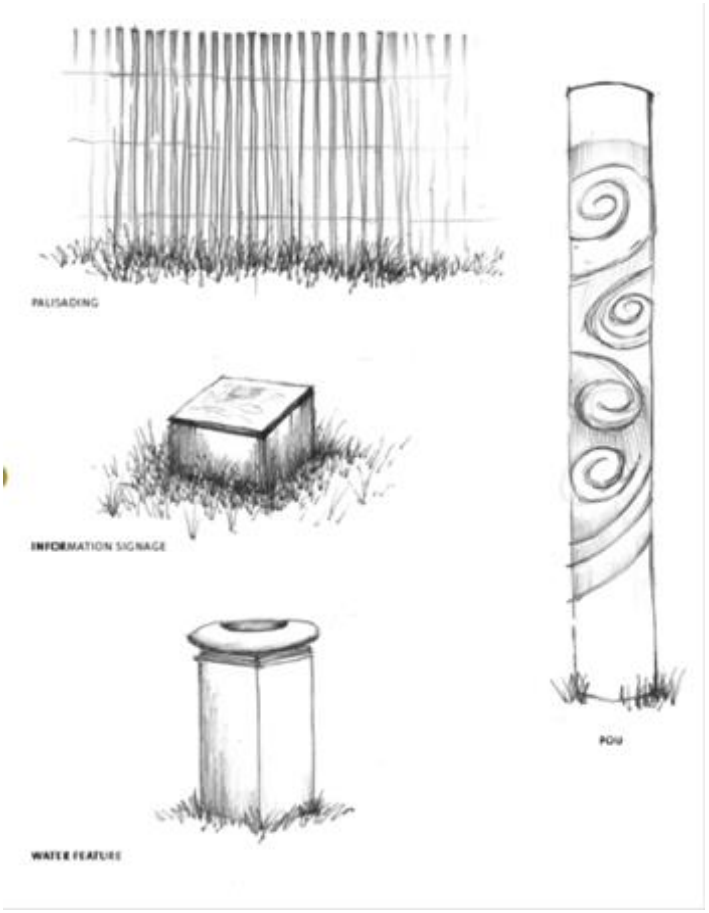
It is important to look beyond the immediate development site to acknowledge significant local and regional landmarks (eg. maunga, moana, wāhi tapu). The project should embrace opportunities for creating or enhancing visual and physical connections to these tohu.

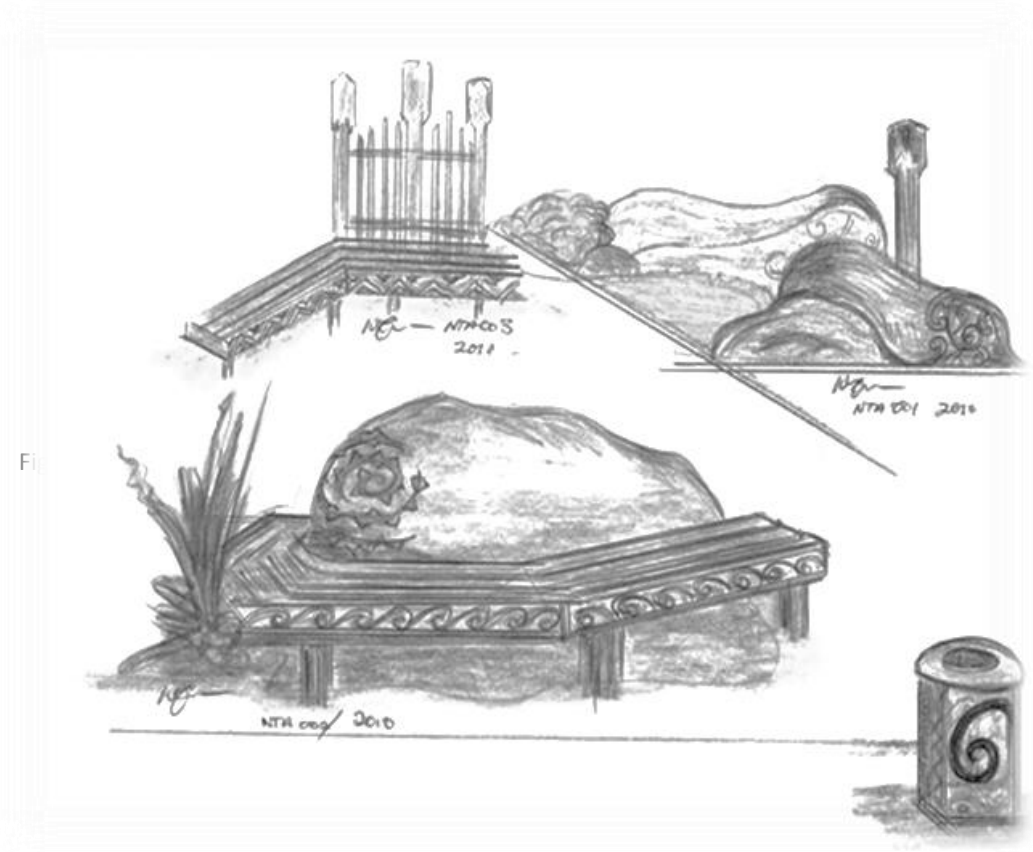
The immediate physical and visual connection between the project site and the Drury inlet and related tributaries provides a significant opportunity for enhancing local residents' awareness of the natural environment. Attention should also be paid to the physical and visual connections to local tohu that local residents, businesses and visitors currently have within the wider Drury suburban context and how these might be acknowledged in the design process.

Taio (Natural Landscape Elements)

Opportunities to reintroduce natural landscape elements back into the urban streetscape - e.g. specific native trees, water / puna wai (springs) - promoting bird, insect and aquatic life to create meaningful urban ecosystems, which connect with former habitats, mahinga kai (food gathering areas) and living sites.

Appropriate native planting within the Bremner SHA subdivision has the potential to enhance the environmental values of the area. This is especially important in the vicinity of the Drury inlet, tributaries and the inlet foreshore. The natural world could also be referenced through the use of artistic motifs on any new constructed elements within the park. An evocation of the pre-colonial natural environment might be embodied in images of trees, ferns, birds and insects.


PALISADING
INFORMATION SIGNAGE
WATER FEATURE
POU



Mauri Tu (Enhancing Health)

Ensuring emphasis on maintaining and enhancing the environmental quality of water, soil and air and where possible remediating sites to enhance mauri.

It is desirable to use materials, both in construction and landscaping, which have cultural familiarity and connection to the locale. Careful stormwater management is particularly important on this site given its proximity to the Ngakaroa stream, Drury Inlet and the Manukau harbour.

Mahi Tu (Reinscribing Iwi Narratives)

Developing strategies to creatively re-inscribe iwi narratives into architecture, landscape, urban design and public art to enhance a sense of place and ensuring iwi appointed Māori design professionals are appropriately engaged in such processes.

The suburban context of the proposed development is a modern one, having developed over the last 40 years. Design guidance to encourage a sense of place making and an awareness of contemporary Maori art and architecture could be provided by the developers, without any risk of alienating residents who come from other cultural backgrounds and traditions.

Ahi Kaa (Living Presence)

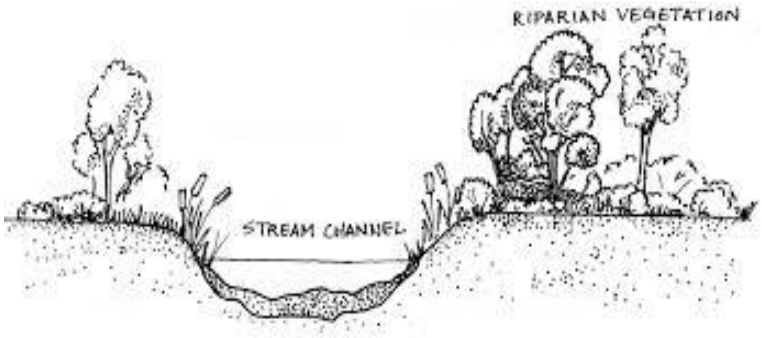
Exploring opportunities to facilitate meaningful living presences for iwi / hapu to resume ahi kaa and kaitiaki roles within urban areas. This may include exploring environmental, cultural and commercial opportunities in partnership with iwi entities.

Since the European colonisation of New Zealand, Maori and Pakeha have lived and worked together. The local histories of Ngati Te Ata and other Auckland iwi do not end with colonisation, despite the loss of land and livelihood that came about as a result of the alienation of land.

STORMWATER
and
WASTEWATER

He taurawhiri kotahi mai ano te kopunga tai no i te pu au

From the source to the mouth of the sea all things are joined together as one



Stormwater (Bremner SHA Drury)

Water sensitive design including rain water tanks for retention, ground water recharge for rain / roof water was discussed as was the importance of not mixing the "clean" with contaminated water; rain gardens, vegetated swales and attenuation pits / areas were discussed as best options for contaminated road runoff treatment

The reasons for this discussion is that stormwater treatment devices are more efficient if not inundated during normal rain events if they are not having to cope with the added clean water component of the rain event.

While the manmade pond is proposed to be filled, the original overland flow path is proposed to be reinstated into the final design.

A Stormwater Management Plan needs to ensure that:

"A focus on implementing water sensitive designs for each sub-catchment, such as tree pits and rain gardens, through a treatment train approach. Contaminants such as hydrocarbons and suspended solids will be minimized through the use of source control water treatment devices to promote bio-filtration of surface water and groundwater recharge. The PAUP promotes the use of drainage to ground wherever possible as an effective means to treat stormwater, recharge groundwater and the protection of streams and riparian margins from erosion.

The overall catchment management plan must take into consideration; natural environment, maintenance, enhancement and/or protection of the values of the natural character receiving environment, including cultural values. Developers must demonstrate how the proposed land use, subdivision and development control responds to these values.

That the integration of green networks such as natural freshwater, coastal systems and ecological corridors, with open space, and pedestrian corridors, that reflect the underlying natural values and provide for natural restoration and biodiversity."

Regarding the Bremner SHA subdivision the main site environmental concern and one with a strong cultural component relates to water quality and the desire to protect and enhance the water resource.

Ngati Te Ata have strong cultural, traditional and historic links with wetlands and inland waterways, including lakes, rivers, streams and springs. These taonga are spiritually significant and closely linked to the identities of the tangata whenua. Water is the life giver, it represents the blood of Papatuanuku, the Earth Mother, and the tears of Ranginui, the Sky Father. Waterways are home to our many taniwha that look after the people and ensure their physical and spiritual protection.

Water quality is linked to the health of the local fishery and the people. The tributaries of, and including the harbour itself, are used regularly for customary gathering of shellfish and fishing is still undertaken by iwi.

While the concept of mauri has not been raised in consultation it is sensible to address this matter in the context of this proposal. Mauri is the conceptual Maori belief that all things, animate or inanimate, possess mauri which is best described in western terms as meaning the life force inherent in all things within the natural world.

Unfortunately the mauri that may once have attached to the Manukau Harbour and its tributaries has long been compromised through development and use over many decades. Any works and activities that affect water resources do not adversely alter the mauri to the extent that it is no longer recognisable as waiora.

Our tupuna ancestors) recognised the various states of water including wai tapu, wai ora, wai kino, and wai piro and wai mate.

- Waiora are waters of life, the purest form of freshwater that gives and sustains life and can rejuvenate damaged mauri.

- Waimate is dead water that has no regenerative capacity; the mauri is lost and can contaminate other mauri of living things or other waters.

- Waitapu are tapu due to loss or restrictive use.

Stormwater runoff in particular needs to be controlled and properly treated before reaching the Manukau Harbour. Ngati Te Ata will oppose any point discharges and any wastewater discharges reaching the stream such as from vehicle wash down facilities. Also during the construction phase care must be taken to ensure sediment runoff is captured and settled out before any further treatment and or discharge.

Ngati Te Ata advocate the highest level of treatment of stormwater before it is discharged into waterways. The protection of the mauri of all natural waterways, and that the food producing capacity of natural waterways is protected and enhanced, as is their life supporting capacity.

We advocate water conservation and efficient use of water, opposes the direct disposal of any waster into waterways and requires that waste pass through the soils before discharge.

Our preference is that waterways be managed to a level that ensures their use as a food source and supports active restoration programmes, including stream edge planting.

Recognise that flocculent overdose will cause unacceptably high levels of flocculent to the receiving environment. It is vital that works and activities do not adversely alter the mauri to the extent that it is no longer recognisable as waiora.

Stormwater contaminants of concern are oils, greases and other hydrocarbons, composite brake dust, principally iron and other trace contaminants.

Stormwater must be treated with a propriety device, ie storm filter, sand filter or Up flo (In an underground water retention device), wetland filtration natural planting and other high quality treatment. The proposed wetland needs to be enhanced with riparian planting, and serve as a final cleansing after the stormwater has passed through the filtration device to be installed, prior to its discharge to the receiving catchments. This option is do-able and is an obvious, natural way to further enhance the mauri. It would have an aesthetic appeal and be of major environmental benefit for this and future proposed works.

Regarding the receiving catchment, this catchment is home of our kaitiaki, our taniwha whom ensures our protection on the water both physically and spiritually. It is also of significant spiritual value in regard to ceremonial activities, waters for healing and medicinal purposes. They are also a traditional source of food such as tuna (eel). Many of our people wish to re-establish wetlands as a source of traditional food including eels, whitebait, mullet and watercress.

Drainage, pollution, quarry activity and animal grazing and introduced plants have already degraded much of this surviving area. The protection of this outstanding and nationally recognised, catchment from inappropriate drainage and subdivision effects like sediment build up is paramount to iwi. The water quality of the receiving catchments has been seriously affected by years of industrial discharges resulting in a highly degraded aquatic system. Any discharge to this environment needs to be treated to a high standard by setting “environmental bottom lines”.

Stormwater (and related) Policies

Policy – land use planning and management adjacent to wetlands

To ensure that all land use practices that have the potential to impact on wetlands have efficient sediment, drainage, discharge, fertiliser application, and riparian buffer control practices in place to ensure that adverse impacts on wetlands are prevented.

Methods

(a) There shall be no discharges of point or non-point source wastewater to ecologically or culturally significant wetlands.

(b) All stormwater discharged to ecologically or culturally significant wetlands shall be treated in such a way that ensures the ecological condition and cultural use of the wetland is not compromised.

(c) Buffer zones of appropriate indigenous plant species shall be established and/or maintained around all significant wetlands to protect them from the effects of land use and to help reduce fluctuations in wetland water levels.

Land use changes and practices, stormwater and wastewater discharges have had an adverse impact on coastal ecosystems, modifying the hydrologic regime and the ecological value and quality of waterways. Particularly when accompanied with the removal of native flora and fauna, can place pressure on resources, can change the character of the landscape, and alter traditional views and features of the landscape. Inadequate planning for urban or rural development and growth can result in residential sprawl which impacts on landscape character. This is further aggravated when there are inadequate or failing infrastructure services (water supply, wastewater, stormwater management, solid waste management).

The anticipated urban growth, particularly in new growth areas, provides the opportunity to develop new urban areas based on enhancement principles, the types of principles that could be employed include on-site stormwater and wastewater treatment, recycling of treated wastewater, and water conservation where appropriate technology enables this to occur.

Manage the adverse effects of urban and rural residential subdivision and development through the use of Low Impact Development (‘LID ’) principles in all new subdivisions and developments including, but not limited to:

i. Minimising stormwater impacts to the greatest extent practicable by reducing imperviousness, conserving natural resources and ecosystems, maintaining natural drainage courses, reducing use of pipes, and minimising clearing and grading;

ii. Providing runoff storage measures dispersed through the site's landscape with a variety of detention, retention, and runoff practices;

iii. Where they will be of benefit, encouraging the use of mechanisms such as rainwater harvesting, rain gardens, roof gardens, and onsite storage and retention;

iv. Where they will be of benefit, encouraging the use of stormwater treatment devices including on-site treatment systems, allowing for emergency storage and retention structures; and

v. Such areas that have unavoidable impervious areas, attempt to break up these impervious areas by installing infiltration devices, drainage swales, and providing retention areas.

We need to ensure that wastewater and stormwater systems are designed, constructed, and upgraded to ensure wastewater does not enter stormwater systems. In this sense Auckland Council identifying any areas where stormwater enters the wastewater system and making financial allowances in the Long-Term Plan for the upgrading of infrastructure; and promoting the concept of waste minimisation a 'no waste' society, and a hierarchy of waste management.

Minimise wastewater production by:

i. Developing standards for low water use fittings;

ii. Encouraging water metering and volumetric wastewater charging based on water consumption; and

iii. Encouraging reduction and prevention of stormwater infiltration and ingress into wastewater systems through design standards and construction control.

Regarding trade waste, stormwater, wastewater, and trade-waste by-laws ensure high levels of on-site treatment are obtained prior to discharge e.g. improve design methods to maximise the removal of heavy metals from the trade waste.

The following are supported by Ngati Te Ata (from the Tamaoho Report 2015):

4.5 The waters of the Auckland region have been modified to support economic gains, and the impacts of previous poor management practices are increasingly being seen. As a result, human impacts from such uses as farming/agriculture, wastewater discharges, damming, horticulture, urban development, alterations to the natural hydrology (straightening/piping) of rivers and streams, and forestry conversions have modified natural water flows and increased the degree of contaminants that a water body receives resulting in a decrease in water quality of rivers and streams.

4.6 Water is a fundamental component for all dimensions of life. Water not only sustains life, but also serves an economic, social, cultural, spiritual, and political purpose. Regardless of the significance of water, the increase in water contamination by cities, industries, and agriculture/horticulture has led to the deterioration of the mauri of water.

4.7 Ngati Tamaoho does not accept that because a natural waterway has been previously "straightened" by previous land owners, that it becomes a "drain", it still has water flowing within it, water that still has mauri [life]. The interfering of a natural waterway, while altering its natural state does not alter that which flows through it. Also we do not accept that because an area of swamp, wetland or stream has become degraded through past land use [cows, horticulture] that when developing, this becomes the "base line". It is possible to restore and enhance any degraded waterway through the development process. It is usually only a matter of willingness on behalf of the applicant and council to achieve this.

4.8 Ngati Tamaoho aspires to have waters that are drinkable, swimmable, and fishable. The ability to have drinkable and fishable water is limited by a number of factors such as the concentrations of *E. coli,* eutrophication, suspended sediments, arsenic and mercury and stormwater runoff contaminants.

5. Treatment of contaminants

5.1 Water and water quality is such an important part of life for all, and as such new approaches to treating contaminated road runoff and stormwater in general are constantly being looked into and methods becoming more "natural".

5.2 The mixing of clean roof water runoff and contaminated road water is now considered a wasted resource, and often the cause of stormwater devices becoming "inundated" during heavy rainfall, leading to further pollution and erosion of natural waterways.

5.3 Often in the common "stormwater pond" the sediments that have "dropped out" during the "settlement" phase within the ponds; are "re-suspended' during heavy rain fall and inundation, and

so all those contaminants become “mobile” again and are flushed out of the pond and into the water ways, making the pond in-effective, and a source of contaminants.

5.4 The “treatment train” approach is promoted as current best practice as this promotes at source retention, provides quality contaminant removal, less inundation at the final stage, ensures the cost is more evenly spread, and easier to maintain.

5.5 The treatment train approach includes methods such as roof water detention on site via rain tanks and or soakage pits, where clean rain water can be reused or used to recharge the underground water systems.

5.6 Rain gardens/swales for contaminated road water retention/detention, underground 360 or Hynds Up-Flo devices can be used where a site is already developed if space is available and then a wetland or attenuation device [large vegetated dry swale system] for a final “polish”.

5.7 This system is currently best International practice; it serves to reduce initial runoff by infiltrating the first 10mm back into source, while containing contaminants, and adding to the recharge of the ground water. This also lessens volumes to device which improves the function of the device.

5.8 Green roofs are also becoming popular mainly in overseas countries, and where pollution is a problem, the green roof concept not only adds to more oxygen being produced but to the health and well-being of people who can grow their own vegetables, fruit trees etc.

5.9 It is important to note that as time goes by technologies change and monitoring has time to gather data and gain understandings of how stormwater is dealt with.

6. Managing Effects

6.1 In managing the effects of a resource use or activity, regardless of the magnitude, frequency, or duration of the effect, Ngati Tamaoho considers that it is necessary to provide a net benefit when considering social, economic, environmental, spiritual and cultural impacts – to strive for environmental enhancement. Therefore it is necessary to suitably manage any effects so that effects are avoided, remedied, minimized, mitigated, or balanced.

6.2 For Ngati Tamaoho, this is essentially a hierarchy where the first way to manage an effect is to avoid the effect, the second way is to remedy the effect, and so on through to suitably balancing the effect, what some may call offset mitigation. In managing effects consideration needs to be given to:

(a) Avoid: is there any way to manage the effects to a point where they can be avoided (i.e. no effect occurs)?

(b) Remedy: can the effect be managed to the point that it is eliminated (e.g. cleaning discharges to water so that the water discharge is of a suitable quality)?

(c) Minimize: is there a way to minimize the effect so that the effect is no longer of sufficient frequency or magnitude to cause Ngati Tamaoho any concern?

(d) Mitigate: if the effects cannot be adequately avoided, remedied, or minimized, is there something that can be done to mitigate or offset the effect to create a benefit not directly linked to the proposed resource use or activity. (e.g. an effect of discharge to water being offset by additional riparian planting or wetland restoration).

(e) Balance: when taking all the effects into consideration, and considering the relative weight of the effects to Ngati Tamaoho, do the positive effects adequately balance out the negative effects, and provide environmental enhancement?

7. Sustainable Development

Green Roofs

7.1 Ngati Tamaoho promote sustainable development, and believe, that *all* new development should in some, if not most ways, be self-reliant and sustainable.

7.2 There are many options for sustainability, with solar panels and green roofs being among a few.

7.3 Green Roof Benefits [source google green roof benefits]

Green roofs offer many public, private, and design-based benefits.

The Louisa, Portland, Oregon
2007 Green Roof Awards of Excellence Winner

7.4 Stormwater Management

- With green roofs, water is stored by the substrate and then taken up by the plants from where it is returned to the atmosphere through transpiration and evaporation.
- In summer, depending on the plants and depth of growing medium, green roofs retain 70-90% of the precipitation that falls on them; in winter they retain between 25-40%. For example, a grass roof with a 4-20 cm (1.6 - 7.9 inches) layer of growing medium can hold 10-15 cm (3.9 - 5.9 inches) of water.
- Green roofs not only retain rainwater, but also moderate the temperature of the water and act as natural filters for any of the water that happens to run off.
- Green roofs reduce the amount of stormwater runoff and also delay the time at which runoff occurs, resulting in decreased stress on stormwater systems at peak flow periods.

7.5 Improved Air Quality

- The plants on green roofs can capture airborne pollutants and atmospheric deposition.
- They can also filter noxious gases.

- The temperature moderating effects of green roofs can reduce demand on power plants, and potentially decrease the amount of CO2 and other polluting by-products being released into the air.

7.6 New Amenity Spaces

Green roofs help to reach the principles of smart growth and positively affect the urban environment by increasing amenity and green space and reducing community resistance to infill projects. Green roofs can serve a number of functions and uses, including:

- Community gardens (e.g. local food production or co-ops)
- Commercial space (e.g. display areas and restaurant terraces)
- Recreational space (e.g. lawn bowling and children's playgrounds)

Herb Garden on Fairmount Waterfront Hotel, Vancouver, BC.
(Courtesy of David Walker)

7.7 Energy Efficiency

- The greater insulation offered by green roofs can reduce the amount of energy needed to moderate the temperature of a building, as roofs are the sight of the greatest heat loss in the winter and the hottest temperatures in the summer.
- For example, research published by the National Research Council of Canada found that an extensive green roof reduced the daily energy demand for air conditioning in the summer by over 75% (Liu 2003).

7.8 Noise Reduction

- Green roofs have excellent noise attenuation, especially for low frequency sounds. An extensive green roof can reduce sound from outside by 40 decibels, while an intensive one can reduce sound by 46-50 decibels (Peck et al. 1999).

7.9 Increased Biodiversity

- Green roofs can sustain a variety of plants and invertebrates, and provide a habitat for various bird species. By acting as a stepping stone habitat for migrating species they can link species together that would otherwise be fragmented.
- Increasing biodiversity can positively affect three realms:
    1. Ecosystem: Diverse ecosystems are better able to maintain high levels of productivity during periods of environmental variation than those with fewer species
    2. Economic: Stabilized ecosystems ensure the delivery of ecological goods (e.g. food, construction materials, and medicinal plants) and services (e.g. maintain hydrological cycles, cleanse water and air, and store and cycle nutrients)
    3. Social: Visual and environmental diversity can have positive impacts on community and psychological well-being

Mill Valley Hillside Project, Mill Valley, CA. 2010 Awards of Excellence Winner.
(Courtesy of McGlashan Architecture)

7.10 Improved Health and Well-Being

- The reduced pollution and increased water quality that green roofs bring can decrease demands for health care
- Green roofs can serve as community hubs, increasing social cohesion, sense of community, and public safety.

25

- Health; There is a growing body of evidence that the visual and physical contact with natural greenery provides a range of benefits to people. These include both mental benefits (such as reduction of stress) and physical benefits (including the provision of cleaner air). Access to green space can bring about direct reductions in a person's heart rate and blood-pressure, and can aid general well-being.

7.11 Urban Agriculture

- Using green roofs as the site for an urban agriculture project can reduce a community's urban footprint through the creation of a local food system.
- These projects can serve as a source of community empowerment, give increased feelings of self-reliance, and improve levels of nutrition.

7.12 Educational Opportunities

- Green roofs on educational facilities can provide an easily accessible sight to teach students and visitors about biology, green roof technology, and the benefits of green roofs.

8. Solar

8.1 Advantages of Solar Power [source google]

Increasingly, people are looking for renewable energy solutions to provide the power we need to live our lives in the modern world. Fossil fuels are non-renewable; they use finite resources that will eventually disappear, become too expensive or too environmentally damaging to source. In contrast, renewable energy resources like solar energy are constantly replenished and will never run out.

8.2 Advantages of solar power, including the following:

- Renewable
  The sun provides a constant and consistent power source. It won't run out and can provide electricity for our world indefinitely. It won't contribute to global climate change and doesn't require hazardous waste disposal like nuclear power.

- Quiet
  Solar cells are completely silent. Unlike wind energy or oil extraction, solar energy does not disrupt the local environment or annoy people. Additionally, solar energy is freely available. Solar electric power is available everywhere electricity is used.

- Effective
  After the initial outlay for solar panels and installation, there is very little cost for solar power. It does not cost anything to harness the power of the sun, unlike paying for oil or gas – which continues to increase in price over time. In some countries, financial and tax incentives make solar electricity even more cost effective when compared with conventional electricity.

- Easy To Set Up And Maintain

8.3 Solar power panels and products are relatively easy to install. Unlike conventional electrical power, you don't need wires or cords to employ solar power. Another advantage to solar power is that very little maintenance is required to keep solar cells running. This is because there are no moving parts in a solar cell, which makes them durable and long-lasting.

- Reliable
  Solar electric power panels have been proven to be highly reliable. Many PV solar panels (including the LG panels we supply) have long-term warranties, and good quality panels can last for decades. Additionally, solar power technology is improving consistently over time. With more and more people turning to solar power, new developments in the technology are constantly being brought to market.

- Clean
  One of the most important advantages of solar power is that it is clean. It produces no carbon footprint or harmful emissions and absolutely no pollution. This makes solar energy far more eco-friendly than non-renewable sources like oil, which releases harmful greenhouse gases, carcinogens and carbon dioxide into the air.

8.4 Solar is a new form of renewable energy that is becoming a main source of energy supply in many overseas countries. Its popularity is continuing to grow in New Zealand as our climate is well suited to this form of renewable energy.

8.5 Many of our infrastructure providers for electricity are now including the ability to accept power into the system from excess solar, as well as provide power to a home.

9. Earthworks

9.1 Earthworks involving cut to fill are a necessary part of most developments in order to create roads and a sub-division that can accommodate building platforms. This has the potential to release sediment and [in the case of contaminated soils] contaminants into the environment. Most contaminants, while they can become inert over time become re activated when disturbed.

9.2 Under the current TP90 guidelines it is allowable to release up to 10% of sediment into the receiving environment. That is 1 ton if 10 ton of earth moved, or 10 ton pre 100, and so on. When there are 1000"s of ton of earthworks carried out, this amounts to many ton of sediment per development entering the receiving environment, through pipes, into streams, waterways and finally the estuaries / harbours.

9.3 When a site is confined due to available land space developers are required to use a variety of methods of containing silt, by "silt fence", hay bales, silt ponds and if / when it rains a flocculent. These, [flocculent] is generally a chemical product that binds the sediments together so that they "fall out" of the muddy water and settle and are not released into the waters. These flocculants are generally a chemical "poly aluminium chloride" [PAC] and can have a devastating effect on the receiving environment if accidental over-dosing occurs. There are a variety of organic flocculent available currently on the market.

9.4 When undertaking earthworks applicants must use the TP90 guidelines as absolute "bottom Lines", and strive to achieve a much higher percentage of silt retention onsite.

9.5 There are proven ways to reduce the amount of sediment entering the ecosystem

- By creating a series of pools instead of just one forebay / silt pond
- Using organic flocculent compounds when flocculation is necessary.
- Use silt fences in conjunction with silt ponds, a "treatment train" approach".

10. Native Trees and Plants

10.1 Native trees and biodiversity are what make New Zealand unique. Prior to the arrival of Europeans, native trees were abundant, and used only following Karakia [prayer] and for specific purposes. To Mana Whenua these old trees were Tupuna Taonga, living entities that commanded respect.

10.2 Following the arrival of Europeans, entire Regions were “clear felled” then burnt for both the profit from the trees that were not only used for building houses within the country, but exported by the ship full, then the land turned into farm land. Imagine the greed of being able to destroy thousands of hectares of forest, hundreds and thousands of years old, there for “the taking.”

10.3 Sadly this attitude prevails today in some instances, and even our current and proposed Council Plans to not offer “blanket protection” to these remaining old trees. Each tree has to be individually protected if not within a covenant.

10.4 Ngati Tamaoho believes that all trees over 200 years old should be automatically protected.

10.5 There are so many exotic plants and trees within our society today, and not all of them are welcomed. Some have proven to be pests, while others drop their leaves in the autumn and block stormwater infrastructure, while adding to the nitrate content within the waterways.

10.6 There are also a lot of “hybrid” trees and plants around, as people meddle with nature to achieve “better looking’’ or “producing” trees/plants.

10.7 It is distressing to see areas denuded of original flora. Some areas were specifically named because of a particular tree species that thrived there, only today to find not even one still flourishing.

10.8 Ngati Tamaoho support and promote the use of “eco-sourced” trees and plants within their rohe, to achieve the outcome of original species returned to the area from locally sourced seed.

13. Groundwater Recharge

13.1 Groundwater recharge is vital to retain base flows within streams, and to keep aquifers recharged. In some areas [depending on soil type] rainwater can take between 1-100 years to seep down into aquifer]. Stream baes recharge does not take so long.

13.2 Dr. Tom Schueller is a leading expert in groundwater recharge, and his evidence was taken into account at a recent Environment Court hearing regarding the Long Bay marine reserve area during a proposed development.

13.3 Piping of any water flow lowers the base flow of a stream, piping causes higher peak flows, and lower base flows. Impervious cover also has a devastating effect on stream base flow health. Up to 10% impervious cover of any site reduces base flow by 50%. Up to 50% and over of impervious cover of an area totally negates the ability for stream base flow recharge [Tom Schueller].

14. Wastewater Alternative

THE NATURALFLOW SYSTEM [Source, Google]

12 Reasons Why | Compare Us | Operation and Care | Wetland Plantings | Understanding Vermiculture

The 'NaturalFlow System' works just how it sounds!

Keeping it simple is our philosophy, using power free natural aerating processes, instead of mechanical pumps etc, to treat wastewater to advanced secondary levels.
Nature is one huge recycling mechanism, and the 'NaturalFlow System' works with 'Nature' by harnessing these forces, that have been quietly working together for thousands of years to break down and decompose waste all around us, and positioning them in an enclosed eco-system that simulates the forest floor, to treat and break down your wastewater until it is perfectly safe to be re-introduced into the environment, vie the soil, and of course – **'Nature' does all this, for you, for FREE!**

POWER FREE TREATMENT | ODOURLESS | ROBUST | QUIET | COST EFFECTIVE | NATURAL

Moving up the chain of life-forms capable of digesting solid matter from human and food wastes, Waterflow NZ Ltd came to the conclusion early that vermiculture and biological processes offered by far the best means of treatment, for the solid waste, without using mechanical or electronic means. It has been shown, through extensive trialling worldwide, these vermiculture processes which reduce the solids by up to 95%, are unmatched by any other process. There are no mechanically moving parts in these processes and nature's **power is FREE!**

Simply put… 'We do it Simpler, Nature's Way!

Treatment Processes

As is commonly known by industry and home owners alike, that it's the solids, grease and grit of wastewater that is the major cause of septic or sewage system failures. NaturalFlow solves this problem from the very start, by separating the black water (toilets and kitchen sink) from the grey water (showers, baths, basins, laundry etc…) at its source so there is no emulsifying of the solid waste with the bulk of the wastewater.

Black Water Treatment

Treatment of the black water commences in a purpose designed unit known as the WORMORATOR®, which is an enclosed Eco-System simulating the forest floor, where the solids are separated from the liquid and treated through vermiculture and other natural processes and filter media's, which do not require any power source.
In the NaturalFlow WORMORATOR® chamber, the Black Water is directed onto a bed of bark medium which is designed to filter out the liquid and retain maximum solids. These residual solids are seeded with Tiger Worms which then break them down and convert them into valuable water soluble nutrients.
The liquid wastewater and nutrients then trickle flow through various levels of natural filtration medias, which further purify and treat them, to high levels of clarity, until it is ready to be introduced into the soil vie a Land Application System (Disposal Field), according to AS/NZS 1547 Standards and other relevant Local Authorities requirements.

Grey Water Treatment

Treatment of the large volume grey water, as separated from the black water, is greatly simplified, and is accomplished through a series of natural settling and filtering processes that successively reduce scum and solids to a point where they are insignificant.
Given that grey water has low solids but will carry soap scum that, if retained for too long, will begin to putrefy (become oxygen depleted and allow anaerobic bacteria to proliferate), retention time is important. It has become more and more apparent through field testing and trials, by many authorities, that the sooner this water is returned to the environment the less hazardous it is.

Final Disposal

After treatment the black water is recombined with the grey water for final disposal into the soil.
The treated effluent is dose loaded from the NaturalFlow System, via a gravity or pump discharge system, into whatever Land Application System best suits your site or needs whether it be driplines, ETS beds, mounds, conventional trenches etc… designed according to AS/NZS 1547 and the relevant Local Authorities' requirements.

The size and extent of the disposal system is determined by the receiving environment and the expected flow volumes. Factors such as soil types, slope and the proximity of potentially sensitive environments such as creeks and waterways, determine the extent, location and type of disposal system chosen.

Cost Effective

With simple, straightforward installation and operation, the **'NaturalFlow System'** requires no power in the treatment processes, has extremely little maintenance requirements, and is cost effective from day one and into the future.

Environmentally Friendly

NaturalFlow is a **natural system** that uses well-established, **sustainable natural processes** to treat domestic and commercial wastewater. The system does not draw on any other resources and does not use external power in any of the treatment processes. NaturalFlow supports **self-sufficiency**, is easy on the ear and on the eye, and is a quiet passive system with no noisy mechanics or high-tech electronics. The resulting effluent is **odourless**, and with the system housed beneath the ground - the NaturalFlow will soon be completely hidden by plant life.

Grey water comes from Laundry, Baths, Showers and Hand Basins

Black water comes from toilet and Kitchen Sink

Wormorator™ Vermiculture module

NaturaFlow Treatment Processes

NaturalFlow Treatment Processes

Treated Black and Grey Water blended together for final disposal into the soil as per Council Regulations

CONCLUSIONS

AND

RECOMMENDATIONS

Heritage and Archaeological

In addition to the commentary and recommendations contained within the *Te Aranga* section of this plan, the following recommendations are made:

In view of the recorded archaeological site on the property and the presence of others in its immediate surrounds, as well as the high likelihood of historic Maori use and occupation, and the land's Maori ownership until 1885, an Archaeological Authority should be sought from the NZ Historic Places Trust before any further investigation and/or earthworks ensues.

Accidental Discovery Protocols observed on the site during its development should take due cognisance of the protocols appended to this plan. If other parties, including but not limited to the NZ Historic Places Trust, require that on-site monitoring during earthworks operations be carried out by a qualified archaeologist that person should have the trust and confidence of Ngati Te Ata.

Given recorded archaeological sites at the stream mouth and historic Maori and colonial use of Manukau Harbour, the treatment of the esplanade reserve is key to identifying cultural and natural heritage values and their management. Those residential sites located immediately adjacent to the stream and foreshore needs to be set back sufficiently to allow for high-quality environmental management and public access to the stream and foreshore.

It is recommended that the history of the Drury area be recognised as one aspect of the site's historic heritage value and that consideration be given as to how the history of the village be acknowledged in tandem with the Maori cultural and amenity values of the site.

It is recommended that any design motifs introduced to the site enhance the cultural heritage values of the subdivision and create a sense of place for residents by:

a) referencing local maunga and nearby waterways

b) evoking the layers of history that make up the modern-day cultural

landscape of the area; from native forest and iwi resource area, to colonial farmland, and residential suburb.

It is recommended that iwi are given first rights to name the Bremner SHA subdivision, streets and parks/reserves contained therein with appropriate historic names that reflect the heritage values of the project site. This is to retain and ensure that the history through the 'old' names of the area is maintained.

We do not support any method of transporting wastewater where it crosses over or under waterways. Further engagement will be required if an alternative of waste to water is not provided.

Mitigating environmental impacts on the land is the classic route towards ensuring kaitiakitanga is observed. The applicant and the contracted firms should look at forming an environmental mitigation package in collaboration with Ngati Te Ata and other iwi which reflects the nature and term of the proposed subdivision and the effects of the development on our cultural landscape.

The findings disclosed within this report are that <u>there will be</u> an impact on both intangible (spiritual) and tangible cultural values. However from a cultural perspective there is no reason why the proposed subdivision should not proceed on condition that the recommendations of this report and other CVA Reports from iwi are provided for.

The following recommendations from the Tamaoho report are supported by Ngati Te Ata:

16.9 Ngati Tamaoho recommends the following principals engaged moving forward.

- All streams and esplanades preserved in their natural state
- A minimum of 20meters esplanade reserve and 10 meters for stream riparian's
- All riparian plantings to be eco-sourced natives.
- Further engagement regarding the three Islands, opportunities for public access [if applicable] and natural reserves. Work with DOC to implement some kind of co-management plan.
- Ngati Tamaoho are committed to sustainable development in all areas
- All stormwater devices outside of the 100 year flood plane
- All drains, waterways, wet areas and overland flow paths preserved and enhanced

36

- A minimum of a three train, bio/low impact design treatment for all stormwater runoff
- Advocated reuse of roof water to lessen effects of water take from public supply
- Groundwater recharge implemented
- Alternative wastewater disposal methods investigated as a priority
- Narrower roads = less impervious=less flow=smaller raingardens
- Use of pervious paving for footpaths [increases groundwater recharge ability]. Pervious paving =$130perm2 compared to concrete=$100-110perm2
- Roading [where possible] to be around esplanade to allow for visual amenity
- Removal of culverts and replacement with bridges [unless for pedestrian access only]
- Removal of crack willow weed by poisoning [cutting them down releases "broken off bits" to take root and proliferate further downstream.
- Retention of view shafts for visual amenity.
- Use of "non chemical" methods for weed removal, as far as possible
- Cultural monitoring, especially around stream and coastal margins
- Naming opportunities

The following Heritage recommendations are supported (from Dr McEwan reports):

Information Gaps and Areas for Future Investigation

The interconnected cultural and environmental heritage values embodied in the maunga, moana, awa and whenua [mountains, ocean, rivers and land] of the RUB South area need to be acknowledged and protected.

It is highly desirable that additional cultural heritage sites are uploaded to the CHI. At present the CHI gives the impression that the potential RUB South area features few cultural heritage resources and thus it implies that cultural heritage values will not be greatly affected by future development.

Kim Tatton's 2001 report *Cultural Heritage in the Auckland region: Priority Areas for Survey and Assessment* identified the Pukekohe Hill Special Policy Area and the Manukau Harbour shoreline and creeks as priority areas within Franklin District. Tatton stated that the 'potential for cultural heritage resources being present [on Pukekohe Hill] is not high' but noted that pressure to develop the hill for residential purposes made survey work desirable [Tatton, p. 30].

Tatton reiterated in the discussion of Papakura District that 'the comparatively small number of sites recorded is a direct result of the limited amount of survey that has been undertaken, and does not indicate the actual or potential number of sites that exist or existed' [Tatton, p. 45]. Both urbanisation and farming were identified by Tatton as key threats to cultural heritage sites within Papakura District [Tatton, p. 46].

Priority areas for survey work within Papakura district that were identified by Tatton in 2001 included Pahurehure Inlet, Drury Creek and Oira Creek, in addition to the Red Hills and Drury Countryside Living Areas [Tatton, p. 47]. An update of the Papakura section of the Tatton report [2011] added Drury and District to the priority area, scoring it higher than the other areas identified in 2001.

The distribution of identified cultural heritage and archaeological sites within the indicative RUB South area is heavily weighted to the shore and the banks of tidal creeks and rivers; these sites are predominantly shell middens. Some of these sites may have been short-stay camps, some longer-term settlements. The sites indicate intensive harvesting of kai moana and either a large population in the vicinity or transient groups from further afield, or a mixture of both over time. More in-depth excavation and analysis of the sites would be necessary to clarify the use, re-use and longevity of such places.

The distribution is also an indication of the intensity of recording; this is reflected in the sequential numbering of sites within small areas and is probably the result of systematic archaeological site surveys in either proscribed stretches of coastline or in a few inland areas. The lack of identified sites of cultural interest in other areas is more likely to be the result of the absence of systematic surveys rather than little or no occupation by mana whenua.

Specifically, there are very few recorded archaeological sites along some of the reaches of the Drury Creek, which is unlikely to be a true reflection of occupation. Site surveys along these shores are likely to result in further knowledge of cultural heritage through identification of archaeological sites.

Wetland areas need to be recognised for having potential cultural significance. Traditionally, Maori placed wooden and textile taonga into swamps for preservation in their anaerobic conditions; swamps were also used as hiding places for significant or valuable taonga; while certain swamps or mudflats were used for dyeing muka and flax prepared for whariki. In the Waikato, Bay of Plenty and Horowhenua there are several instances of pa on man-made artificial mounds in swamps or on lake margins – such sites may be present in the RUB area and consideration of this should be addressed in any development situation involving drainage.

North-facing slopes may have been cultivation areas; these could be identifiable through analysis of aerial photographs, or through soil analysis and/or traditional knowledge. Some traditional gardening sites also have storage structures such as below-ground rua or rectangular kumara pits. These may have already been identified as archaeological sites, but the associated gardens not identified, and in the event of disturbance in areas adjacent to storage structures priority needs to be given to identifying garden soils.

It is suggested that, in collaboration with mana whenua, a programme of systematic recording is undertaken, priority being given to:

- those areas highlighted by mana whenua as culturally significant;
- those areas likely to be threatened by disturbance through development;
- those areas that currently show no heritage sites.

Further information could be gathered through analysis of museum collections by provenance of taonga; local knowledge of collectors or farmers who have found Maori taonga on their land; and interviews with kaumatua. Such information could be used to create a database of heritage information of importance to mana whenua and used to guide further development.

The South Auckland or Raupatu Document Bank, compiled by the Waitangi Tribunal, may be of assistance to support future research efforts by Mana Whenua and Auckland Council.