Thursday, 13 April 2023

Te Hui o Te Kaunihera ā-Rohe o Heretaunga
Hastings District Council
Commissioner Hearing

Kaupapataka

Document 3

NOTIFIED RESOURCE CONSENT APPLICATION FOR PROPOSED MEDIUM DENSITY RESIDENTIAL LIVING IN THE HASTINGS CENTRAL COMMERCIAL ZONE - 206 QUEEN STREET WEST, HASTINGS (RMA20220352)

Te Rā Hui: Meeting date:	**Thursday, 13 April 2023**
Te Wā: Time:	**9.00am**
Te Wāhi: Venue:	**Council Chamber** **Ground Floor** **Civic Administration Building** **Lyndon Road East** **Hastings**

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ITEM	SUBJECT	PAGE

2. NOTIFIED RESOURCE CONSENT APPLICATION FOR PROPOSED MEDIUM DENSITY RESIDENTIAL LIVING IN THE HASTINGS CENTRAL COMMERCIAL ZONE - 206 QUEEN STREET WEST, HASTINGS (RMA20220352)

Document 3 Containing these attachments

HASTINGS DISTRICT COUNCIL
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TE KAUNIHERA Ā-ROHE O HERETAUNGA

Updated in Response to Council's S92 RMA Further Information Request (17 October 2022)

Proposed Resource Consent Conditions

General

1. That the development proceeds in accordance with the plans and information submitted in the application (HDC Ref: PID [insert number]) Resource Consent: RMA20220[insert number], application lodged on the [insert date] August 2022, unless otherwise amended by the following conditions of consent.

2. That a monitoring deposit of $[insert].00 (including GST) shall be payable to cover the reasonable costs of monitoring compliance with the above conditions in accordance with the Council's schedule of charges.

   In the event of non-compliance being detected by monitoring or justified complaint and/or the costs of monitoring consent exceeding the deposit, the costs to Council of any additional monitoring shall be paid by the consent holder in accordance with the Council's advertised schedule of fees.

Photographic Record of Buildings to be Demolished

3. Prior to the commencement of works, a photographic record of the Hawke's Bay Farmers Co-operative Garage building at 206 Queen Street West, Hastings, shall be prepared and submitted to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee). The record shall particularly include the building's steel barrel vault trusses, curved roof form, exposed concrete structural frame, brick infill panels, fuel inlet valves, evidence of the former service pits (visible in the existing floor slab), evidence of the former mezzanine floor (as indicated by plans and column remnants), roof ventilators and the expressed beam and column structure.

4. Prior to the commencement of works, a photographic record of the building at 223 Heretaunga Street West, Hastings, shall be prepared and submitted to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee).

Strengthening of the Hawke's Bay Farmers Co-operative Garage Façade

5. Prior to commencement of works, the consent holder shall prepare and submit to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee) for approval, details of the final design for the strengthening of the façade which shall be certified by a suitably qualified and experienced heritage architect as achieving the following outcomes:

   (a) Seismic strengthening elements are located to correspond with the existing structural frame and members at parapet level follow the curved form of the parapet;
   (b) The secondary frame shall reflect the original 1925 façade, such that horizontal elements align with the parapet and mid-floor structural frames; and
   (c) Details of member dimensions, junctions and connections, and the design of the screen elements are provided.

New Apartment Building

6. Prior to commencement of works, the consent holder shall prepare and submit to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee) for approval, a final design for the exterior of the consented apartment building, which shall be certified by a suitably qualified and experienced heritage architect as achieving/ including the following:

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(a) The style of the new building is contemporary but respects the character of adjacent heritage buildings regarding size, disposition of openings, bulk, scale and articulation, building materials, depth of window reveals, and width of columns;
(b) Plastered walls of the new building have a simple cornice in keeping with detailing of adjacent heritage buildings (i.e. not simply a metal cap flashing);
(c) Brick elements are unpainted; and
(d) The building is differentiated from the retained façade of the Hawke's Bay Farmers Co-operative Garage building by a 6m wide setback.

7. Prior to any Building Consent being granted for the apartment building, an Acoustic Design Report prepared by a person qualified and experienced in acoustics shall be provided to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee). The Acoustic Design Report shall identify the means by which the noise limits specified in General Performance Standard and Term 25.1.7C of the Hastings District Plan for noise sensitive activities in the Central Commercial Zone will be complied with and contain a certificate by its author that the means given therein will be adequate to ensure compliance with the acoustic design requirements specified in the Standard and Term.

~~7.~~8. All roof surfaces shall be constructed from inert materials or painted with non-metal-based paint and thereafter maintained in good order.

223 Heretaunga Street Façade

9. The new glazed canopy and frame associated with the retained façade of the building at 223 Heretaunga Street West, Hastings, shall be within the existing veranda fascia.

~~8.~~10. All structural works to support retention of the existing façade of the building at 223 Heretaunga Street West, Hastings, shall be constructed so that no part of the structure protrudes above the existing façade or beyond the existing Recession Planes of the building.

Earthworks

~~9.~~11. The consent holder shall submit to Council a final design, detailing the earthworks to be carried out, overland flow paths and proposed finished ground levels, for approval by the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee), prior to commencement of earthworks.

~~10.~~12. Prior to removal of the concrete floor of the HB Farmers Garage building or the commencement of any earthworks on the site, a Contaminated Site Management Plan / Remediation Action Plan shall be submitted to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee) for certification that it includes the following:
(a) Health and safety protocols;
(b) Excavation protocols;
(c) Dust suppression;
(d) Unexpected discovery of contamination protocols; and
(e) Contaminated soil management procedures and options for remediation.

~~11.~~13. All earthworks and demolition work shall be undertaken in accordance with the protocols, and contaminated soil management and remediation procedures prescribed within the Contaminated Site Management Plan / Remediation Action Plan certified under Condition 4.

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~~12.~~14. The consent holder shall install sediment and erosion controls prior to the commencement of earthworks on the site and these shall be maintained throughout the duration of the demolition and construction works. This shall include the management of dust, whereby exposed earth shall be regularly dampened with water to ensure that no wind borne dust is deposited outside the application site boundaries.

~~13.~~15. There shall be no off-site deposit of sediment or detritus from the area of the works or deposit of sediment or detritus into any stormwater drain or overland flow path.

~~14.~~16. Any importation of fill shall only 'clean fill' (i.e., no rubbish, no stumps, concrete bricks and no other substance containing combustible, putrescible, degradable or leachable components, hazardous substances, products or materials derived from hazardous water treatment, hazardous waste stabilisation or hazardous waste disposal practices, medical land veterinary waste, asbestos or radioactive substances or liquid waste).

Stormwater

~~15.~~17. The stormwater discharge from the site for the proposed development shall not increase above the current level. This shall be achieved by the provision of off-line stormwater attenuation tanks and attenuation in the carparking / vehicle manoeuvring area, and directing all additional drainage to King Street North, and in accordance with the "206 Queen Street West Servicing Report" (prepared by Infir and referenced J22172~~-1~~, dated ~~22 June~~11 October 2022), provided as part of the application information ([inset Council reference number]).

On-Site Parking

~~16.~~18. Detailed engineering plans prepared by a suitably qualified and experienced person shall be submitted to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee) for the design and layout of the additional ~~32~~ 28 parking spaces to be located on the site (being 15 within the ground floor of the apartment building, and 13 along the outside of the exterior wall of the apartment building). The plan shall demonstrate that:

(a) All parking spaces, access and manoeuvring areas shall be of a sufficient size and layout to accommodate a 'passenger vehicle' as defined in the "Austroads Design Vehicles and Turning Path Templates Guide" AP-G34-13, Austroads, 2013 – (refer to Appendix 72 of the Hastings District Plan for the dimensions of this vehicle);

(b) Parking areas, together with access and turning space, shall be designed to ensure that vehicles negotiate the parking area at a safe speed and are not required to reverse either onto or off a street;

(c) The parking area shall be sealed and parking spaces marked out; and

(d) There shall be illumination of access drives and internal pedestrian areas within the carparks to allow for safe use of the parking areas during the hours of darkness to users. Such illumination shall be shaded and directed away from adjoining roads and shall be less than 8 lux spill measured at a height of 1.5m above the ground at the boundary of the site.

These details shall be submitted to, and be approved by, the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee), prior to the commencement of any works for the parking areas.

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The carparking areas shall be constructed in accordance with the approved plans.

Public Park/Greenspace Landscaping, Fencing and Paving

~~17.~~19. Prior to the construction of the public park/greenspace area and associated walls/fencing and paving, the consent hold shall submit to the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee) a detailed design for the construction of the Public Park/Greenspace Plan which includes the following:

(a) Landscape planting, including the species types, numbers, sizes and locations of planting;

(b) Expression of the pre-1867 natural environment through use of stormwater gardens and capturing water for an urban wetland environment;

(c) Walls and fencing around the perimeter of the park/greenspace;

(d) Final installation details for re-use of steel roof trusses from the HB Farmers Co-operative Garage building, including dimensions of new members (e.g. posts and beams), and detail of junctions and connections.

(e) Pavement pattern (which shall be representative of the traditional pre-1867 footpaths through the wetlands that originally existed in the area of the site;

(f) Type and location of interpretative material that will be incorporated into the design of the park/greenspace to inform the public of the architectural and social history of the site, including the history of the HB Farmers Co-operative Garage building and the design rationale for the 'ghost' frame used to strengthen the retained façade of the building; and

(g) Type and location of lighting to be provided within the park/greenspace.

~~18.~~20. The consent holder shall ensure that all landscaping within the park/greenspace is maintained (including, but not limited to weeding, mowing, pruning and watering) on a regular and as-needed basis to the satisfaction of the Council's Environmental Consents Manager, Planning and Regulatory Services (or nominee), so as to ensure the successful implementation of the submitted Public Park/Greenspace Plan.

Any plant specimens that are removed, die or become damaged, or are defective within 5 years of implementation of the approved Public Park/Greenspace Plan shall be replaced with specimens of a similar size and species as originally proposed to ensure successful implementation of the landscaped areas.

Paint Colours

~~19.~~21. The exterior of the facades retained from the buildings demolished on the sites at 206 Queen Street West and 223 Heretaunga Street West, and any painted surfaces of the exterior of the apartment building, shall be finished in colours in accordance with the following:

(a) Exterior walls of the building shall be painted in any colour from the British Standard Colour Range BS5252 A, B, or C31, C33, or C35 categories.

(b) Trims (including window frames, doors, balustrades or any architectural detailing or plaster decoration on the exterior façade of the building) shall be painted in any colour from the British Standard Colour Range BS5252 A, B, C, or D categories.

Advice Note:

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The British Standard BS5252 Colour Range colour chart is available from any paint supplier. Further guidance for colour scheme planning is provided within the Hastings CBD Architectural Design Guide.

Construction Noise

22. Any noise arising from construction, maintenance and demolition work shall comply with NZS6803:1999 Acoustics – Construction Noise. Construction Noise shall be measured and assessed in accordance with NZS6803:1999 Acoustics – Construction Noise.

Vesting of Service Lane

~~20.~~23. The consent holder shall vest in the Hastings District Council the existing access lane along the norther boundary of the site as a 'Service Lane' prior to the commencement of any construction for the apartment building authorised under this consent.

ADVICE NOTE:

1. An approved Archaeological Authority from Heritage New Zealand Pouhere Taonga will be required under the Heritage New Zealand Pouhere Taonga Act 2014 to modify or destroy archaeological sites prior to the commencement of site works.

206 QUEEN STREET WEST SERVICING REPORT – J22172-6

Report prepared by Johan Ehlers

16 December 2022

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PREPARED BY		
Johan Ehlers	22/6/2022	
REVIEWED BY		
Scott Estcourt	22/6/2022	

	DATE	DESCRIPTION	PREPARED BY
J22172-2	11 October 2022	Scheme plan update	Johan Ehlers
J22172-3	17 October 2022	Exec summary	Johan Ehlers
J22172-4	17 November 2022	20 Apartments	Johan Ehlers
J22172-5	18 November 2022	20 Apartments	Johan Ehlers
J22172-6	16 December 2022	Report Updates	Johan Ehlers

1 Executive Summary

Infīr was engaged by Hastings District Council to prepare a 3-waters report for a proposed redevelopment of 206 Queen Street West, Hastings. The development will consist of two commercial tenancies and twenty apartments:

- 122m^2 Café/commercial tenancies
- 2 x 73m^2 2-bedroom apartments
- 2 x 75m^2 2-bedroom apartments
- 2 x 78m^2 2-bedroom apartments
- 14 x 56m^2 1-bedroom apartments

This report describes three-waters servicing for the proposed development. The level of information provided is appropriate for resource consent application purposes. A detailed design will be required for Building Consent and Engineering Approval. It is understood that the Client will lodge the application for resource consent to Hastings District Council together with all supporting information, including this report.

The report demonstrates:

- How stormwater quality and quantity is to be managed.
- That the site can be serviced, taking into consideration the capacity of the local networks and the requirements of Hastings District Council.
- That conformance to standards and codes can be achieved.

Stormwater

The redevelopment of the site will include the establishment of newly landscaped areas, resulting in a reduction of impervious coverage and stormwater runoff. However, the runoff coefficients will exceed Hastings District Plan requirements and attenuation will be required. It is proposed to attenuate stormwater runoff from the building roof and discharge to the DN750 main in King Street North via a new DN225 main.

The areas adjacent to the building will discharge to Queen Street West and stormwater runoff from sealed surfaces in the carpark west of the building will be discharged to King Street North.

The concept design aims to satisfy Rule 7.3.5L of the Hastings District Plan which gives the allowable runoff coefficient for the development during the 1 in 5-year (20% AEP) event as 0.8 and 0.8 during the 1 in 50-year (2% AEP) event. It is also proposed to limit discharge from the site during 1 in 100-year (1% AEP) event to the runoff rate associated with a 2% AEP rainfall intensity and 0.8 runoff coefficient.

Storage of 15m^3 in above-ground tanks and 1.2m^3 of ground storage for the attenuation of hardstand runoff (draining to King Street North) will be required to limit the overall site runoff to the District Plan stormwater limits.

Roof surfaces must be constructed of inert material or painted with no-metal based paint and maintained in good order, as required by the District Plan.

Wastewater

The calculated average daily dry weather flow (ADWF) for the development is 0.163L/s, and the estimated peak wet weather flow (PWWF) is 0.85L/s. The DN150 sewer main in the western part of the site drains in a northerly direction and discharges into a DN450 trunk sewer in Nelson Street North, 230m north of the site. HDC's GIS system shows that the portion of the DN150 main in the site was installed in 1915 so consideration should be given to replacing the main after the site has been cleared and before the new building is constructed because access will be unimpeded and reinstatement costs will be low. The site survey and scheme

plan overlay show that the existing sewer main is 1.2m from the proposed building outline. This is within the easement width that would usually be required by Council, and it is therefore proposed that this pipeline be replaced on an alignment further away from the building.

Water Supply

The estimated average daily demand for the development is 21,430 litres per day, and the peak-hour flow rate is 3.27L/s. A DN50 meter and DN63 connection from the DN100 main in Queen Street West is proposed. It would also be possible to connect to mains in King Street North and Market Street North.

Firefighting water supply

It has not yet been determined whether the building will be fitted with a fire sprinkler system. Specialised advice from fire engineers should be sought regarding fire-fighting system requirements during detailed design stage to ensure compliance with the Building Code.

The water supply system can provide fire flows up to 54L/s at high residual pressure (700kPa). This corresponds with a fire water classification 3 (FW3) which provides for fire cells up to 599m^2 in multistorey un-sprinklered apartment blocks (Table 1 SNZ PAS 4509). If fire sprinklers are installed, the required fire-fighting water flow rate will be 25L/s from hydrants plus the flow rate the fire sprinkler system requires to operate.

It will therefore be possible to design a system to satisfy fire-fighting water requirements. On-site storage may be required, subject to fire cell size and floor areas and the final fire water classification of the building, which shall be determined by the fire engineer.

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2 Site Description

The site is located at 206 Heretaunga Street West, Hastings, occupying an area of 3,144m^2. This is the area that is relevant for drainage purposes. The existing site is shown on Figure 1.

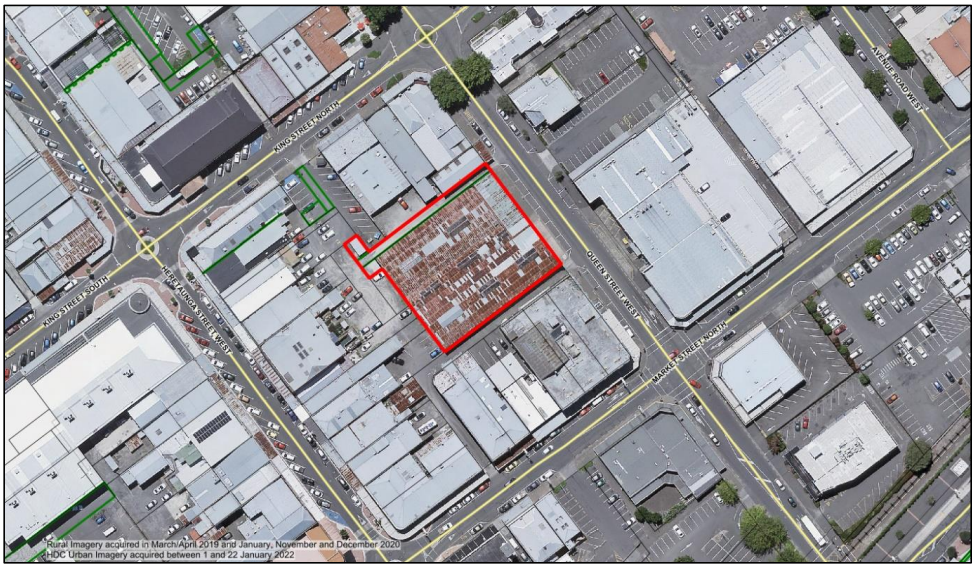


Figure 1 – Existing Site Plan

The site is within the Hastings District Council Central Commercial zone. Rule 7.3.5L of the Hastings District Plan requires the runoff coefficient from the site to not exceed 0.8 for the 1 in 5-year (20% AEP) and 1 in 50-year (2% AEP) events.

3 Proposed Development

The proposed development consists of a retail area, apartments, sealed areas for pedestrian and vehicular use, and landscaped areas. The development concept is shown on Figure 2.

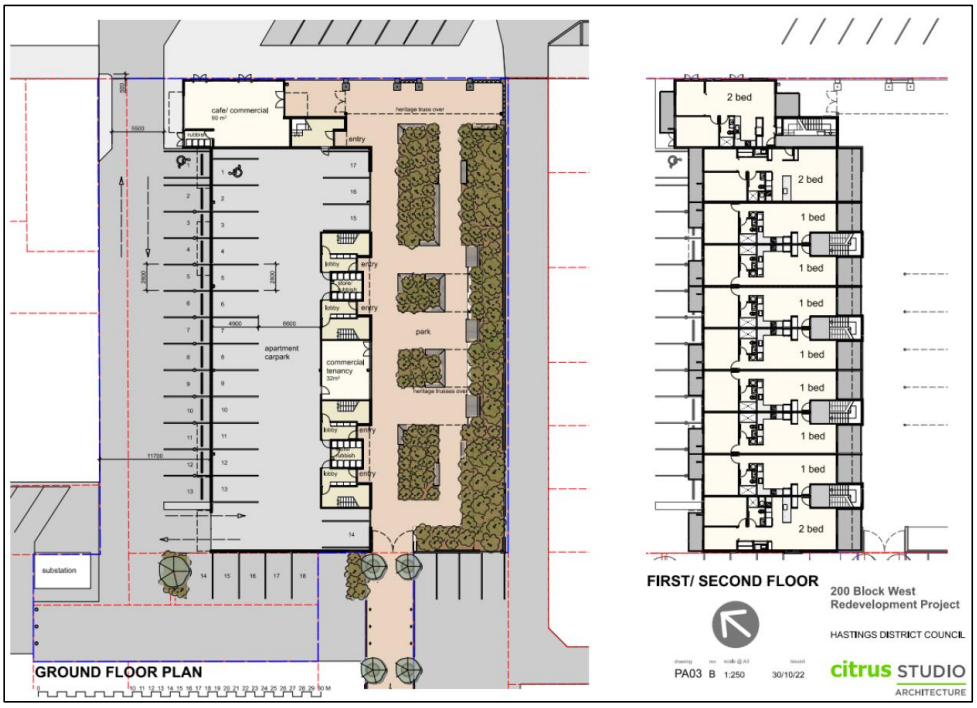


Figure 2 - Proposed Site Redevelopment Concept

The architectural concept drawings for the site redevelopment are contained in Appendix A.

4 Earthworks

4.1 General

The extent of the earthworks will be limited to the removal of the existing building and its foundations within the site, preparing foundations for the new building, reworking the carparking area and landscaping. The average earthworks depth will be what is required for road pavements, building foundations and landscaping, which is estimated at 400mm deep on average. For the 3,144m^2 site area the earthworks volume is estimated at 1,250m^3 cut and fill.

Access to the site shall be provided off Queen Street West and King Street North.

Hours of operation for all stages should be limited to comply with District Plan rules and noise should be limited to the levels allowed by the District Plan.

Construction Management should be undertaken in accordance with an approved Construction Management Plan and Sediment Control Plan to be developed specifically for the site.

5 Stormwater

5.1 General

The site is currently almost entirely impervious. The redevelopment of the site would include the establishment of newly landscaped areas, which will correspond to a reduction in the impervious area, and the rate and volume of runoff.

Stormwater laterals from buildings are typically connected directly to HDC mains, rather than to kerb outlets.

Overland flows through the site are from the centre of the site outwards to King Street North (northerly flow direction), Queen Street West (easterly flow direction) and through a small alleyway draining to Market Street North (southerly direction). Drainage from the alleyway draining to Market Street North has been excluded from the calculations because whilst the development will use the alley for access, there will not be any change in runoff from this area.

5.2 Design Standard

Hastings District Council's Engineering Code of Practice (the Code) requires primary stormwater protection systems to be designed to cope with design storms with a 20% probability of occurring annually. This fits with Clause E1.3.1 of the Building Code which requires surface water, resulting from an event having a 10% probability of occurring annually and which is collected or concentrated by buildings or sitework, to be disposed of in a way that avoids the likelihood of damage or nuisance to other property.

The Code requires the combined capacity of primary and secondary stormwater protection systems to be designed to cope with design storms with a 2% probability of occurring annually for existing developments and a 1% AEP level for new developments. Since this is an infill development, it could be argued that the 2% AEP design level should apply, however – to remove any room for doubt – a 1% AEP design with provision for climate change has been adopted. The climate change scenario that has been used is RCP6 for 2081 to 2100.

Clause E1.3.2 of the Building Code (which applies only to Housing, Communal Residential and Communal Non-residential buildings) requires that surface water, resulting from an event having a 2% probability of occurring annually, to not enter buildings.

The design of the stormwater system is aimed at ensuring that the units within the development area will not be prone to flooding during the 1 in 50-year event but equally that post-development runoff during the 1 in 5-year event and 1 in 50-year events will not exceed flows associated with a coefficient of runoff of 0.8.

5.3 Stormwater Design Concept

The concept design aims to satisfy Rule 7.3.5L of the Hastings District Plan which gives the allowable runoff coefficient for the development during the 1 in 5-year (20% AEP) event as 0.8 and 0.8 during the 1 in 50-year (2% AEP) event. It is also proposed to limit discharge from the site during 1% AEP event to the runoff rate associated with a 2% AEP rainfall intensity and 0.8 runoff coefficient.

Storage of 15m^3 in above ground tanks for the attenuation of roof runoff and 1.2m^3 of ground storage surface for the attenuation of hardstand runoff (draining to King Street North) will be required to limit the overall site runoff to the District Plan stormwater limits.

5.4 Rational formula

Stormwater runoff can be calculated with the rational formula which can be expressed as:

$$Q = \frac{ciA}{3600}$$

Where:

Q = Runoff (L/s)
c = Runoff coefficient
i = Rainfall intensity (mm/hr)
A = Surface area (m^2)

5.4.1 Runoff coefficients

The runoff coefficients that have been used for the purposes of this report are shown on

Table 1 - Runoff coefficients

Surface type	20%AEP runoff coefficient ($C_{20\%}$)	2%AEP runoff coefficient ($C_{2\%AEP}$)	1%AEP runoff coefficient ($C_{1\%\ AEP}$)
Permeable	0.3	0.5	0.5
Roofs	0.95	0.95	0.95
Asphalt and concrete	0.9	0.9	0.9

5.4.2 Rainfall depths

Rainfall depths for RCP6.0 for the period 2081 to 2100 were obtained from NIWA through their HIRDS4 system, shown in Table 2.

Table 2 - HIRDS rainfall depths (mm)

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	6.21	8.87	11	15.7	22.3	37.3	50.2	66	83.9	94.8	103	109
2	0.5	7.02	10	12.3	17.7	25	41.5	55.8	72.9	92.4	104	113	119
5	0.2	**10**	14.1	17.3	24.5	34.3	56.3	74.8	96.7	121	137	147	155
10	0.1	**12.4**	17.4	21.3	29.9	41.6	67.6	89.2	114	143	160	172	180
20	0.05	15.1	21	25.6	35.8	49.4	79.5	104	133	165	183	196	206
30	0.033	16.8	23.3	28.3	39.4	54.2	86.7	113	144	178	197	211	221
40	0.025	18	25	30.2	42	57.7	92	120	152	187	208	221	232
50	0.02	**19.1**	26.3	31.9	44.2	60.6	96.1	125	158	194	215	230	240
60	0.017	19.9	27.4	33.2	45.9	62.8	99.6	129	163	200	222	236	247
80	0.013	21.3	29.3	35.3	48.8	66.6	105	136	171	209	232	247	258
100	0.01	**22.4**	30.7	37	51	69.5	109	141	177	217	239	255	266
250	0.004	27.1	36.9	44.3	60.5	81.8	127	163	203	245	270	286	298

A time of concentration of 10 minutes has been adopted for the site.

5.5 Allowable runoff

The maximum runoff rates that may be discharged from the 3,144m^2 site are shown in Table 3.

Table 3 - Maximum allowable discharge rates

C: Runoff coefficient	%AEP: Storm annual exceedance period	($i_{10\ minute}$): 10-minute storm rainfall intensity (mm/hr)	Q: Maximum allowable discharge rate (L/s)
0.8	20	60	41.9
0.8	2	114.6	80.1
0.8	1	134.4	93.9

Note that the attenuation has been designed to limit discharge from the site during 1% AEP events to the runoff rate associated with a 2% AEP rainfall intensity and 0.8 runoff coefficient.

5.6 Non-attenuated runoff

Runoff rates from the developed site for the 20% AEP event are shown on Table 4. The allowable discharge rate for the 20% AEP event is exceeded by 4.1L/s. Attenuation is therefore required. The areas are shown on the drawings.

Table 4 - 20% AEP non-attenuated runoff

Sub-catchment	c: Runoff coefficient	Rainfall depth	Area	cA	Runoff rate
		mm	*m^2*	*m^2*	*L/s*
Area 4	0.9	10	787	708	11.8
Area 1	0.95	10	884	840	14.0
Area 2	0.3	10	187	56	0.9
Area 3	0.9	10	1,286	1,158	19.3
Total	**0.88**		**3,144**	**2,762**	**46.0**

Runoff rates from the developed site for the 2% AEP event are shown on Table 5. The allowable discharge rate for the 2% AEP event is exceeded by 9L/s. Attenuation is therefore required.

Table 5 - 2% AEP non-attenuated runoff

Area	c	Rainfall depth	A	cA	Runoff rate
		mm	*m^2*	*m^2*	*L/s*
Area 4	0.9	19.1	787	708	22.5
Area 1	0.95	19.1	884	840	26.7
Area 2	0.5	19.1	187	94	3.0
Area 3	0.9	19.1	1,286	1,157	36.8
Total	**0.89**		**3,144**	**2,799**	**89.1**

Runoff rates from the developed site for the 1% AEP event are shown on Table 6. The allowable discharge rate for the 1% AEP event is exceeded by 10.6L/s. Attenuation is therefore required.

Table 6 - 1% AEP non-attenuated runoff

Area	c	i	A	cA	Q
		mm	m^2	m^2	*L/s*
Area 4	0.9	22.4	787	708	26.4
Area 1	0.95	22.4	884	840	31.4
Area 2	0.5	22.4	187	94	3.5
Area 3	0.9	22.4	1,286	1,157	43.2
Total	**0.89**		**3,144**	**2,799**	**104.5**

5.7 Attenuation for 20% AEP events

It is proposed to attenuate stormwater runoff from the building roof by draining all the roof runoff into above ground tanks with a total volume of 15m^3, and discharge stormwater from the tanks at a rate of 9L/s. This configuration will operate as follows during 20% AEP events:

Time	*minutes*	10	20	30	60	120
I: Rainfall depth	*mm*	10	14.1	17.3	24.5	34.3
A: Area	m^2	884	884	884	884	884
C: Runoff coefficient		0.95	0.95	0.95	0.95	0.95
Q_{runoff}	*L/s*	14.0	9.9	8.1	5.7	4.0
$Q_{discharge}$	*L/s*	9	9	9	9	9
$Q_{directed\ to\ storage}$	*L/s*	5.0	0.9	-0.9	-3.3	-5.0
$V_{storage}$	m^3	3.0	1.0	-1.7	-11.8	-36.0

During 20% AEP 10-minute duration events the roof attenuation tanks will reduce the total discharge rate from site by 5L/s, from 46L/s to 41L/s. This is slightly below the maximum allowable discharge rate of 41.9L/s. The tanks will fill to a maximum volume of 3m^3. The additional capacity is needed for more intense rain events as described below.

5.8 Attenuation for 1% AEP events

It is proposed to attenuate runoff during 1% AEP events to the runoff rate for 2% AEP rainfall intensities and a runoff coefficient of 0.8. The permissible discharge rate from the site for 1% AEP events is therefore set at 89.1L/s.

During the onset of a 1% AEP event the roof attenuation tank will be discharging at 9L/s until the tank volume reaches 3m^3. The tank storage volume is set at 15m^3 to provide space for the balance of the rain event, as shown on Table 7.

Table 7 - 1% AEP event roof runoff attenuation

Time	*minutes*	10	20	30	60	120
i	*mm*	22.4	30.7	37	51	69.5
A	m^2	884	884	884	884	884
c		0.95	0.95	0.95	0.95	0.95
Q_{runoff}	*L/s*	31.4	21.5	17.3	11.9	8.1
$Q_{discharge}$	*L/s*	9	9	9	9	9
$Q_{into\ storage}$	*L/s*	22.4	12.5	8.3	2.9	-0.9
$V_{storage}$	m^3	13.4	15.0	14.9	10.4	-6.4

The tanks will reduce the 1% AEP 10-minute duration event runoff by 22.4L/s, from 31.4L/s to 9L/s. The tanks will reach their maximum volume of 15m^3 twenty minutes into the rain event and will empty out after two hours.

The roof attenuation tank will reduce runoff from the site during the 1% AEP event from 104.5L/s to 82.1L/s, a reduction of 22.4L/s. To reduce the discharge rate to the 2% AEP permissible rate of 80.1L/s a further reduction of 2.0L/s is required.

It is proposed to form a depression in the carparking / vehicle manoeuvring area as shown on the drawings to provide at least 1.2m^3 surface storage. During 1% AEP events the surface storage will operate as shown on Table 8.

Table 8 - Surface attenuation storage operation

Time	*minutes*	10	20
i	*mm*	*22.4*	*30.7*
cA Area 4		708	708
cA Area 2		94	94
cA Area 3		1157	1157
cA Total		1,959	1,959
Q_{runoff}	*L/s*	73.1	50.1
$Q_{discharge}$	*L/s*	71.1	71.1
$Q_{into\ storage}$	*L/s*	2.0	-21.0
$V_{storage}$	*m3*	1.2	-25.2

The surface storage will reduce the discharge rate by a further 2L/s during 10-minute duration 1% AEP events. The total discharge from site will be:

- Attenuated roof discharge: 9L/s
- Attenuated surface discharge: 71.1L/s
- Total discharge from site: 80.1L/s
- Maximum 2% AEP discharge rate: 80.1L/s
- Maximum 1% AEP discharge rate: 80.1L/s

The attenuation system will therefore ensure that the runoff coefficient for the site during 2% AEP and 1% AEP events will not exceed 0.8.

It is noted that specific design will be required for the on-ground attenuation storage area. The flow rate at which stormwater is released from the basin will be a function of the size of the area draining into it. The larger the area that drains into it, the larger the release rate can be.

The key point is that the basin must hold 1.2m^3 of water at the end of a 1% AEP 10-minute duration event. Allowing for a minimum release rate of 1L/s (to keep orifice sizing practicable) an area with a total runoff of 3L/s must drain to the on-ground attenuation storage area. At 134.4mm/hr rainfall intensity (22.4mm rain depth over 10 minutes) and a runoff coefficient of 0.9 this equates to an area of 60m^2. A minimum of 60m^2 sealed area should drain to the on-ground attenuation storage area.

5.9 Stormwater Treatment

An initial assessment of the risks posed to the environment from the various activities to be undertaken on the site is presented below.

Table 9 - Site risk assessment

ACTIVITY	POTENTIAL CONTAMINANTS	LIKELIHOOD	CONSEQUENCE	RISK OF CONTAMINATION
Roof drainage	Silt	Low	Low	Low
Roof drainage	Heavy metals	Low*		
Parking	Hydrocarbons, heavy metals and sediments	Medium	Low	Low

Roof surfaces are to be constructed of inert material or painted with no-metal based paint and are to be maintained in good order.

Table 3.1 of the 'Hawke's Bay Waterway Guidelines – Industrial Stormwater Design' provides a means of identifying what the potential source of contaminants from the site may be based on the site's core activity. However, this table has not been considered in this instance as it does not provide a match for the type of activity that this site will be used for.

The greatest risk that the site presents to the contamination of the environment is from loading and unloading activities, and from stormwater runoff from parking areas. It is considered that the site will present a low risk of contamination to the environment.

It is proposed to fit sumps with inserts to capture litter, debris and other pollutants larger than the screening bag aperture size. Sumps will be provided with silt pits for settling of sediments. Given the relative levels between the carpark finished surface and the kerb connection there is very limited scope to provide treatment of stormwater runoff.

It will be possible to fit a stormwater treatment device such as a Filterra units at the sump that will drain the 1.2m^3 surface attenuation area if a higher treatment standard is desired, but the limited site ground elevation would pose technical challenges for similar devices where piped connections are not available. The capacity of the DN225 stormwater main in Queen Street West is very limited and is therefore not considered to be a point of connection for discharge from a stormwater treatment device.

5.10 Flood Assessment

The Hawke's Bay Regional Council hazard portal shows that the site is not within an identified flood risk area. The buildings are exempt from clause E1.3.2 (which requires surface water, resulting from an event having a 2% probability of occurring annually to not enter buildings) as this clause applies only to housing, communal residential and communal non-residential buildings.

No changes are proposed to the existing floor levels which are at 3.33m (NZVD 2016).

The perimeter level of the building is currently practically flush with the existing hardstand yard area. This general arrangement will need to be preserved to ensure that the new carpark area is able to drain to the kerb outlet under gravity. Suitable building perimeter treatments (including concrete nibs and level threshold drains) may need to be employed for compliance with E2 (External Moisture) of the New Zealand Building Code.

A summary of the level differences from finished floor level to road centreline, top of kerb and boundary levels are provided in Table 10 below.

Table 10 - Relative level differences from finished floor level

DESCRIPTION	REDUCED LEVEL (NZVD 2016)	LEVEL DIFFERENCE FROM FINISHED FLOOR LEVEL
Road centreline	3.25m – 3.28m	0.05m – 0.08m
Top of kerb	3.03m	0.30m
Boundary level	3.19m	0.14m

A level difference of 150mm above road centreline is required by compliance document E1 for housing, communal residential and communal non-residential buildings. However, as these buildings will be for office use this requirement does not apply.

If the building floor level was raised to 150mm above the road centreline level (which is currently at between 50mm and 80mm above the road centreline) this would reduce the flood risk to the buildings. However, the risk of surface water entering the buildings is still considered to be low for the following reasons:

- Wave action from carpark surface ponding entering the buildings is low given that vehicle speeds will be low.
- A freeboard of 140mm from finished floor level to the boundary level is provided.
- Falls away from the building at 1:40 and 1:50 grades will be provided.

6 Wastewater

6.1 Existing Public Wastewater Network

DN150 sewer mains run along the northern and southern boundaries of the site. The HDC GIS system shows that the southern main is at a depth of approximately 2 metres. This is deep enough to service the site, but it also implies that the main should be shifted further from the proposed building.

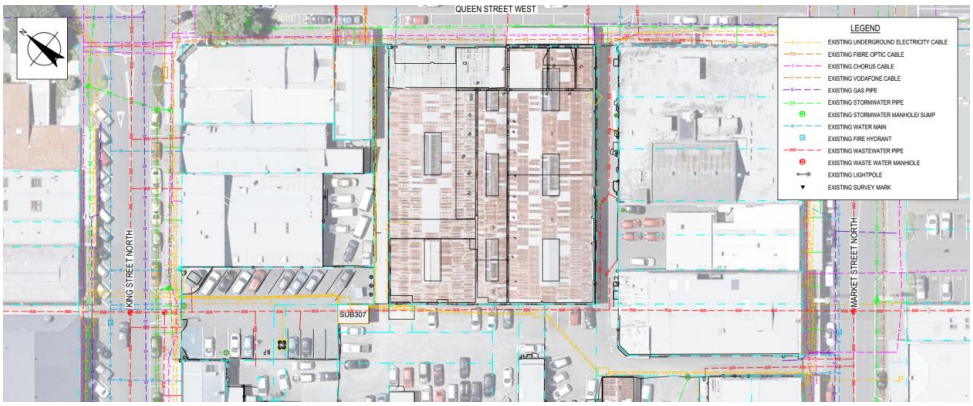


Figure 3 – Sewer main locations shown in red

6.2 Wastewater Design Flow Rates - Domestic

Schedule E, Clause 5.3.5.1 of the HDC ECoP provides the basis for the determination of the design flow for domestic discharges using the method outlined in NZS4404:2010.

6.2.1 Average Dry Weather Flow (ADWF)

The average dry weather flow calculated in accordance with the HDC ECoP which specifies that the average dry weather flow can be calculated as either 250L/p/EP or 0.0029L/s/EP.

Using Average Dry Weather Flow (ADWF) = 0.0029L/s/EP, where:

ADWF = 0.0029 x EP (L/s)

EP = Number of lots x equivalent population per lot

= 14 x 2 + 6 x 3.5 = 49 people

Note: HDC ECoP gives an equivalent population per lot as 3.5 for the general Hastings Region. This development consists of 14 one-bedroom and 6 two-bedroom apartments. Allowing for two persons per one-bedroom apartment and 3.5 persons per two-bedroom apartment, the design population for domestic purposes is 49 people.

Average Dry Weather Flow (ADWF) = 12,250L/s = 0.142L/s

6.2.2 Peak Dry Weather Flow (PDWF)

In accordance with NZS4404:

$PDWF = ADWF\ x\ PF_{dry\ weather\ diurnal}$

Where:

$PF_{dry\ weather\ diurnal}$ is a dry weather diurnal peaking factor, given as 2.5 from NZS4404 section 5.3.5.1(a)

$PDWF = 0.142\ x\ 2.5$

Peak Dry Weather Flow (PDWF) = 0.354L/s

6.2.3 Peak Wet Weather Flow

$PWWF = PDWF\ x\ PF_{dilution/infiltration}$

Where:

$PF_{dilution/infiltration}$ is a wet weather peaking factor, given as 2 from NZS4404 section 5.3.5.1(a)

$PWWF = 0.354\ x\ 2$

Peak Wet Weather Flow (PWWF) = 0.709L/s

6.3 Wastewater Design Flow Rates - Commercial

Table 5.1.3 of Chapter 5 (wastewater) of Watercare's Code of Practice for Land Development and Subdivision shows a design flow of 15 litres per day per net m^2 of floor area (including kitchen and dining areas) for wet retail such as restaurants. The peaking factor for Peak Dry Weather Flow is 2.0 and the peaking factor for Peak Wet Weather Flow is 6.7.

The restaurant area will be $90m^2$ in size. It is not known what the use of the $32m^2$ inner city tenancy will be. The highest use would be another food premise. Design flow rates for wastewater discharge from the restaurant and another food premise with a combined area of $122m^2$ is as follows:

• Commercial area	122	m^2
• Discharge per unit per day	15	L/day/m^2
• Total discharge per day	1,830	L
• ADWF	0.021	L/s
• Peak factor	2	
• PDWF	0.042	L/s
• Peak factor	6.7	
• PWWF	0.142	L/s

6.4 Total wastewater discharge

The sum of domestic and commercial wastewater discharge from the development is shown on below.

- Total discharge per day: 14,080 L
- Average Dry Weather Flow: 0.163 L/s
- Peak Dry Weather Flow: 0.397 L/s
- Peak Wet Weather Flow: 0.851 L/s

The average discharge in any 2-hour period is less than one litre per second.

7 Water Supply

7.1 Existing Public Water Supply Network

The public water supply network of:

- South of the site: A DN150 water main in Market Street North.
- East of the site: A DN100 main in Queen Street West.
- North of the site: A DN100 main in King Street North.
- Mains west of the site in Heretaunga Street West isn't accessible but the DN300 provides capacity.

7.2 Design Flow Rates – Domestic demand

Water supply demand for the development has been estimated using the parameters provided in the HDC ECoP and the methodology provided in section 6.3.5.3 of NZS4404: 2010.Note that Part 4 of HDC ECoP requires that a daily consumption of 400L/p/day be adopted rather that 250L/p/day as stated in NZS4404: 2010.

In lieu of demand information or peaking factors from Hastings District Council, the following peaking factors to be applied to the average day demand have been adopted:

- Peak Day Demand Peaking Factor = 2 (for populations below 2,000)
- Peak Hourly Demand = 5 (for populations below 2,000)

Design flows are presented below for the purposes of accessing the potential impact of the development on the water supply network.

7.2.1 Minimum Water Demand

Based on the number of apartments and occupancy rates described in section 6.2.1 the water supply system will service 49 residents.

The minimum water demand calculated in accordance with the HDC ECoP which specifies 400L/EP/day is provided below:

$$49\ people\ x\ \frac{400\ L/person/day}{86{,}400\ seconds/day} = 0.227 L/s$$

7.2.2 Peak Day Demand

Using a peaking factor (PF) of 2 from section 6.3.5.3 of NZS4404: 2010;

$$0.227 L/s\ x\ 2 = 0.45 L/s$$

7.2.3 Peak Hourly Demand

Using a peaking factor (PF) of 5 from section 6.3.5.3 of NZS4404: 2010;

$$0.45 L/s\ x\ 5 = 2.27 L/s$$

7.3 Design Flow Rates – Commercial demand

Table 6.1c of Chapter 6 (water) of Watercare's Code of Practice for Land Development and Subdivision shows a design flow of 15 litres per day per net m^2 of floor area (including kitchen and dining areas) for wet retail such as restaurants. The peaking factor for Peak Dry Weather Flow is 2.0 and the peaking factor for Peak Wet Weather Flow is 6.7.

The restaurant area will be $90m^2$ in size. It is not known what the use of the $32m^2$ inner city tenancy will be. The highest use would be another food premise. Design flow rates for wastewater discharge from the restaurant and another food premise with a combined area of $122m^2$ is as follows:

- Commercial area 122 m^2
- Demand per unit per day 15 $L/m^2/day$
- Total demand per day 1,830 L

Instantaneous maximum demand can be determined by looking at the fixtures that will be installed in the restaurant, and the number of fixtures that will operate simultaneously. Typical flow rates as per Table 3.2.1 of NZS3500.1 for various fixtures are listed below.

Even with three basin taps and a dishwasher running simultaneously the instantaneous flow rate will not exceed 0.5L/s per commercial site. The total instantaneous flow rate from two restaurant sites will be less than 1L/s.

Table 11 - Table 3.2.1 from AS/NZS 3500.1

TABLE 3.2.1
FLOW RATES AND LOADING UNITS

Fixture/appliance	Flow rate L/s	Flow rate L/min	Loading units
Water closet cistern	0.10	6	2
Bath	0.30	18	8
Basin (standard outlet)	0.10	6	1
Spray tap	0.03	1.8	0.5
Shower	0.10	6	2
Sink (standard tap)	0.12	7	3
Sink (aerated tap)	0.10	6	2
Laundry trough	0.12	7	3
Washing machine/dishwasher	0.20	12	3
Mains pressure water heater	0.20	12	8
Hose tap (20 nom. size)	0.30	18	8
Hose tap (15 nom. size)	0.20	12	4

7.4 Total design flow rate for commercial and domestic demand

The simultaneous demand for domestic and commercial water is likely to be less than the sum of the two. However, the commercial flow rate is relatively small, and it is a conservative assumption to simply add the flow rates together. The design flow rates are therefore as shown on Table 12.

Table 12 - Water demand

	Domestic	Commercial	Total
Daily volume (L)	19,600	1,830	21,430
Average day (L/s)	0.227	0.021	0.248
Peak day (L/s)	0.45		
Peak hour (L/s)	2.27	1.0	3.27

A DN50 water meter will have sufficient capacity for the development. A DN63 PE connection is generally sufficient for flow rates of this magnitude but the pipe size may have to be increased if the run lengths are long. This can be finalised at building consent stage. It will also be necessary to consider pipe sizing inside the building in conjunction with pipe sizing outside the building to ensure that minimum pressure is maintained.

It is noted that a new DN150 water main in the western berm of Queen Street West from Market Street North to King Street North will provide capacity for domestic and fire demand to no less than the capacity of the existing system. The advantage is that the points of supply will be at the development's frontage. This is especially advantageous for the fire-fighting water supply.

7.5 Firefighting requirements

Hastings District Council has advised that the following flow rates have been measured in the vicinity of the development.

Table 13 - Fire flows and pressure

	Flow rate	Flow pressure	Static pressure
	L/s	kPa	kPa
105 Market Street	54	700	850
Intersection Market & Queen	54	700	850
211 Queen St West	42.1	700	850
Intersection King & Queen	48.8	700	850
107 King St Nth	48.8	700	850

The New Zealand Fire Service Fire Fighting Water Supplies Code of Practice (SNZ PAS 4509:2003) classifies fire-fighting water supplies required for buildings on a scale from W1 to W8, depending on fire-fighting water supply requirements.

7.5.1 Sprinklered building

If a building is sprinklered then it is always classified as W3 and the fire-fighting water supply to the building must be sufficient to drive the fire sprinkler system, in conjunction with providing fire-fighting water for fire-fighters. The fire-fighting water that is required for fire-fighters can be provided in the form of 45m^3 of storage available within 90m of the fire risk and sufficient for 30 minutes, or 25L/s from a maximum of two fire hydrants within a radial distance of 270m with at least one within 135m, flowing at a minimum of 12.5L/s each. The fire-fighting storage can also be a combination of on-site storage and reticulated supply.

The required flow rate, minimum pressure and duration of sprinkler supply is best determined during detailed design. 25L/s capacity from the reticulated system is reserved for flows from fire hydrants, some capacity must be reserved for domestic demand in the area and the balance will be available for supply to the fire sprinkler system. The Building Code prescribes test methodologies to determine the flow rate that is available for fire sprinkler systems from the reticulated supply.

The flow rates that were observed by Hastings District Council and the fact that a DN300 main is within the immediate vicinity of the development show that it will be possible to meet the development's fire-fighting requirements for a sprinklered building. If the fire sprinkler system demand is very high, it may be necessary to provide some on-site storage and pumping.

Advice should be sought from specialist fire engineers regarding sprinkler requirements.

7.5.2 Non-sprinklered building

If a multi-storey apartment building is not fitted with fire sprinklers, firefighting water requirements is determined using factors such as the fire cell size and floor area. The minimum firefighting water supply classification is expected to be W3.

Advice should be sought from specialist fire engineers regarding the fire cell size and floor area that will apply. The relevant tables from SNZ PAS 4509:2003 are shown below.

Table 14 - SNZ PAS 4509 Water Supply classification (Table 1)

All other structures (characterised by fire hazard category[1]), examples of which are given below	Water supply classification (see table 2)														
	Floor area of largest firecell of the building (m^2)														
	0-199[10]	200-399	400-599	600-799	800-999	1000-1199	1200-1399	1400-1599	1600-1799	1800-1999	2000-2199	2200-2399	2400-2599	2600-2799	> 2800
FHC 1[2]	FW3	FW3	FW3	FW4	FW4	FW4	FW5	FW5	FW5	FW5	FW5	FW5	FW5	FW5	FW6
FHC 2[3]	FW3	FW3	FW4	FW5	FW5	FW5	FW6	FW6	FW6	FW7	FW7	FW7	FW7	FW7	FW7
FHC 3[4]	FW3	FW4	FW5	FW5	FW6	FW6	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7
FHC 4[5]	FW4	FW6	FW6	FW6	FW6	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7	FW7
For special or isolated hazards not covered in above categories [9]	FW7														

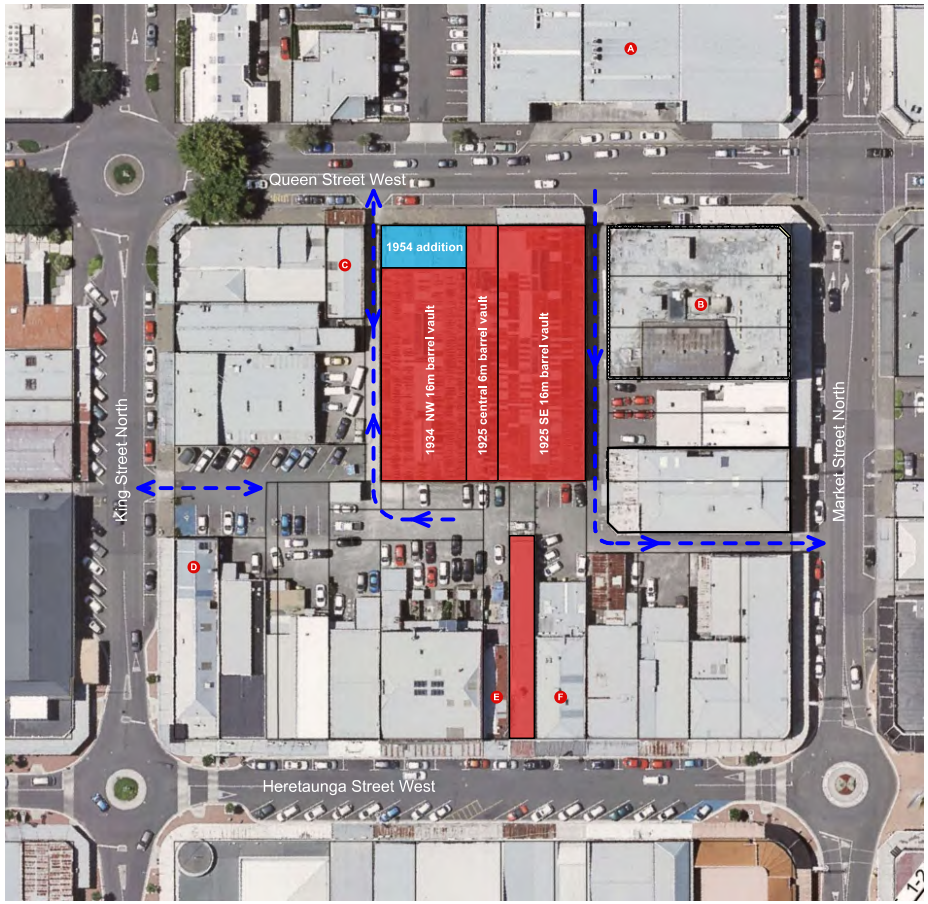
NOTE –
(1) Fire hazard category as defined in the compliance documents for the New Zealand Building Code, Acceptable Solution C/AS1.
(2) FHC 1 is sleeping activities including care facilities, motels, hotels, hostels; crowd activities of <100 people including cinemas, art galleries, community halls, lecture halls, churches; working/business/storage activities processing non-combustible materials such as wineries, cattle yards, horticultural products; multistorey apartment blocks.

Table 15 - SNZ PAS 4509 Water Supply requirements (Table 2)

	Reticulated water supply			Non-reticulated water supply	
Fire water classification	**Required water flow within a distance of 135 m**	**Additional water flow within a distance of 270 m**	**Maximum number of fire hydrants to provide flow**	**Minimum water storage within a distance of 90 m** (see Note 8)	
				Time (firefighting) (min)	**Volume** (m^3)
FW1	450 L/min (7.5 L/s) (See Note 3)	–	1	15	7
FW2	750 L/min (12.5 L/s)	750 L/min (12.5 L/s)	2	30	45
FW3	1500 L/min (25 L/s)	1500 L/min (25 L/s)	3	60	180
FW4	3000 L/min (50 L/s)	3000 L/min (50 L/s)	4	90	540
FW5	4500 L/min (75 L/s)	4500 L/min (75 L/s)	6	120	1080
FW6	6000 L/min (100 L/s)	6000 L/min (100 L/s)	8	180	2160
FW7	As calculated (see Note 7)				

NOTE –
(1) Table 1 lists the minimum requirements for firefighting water supplies. In developing towns' main reticulation systems, a water supply authority needs to cater for domestic/industrial water usage in addition to the above. This procedure is outlined in Appendix K.
(2) Special or isolated fire hazards which have higher requirements in an area of lower water supply classification must determine measures to mitigate the hazard or increase the water supply (see 4.4).
(3) Where houses have a sprinkler system installed to an approved Standard, the distance to a fire hydrant or alternative water supply may be negotiated by agreement with the Fire Region Manager.
(4) The water requirements for fire protection systems must be considered in addition to the firefighting water supplies, as detailed in table 1 (FW2), the fire protection system demand plus 1500 L/min (25 L/s) at 1 bar residual pressure.
(5) The minimum flow from a single hydrant must exceed 750 L/min (12.5 L/s), except for those cases where a home sprinkler is installed, in which case the minimum is 450 L/min (7.5 L/s) while the maximum design flow, for safety reasons, is limited to 2100 L/min (35 L/s).

Appendix A Architectural Drawings

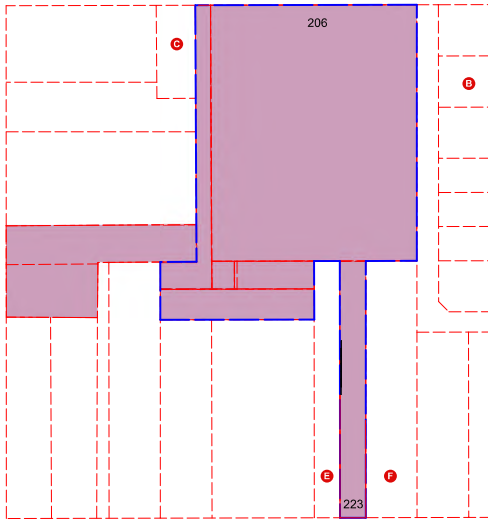


shared vehicle/ pedestrian access lanes

A Kiwibank
B IMS building
C Morphosis
D Sutto
E Michael Hill
F SCM fashion/ Pascoes

EXISTING SITE PLAN

0 10 20 30 40 50 60 70 80 90 100 M



SITE BOUNDARY PLAN

land in HDC ownership

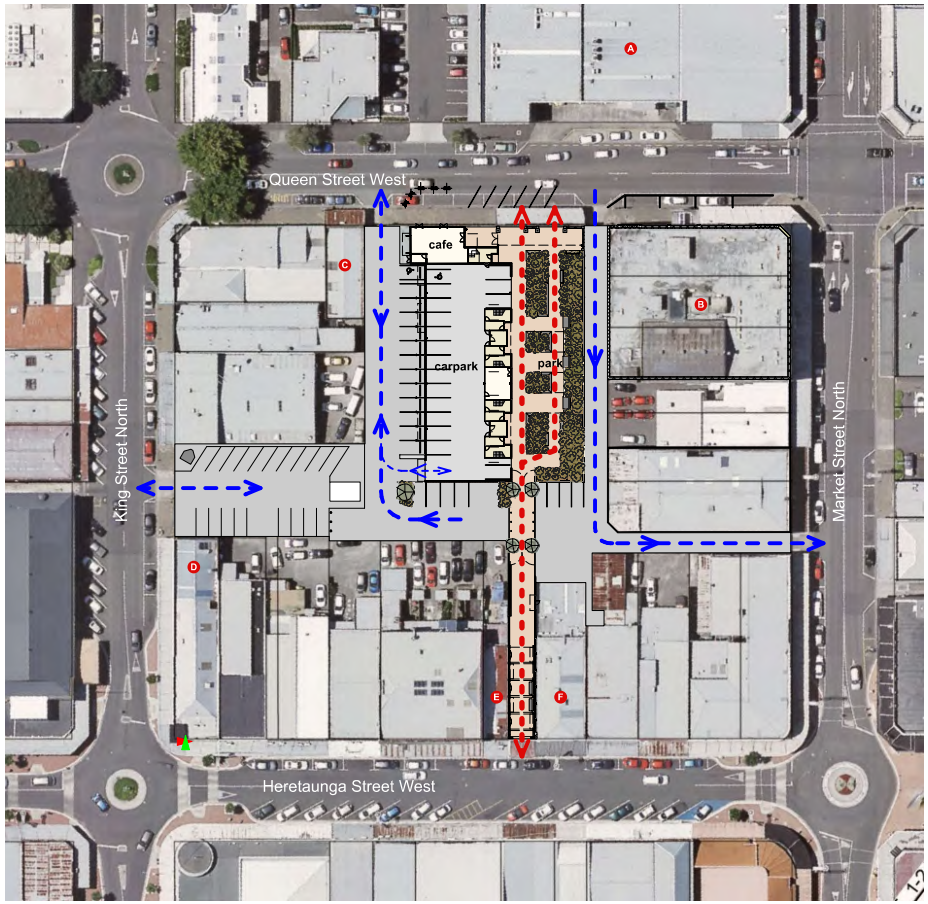
development boundary for resource consent

200 Block West Redevelopment Project

HASTINGS DISTRICT COUNCIL

drawing	rev	scale @ A3	issued
PA01		1:750	30/10/22

citrus STUDIO ARCHITECTURE



pedestrian link

shared vehicle/ pedestrian access lanes

A Kiwibank
B IMS building
C Morphosis
D Sutto
E Michael Hill
F SCM fashion/ Pascoes

PROPOSED SITE PLAN

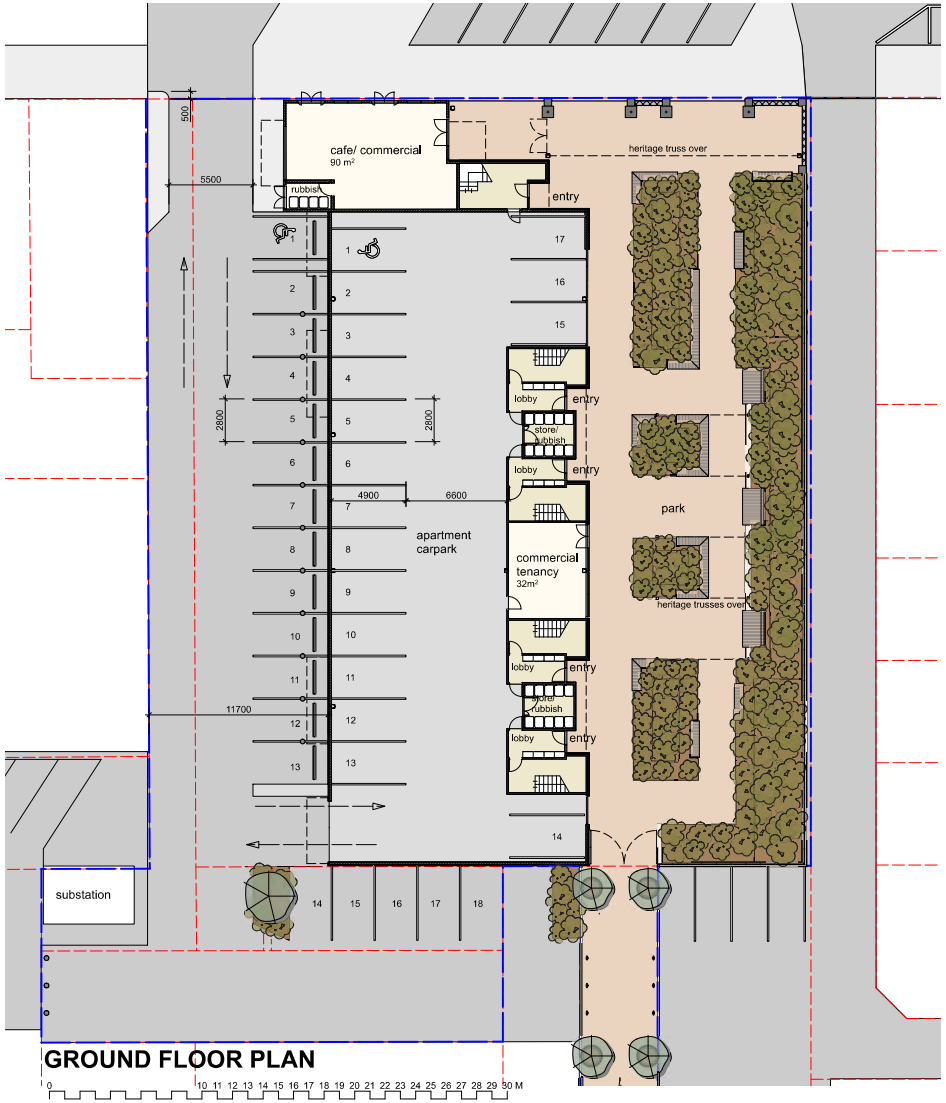
0 10 20 30 40 50 60 70 80 90 100 M

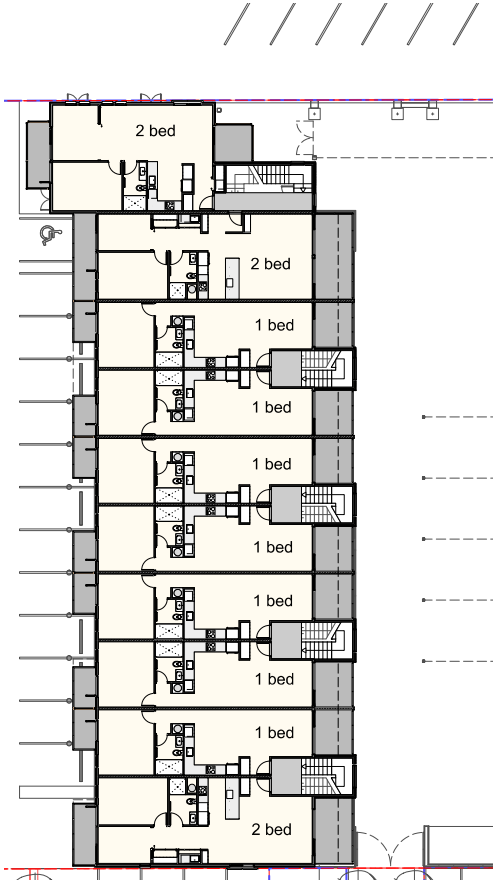
drawing PA02 rev B scale @ A3 1:750 issued 30/10/22

200 Block West
Redevelopment Project

HASTINGS DISTRICT COUNCIL

citrus STUDIO
ARCHITECTURE





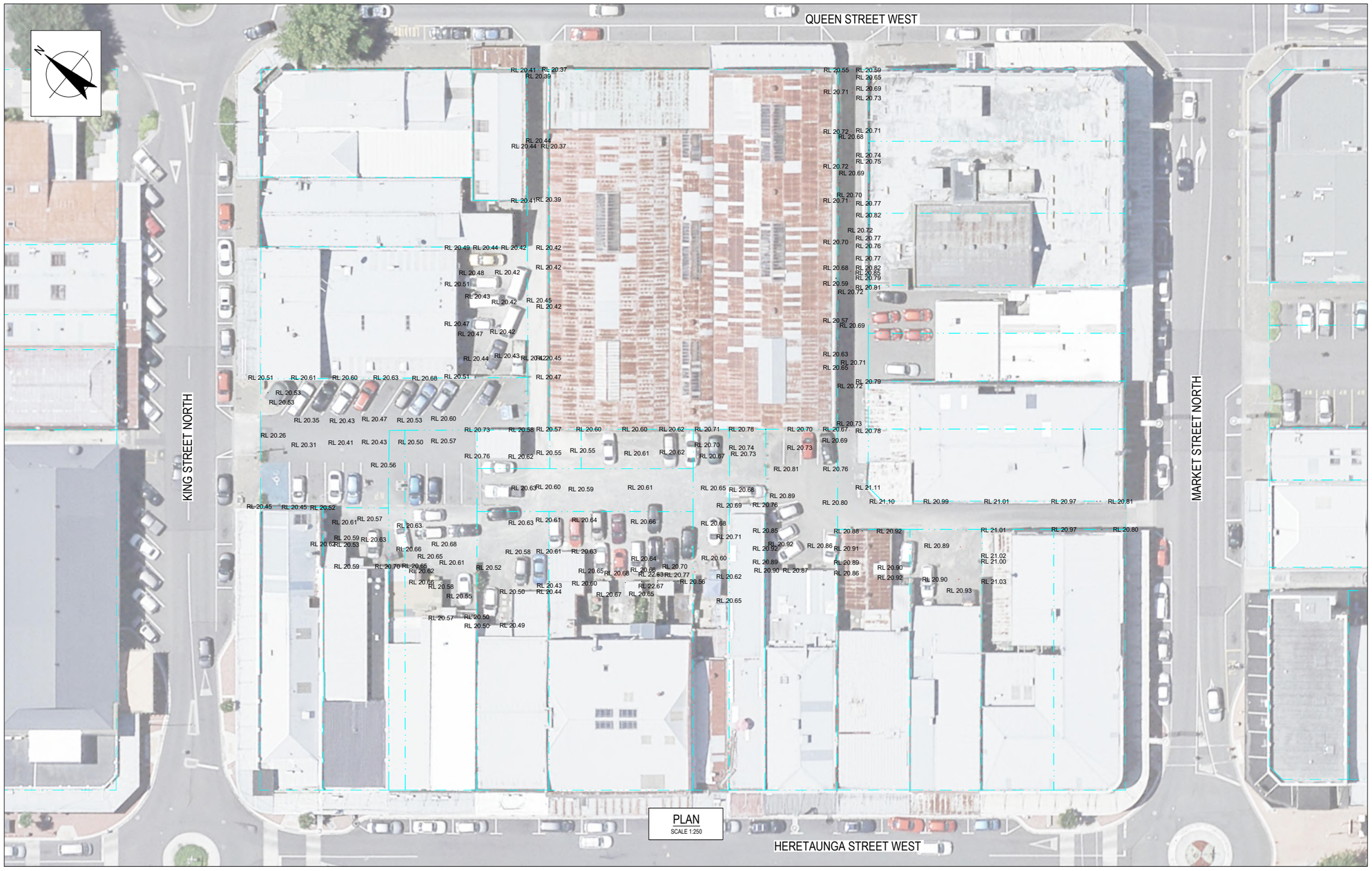
200 Block West Redevelopment Project

HASTINGS DISTRICT COUNCIL

drawing	rev	scale @ A3	issued
PA03	B	1:250	30/10/22

citrus STUDIO ARCHITECTURE

Appendix B Survey



PLAN
SCALE 1:250

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE
A	ISSUED FOR DISCUSSION	SG	-	-	12.03.19

HASTINGS DISTRICT COUNCIL

0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

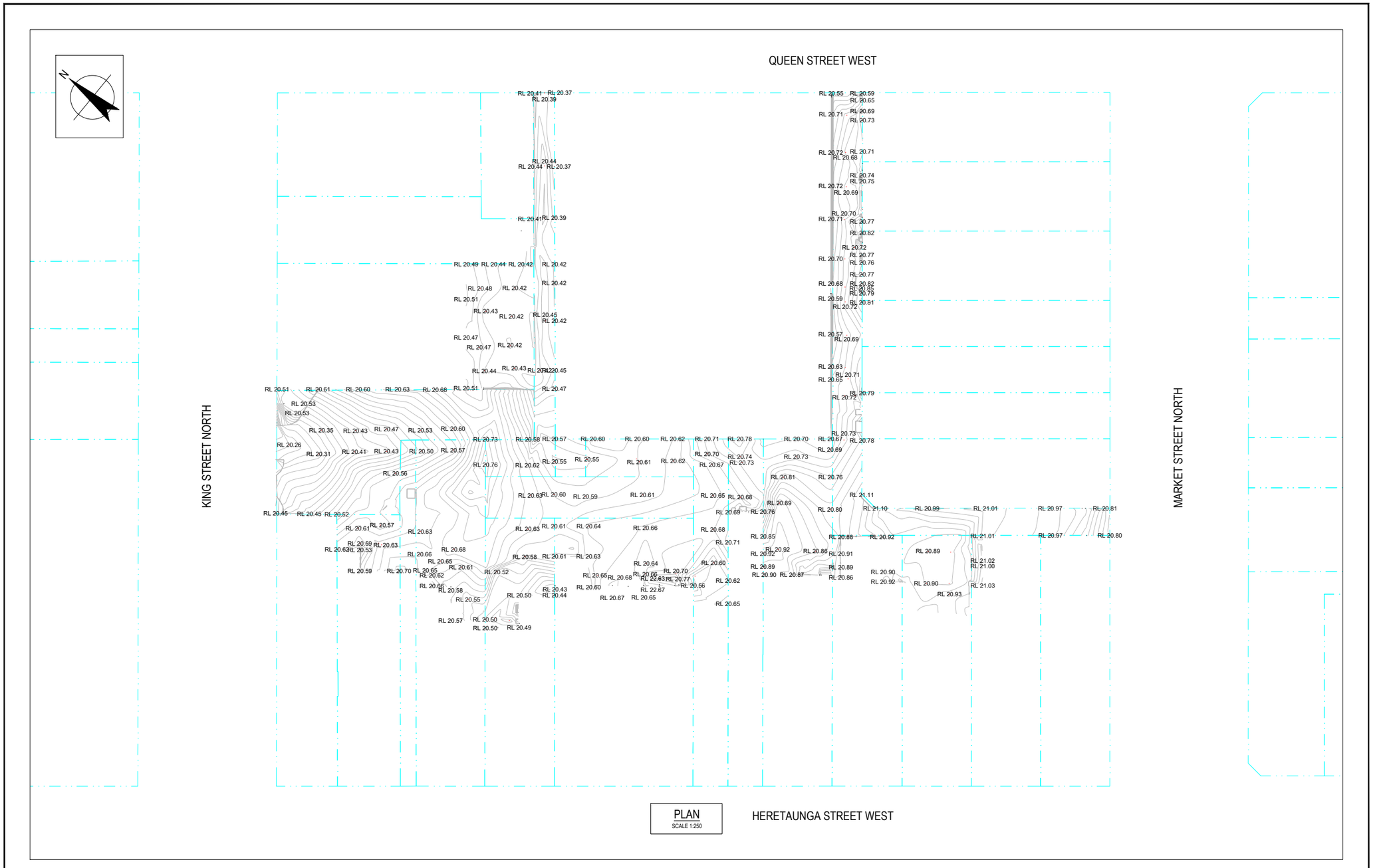
CivilTEC

	NAME	DATE
SURVEYED	ZORN SURVEYING	16.09.18
DESIGNED	-	-
DRAWN	S GREEN	01.03.19
REVIEWED	-	-
APPROVED	-	-

HASTINGS DISTRICT COUNCIL
206 HERETAUNGA STREET WEST
SURVEY SPOT HEIGHTS PLAN

STATUS: **PRELIMINARY**
DATE: 12.03.2019
SCALE AT A1: 1:250
DRAWING NO. **17-060-SK001**
REV **A**

12/03/2019 4:56:45 PM



PLAN
SCALE 1:250

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE
A	ISSUED FOR DISCUSSION	SG	-	-	12.03.19

HASTINGS DISTRICT COUNCIL
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

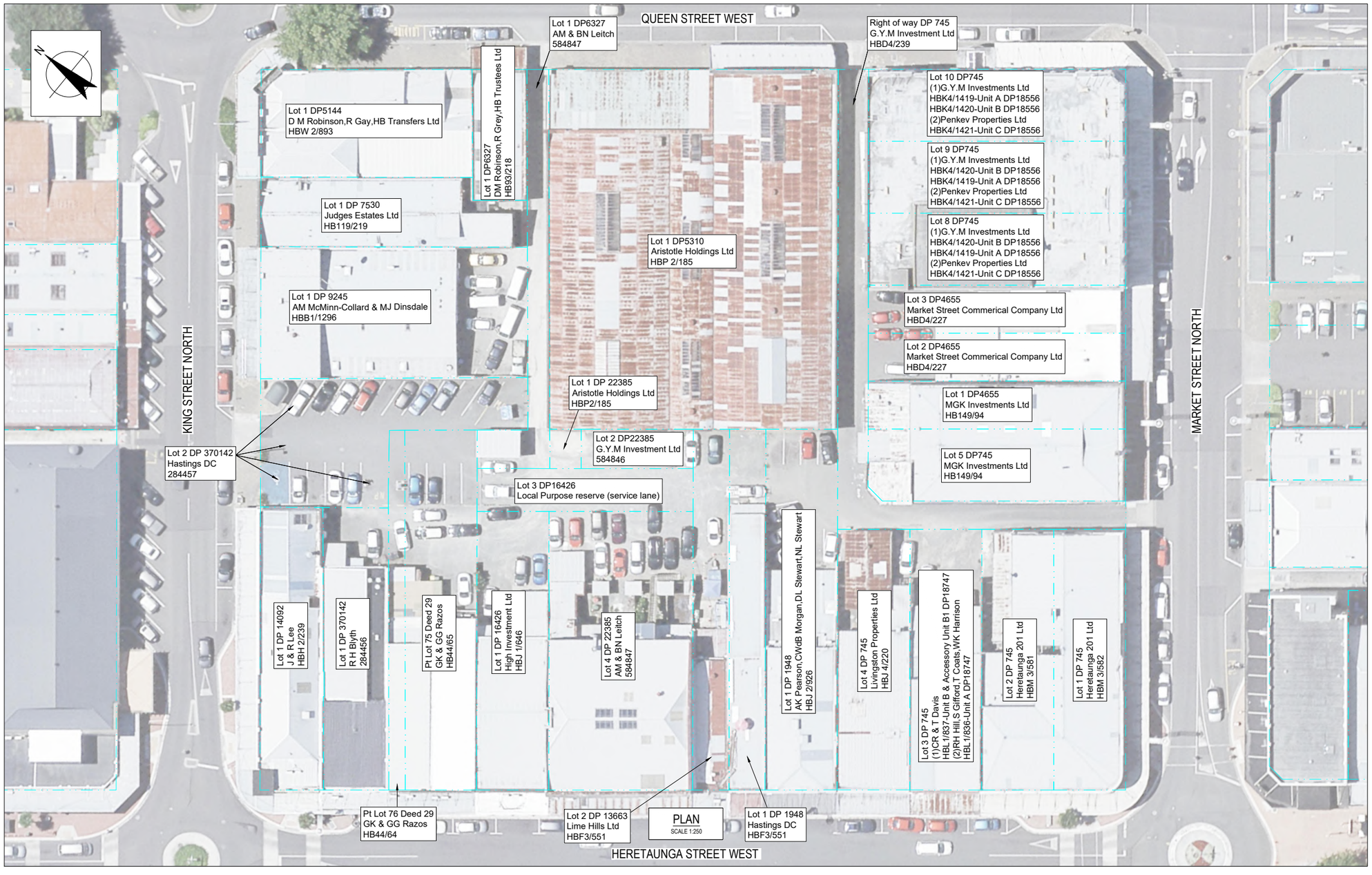
CivilTEC

	NAME	DATE
SURVEYED	ZORN SURVEYING	16.09.18
DESIGNED	-	-
DRAWN	S GREEN	01.03.19
REVIEWED	-	-
APPROVED	-	-

HASTINGS DISTRICT COUNCIL
206 HERETAUNGA STREET WEST
SURVEY SPOT HEIGHTS AND CONTOUR PLAN

STATUS: **PRELIMINARY**
DATE: 12.03.2019
SCALE AT A1: 1:250
DRAWING NO. **17-060-SK002**
REV **A**

12/03/2019 4:56:49 PM



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A	ISSUED FOR DISCUSSION	SG	-	-	12.03.19

HASTINGS DISTRICT COUNCIL
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

CivilTEC

	NAME	DATE
SURVEYED	ZORN SURVEYING	16.09.18
DESIGNED	-	-
DRAWN	S GREEN	01.03.19
REVIEWED	-	-
APPROVED	-	-

HASTINGS DISTRICT COUNCIL
206 HERETAUNGA STREET WEST
PROPERTY OWNERS PLAN

STATUS: **PRELIMINARY**
DATE: 12.03.2019
SCALE AT A1: 1:250
DRAWING NO.: **17-060-SK003**
REV: **A**

12/03/2019 4:56:50 PM

REV	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED	DATE
A	ISSUED FOR DISCUSSION	SG	-	-	12.06.19

HASTINGS DISTRICT COUNCIL
0 2.5 5 7.5 10 12.5m
SCALE 1:250 AT ORIGINAL SIZE

CivilTEC

	NAME	DATE
SURVEYED	ZORN SURVEYING	16.09.18
DESIGNED	-	-
DRAWN	S GREEN	12.06.19
REVIEWED	-	-
APPROVED	-	-

HASTINGS DISTRICT COUNCIL
206 HERETAUNGA STREET WEST
SERVICES PLAN

STATUS: **PRELIMINARY**
DATE: 12.06.2019
SCALE AT A1: 1:250
DRAWING NO. **17-060-SK004**
REV **A**

12/06/2019 9:16:57 AM

Appendix C Drawings

HASTINGS DISTRICT COUNCIL

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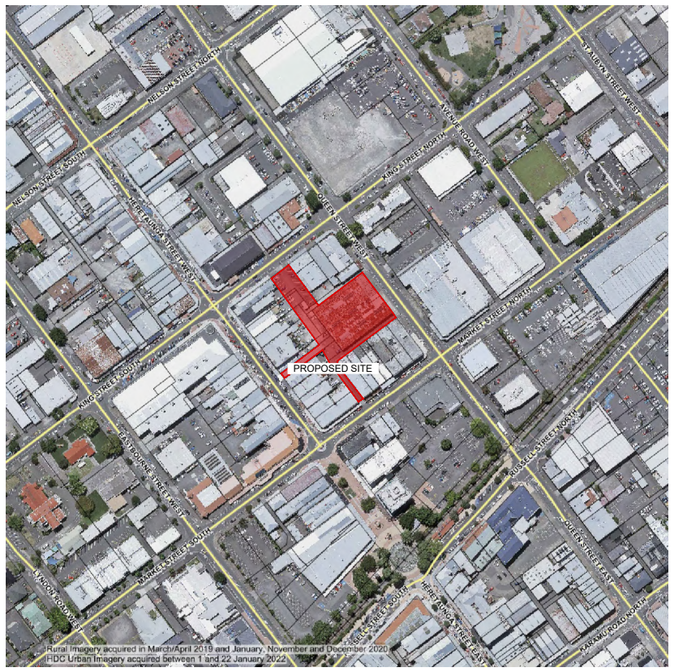
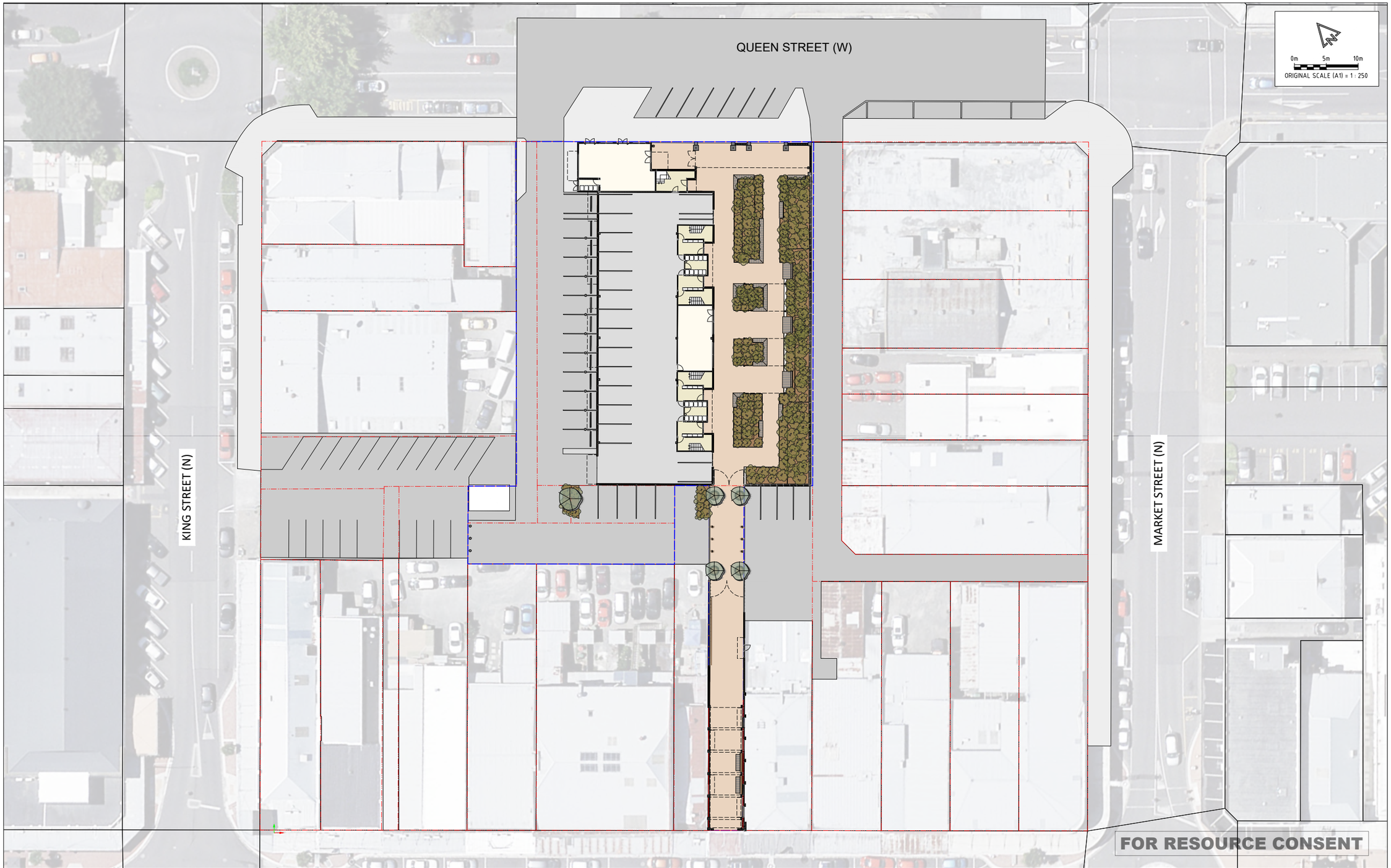
3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS



SITE LOCATION PLAN
(NOT TO SCALE)

FOR RESOURCE CONSENT



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0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

INFRASTRUCTURE SOLUTIONS ‖ PROJECT MANAGEMENT
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DRAWING TITLE: SCHEME PLAN
SITE DEVELOPMENT

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DRAWN BY :	TK	A1 DWG SCALE :	1:250	PROJ / DWG / SHEET :	J22172 / 010	REVISION :	1		

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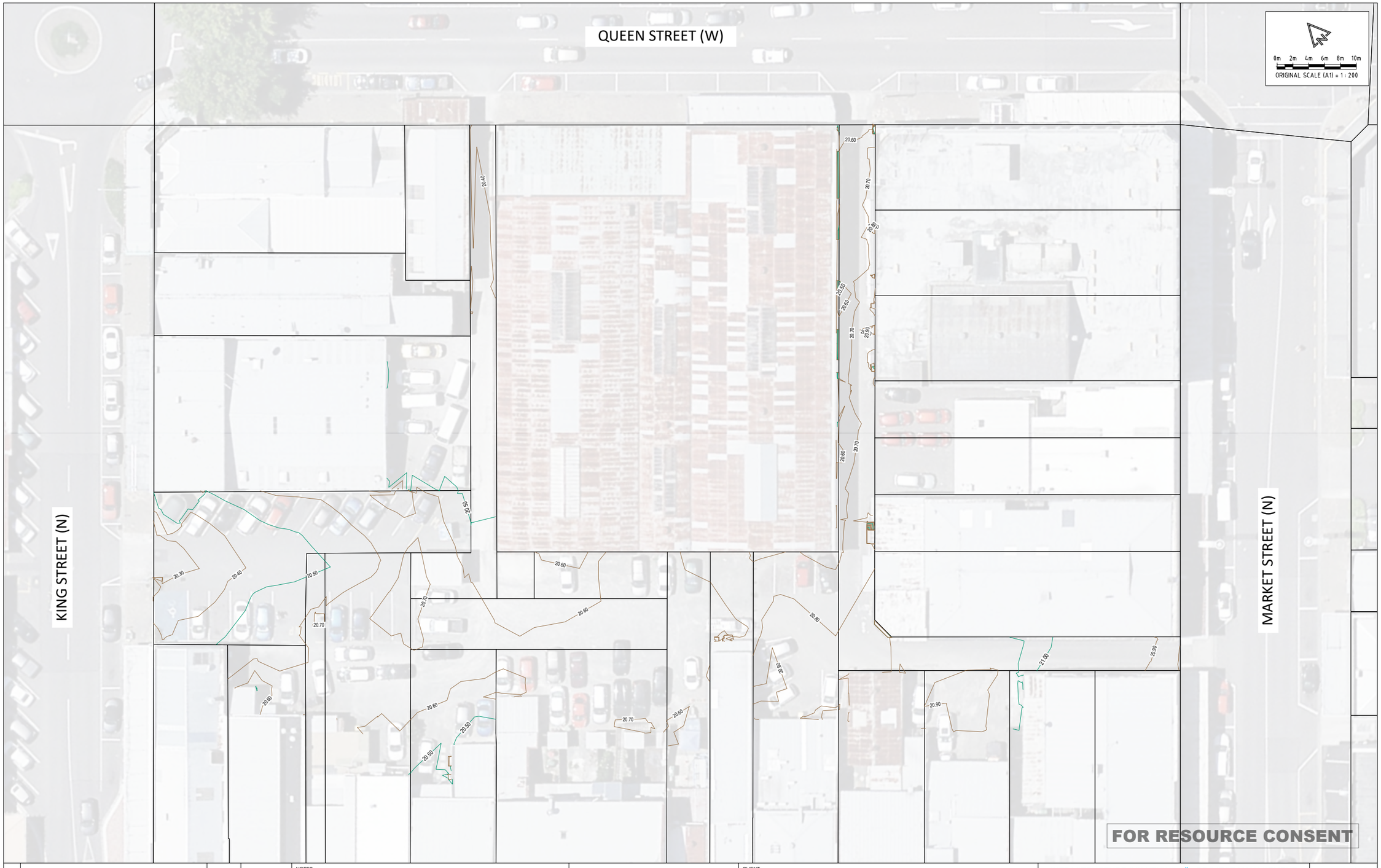

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0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

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PO Box 7335, Taradale 4141
Phone : 06 650 5565 Email : admin@infir.nz

DRAWING TITLE: EXISTING GROUND CONTOURS (EGL)

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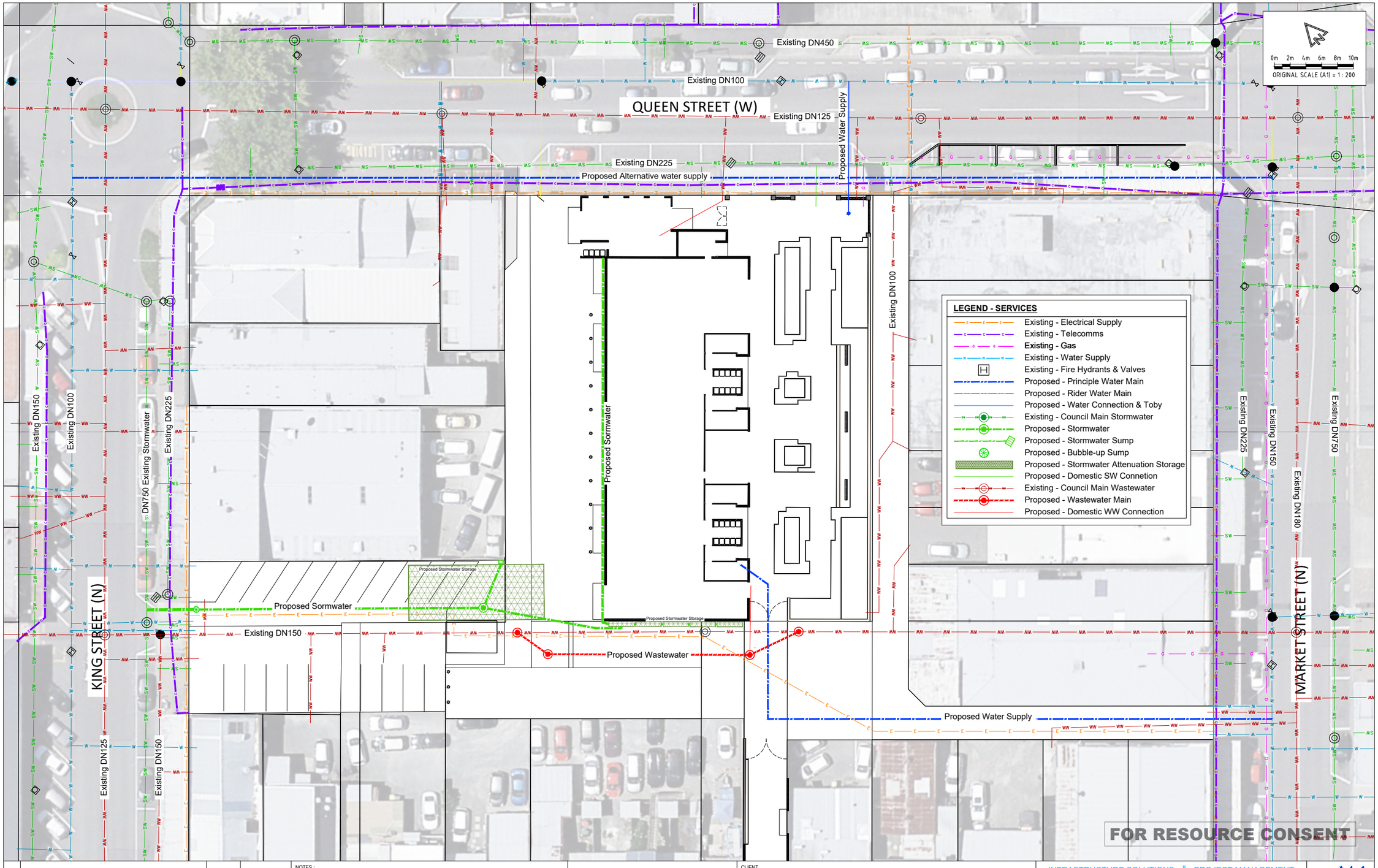

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1	SCHEME PLAN	JE	11.10.2022
0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

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Phone : 06 650 5565 Email : admin@infir.nz

DRAWING TITLE: SERVICES
OVERALL SERVICES PLAN

PROPOSAL CHECKED :	JPE	CAD CHECKED :	JPE	PROPOSAL APPROVED :	JPE	CLIENT APPROVED :	-	ENGINEER APPROVED :	JPE
DRAWN BY :	TK	A1 DWG SCALE :	1:200	PROJ / DWG / SHEET :	J22172 / 300			REVISION :	2

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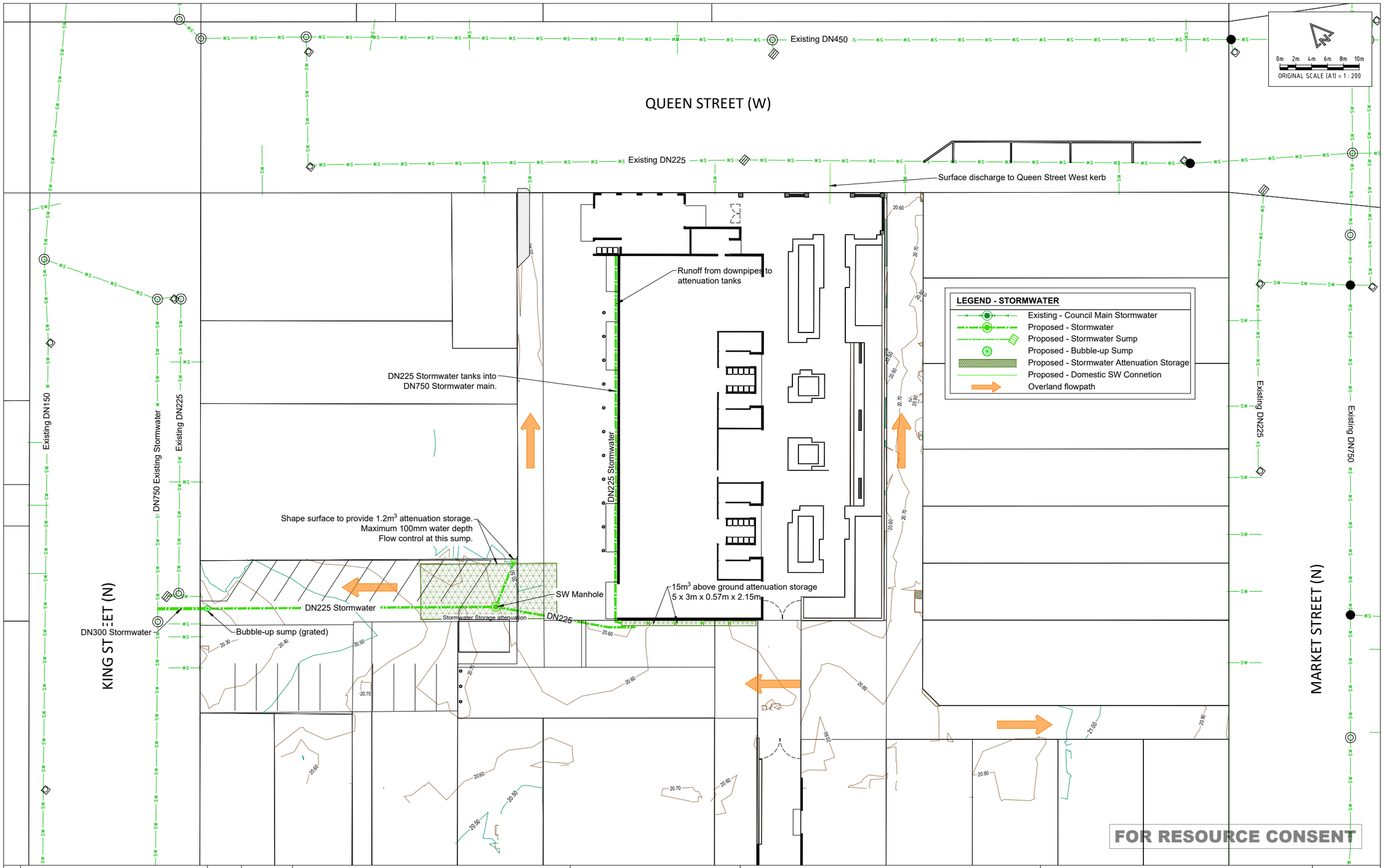

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3	20 APARTMENTS	JE	18.11.2022
2	ABOVE GROUND STORAGE	JE	12.10.2022
1	SCHEME PLAN	JE	11.10.2022
0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

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PO Box 7335, Taradale 4141
Phone : 06 650 5565 Email : admin@infir.nz

DRAWING TITLE: STORMWATER
OVERALL STORMWATER PLAN

PROPOSAL CHECKED :	JPE	CAD CHECKED :	JPE	PROPOSAL APPROVED :	JPE	CLIENT APPROVED :	-	ENGINEER APPROVED :	JPE
DRAWN BY :	TK	A1 DWG SCALE :	1:200	PROJ / DWG / SHEET :	J22172 / 400			REVISION :	3

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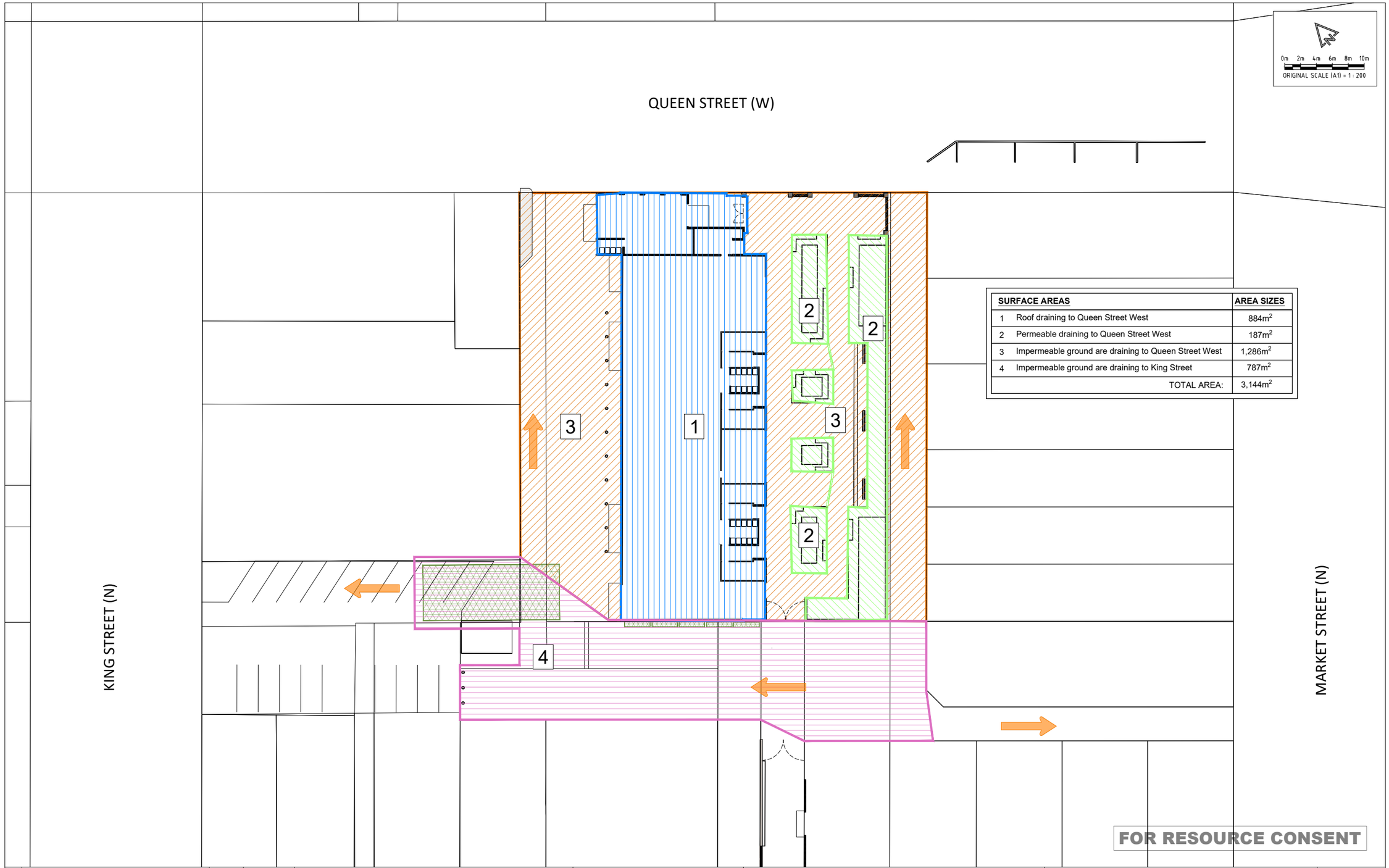

SURFACE AREAS		AREA SIZES
1	Roof draining to Queen Street West	884m^2
2	Permeable draining to Queen Street West	187m^2
3	Impermeable ground are draining to Queen Street West	1,286m^2
4	Impermeable ground are draining to King Street	787m^2
	TOTAL AREA:	3,144m^2

FOR RESOURCE CONSENT

REV	DESCRIPTION TO REVISION	REV BY	DATE
2	20 APARTMENTS	JE	18.11.2022
1	SCHEME PLAN	JE	11.10.2022
0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

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DRAWING TITLE: STORMWATER
SITE SURFACE AREAS

PROPOSAL CHECKED :	JPE	CAD CHECKED :	JPE	PROPOSAL APPROVED :	JPE	CLIENT APPROVED :	-
DRAWN BY :	TK	A1 DWG SCALE :	1:200	PROJ / DWG / SHEET :	J22172 / 401	REVISION :	2

ENGINEER APPROVED : JPE

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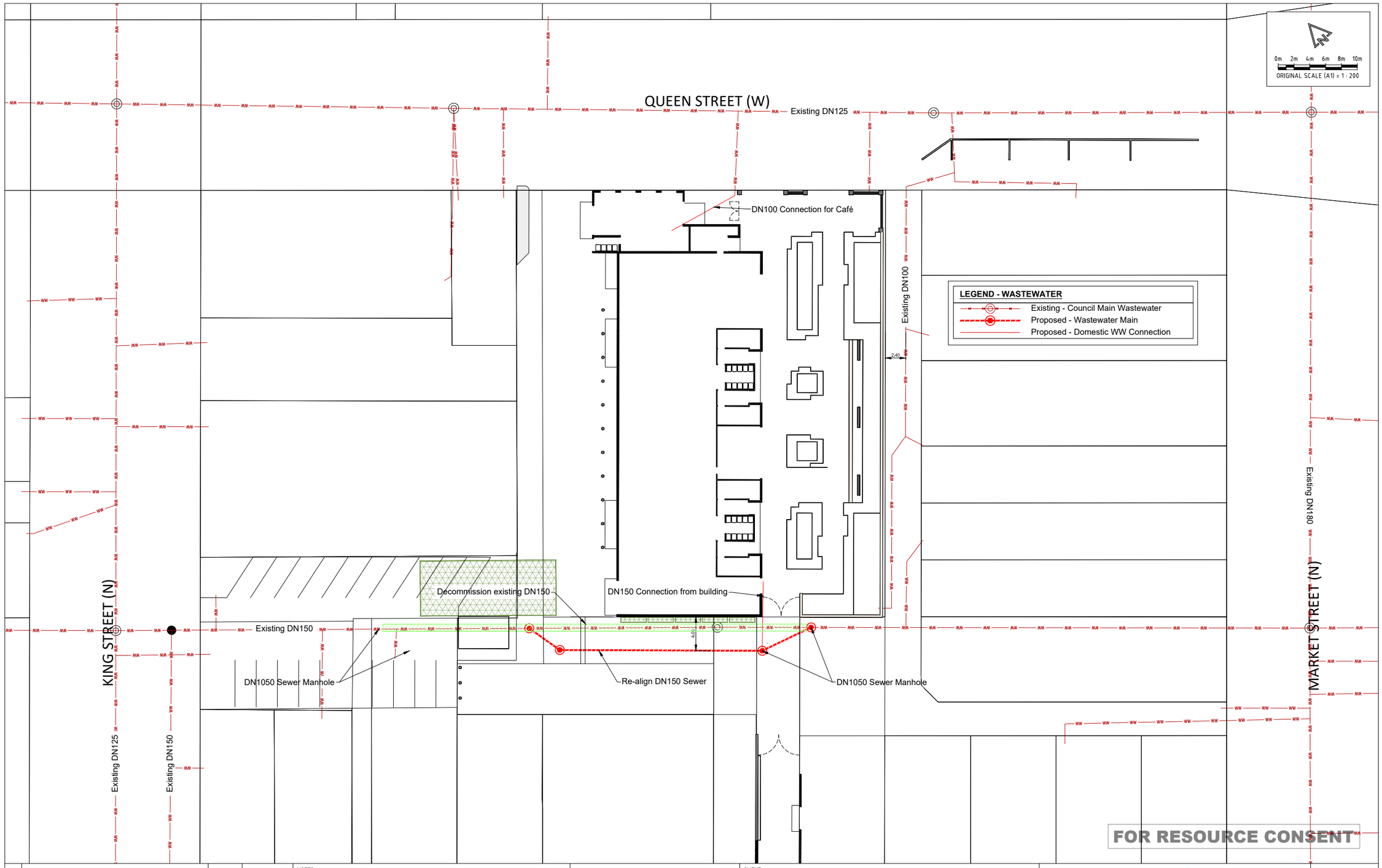

REV	DESCRIPTION TO REVISION	REV BY	DATE
2	20 APARTMENTS	JE	18.11.2022
1	SCHEME PLAN	JE	11.10.2022
0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

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Phone : 06 650 5565 Email : admin@infir.nz

DRAWING TITLE: WASTEWATER
OVERALL WASTEWATER PLAN

PROPOSAL CHECKED :	JPE	CAD CHECKED :	JPE	PROPOSAL APPROVED :	JPE	CLIENT APPROVED :	-	ENGINEER APPROVED :	JPE
DRAWN BY :	TK	A1 DWG SCALE :	1:200	PROJ / DWG / SHEET :	J22172 / 500			REVISION :	2

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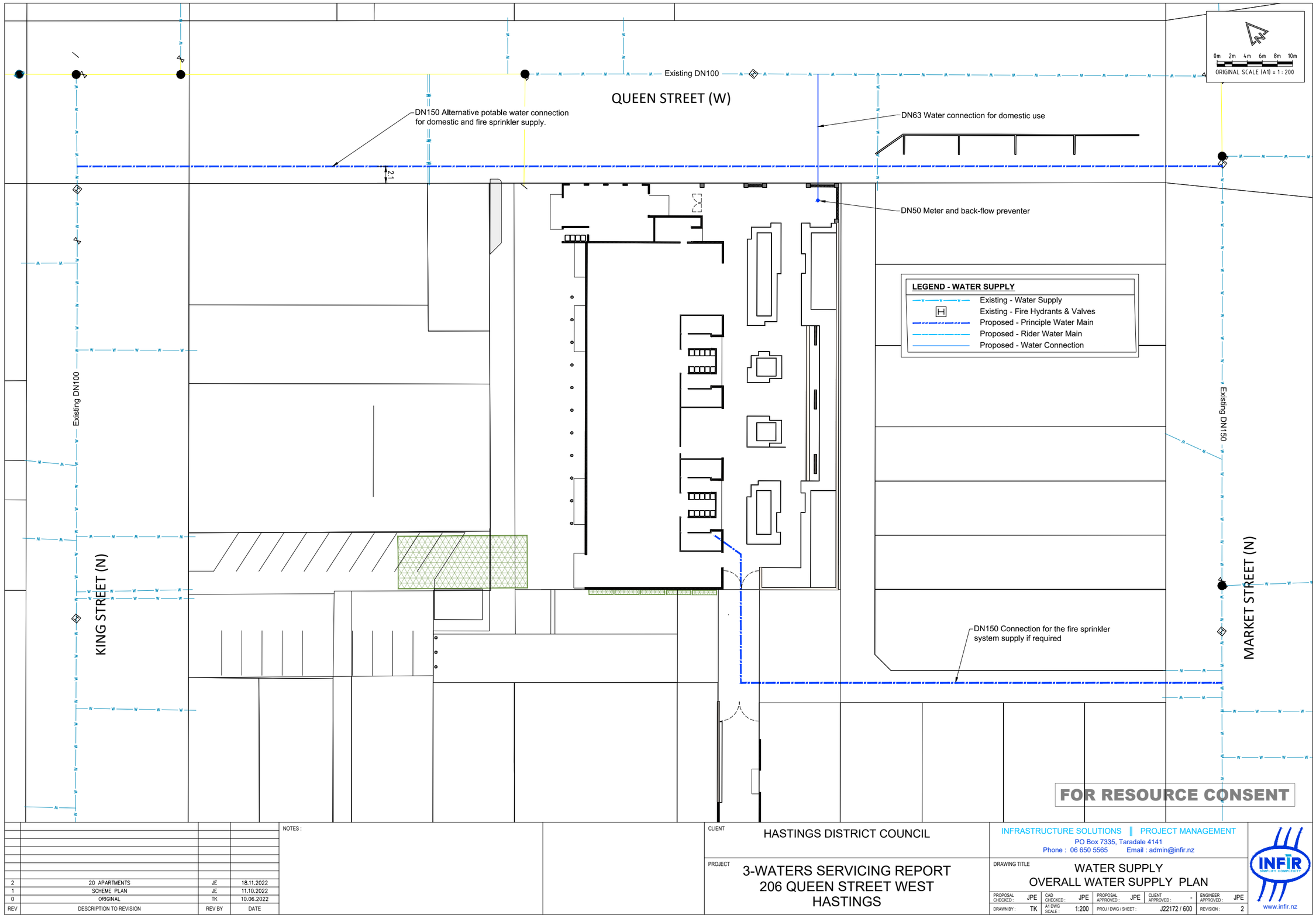

REV	DESCRIPTION TO REVISION	REV BY	DATE
2	20 APARTMENTS	JE	18.11.2022
1	SCHEME PLAN	JE	11.10.2022
0	ORIGINAL	TK	10.06.2022

NOTES :

CLIENT: HASTINGS DISTRICT COUNCIL

PROJECT: 3-WATERS SERVICING REPORT
206 QUEEN STREET WEST
HASTINGS

INFRASTRUCTURE SOLUTIONS ‖ PROJECT MANAGEMENT
PO Box 7335, Taradale 4141
Phone : 06 650 5565 Email : admin@infir.nz

DRAWING TITLE: WATER SUPPLY
OVERALL WATER SUPPLY PLAN

PROPOSAL CHECKED :	JPE	CAD CHECKED :	JPE	PROPOSAL APPROVED :	JPE	CLIENT APPROVED :	-	ENGINEER APPROVED :	JPE
DRAWN BY :	TK	A1 DWG SCALE :	1:200	PROJ / DWG / SHEET :	J22172 / 600			REVISION :	2

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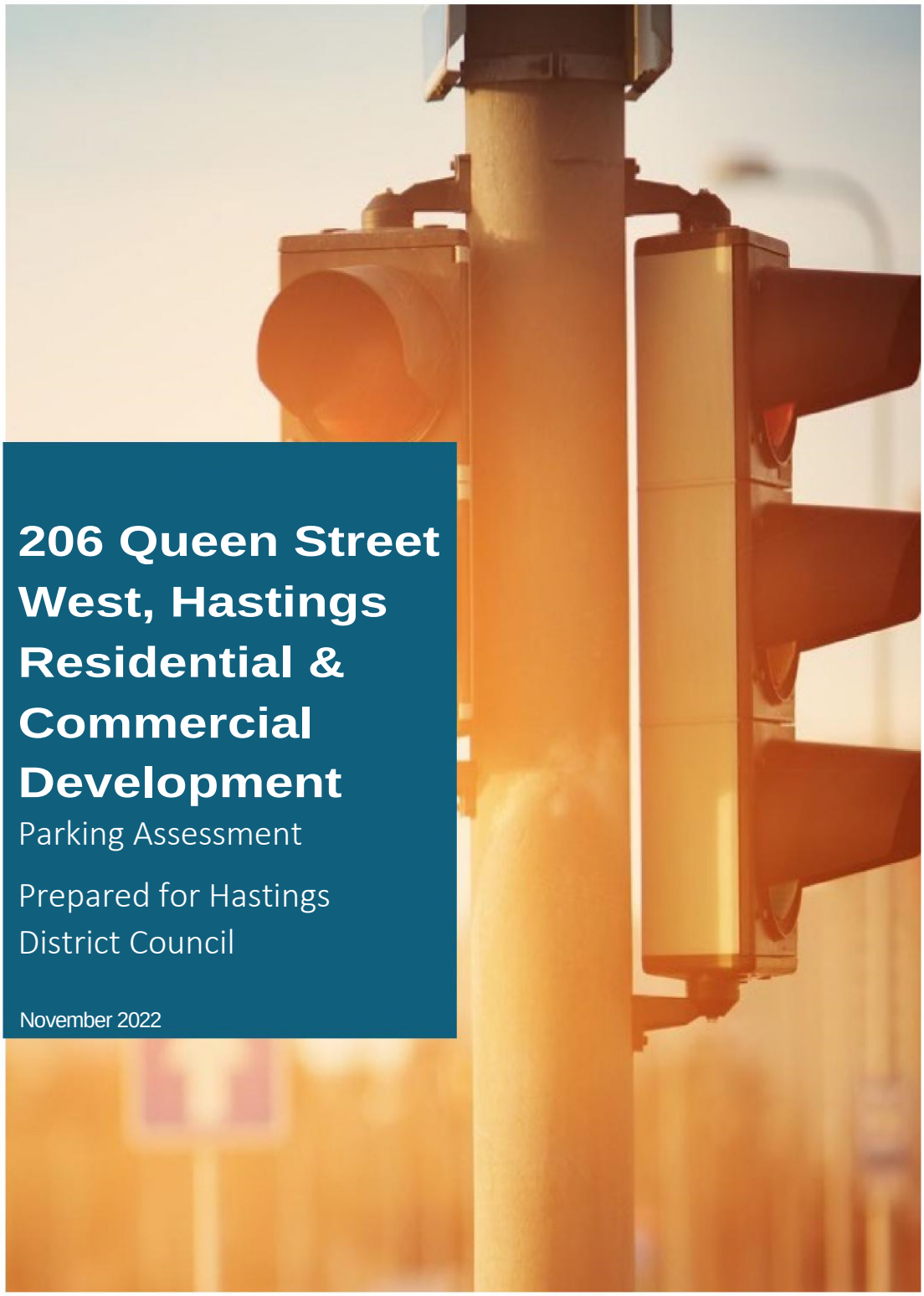

206 Queen Street West, Hastings Residential & Commercial Development

Parking Assessment

Prepared for Hastings District Council

November 2022

URBAN CONNECTION
local and connected

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Contents

1. Introduction

Urban Connection Limited has been commissioned by Hastings District Council to carry out a Parking Assessment in relation to a proposed development at 206 Queen Street West, Hastings, for residential and commercial use.

The assessment is specifically required to address any parking issues that could be generated by the proposal, which proposes 20 residential apartments and two commercial sites.

This assessment is specifically focused on the likely parking demand that the proposed new development is expected to generate, the available parking facilities, access arrangements and any anticipated effects.

2. The Site

The site is located at 206 Queen Street in Hastings, as shown in Figure 1. Vehicular access to the site will be via Queen Street West.

Figure 1: Site Location

3. Proposal

The site is proposed to be developed for 20 residential apartments and two commercial sites. The proposed development will occupy a total area of 2,057 m2 (0.206 ha), providing an integrated design of buildings, infrastructure and landscaping.

The building is made up of the following:

1. Café tenancy (90 m^2);
2. Commercial tenancy (32 m^2);
3. 2 x 2-bedroom apartments (73 m^2);
4. 2 x 2-bedroom apartments (75 m^2);
5. 2 x 2-bedroom apartments (78 m^2);
6. 14 x 1-bedroom apartments (56 m^2).

The proposal allows for 17 carparks, including one accessible space, on the ground floor of the building, which are proposed for private use, for the 20 apartments. An additional 18 carparks, including one accessible space, are proposed outside the building: 13 along the northwest building edge and 5 along the southwest building edge. These outside parks are proposed as public car parking.

The proposed site plan illustrating the car parking layout on the ground floor is presented in Figure 2.

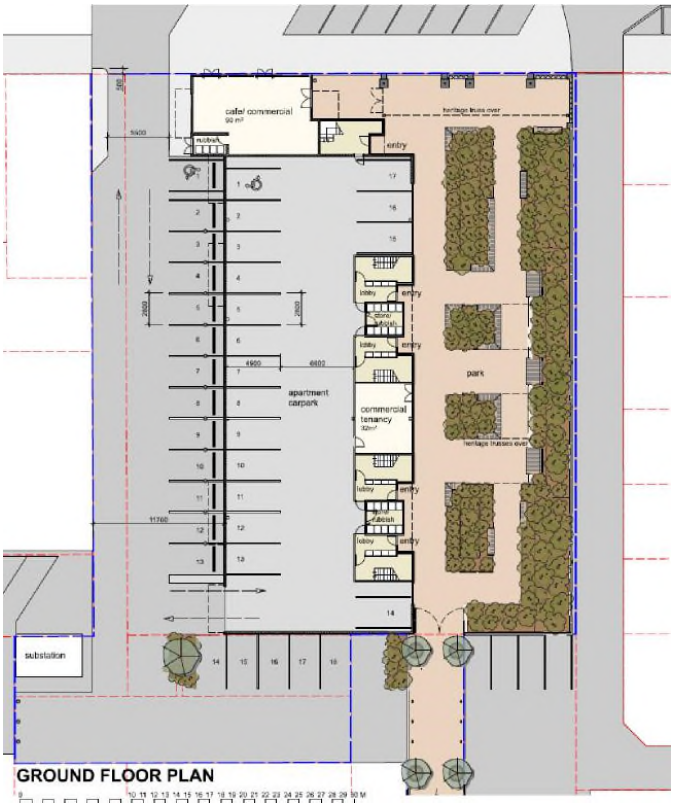

Figure 2: Ground Floor Plan

4. Parking Demand

A parking assessment has been undertaken to understand the likely parking demand that will be generated by the proposed development.

The site could potentially be considered a Comprehensive Residential Development, given that the development proposes a density of 20 residential units within its 2,057 m^2 (0.206 ha) area, providing an integrated design of buildings, infrastructure and landscaping.

The Hastings District Plan provides a 100% exemption of on-site parking requirements for Comprehensive Residential Developments (Section 26.1.6D.2.a.ii of the Hastings District Plan). Therefore, the proposed development is potentially exempt from the District Plan requirements.

Nevertheless, understanding likely parking demand and how this will be managed is considered important.

NZTA Research Report 'Trips and Parking related to Landuse November 2011' indicates a parking rate of 1.2 to 1.6 parking spaces per unit for residential multi-unit or suburban developments, respectively.

A parking rate for CBD shopping has been applied rather than pure commercial, to better reflect the variety of uses which could occur in a CBD environment and test a worst-case scenario. This results in 4.9 spaces per 100m^2 GFA for retail sites.

Table 1: Parking requirements based on NZTA Research Report

Development Type	Parking Rate	Parking Demand
Commercial Café (90 m^2)	**4.9 spaces per 100 m^2 GFA**	**4**
Commercial tenancy (32 m^2)	**4.9 spaces per 100 m^2 GFA**	**2**
Residential (20 Units)	**1.2 – 1.6 spaces per unit**	**24 - 32**
Total		**30 - 38**

The parking demand based on this approach indicates a required parking demand of 30 to 38 car parking spaces.

Car ownership for Inner City Living is significantly influenced by accessibility through alternative modes to key destinations. Factors such as proximity to work, school and recreation and the quality of public transport, walking, cycling and personal safety are some of the most significant factors which impact on car ownership levels.

The above national parking rate for multi-unit living is averaged across a range of sites which have varying degrees of accessibility, infrastructure and safety, and conversely varying ownership rates.

Car ownership can be taken as a proxy for these factors when assessing the quality of accessibility associated with inner city/multi-unit living arrangements.

Therefore, applying a Hawke's Bay car ownership assessment is considered the most likely representation of inner-city parking demand for Hawkes Bay in the first instance.

This additional analysis has been undertaken using the median total household income in relation

to car ownership.

The median 12-month household income in Hawke's Bay is $77,700[1]. On average, 10% of the households with gross income up to $100,000 have no motor vehicle, 47% own one vehicle, 34% have two vehicles, and 10% own three or more vehicles[2].

Applying this data to the 20 residential units proposed on the site indicates that 29 vehicles are expected to be owned by site residents. As an additional 6 vehicles are likely to be associated with the proposed two commercial tenancies, a total of 35 parking spaces would be required by the proposal, when applying this assessment approach.

Table 2: Parking requirements based on Census data

Number of motor vehicles	% 2013 Census	Number of units	Total number of parking spaces required
No vehicle	9.8%	2	0
1 vehicle	46.6%	9	9
2 vehicles	34%	7	14
3+ vehicles	9.6%	2	6
Total	**100%**	**20**	**29**

1 2018 MBIE Regional Factsheet

2 2013 Census about transport and communications – latest available

5. Parking Supply

The development provides 17 private spaces for residents and a further 18 public car parking spaces. In total, the site proposes to offer 35 parking spaces.

The two alternative parking demand methods indicate a residential parking demand of between 24 – 32 parking spaces, with the most likely being 29 based on car ownership.

Table 3: Parking evaluation

Scenario	Parking Demand	Parking Supply	Allocation
Car Ownership + Commercial (Most Likely)	35	35	-
National multi-unit Living (Worst-Case)	38	35	-3

Based on the worst-case scenario, the resulting shortfall would range from 0 to 3 parking spaces to meet full demand.

However, it is recognised that only 17 private parking spaces within the apartment building are available for a predicted residential demand of 29. Being a shortfall of 12 parking spaces for this activity.

The 18 public car parks outside the apartment building are intended to support the proposed commercial activities on the site and from within the adjoining CBD environment. For the most part, this demand is present during the day, between 8 am and 5 pm.

After this period, most of these public spaces would become available to support residential needs.

Likewise, when considering the residential demand, it is anticipated that between 7 am and 6 pm, the residential demand would be significantly reduced as residents leave home and go to work, school etc.

The maximum predicted residential demand (29 spaces) would be present overnight. It is also anticipated that the commercial demand will be significantly reduced during this time.

In summary, the actual demand for parking is expected to occur at different times of the day. Therefore, the parking demand is estimated to reach 91% (residential worst-case) of the available supply and is assessed as sufficient.

As an example, if the commercial demand is reduced by 50% after 5 pm, a total of 3 parking spaces would be required. If 100% of residential demand were present at 5 pm, a total of 29 parks would be required. This is a total of 32 parks to be accommodated with a supply of 35, resulting in a net surplus of 3 parks under this scenario. It is noted that, in reality, the commercial demand past 5 pm is likely to be further reduced.

6. Parking Management

The mixed-use site has changing needs with regard to parking demand throughout the course of the day.

Based on mixed commercial/residential needs during the day and predominantly residential demand at night, Council may consider allocating 15 of the public carparks to residential parking during the evening/night time hours.

This could be managed through on-site parking restrictions and or private lease arrangements.

Furthermore, while it has been demonstrated that sufficient on-site parking is available to meet the demands presented by the development, it is also noted that Queen Street West, fronting the site, offers approximately 13 on-street parking spaces.

In addition, there is a paid carpark adjacent to the site, which can be accessed via King Street North.

The on-street and paid parking are also expected to be available to support the commercial/retail activities during the day, and any additional overspill residential parking, on occasion, could be expected to occur predominately overnight when traffic flows and commercial parking demand are reduced.

7. Parking Design

35 perpendicular parking spaces, including 2 accessible spaces, are proposed to be offered on the site. Car parking dimensions are required to comply with Appendix 71 of the Hastings District Plan.

The parking spaces are 4.9 m long and 2.8 m wide.

The private parking spaces (within the ground floor of the building) provide a manoeuvring aisle of 6.6 m.

Parking spaces along the northwest building edge provide a manoeuvring aisle of 6.8 m, and being spaces 2.8 m wide, provides sufficient space for appropriate manoeuvring.

As previously recommended, both the public and private parking facilities provide one accessible parking space each, easing access for people with wheelchairs, walking frames or pushchairs.

Consideration should also be given to supporting infrastructure for electric vehicles, especially for residential purposes.

8. Vehicular Access

8.1. Pedestrian Safety

The site is intended to be served with a single vehicle access point, using the existing vehicle access from Queen Street West, as shown below in Figure 3.

Figure 3: Existing vehicle access point

At this access location, the footpath runs hard up against the building line, and intervisibility can be restricted between exiting vehicles and users on the footway.

To improve visibility between users, a localised build-out has been outlined within the accessway against the building line. This effectively pulls vehicles away from the building line. Similarly, detail will be required to encourage people to maintain at least 0.5 m off the building line when approaching the crossing point, albeit most people will naturally position themselves at least 0.3 m from a building line.

This proposed detail, illustrated in Figure 4, improves visibility with path users to the immediate left-hand side of the vehicle access. It should be noted that this visibility outcome could be achieved through either a hard-formed kerb line or low-height landscaping.

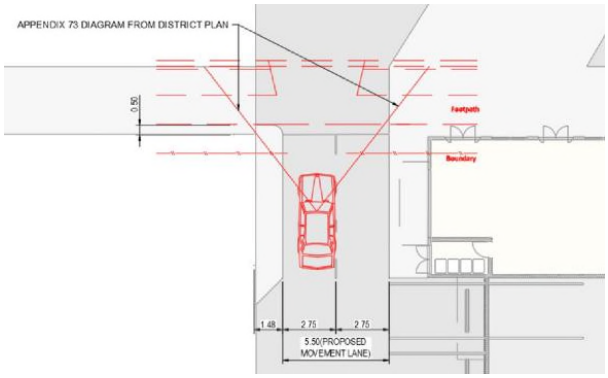

Figure 4: Intervisibility Splay for Pedestrians on Queen Street West

8.2. Internal Vehicle Tracking

Internal vehicle tracking has been undertaken using a 12.5 m Single Unit Truck in accordance with the Hastings District Plan. This is the largest service vehicle that would be expected to enter the site.

Vehicle tracking is illustrated below and is based on the planned Queen Street West parking upgrade planned by Hastings District Council.

In the interim (prior to the upgrade of the footpath build-out), service vehicles entering the site are likely to be required to pull wide onto the other side of the road in order to perform a left turn into the site. This situation is not unusual and is not considered an issue when taking into account the frequency of left-turning service vehicles relative to opposing vehicle volume and speed on Queen Street West.

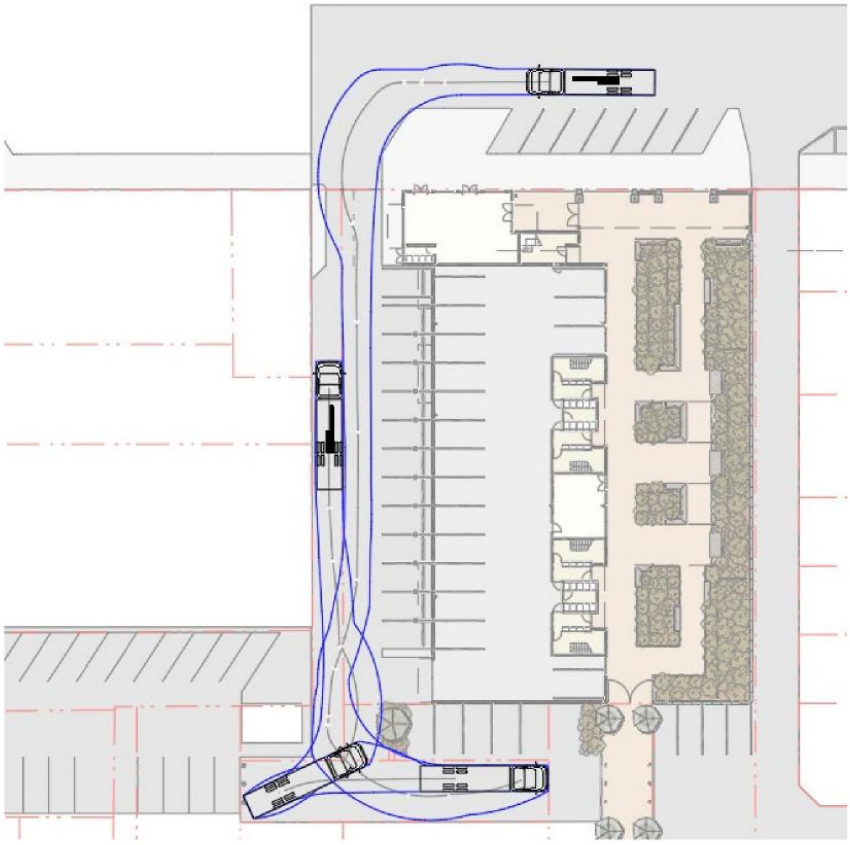

Figure 5: Vehicle Tracking - 12.5 m Rigid

9. Conclusion

On the basis of the assessment detailed above, it is concluded that through appropriate on-site parking management, the proposed development can accommodate the parking demands that would be generated from the site.

35 parking spaces will be provided on-site. Based on the parking assessment, a mixed-use demand of 35 spaces is considered to be full demand. However, based on the mixed-use nature of the site, demand at the site varies, with maximum demand estimated at 32 parks, being 91% of available supply. This maximum demand is likely to occur early morning and early evening when full residential demand and partial commercial demand are present.

On the limited occasion when this supply may be exceeded, there is available overspill parking available within Queen Street, directly fronting the site.

10. Disclaimer

This report has been prepared by Urban Connection Limited for Hastings District Council and may only be used and relied on by Hastings District Council for the purpose agreed between Urban Connection Limited and Hastings District Council as set out in this report. By default, this means that Hastings District Council can use and rely on this report for the purposes of supporting the consent application.

Urban Connection Limited otherwise disclaims responsibility to any person other than Hastings District Council arising in connection with this report. Urban Connection Limited also excludes implied warranties and conditions, to the extent legally permissible. The services undertaken by Urban Connection Limited in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

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

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206 Queen Street Parking Assessment_Final _Nov22
Document Status: FINAL

Rev	Date of Issue	Author	Reviewer	
			Name	Signature
0	3 June 2022	Jaspreet Singh	Aaron Campion	A. Campion
1	10 Oct 2022	Aaron Campion	Tony Harrison	T. Harrison
2	8 Nov 2022	Matheus Boaretto	Aaron Campion	A. Campion

EAM
ENVIRONMENTAL CONSULTANTS

DETAILED SITE INVESTIGATION

206 QUEEN STREET HASTINGS

PROJECT NO. EAM2251-01

PREPARED FOR
HASTINGS DISTRICT COUNCIL

PREPARED BY
KAREN TOULMIN
JUNE 2022

EAM NZ LTD – ENVIRONMENTAL CONSULTANTS
PO Box 1154, Napier 4110
Mobile 027 440 5990 Email info@eam.co.nz

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Senior Environmental Scientist
EAM NZ Limited

Report reviewed by:

Jason Strong (MSc)
Principal Environmental Scientist
EAM NZ Limited

TABLE OF CONTENTS

1 INTRODUCTION

EAM NZ Limited (EAM) has been engaged by Hastings District Council to undertake a Detailed Site Investigation (DSI), at 206 Queen Street, Hastings (hereon in referred to as the Site). It is our understanding that HDC are planning extensive redevelopment of the existing commercial/Industrial business site.

This DSI has been undertaken to provide a contamination assessment of the Site and to evaluate human health risks at the Site. A phased approach has been adopted for this investigation with an initial investigation, assembling background information to identify potential sources of contamination from past and present activities. This information is then used to develop a conceptual Site model and investigation strategy.

This report provides the following information:

- Background information.
- Site history.
- A conceptual Site model.
- Site visit and sampling
- Laboratory results.
- Conclusions and recommendations.

This investigation has been conducted in accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES).

1.1 SCOPE

The following scope of work was completed:

- Review of available information from Hastings District Council, namely, the Listed Land Use Register (LLUR), historical aerial photographs, and available environmental reports.
- Review of the environmental setting of the site
- Collection of soil samples at varying depths (where deemed necessary) from each sample site.
- Analysis of soil samples at an accredited laboratory for:
  - Heavy metals
  - Polycyclic Aromatic Hydrocarbons
  - Asbestos
- Preparation of a DSI report, including presentation and interpretation of results in accordance with the requirements of the NESCS and with the current edition of the 2021 MfE Contaminated Land Management Guidelines No. 1 and No. 5.

This assessment has been undertaken by a Suitably Qualified Environmental Practitioner (SQEP) in the field of contaminated land assessments. The SQEP holds a BSc Degree in Environmental Science.

1.2 LIMITATIONS

This report: has been prepared by EAM for HASTINGS DISTRICT COUNCIL and may only be used and relied on by Hastings District Council for the purpose agreed between EAM and HASTINGS DISTRICT COUNCIL as set out in section 1.1 of this report. EAM otherwise disclaims responsibility to any person other than HASTINGS DISTRICT COUNCIL arising in connection with this report. EAM also excludes implied warranties and conditions, to the extent legally permissible.

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

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

The opinions, conclusions and any recommendations in this report are based on assumptions made by EAM described in this report (refer section(s) 1.3 of this report). EAM disclaims liability arising from any of the assumptions being incorrect.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the site conditions, such as the location of buildings, services, and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this Report. EAM does not accept responsibility arising from, or in connection with, any change to the site conditions. EAM is also not responsible for updating this report if the site conditions change.

EAM has prepared this report based on information provided HASTINGS DISTRICT COUNCIL and others who provided information to EAM (including Government authorities), which EAM has not independently verified or checked beyond the agreed scope of work. EAM does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

Notwithstanding the Report Limitations, we confirm that Hastings District Council can rely on this report for the purposes of determining compliance with the NES guidelines with respect to the development identified in this assessment.

1.3 ASSUMPTIONS

EAM has made the following assumptions during the preparation of this report:

- Information obtained from third parties and HASTINGS DISTRICT COUNCIL is complete and accurate.
- The observed and inferred conditions are representative of the actual conditions associated with HAIL sites and / or other sites not directly assessed.
- That the future land use of the site will be a pocket park, pedestrian walkway, and a residential first floor apartment, with carpark beneath at ground level.

2 SITE DETAILS

2.1 SITE DESCRIPTION

The Site is located at 206 Queen Street, Hastings with the legal description LOT 1 DP 5310 LOT 1 DP 22385. The site occupies a total area of approximately 0.20Ha and is mostly covered by a large 1920's-built warehouse style building.

Figure 1 and 2 of Appendix A details the current site boundaries, and the draft proposed scheme plans.

3 ENVIRONMENTAL SETTING

3.1 TOPOGRAPHY

The topography of the site and surrounding area is relatively flat with the site situated at approximately 15m asl.

3.2 SOILS

Soil data from Landcare Research (2020) is not available from beneath the Hastings City CBD area however, based on data for soils in the immediate vicinity of the city, it is presumed they are of similar strata. Soils at the site are suspected to be Recent Soils, Gley soils, or both. Recent soils are weakly developed with a distinct topsoil, but a weak or absent B horizon. They typically occur on alluvial floodplains and young land surfaces. These soils are typical of low-lying areas. Gley Soils occur throughout New Zealand in low parts of the landscape where water tables are high.
They have a high bulk density and movement through the soil is limited when soils are wet. They are prone to waterlogging, which typically occurs during winter and spring. They have light grey subsoils, usually with reddish brown or brown mottles. The grey colours usually extend to more than 100 cm depth.

3.3 GEOLOGICAL SETTING

The site is mapped as being formed during the early Holocene and form part the Heretaunga Formation. Site geology is described as Tollemache Member, comprising Alluvial gravel, sand, silt and mud and swamp deposits of peat, and river gravel from the Ngaruroro, Tukituki and Tutaekuri rivers.

3.4 HYDROGEOLOGY

Groundwater in the Heretaunga plains is source from the Main (Ngaruroro & Tutaekuri) aquifer system which extends to more than 250m depth. The plains are underlain by inter fingered river channel, estuarine and marine quaternary sediments which have occurred during a period of fluctuating sea level changes (Rosen & White, 2001). The major aquifers in the quaternary sediments are primarily river channel and shoreline gravels which have been transported during by the Ngaruroro, Tutaekuri and Tuki Tuki Rivers. These gravel aquifers are separated by impermeable marine muds, clays, silts, and estuarine sediments which create the confined aquifer systems which underlie the eastern two-thirds of the Heretaunga plains aquifer system.

Groundwater is predominantly sourced for domestic water supply, and irrigation.

4 PROPERTY HISTORY

A desktop study was undertaken to gain an understanding of the history of the site. The review looks to determine potential contaminants which may be present at the site because of past and present land uses. The following information was sourced to establish the history of the site:

- Hastings District Council Property Files
- Anecdotal Evidence and building documentation.
- Historical Aerial Photographs
- HAIL

4.1 HASTINGS DISTRICT COUNCIL PROPERTY FILES

A review of Hastings District Council Files found 98 files pertaining to LOT 1 DP 5310 LOT 1 DP 22385 property ID 25706. These files largely pertain to building warrants of fitness, consents, grants and building reports, engineering assessments and general compliance correspondence. Amongst these files are documents referring to the historical construction of the building, documentation and plans for additions to the building. Asbestos construction and removal is also documented.

Within these historical documents, reference is made to underground fuel tanks and the proposed bowser location, use of quality lead and oil-based paints, leaded fuel line pipework and use of asbestos materials. Property files are presented in Appendix B.

4.2 ANECDOTAL EVIDENCE AND BUILDING DOCUMENTATION

Documentation of the history of the site was provided by HDC, with the full report presented in Appendix B. A summary of the site's history is discussed here.

The building which exists to the current day was constructed in the late 1920's and was originally identified as the Hawkes Bay Farmers (HBF) Co-op Association Garage. It replaced a former warehouse which was occupied by DW Hursthouse and HBF, who used the site as an engineering workshop, and an implement store. Historical documentation refers to the "New "handsome building"", suggesting that the former building was removed, and replaced with the new building, rather than just refurbished.

The HBF Garage was erected with the purpose of an automobile dealership and service centre. The Co-op association sold a variety of imported vehicles during its time, ranging from Chevrolet, land rovers and the premium model "Buick". The garage was the first in Hawkes Bay to install underground fuel tanks, with above ground fuel pumps. The pumps were arranged as a drive-through, eliminating backing and turning of vehicles. Historical imagery of the garage shows "in" and "out" vehicle entrance and exit, suggesting the bowsers were inside the building.

At the time of the 1931 Napier earthquake, the building was relatively undamaged. By 1934, HBF issued a building permit to extend the existing garage, with a new bulk store and petrol station. Documents state that the roof line would be a continuation of the existing garage, with a small arch, followed by a matching arch of the existing building. New petrol bowsers would be placed in an open area (but roofed) at the front of the extension. The old bowser area would be turned into the parts department.

The garage is documented to have had five "pits" where cars would be serviced. Timber boards were laid down and the car was driven over it, and then the boards removed.

Reference is made to the underground storage tanks, stating that "to measure how much petrol was left in the underground tank, every morning and night a reading was taken using a graduated

stick which had markings for every 50 gallons. In charge of this was Norm Richards, who was meticulous with his records, and he was puzzled at times when the readings didn't match how much petrol had been taken out of the tank. It turns out the petrol was contracting and expanding in the cold and heat". This comment suggests the presence of only one underground fuel tank within the site, which supplied fuel to multiple bowsers. This agrees with building documents presented in Appendix B, which refer to lead fuel lines extending from the bowser to fuel pumps.

HBF merged with Bailie Farmers Motors in 1971, and the new Bailies Motors opened new head office on corner of Nelson and Queen streets.

The former Farmers Motors building at 206 Queen Street West was never used again as a garage after this time, and the petrol pumps were removed.

Natusch, Shattky and Co, registered architects of Napier, drew plans in 1972 to convert the original 1926 part of the garage building into a retail liquor store for HBF and the 1934 addition was converted to 27 car parks. The latter of this comment, referring to conversion to 27 car parks appears inaccurate, as comparison of imagery from 1945 and 1979 (Section 4.3) show no changes to the building size or structure. This suggests this car park conversion did not happen, and perhaps was only planned.

By 1990, several mergers meant HBF ceased to exist, and the former garage building went into various private ownerships.

In 1996, the car parking area was turned into another retail store, and the front of the building was altered to enclose the former petrol pump area. The former liquor store was taken over by Briscoes in the early 1990s.

Hastings District Council took ownership of the building in 2019.

4.3 HISTORICAL AERIAL PHOTOGRAPHS

Historical aerial photographs of the site, from 1945 through to 2020, were sourced from Retrolens, Hastings District Council and Google Earth. Aerial photographs for the years 1945, 1959, 1969, 1974, 1978, 1980,1988,1994, 1999, 2004, 2015, and 2020 are presented in Appendix C.

The earliest available imagery is from1945, sourced by Retrolens. Imagery shows the HBF Co-Op Association building following the initial construction, and second alternations and additions which occurred in 1934. Unfortunately, no earlier imagery was available pre-1945 which might show the progression of its development. No significant changes are noted to the site through to the present day. With no change in size or shape of the building. Historical documentation for the site refers to conversion of the 1934 extension into 27 car parks, during the 1970s, however this appears inaccurate, as comparison of imagery from 1945 and 1979 show no changes to the building size or structure. This suggests this car park conversion did not happen, and perhaps was only made it to the planning stages.

4.4 HAZARDOUS ACTIVITIES AND INDUSTRIES LIST

In accordance with Appendix C: Hazardous Activities and Industries List (HAIL) of the MfE NES for Assessing and Managing Contaminants in Soil to Protect Human Health, the site is considered HAIL.
Under Section A, Chemical manufacture, application, and bulk storage:

- 13. Petroleum or petrochemical industries including a petroleum depot, terminal, blending plant or refinery, or facilities for recovery, reprocessing or recycling petroleum-based materials, or bulk storage or petroleum or petrochemicals above or below ground.

- 17. Storage tanks or drums for fuel chemicals or liquid waste.

Under Section D, Metal extraction, refining and reprocessing, storage, and use:
- 5. Engineering workshops with metal fabrication.

Under Section E, Mineral Extraction, refining or processing, storage, and use:
- 1. Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in deteriorated condition.

Under Section F Vehicle refuelling, service, and repair:
- 3. Engine recondition workshops
- 4. Motor vehicle workshops
- Service stations including retain or commercial refuelling facilities

Under Section H, any land that has been subject to the migration of hazardous substances from adjacent land in sufficient quantity that it could be a risk to human health or the environment.

Under Section I, any land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.

These HAIL activities are considered based on the documented history of the site.

5 CONCEPTUAL SITE MODEL

5.1 RATIONALE

The overall rationale for the site investigation was to determine whether historical activities on the Site may have caused soil contamination that would affect the proposed development. The following is an analysis of potential contaminants, receptors, and pathways between potentially contaminated soils, and the proposed Industrial land use.

5.1.1 HAZARDOUS SUBSTANCES AND POTENTIAL CONTAMINANTS OF CONCERN

For the purposes of this investigation, the following contaminants were considered.

- Metals
- Polycyclic Aromatic Hydrocarbons
- Asbestos

Metals occur naturally in the soil environment from the process of weathering of parent materials. Soils may become contaminated by the accumulation of metals and through leaded paints, land application of fertilisers, animal manures, sewage, pesticides, leaching from treated timber and wastewater irrigation. Most metals do not undergo microbial or chemical degradation hence, their total concentration in soils persists for a long time. Metals are associated with human illness, particularly nervous system damage from long term exposure in humans.

Polycyclic Aromatic Hydrocarbons (PAH's) are a class of chemicals which are produced when things such as coal, oil, gas, wood, garbage, and materials are burned. PAH was analysed based on the presence of ash remains in TP7.

Asbestos is considered a highly hazardous material with significant health consequences when present in Fines or Fibrous Asbestos. Asbestos is a common building material, largely utilised in pre-1970's buildings.

5.1.2 POTENTIALLY RELEVANT SENSITIVE HUMAN AND ECOLOGICAL RECEPTORS

The MFEs National Environmental Standard (NESCS) for soil contaminants, describes Commercial/Industrial land use as having varying degrees of exposed soil, including routine maintenance and excavation for subsurface utilities. These activities pose a risk to the consumer/landowner's where contaminated soils are involved in an exposure pathway.

The following potential receptors were identified as being relevant to the Site:

- Earthworks, construction, maintenance, and excavation contractors who may encounter potentially contaminated soil during the proposed works via inhalation (dusts).
- Future occupiers of the Site via inhalation (dusts) and/or ingestion of contaminated soil.

5.1.3 EXPOSURE PATHWAYS

A human health risk can only occur when there is a direct link between contaminant source and receptor. Potential complete pathways for this Site may include:

- Dermal (skin) contact with soil, for construction.
- Direct contact and inhalation of dusts and soil during construction and site works.

6 FIELD INVESTIGATION

6.1 SITE DESCRIPTION

The site comprises a large 1920's-built warehouse constructed predominantly of concrete and brick blockwork. Roofing is timber framed and clad with corrugated iron. The building is open plan, with some office spaces, bathroom facilities, storage areas, a mezzanine floor. The floor is concrete throughout, with some areas covered with carpet. Large windows enclose the entranceway from Queen Street, and access to the rear of the building is via a large roller door, and small access doors. The building exhibits 1930's art deco style building construction on Queen Street.

6.2 SAMPLE COLLECTION AND FIELD OBSERVATIONS

6.2.1 SAMPLE COLLECTION

Sampling locations across the Site were established using reference to "Contaminated Land Guidelines No. 5" (MfE 2021). These guidelines set out (in Table B1; p91), indicate the *"number of samples required to detect hotspot with 95 percent confidence"*. A total of 14 test pits were excavated across the site with soil samples collected at discretional intervals within each test pit. Three test pits, denoted Fuel Tank Investigation 1-3, were investigated after the initial investigation, after the discovery of the buried underground fuel tank. For health and safety purposes, further service location, and additional concrete cutting to enable access to it was required to access soils around the tank.

Underground service location was completed by Aerial Survey Hawkes Bay prior to excavation works, and concrete cutting was necessary for the excavator to break through the thick concrete flooring.

All sample locations are shown in Figure 2, Appendix A, site photographs in Appendix D, and Borehole logs are presented in Appendix E.

6.2.2 FIELD OBSERVATIONS

Thick concrete, of approximately 200mm extends across most of the building floor. A double layer is present in the front show room where the fuel tank was identified, with a thinner 50mm layer

present over the top. It is likely that this layer was poured in the mid 1970's the petrol pumps were removed when HBF was bought out and no longer used as a garage. This second layer was not observed across the remainder of the site.

Fill material was identified in all test pits. Fill typically comprised a mixture of silts and gravels, along with varying degrees of brick, building rubble and glass. Asbestos fragments, plastic waste and porcelain were identified within the fill. Asbestos was identified in TP1- fuel investigation, and TP8. The depth of fill varied across the site, commencing at surface level directly beneath the concrete flooring, generally to around 300-500mm depth. In TP3, TP4, TP9, around the fuel tank fill extended to between 700-900mm depth.

Natural soils were encountered directly beneath this layer of fill material and comprise dark brown silty clays.

The fill material is suspected to be the remains of the building which was replaced by the 1920 construction.

6.2.3 FUEL TANK DISCOVERY

The underground fuel tank was discovered in Sample location 1 (Fuel tank Investigation 1, see Figure 3, Appendix A) during initial site works. What appears to be a large concrete slab lid, reinforced with heavy steel lattice, was extracted from the floor along with the concrete. The steel cap lid, which would have been removed to fill the tank was lifted away with the concrete lid, exposing the filling point of the underground tank. Site photos presented in Appendix D show the discovery of the fuel tank. The tank appears to contain a small quantity of fuel, as can be heard through dropping stones into the tank. Strong petroleum odour is present within the tank.

Due to this test pit location overlying the very top of the tank, no further investigation could be completed in this location. Further service location was completed to clear the surrounding area of services and an additional three locations around the tank were concrete cut for further investigation. Additional investigation was completed to ascertain 1. soil contamination around the tank, and 2., whether additional tanks were present in the vicinity.

The first test pit was excavated directly next to the tank. Excavation of the pit exposed the northern wall of what is suspected to be a thick concrete bund surrounding the tank, and the basement of this bund, which extends to a depth of 1.2m depth. A sheet of corrugated iron is located on the outside of the bund wall, suggesting that iron was used as a bracing material within the ground, which concrete was poured into, to create the bund.

No visual or olfactory evidence of staining or contamination was observed in the soil around the concrete bund, and no hydrocarbon odour associate with fuels were noted.

The two additional test pits in this area did not identify further tanks or evidence of hydrocarbon contamination.

Further investigation of the soils beneath the concrete bund will be required to assess for potential leakage of petroleum hydrocarbons. Based on the presence of fuel residue within the tank, and its current enclosure within the building, no further investigation was able to be completed at this time.

6.3 FIELD QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Quality Assurance and Quality Control procedures undertaken during sampling included the following:

- Changing of disposable gloves after each sample.

- Decontamination and rinsing of augur between each sample.
- Collection of soil samples into new, clean, appropriately labelled sample bags and jars, correct for the analysis required
- 10% Duplicate analysis (collection of three duplicates).
- Storage of samples in chilled conditions whilst on-site, and during courier to the laboratory.
- Use of chain of custody procedures and forms.
- Use of IANZ accredited laboratories with in-house QA/QC procedures for the analyses requested.

7 ASSESSMENT CRITERIA

The following soil assessment criteria have been selected for the site.

7.1 BACKGROUND CONCENTRATIONS OF HEAVY METALS

Established background concentrations are based on the analysis of soil sample sets collected from major soil types in the Hawkes Bay Region for selected heavy metals. If concentrations of contaminants are found to be at or less than typical background concentrations, then the NES CS does not apply.

7.2 THE NATIONAL ENVIRONMENTAL STANDARD FOR ASSESSING AND MANAGING CONTAMINANTS IN SOIL TO PROTECT HUMAN HEALTH (NESCS)

The NESCS sets national standards for contaminants in soil to protect human health. It contains a national set of soil contaminant standards (SCS) for twelve priority contaminants for five standard land use scenarios. The land use category selected for this investigation was Commercial/Industrial) as described in the NES CS User Guide.

7.3 THE NATIONAL ENVIRONMENTAL PROTECTION MEASURE

In the absence of New Zealand specific risk-based human health criteria for nickel and zinc, the Australian National Environment Protection Measure 2013 (NEPM) guidelines have been adopted for this investigation. The intention of the NEPM is to enable safe use of contaminated land to ensure that contaminated land is appropriately assessed prior to development. The NEPM covers a range of land uses. For the purposes of this assessment, the NEPM Health-based Investigation Level D (Industrial Land Use) have been selected based on the land use and Site attributes.

7.4 THE NEW ZEALAND (BRANZ) GUIDELINES FOR ASSESSING ASBESTOS IN SOIL (2017)

Soil results were compared to the soil asbestos investigation criteria of 0.001% w/w asbestos for Fibrous Asbestos (FA) and Asbestos Fines (AF) -for all land use scenarios as set out in the NZ Guidelines for Assessing and Managing Asbestos in Soil (2017).

8 ANALYTICAL RESULTS

The following sections discusses the analytical results by analyte and compares against the adopted human health guideline criteria.

The site is proposed for use as a pocket park, pedestrian walkway and first floor residential apartments with ground floor car parking beneath the apartments.

The pocket park, and pedestrian walkway designs (Figure 2, Appendix A) suggest a recreational area. The ground surface is proposed to be completely paved, with raised garden beds. The land use scenario of Parks/Recreational is described by the NES as "*Public and private green areas and reserves used for active sports and recreation. This scenario is intended to cover playing fields and suburban reserves where children play frequently. It can also reasonably cover secondary school playing fields, but not primary school playing fields*". This land use description does not seem fitting for the proposed purpose.

The site is also proposed for first floor residential apartments with ground floor car parking. There appears to be no proposed gardens or exposed soil, and development documents suggest that all ground surfaces would be sealed. The NES description for High density residential is *"Urban residential with limited soil contact, including small ornamental gardens but no vegetable garden (no home grown produce consumption); applicable to urban townhouses, flats and ground-floor apartments with small ornamental gardens, but not high-rise apartments".* As the proposed plans suggest first floor apartments, the land use description of High Density residential is not fitting for the proposed land use.

The planned development proposes residential occupation and recreational area; however, these activities do not fit with the NES descriptions of recreational and residential land use. The development site is proposed to have brick/paved ground surface and exposure to soil is considered highly unlikely.

In this case, the most appropriate SCS is likely to be those for the NES land use scenario of Commercial/Industrial. The NES description of this land use is as follows:

"Commercial/Industrial site with varying degrees of exposed soil. Exposure of outdoor workers to near surface soil during routine maintenance, and gardening activities with occasional excavation as part of maintaining subsurface utilities (i.e., a caretaker or site maintenance personnel). Also, conservatively applicable to outdoor workers on a largely unpaved site.

Exposure risk is considered largely to on-site workers during site development and construction, which agrees with the commercial/Industrial land use description.

The analytical results are summarised in Tables 1, 2 and 3 in Appendix F, along with the laboratory reports and chain of custody documentation. The results of analysis have been compared directly against appropriate (where available) Soil Contaminant Standards (SCS) from the NES Priority contaminants list (MfE, 2012).

8.1 BACKGROUND SOIL CONCENTRATIONS

Soils are the site are not considered representative of Hawkes Bay background soils. Except for chromium and nickel, all metals exceed the values of an uncontaminated HB background soil by a significant degree. Of greatest exceedance is lead, with an average concentration at the site of 1848mg/kg, which significantly exceeds the background level of 27 mg/kg. The average copper concentration is 853mg/kg, exceeding the background value of 32mg/kg, and the average Zinc concentration is 600mg/kg, exceeding the background value of 105 mg/kg.

8.2 METALS/METALLOIDS

Laboratory analysis reported significantly elevated levels of lead across the site, and in two locations at concentrations which pose real risk to human health in a commercial/Industrial setting. The NES commercial/Industrial standard for lead is 3300mg/kg. Lead concentrations in TP 8 and TP 11 were reported as 13,400mg/kg, and 3,900 mg/kg, respectively. Concentrations in locationsTP3, TP6, TP7, TP10 reported values above 1500mg/kg which are concerning. Based on number of samples reporting high concentrations of lead across the site, it is highly likely that much of the site is contaminated by lead, and possibly in concentrations which pose a risk to human health.

All other sample analysis was within the NES for commercial/Industrial land use.

8.3 POLYCYCLIC AROMATIC HYDROCARBONS

One sample was collected from TP 7, 200mm depth where ash residue was observed. Of the twenty PAH analysed, all reported presence of the contaminant. Concentrations however are within the NES for commercial/Industrial land use.

8.4 ASBESTOS

The asbestos analysis for the site was compared directly with the New Zealand Guidelines for Assessing and Managing Asbestos in Soil (BRANZ, 2017). Results were assessed against values for Commercial/Industrial land use, which state "*Includes accessible soils within retail, office, factory, and industrial sites. Many Commercial and Industrial properties are well paved with concrete pavement and buildings that will adequately cover/cap any contaminated soils".*

Four samples were collected from Four test pits, TP1 (Fuel tank investigation), TP1, TP5 and TP8. Asbestos was identified in TP1 during the Fuel tank investigation, and in TP8. Samples were collected and analyse for TP5 and TP8 for clarity. Asbestos was not detected in TP 1 (fuel tank investigation), TP1, and TP5. TP8 reported presence of asbestos as Chrysotile (White asbestos), present as loose fibres. Asbestos concentrations were reported as <0.001, which is within BRANZ (2017) guidelines.

A summary of the asbestos results, and the laboratory report are presented in Appendix F.

8.5 QUALITY ASSURANCE AND QUALITY CONTROL

Duplicate analysis was completed as a means for determining uncertainty, accuracy, and precision of laboratory analysis. One duplicate sample was collected during sampling at the same sample location and depth interval as Sample #11-300mm and labelled as Duplicate 1.

The RPD between samples was calculated according to the following formula:

$$RPD = \frac{(Result\ No.1 - Result\ No.2)\ x\ 100}{(Mean\ of\ result\ No.1 + result\ No.2)}$$

The typical data quality objective is for an RPD to be within 30 – 50% (MfE, 2011a). The RPD result for lead within this sample reported 67% difference. This result is most likely due to the heterogenous nature of the site fill material. All other metals are highly reliable and accurate. RPD calculations are presented in Appendix F.

8.6 RISK ASSESSMENT

A hazard – pathway – receptor pollution linkage is considered to aid assessment of risk associated with results of the site investigation.

For contaminated soils to pose a risk to a receptor, a complete pathway must exist between the contamination source and the identified receptor(s). If there is an incomplete pathway, then there is no risk.

8.6.1 METALS

The analytical results indicate that soil across most of the site is largely above the published background criteria for a Hawke's Bay Uncontaminated background soil.
Assessment against NES land use criteria for commercial/Industrial land use indicates that site soils are generally unsuitable for this purpose. Metal concentrations, specifically for lead are significant and present a real risk to human health. Two samples were reported at concentrations above the acceptable standards, which gives rise to the possibility there may be more.
There are likely implications for offsite disposal of soils given that they exceed the accepted waste criteria for local Class A landfill.

Soil metal concentrations are well outside the Commercial/Industrial standards and therefore present significant risk to site workers.

8.6.2 ASBESTOS

Asbestos Containing Material was identified in two test pits, with asbestos fibres being transferred to the soil in TP8. The concentrations reported however, are within the BRANZ commercial/Industrial standards.

Based on the discovery of asbestos during site investigation, it is highly possible that additional asbestos may be buried within the site, particularly when fill material was encountered in all test pits. Should further asbestos be identified in future earth works, the protocol for unexpected discovery of asbestos contamination must be followed, which is detailed in Section, 9.1.

8.6.3 FUEL TANK AREA

For health and safety reasons, Investigation beneath and around the south, east and west sides of the located underground fuel tank are unable to be completed. This will require investigation following the removal of the surrounding building structure. The risk associated with the fuel tank has not yet been confirmed.

9 SUMMARY

From this investigation, consideration was given to the full range of potential contaminants that might be expected to occur at this site. The following key points summarise this investigation:

- A detailed site history was undertaken to review the historical land use at the site. The site has strong links with use as a service station, automotive retail, and garage, and based on these hazardous activities is considered HAIL.
- Soil investigations were completed at the site during May 2022 with test pits excavated in 14 locations. Surface and depth soil samples were systematically collected from all test pits across the site.
- All test pits reported varying levels of fill material, comprising silt, gravel and building rubble including brick, concrete, timber, glass, porcelain, asbestos, and domestic waste. Fill generally extends to 300-500mm, with deeper quantities in some sections of the site.
- The underground fuel tank, suspect to be the tank installed in the 1930's was encountered during site excavation. It appears to be located within a thick concrete bund, which extends to approximately 1.2m depth. No visible or olfactory evidence of staining of hydrocarbon contamination was identified in the soil around the accessible side.
- Asbestos was visibly identified in two test pits, TP1 (fuel tank investigation), and TP8. Contamination of asbestos fibres extend to the soil in TP8, however are reported within the BRANZ (2017) standards.
- Lead concentrations within site soils are elevated, with significant concentrations reported in TP 8 and TP11 at concentrations which far exceed the NES commercial/Industrial standards. Lead concentrations in these locations pose a real risk to human health. The average concentration of lead within site soils is 1848 mg/kg, and the highest concentration reported as 13, 400 mg/kg in TP8. The NES for lead in a commercial/Industrial setting is 3, 300mg/kg.
- Ash deposits were identified in TP2. A sample was collected and assessed for Polycyclic Aromatic Hydrocarbons, with all results reported below NES commercial/Industrial standards.
- 10 % duplicate samples were collected for accuracy of results and were reported as accurate.

10 RECOMMENDATIONS FOR FURTHER WORK

10.1 FUEL TANK REMOVAL AND UNDERLYING SOIL ANALYSIS

Further investigation is required around the remaining sides and underneath the tank to determine that contamination is not present and has not affected shallow water tables beneath the site. For health and safety reasons, further investigation into this area will be required following the removal of the surrounding building walls and ceiling to provide sufficient ventilation, and excavator access. Underground fuel tanks will require removal to access underlying soils beneath the concrete bund. Soil analysis beneath the fuel tanks to assess petroleum contamination will be required, at a minimum for assessment of Benzene, Toluene, Xylene, Ethylbenzene (BTEX) and Total Petroleum Hydrocarbons (TPH).

10.1.1 UNEXPECTED DISCOVERY OF CONTAMINATION PROTOCOL

Should unexpected contamination be encountered during the fuel tank removal be encountered, all site work must immediately stop, and the potential hazards must be assessed. Report the discovery to the SQEP or manager on site. Contamination may present as:

- Staining and/or discolouration of soil

- Refuse and/or debris such as brick, glass, rubble, timber, domestic waste
- Drums or underground storage tanks
- Odour, such as hydrocarbons, sewage or rotting material.
- Presence of discoloured surface water or leachate
- Oils, grease, oily substances
- Asbestos

Should asbestos be observed or suspected during the excavation works, all work shall cease and Guidelines for the Management and Removal of Asbestos (revised 1999) for the Department of Labour, and the Health & Safety in Employment (Asbestos) Regulations (1998) will be followed. Works can recommence once all asbestos has been removed safely. Any such asbestos works (assessment, delineation, removal, and verification) would be undertaken by a specialist asbestos contractor.

A first response protocol for unexpected contamination is as follows:

1. Stop work immediately. Assess the potential immediate hazards. • If the discovery is assessed as presenting an imminent hazard or danger, notify emergency services dialling 111. If unsafe, move away, secure the area, and notify workers in the nearby area.

2. Advise SQEP, site manager or client representative

3. Work will not resume or commence until the SQEP has provided clearance.

10.2 CONTAMINATED SITE MANAGEMENT PLAN/REMEDIATION ACTION PLAN

Lead contamination at the site is concerning and it is highly likely that further significantly elevated contamination is present. Based on the risk associated with lead exposure, prior to removal of the concrete floor, a Contaminated Site Management Plan/Remediation Action Plan will be required to be prepared for site works, to ensure the safety of all site workers. This will include the following:

- Health and safety protocols
- Excavation protocols
- Dust suppression
- Unexpected discovery of contamination protocols.
- Contaminated soil management procedures and options for remediation.

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APPENDIX A- FIGURES

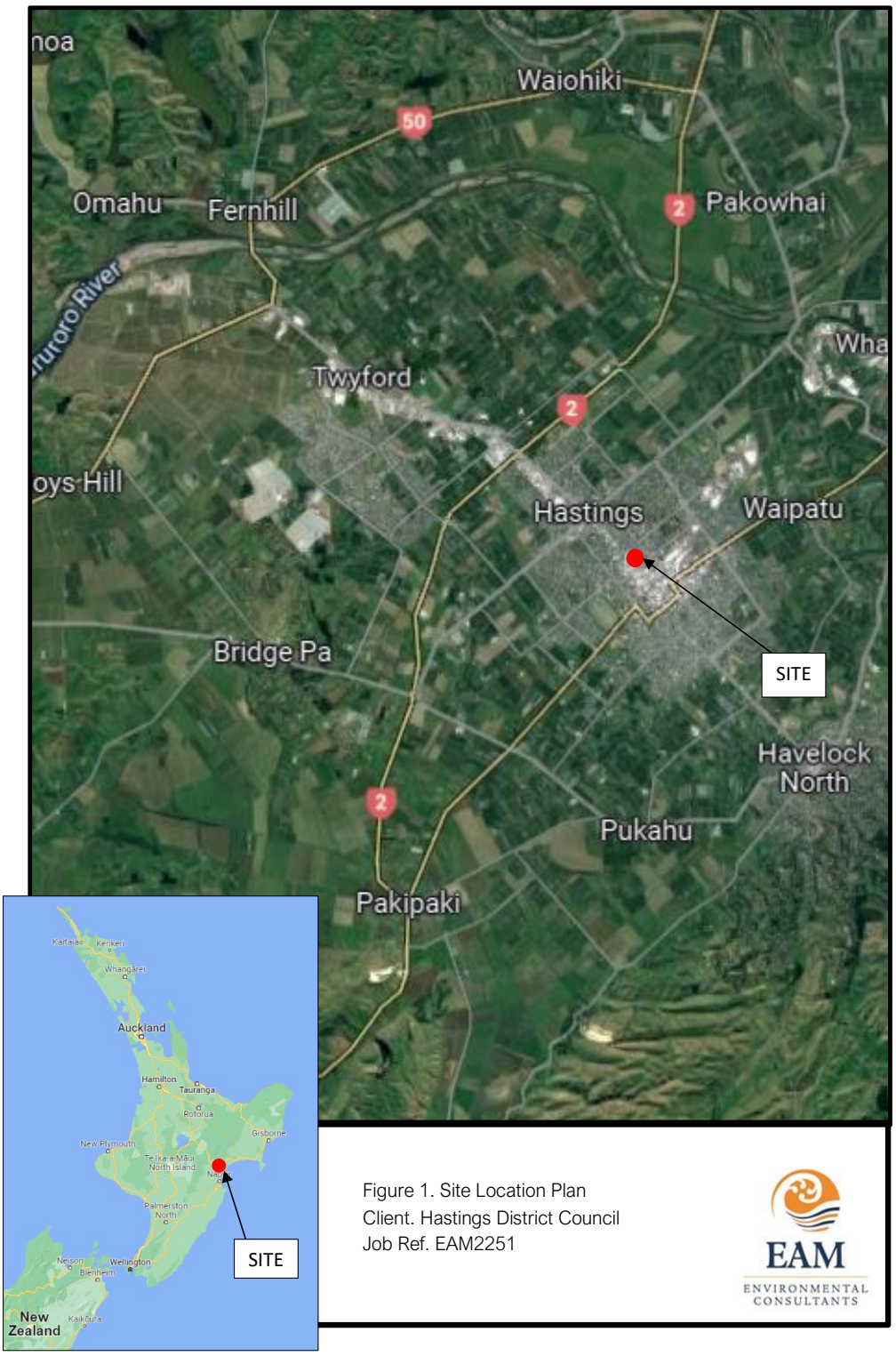
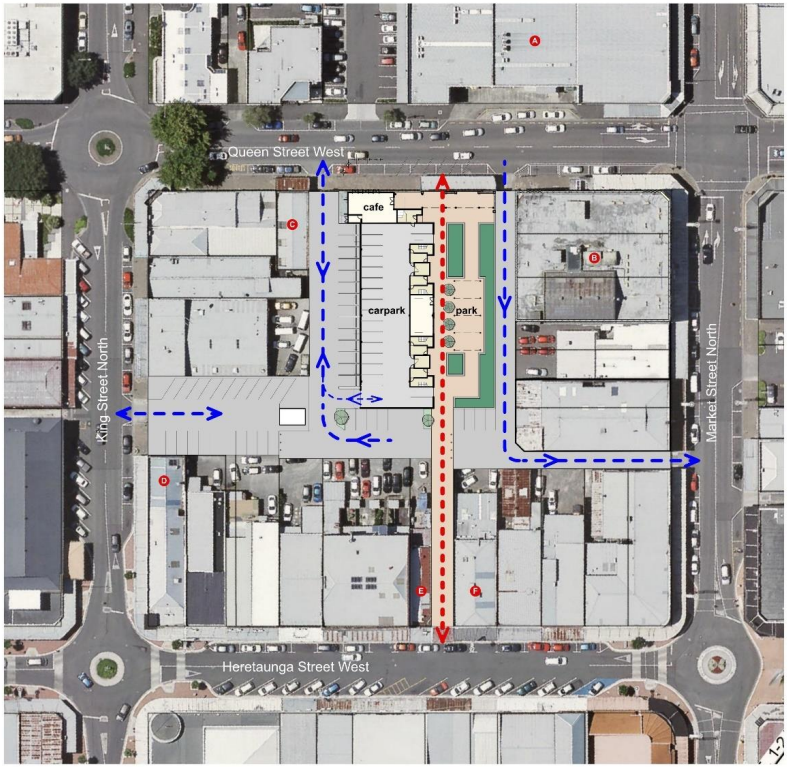


Figure 1. Site Location Plan
Client. Hastings District Council
Job Ref. EAM2251

EAM ENVIRONMENTAL CONSULTANTS

Figure 2. Site Development Plans



pedestrian link

shared vehicle/ pedestrian access lanes

A Kiwibank
B IMS building
C Morphosis
D Sutto
E Michael Hill
F Grant & Douglas/ Pascoes

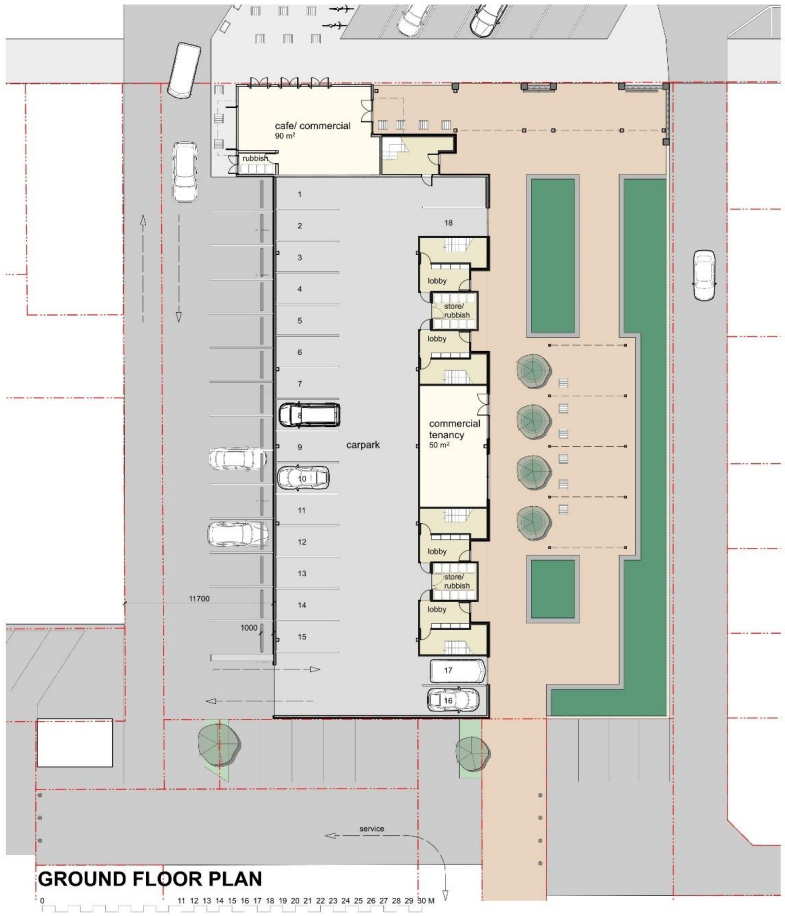
SITE PLAN

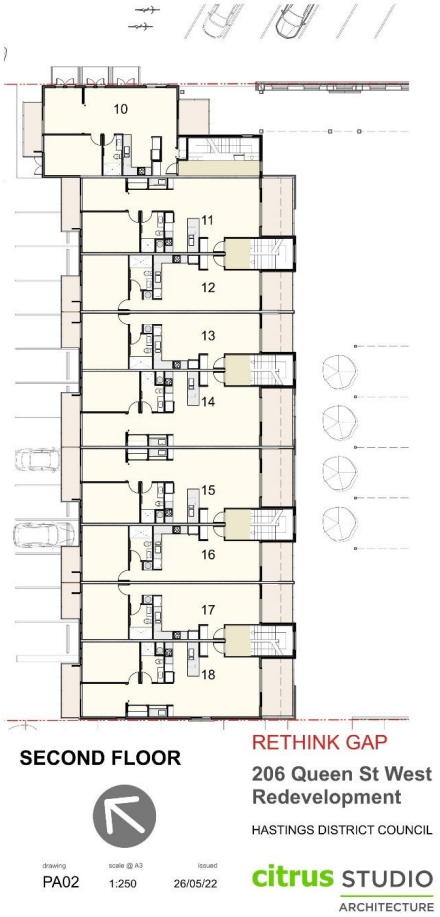
0 10 20 30 40 50 60 70 80 90 100 M

drawing PA01 scale @ A3 1:750 issued 26/05/22

RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL

citrus STUDIO ARCHITECTURE


cafe/ commercial
90 m²
rubbish
1
2
3
4
5
6
7
9
10
11
12
13
14
15
16
17
18
lobby
store/ rubbish
lobby
commercial tenancy
50 m²
carpark
lobby
store/ rubbish
lobby
11700
1000
service
GROUND FLOOR PLAN
0 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 M


10
11
12
13
14
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16
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18
SECOND FLOOR
RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL
drawing
PA02
scale @ A3
1:250
issued
26/05/22
citrus STUDIO
ARCHITECTURE

RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL

AERIAL VIEW

drawing PA03 scale @ A3 issued 26/05/22

citrus STUDIO ARCHITECTURE

RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL

AXONOMETRIC VIEW

drawing PA04 scale @ A3 issued 26/05/22

citrus STUDIO ARCHITECTURE

NE Queen St NE Elevation
1:125 Ref:

NW Carpark NW Elevation
1:125 Ref:

ELEVATIONS

RETHINK GAP

206 Queen St West Redevelopment

HASTINGS DISTRICT COUNCIL

drawing PA05 scale @ A3 1:125 issued 26/05/22

citrus STUDIO ARCHITECTURE

SW Service yard SW Elevation
1:125 Ref:

SE Park SE Elevation
1:125 Ref:

ELEVATIONS

RETHINK GAP

206 Queen St West Redevelopment

HASTINGS DISTRICT COUNCIL

drawing	scale @ A3	issued
PA06	1:125	26/05/22

citrus STUDIO ARCHITECTURE

2 bedroom apartment
(2 of this type)

74 m² nett floor area
7 m² living deck
6 m² covered bedroom deck
stair lobby entry at ground
floor shared with 2 aparments
internal access from ground
floor entry lobby to carpark

2 bedroom apartment
(8 of this type)

80 m² nett floor area
12 m² covered living deck
6 m² covered bedroom deck
stair lobby entry at ground floor shared with 4 aparments
internal access from ground floor entry lobby to carpark

1 bedroom apartment
(8 of this type)

58 m² nett floor area
8 m² covered living deck
4 m² covered bedroom deck
stair lobby entry at ground floor shared with 4 aparments
internal access from ground floor entry lobby to carpark

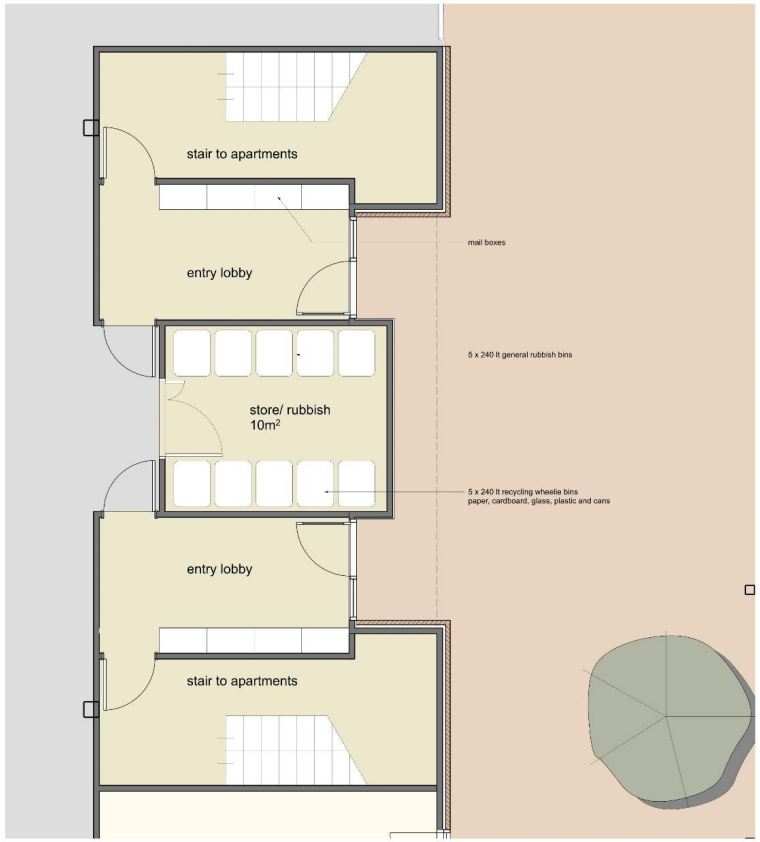
APARTMENT PLANS

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 M

drawing PA07 | scale @ A3 1:100 | issued 26/05/22

RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL

citrus STUDIO ARCHITECTURE



APARTMENT STAIR CORE PLAN

drawing PA08 | scale @ A3 1:50 | issued 26/05/22

206 Queen St West Redevelopment

HASTINGS DISTRICT COUNCIL

citrus STUDIO ARCHITECTURE


NE
Queen St NE Elevation
1:100
Ref:
NW
Carpark NW Elevation
1:100
Ref:
SE
Park SE Elevation
1:100
Ref:
A external walls
Resene Frost from BS 5252/ B15
D balustrades and trims
Bokara Grey/ Cape Cod
E apartment entry lobby walls
Chathams Blue/ Green Pea
B brick base and stair cladding
selected red brick
C terrace screens
aluminium battens
F roofing
all roofing materials to be inert
pre-painted metal or membrane
ELEVATION MATERIALS and COLOURS
0 1 2 3 4 5 6 7 8 9 10 M
drawing
PA09
scale @ A3
1:100
issued
26/05/22
206 Queen St West
Redevelopment
HASTINGS DISTRICT COUNCIL
citrus STUDIO
ARCHITECTURE

RETHINK GAP
206 Queen St West
Redevelopment
HASTINGS DISTRICT COUNCIL

QUEEN ST VIEW

drawing PA10 scale @ A3 issued 26/05/22

citrus STUDIO
ARCHITECTURE

RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL

QUEEN ST LANEWAY ENTRY VIEW

drawing PA11 scale @ A3 issued 26/05/22

citrus STUDIO ARCHITECTURE


RETHINK GAP
206 Queen St West
Redevelopment
HASTINGS DISTRICT COUNCIL
LANEWAY VIEW
drawing
PA12
scale @ A3
issued
26/05/22
citrus STUDIO
ARCHITECTURE

RETHINK GAP
206 Queen St West Redevelopment
HASTINGS DISTRICT COUNCIL

PARK VIEW

drawing PA13 scale @ A3 issued 26/05/22

citrus STUDIO ARCHITECTURE

RETHINK GAP

206 Queen St West Redevelopment

HASTINGS DISTRICT COUNCIL

PARK FACADE VIEW

drawing PA14 scale @ A3 issued 26/05/22

citrus STUDIO ARCHITECTURE

Figure 3. Test Pit Locations
Client. Hastings District Council
Job Ref. EAM 2251

APPENDIX B- PROPERTY FILES

Hawke's Bay Farmers' Co-op Association Garage

1.0 Hawke's Bay Farmers' Association

A desire for farmers in Hawke's Bay to share the profits with those who made them led to a proposal to form the Hawke's Bay Farmers' Association in January 1888. Its philosophy was:

> The principle upon which this Company is formed is that the shareholders should consist of stockowners, farmers, and others interested in landed estate and its products in Hawke's Bay, whereby a large business would be secured to the Company, and the producer would receive back in the shape of the profits of the Company what is now a heavy deduction from his income paid to other institutions for conducting his business.[1]

Charles Bonfield Hoadley began his business of land, stock and station agents in Napier in 1874, and pioneered wool sales in 1880. The sale of Charles's business was proposed to create the new Hawke's Bay Farmers' Association.[2]

A prospectus was issued on 1 January 1888;[3] however, this company failed to eventuate due to a lack of support. Charles sold his wool, skins, hides and tallow business to Williams & Kettle in April 1888.[4]

2.0 Hawke's Bay Farmers' Co-operative Association Limited

1891 brought success, when stock and station agent Mathew Miller led the second attempt to set up a farming cooperative along the same principles as in 1888. The Hawke's Bay Farmers' Co-operative Association Ltd was formed with capital of £100,000 (2021: $22.3 million).[5]

The head office would be in Tennyson Street, Napier.[6]

3.0 Motor car history of Queen and Market Streets and the Hawke's Bay Farmers' Co-operative Association Ltd connection

Businesses which introduced motor cars to New Zealand were typically horse-buggy and coach builders.

Alexander Jones came to New Zealand from Scotland to work for Henry Russell in Waipukurau in 1865. He went into business as a coach builder around two years later. In addition he invented and made many agricultural implements.[7]

He would be joined in business by his son, William, forming A Jones & Sons. William would establish in April 1896 a branch of the business on the corner of Queen and Market Streets, Hastings.[8]

A Jones & Sons was the first business in Hawke's Bay to import a motor vehicle – an Oldsmobile, for J Bernard Chambers of Te Mata in 1902. It was shipped from the Knowles Automobile and Motor Power Company Limited in Australia. [9]

The Oldsmobile arrived in November 1902, and William Jones drove it to Te Mata from Hastings. A report of the trip said it was pleasing that the horses they passed were not startled.[10]

As the demand increased, A Jones & Sons imported more vehicles, and in 1908 with eight Siddeley vehicles on site it was reported that their "garage now represents an animated appearance and is worthy of inspection".[11]

In October 1908, Percy Sampson – possibly a son-in-law of Andrew Jones – purchased the Hastings motor car side of A Jones & Sons, setting up in Market Street.[12]

However, this didn't last long, and Davis and Boyd bought out Percy's business in November 1909,[13] shifting in 1915 to a new site in Station Street North (now Russell Street).[14]

A Jones & Sons continued in business as blacksmiths, wheelwrights and engineers on the corner of Queen and Market Streets.[15] This part of their business was purchased by Stubbs & Beck in 1910, continuing in the same premises.[16]

3.0 Sale to Hawke's Bay Farmers' Co-operative Association Ltd

A Jones & Sons' property on the corner of Market and Queen Streets was sold in July 1912 to the Hawke's Bay Farmers' Co-operative Association Ltd (HBF).[17] The manufacturing works business carried on by Stubbs & Beck in the building was also purchased, and the two men were employed by HBF.[18]

HBF was well established in Hastings in the 1890s, and in 1899 they built new premises also on a corner of Queen and Market Streets, diagonally across from the site purchased from A Jones & Sons. This new building was said to have the largest floor space in Hastings and was used for seed cleaning, storage for wool, grain and produce, and a grocery.[19]

4.0 HBF motor vehicle dealerships

HBF was selling vehicles at least by October 1912, when they had "motor cars" on display at the Hawke's Bay A & P Show.[20] They were agents for Overland and Hupmobile and sold from their Napier garage "for Napier, Hastings and Hawke's Bay".[21]

The Buick agency – which would be a prominent model for decades for HBF – was added in 1914, when these motor cars as well as Ariels were displayed at the Hawke's Bay A & P show.[22]

5.0 HBF Garage 206 Queen Street West, 1920s to 1930s

The Council of Fire and Accident Underwriters' Association of New Zealand drew block plans of building footprints in the Hastings central business district, and Block 1 (Market and Queen Streets) was completed in April 1925. This shows that that HBF had a building, part of which was two-storied, on the corner of Market and Queen Streets (the property purchased from A Jones & Sons). This housed a retail store and offices, and a large machinery store.[23]

Next door on Queen Street West was a large warehouse. The front was occupied by engineer D W Hursthouse, and the back contained an implement store and workshop for HBF. It appears D W Hursthouse had occupied part of the building since 1919.[24]

Behind the main building was a benzine (petrol) store.[25] At that time benzine came in 4 gallon (18 litres) tins.

In June 1925, HBF revealed plans to build on this site a garage at a cost of £7,800 ($837,000), to sell and service Buick motor cars.[26]

An advertisement in July 1926 in the *Hawke's Bay Tribune* announced the "New Home of Buick Cars in Queen Street, Hastings".[27]

Upon opening their new "Handsome Building" HBF advertised the sale of benzine from bowsers (petrol pumps drawing from large underground tanks) for Big Tree, Voco and Shell. In those days most garages carried a number of brands, unlike today.

The 4 gallon benzine tin cans, which were the most common way to fill a vehicle before bowsers, were quite a hazard in a number of ways. The tins were stored and sold not only in garages, but by country stores, and stock and station agents, such as HBF – which had a storage facility for them before the garage was opened in 1926. It was not uncommon for these storage facilities to catch alight, and the cans also occasionally caught fire while carried around in vehicles. Empty cans were frequently discarded on public roads, which was not only unsightly, but could also startle horses if the sun reflected off the tins.

Shell Oil stated in early 1926 that it was "the desire of the Oil companies to eliminate tins and [their wooden storage] cases".[28]

The advertisement described the new HBF bowser set up: "The pumps are so arranged to eliminate backing and turning – DRIVE STRAIGHT IN AND OUT." An early photo of the garage shows a labelled "IN" vehicle entrance and on the other side of the building an "OUT" vehicle exit. This indicates the bowsers were actually inside the building.[29]

In between the entrance and exit were two large showroom windows, with a doorway between them.

By 1929, the HBF Garage was advertising its General Motors dealership connection, with new Buicks and Chevrolets for sale.[30] General Motors was formed in the United States in 1908, at first as a holding company for Buick but later added other brands.[31] HBF also had second-hand sales of non-General Motors vehicles for sale, such as Ford and Studebaker.[32]

General Motors, then the largest manufacturer of vehicles in the world, established an assembly plant in Petone, New Zealand, during 1926[33] for Chevrolet, Buick, Oldsmobile, Cadillac and Pontiac vehicles. Vauxhall was added in 1931.[34] Ford was already doing car assembly in New Zealand, importing in boxes what were known as Completely Knocked Down (CKD) vehicles – premade car chassis, body and engine to be put together in their Wellington or Petone plants. General Motors would import the components "packed to the smallest economical space, and to place them upon 'efficiency-routed' conveyors, to be riveted, bolted, and fitted into the machine that runs from the final working stage, painted and polished, ready for the road".[35]

Whether or not the new HBF Garage was established in response to General Motors manufacturing in New Zealand – which reduced the cost of importing cars – is not known. HBF, however, advertised that "New Zealand Assembly makes possible Lower Prices on CHEVROLET CARS".[36] The HBF Garage therefore competed on lower cost and high quality for their Chevrolet vehicles. However, Buicks – the top of their product range – were advertised as a premium vehicle.[37]

Joining the HBF Garage as an apprentice on 8 April 1930 was 18-year-old Cyril Smith. He met with Ralph Douglass, the garage service manager/foreman, who offered him the job. In notes written for an HBF long-service function, he indicated his work life was not easy during this time and recalls being tormented at work: "How I stayed around during this time I never cease to understand." With support from his fellow workers, Ray Symons, Terry McKittrick, Jimmy Mills senior, and senior apprentices Allan Roberts, Nick Lane and Nick Fahey, he survived.

Cyril reflected:

> Rough as it was, it meant good grounding for the future as a mechanic. Remember these times were during the time of the Great Depression, not many jobs about and very little work, and a tendency for some of the staff to wander off to find something to occupy

> themselves. Those days you were only paid by the hour, no work, no pay, but eventually we moved back to full employment.[38]

6.0 A fire and an opportunity

Since buying out the A Jones & Co building on the corner of Market and Queen Streets in 1912, HBF had used the premises for a grocery and provision store, a boot seller and ironmongery, china and crockery retail and there was the existing engineering and implement workshop.[39]

On 3 January 1929 a fire broke out at these premises – which were tinder dry, being one of Hastings' oldest wooden and iron structures. When the fire department arrived the building was still standing and looked as if it could be saved, but before hoses could be deployed, the flames suddenly burst through the roof and destroyed the whole building very quicky.[40]

The cans of benzine and oil stored at the grocery, as well as gelignite and detonators, added danger to the situation, but the fire brigade managed at great peril to themselves to remove the gelignite. However, the oils exploded, blowing out the windows and injuring a fireman.[41]

The cause of the fire was unknown.[42] Fortunately the HBF Garage was not damaged.[43]

With the old building demolished by fire, plans were made to rebuild – but most controversially the HBG head office, which had been in Napier for almost 40 years, would move to this new building. The idea had been under consideration for many years.[44]

The new three-storey building would be designed by one of New Zealand's eminent architects, Edmund Anscombe from Wellington. It was constructed on earthquake- and fire-resistant principles and opened in September 1930.[45]

7.0 The 1931 Hawke's Bay earthquake

Apprentice Cyril Smith was in the HBF Garage workshop on 3 February 1931 at the time of the 7.8 magnitude 1931 Hawke's Bay earthquake. He recalled in 2006 what happened next:

> Firstly it seemed just like an ordinary quake then it started to move up and down, not sideways as they usually did. Seeing staff rushing outside, I decided to follow, and we tried to walk down the side of the garage, but could not, so got down on our hands and knees till the worst was over.[46]

The earthquake did not overly trouble the new HBF building, and it reopened on 11 February,[47] but the garage did not escape damage.[48]

Noted in the insurance report was: "East wall badly cracked. Parapet cracked, can be reinstated." [49] Woodward's Pharmacy, whose building behind the garage on Heretaunga Street West was wrecked, had painted in whitewash on the front of the garage window that they would "Open with complete stocks on Wednesday". It appears that they may have occupied part of the garage temporarily until their new shop opened in May 1931.[50]

Cyril Smith reported for work the day after the earthquake, and was put to work driving emergency vehicles and assisting with the clean-up for a week.[51]

8.0 A building extension

In November 1934 the *Hawke's Bay Tribune* recorded that HBF had been issued a building permit for a garage, bulk store and petrol station at a cost of £3,080 ($412,000).[52] This would be for an

extension of the existing garage at 206 Queen Street West. The roof line would be a continuation of the existing garage, with a small arch, followed by a matching arch of the existing building.

Plans of the extension show storage and offices in the middle of the building, and new petrol bowsers placed in an open area (but roofed) at the front of the extension.[53] The old bowser area would be turned into the parts department.[54]

In 1936, Cyril Smith finished his five-year apprenticeship at the garage when service manager Ralph Douglass told him he "had done ok", but would "do just one more year as an improver".[55]

Cyril worked at the garage until retiring on 8 April 1971.[56]

9.0 The 1940s and 50s

After emerging from the Great Depression, the world was faced with the calamity of World War II. Many of the staff, including Cyril Smith, served – in his case first to Wigram and then the Solomon Islands in 1944 as air force ground crew. While he was on war service, HBF made up the difference between his work salary and air force pay.[57]

For those joining firms such as HBF after World War II it was the beginning of a golden era for the New Zealand economy, especially farming. There was loyalty between employees and the firm, and employment for life was a given.

In contrast to the difficulties Cyril faced in the 1930s during his apprenticeship, the 1950s intake of David Clark (1952), Peter Kidd (1954) and Peter McNab (1957) reported quite different experiences. Central to this was Cyril himself, who looked after the apprentices, as recalled by Kevin Watkins, who joined the parts department in 1967:

> He was like the father of the mechanics, and he took some of these apprentice boys who had some rough edges and smoothed them off and it didn't matter what mischief or what trouble they got into, Cyril was like a dad, and always at their side. Always there to teach them – talking to guys afterwards they would say "We could never have done it without Cyril". He was such a good guy – even tempered – never saw him lose it – all the apprentices that had Cyril I am sure would say the same that he was incredibly wonderful man and the knowledge he passed onto them.[58]

In addition to the Buick and Chevrolet agencies, Land Rover and Rover were added in the 1950s, later in the decade also English brands Armstrong Siddeley, Simca and Elvis.[59]

When demand for wool skyrocketed and its export price tripled overnight due to the 1950 Korean War, when the United States began to stockpile wool in case the conflict worsened, it became a prosperous time for farmers.[60] This coincided with HBF Garage receiving Land Rovers, which were snapped up by farmers who were flush with cash.[61]

Apprentice Peter Kidd remembers in the days before car transporters, climbing into a car with four or five other garage employees and driving to Wellington to pick up Land Rovers and drive them back.[62]

The Land Rovers, however, weren't as well suited for New Zealand conditions as they were in England, and needed lots of maintenance – a good money spinner for the garage.[63] Peter McNab, who started as an apprentice in 1957, recalls Land Rovers were serviced frequently.[64]

Many clients preferred to deal with one mechanic, such as Sir Andrew Russell and the Fernie family, who only let Roy Small work on their vehicles. Roy, as Peter Kidd remembers, wore a tie while

working. His parents, of German descent, anglicised their surname during World War I, to avoid any recriminations. Roy was so fussy he was reluctant to let any apprentices work on his clients' cars.[65]

The garage had five "pits" where cars would be serviced. Timber boards were laid down and the car was driven over it, and then the boards removed. The mechanic would then climb into the pit to work on gearboxes or remove exhausts. Peter McNab recalls there wasn't much room if you were tall, and it was very cold.[66] In fact the building was cold in general, and to keep warm, the men huddled around a wood fire in a 44 gallon drum.[67]

In addition to the large workshop area, there was a lube bay – which had hoists to lift cars – a parts department, and a panel shop. [68]

9.1 No remittance licence motor vehicles, 1950 to 1972

Post-World War II the demand for new motor cars in New Zealand outstripped supply, leading to an ageing car population.

All dealers had a long waitlist for new cars, as not enough CKD vehicles – due to import licensing and overseas currency restrictions (which began before World War II) – could be assembled in the country. It was said in 1950 "… a new car remains for many aspiring owners little more than a tantalising mirage".[69]

Government restrictions on using private funds held overseas to purchase a new car also meant importing was not an option.

However, in May 1950, the New Zealand Government announced a "no remittance'' scheme which meant a person holding sterling funds in London could use them to purchase and import a new overseas motor car either fully assembled or as a CKD kit sent to an assembly plant in New Zealand of their choice.[70] This scheme would continue until 26 February 1972.[71]

Every CKD car ordered with overseas funds would be assembled at the General Motors plant at Petone, and then the balance of components was paid for in New Zealand. In reward for bringing in an extra CKD car to General Motors above their import licence, the dealer would be rewarded with an extra car allocation.

The scheme was designed to increase the number of cars in New Zealand, in addition to the CKD vehicles assembled here.

Most garages had a specialist no remittance salesperson, and Eric Wells performed this duty for the HBF Garage. He would visit farmers throughout Hawke's Bay who held overseas funds.[72]

Farmers were therefore in a prime position, and some held back sales of their wool in sterling currency to be used to purchase a car.

The Land Rovers brought in by farmers came fully assembled and had extras already installed such as a radio and a heater.

Garry Mulvanah, who joined the HBF hardware department in 1956, transferred to the HBF Garage in 1964 as chief clerk.

> You had a list of people, mostly farmers, who could get a car with overseas funds and the more no remittance cars you could sell the more allocation you got from New Zealand-made cars. A lot of people cashed in their Australian BHP shares to buy cars so those with overseas funds were treated like gods.[73]

The ongoing shortage of cars in New Zealand meant it was important to keep older cars going, and in the 1950s cars from the 1930s were still being reconditioned.[74] Frequent servicing and repairs provided a brisk trade for the HBF Garage. [75]

Those lucky enough to secure a new car under the no remittance licence could go back to the dealer every 18 months and trade in the vehicle for more than what they paid it for it, and HBF could sell it for it for more again.[76]

An unusual addition to the HBF Garage in the 1950s was a Zundapp two-stroke scooter, which Peter Kidd remembers coming into the country in crates for the mechanics to assemble. It wasn't a great success as the two-stroke motor required a mixture of petrol and oil, which most people didn't get right.[77]

10.0 The 1960s

Stuart Cheyne joined in 1964 to become a Land Rover and used car salesman. He remembers their total allocation of new cars and station wagons from General Motors for that year was 50 vehicles – which mostly went to farmers. "Farmers really had the priority, because – well it got political at times – and we had to bend to the favour of the mercantile company [HBF] as he was told 'so-and-so was such a good client he needs to have a new car'."[78]

Manager Bob Williamson told Stuart that they had to be aware of the problems when allocating new cars in such a way:

> Bob would say to me "That next car, ring up [name withheld], but be careful as his sister is married to so-and-so, and his sister to so-and-so and they all farm in the same area." So that is exactly what would happen, you would sell a car and after a couple of weeks they would hear about the car and drift in and say "Where am I on the list? I see so-and-so got a new car – so how did he manage to get one before I did? I am sure my name has been down longer than his." [79]

The HBF Garage did not have enough room in its building to show cars, and only one could fit between the petrol pumps and parts departments. There was a used car yard behind the building[80] and around 1964 this moved to the corner of Heretaunga Street and Tomoana Road.[81]

Stuart became manager of the HBF Garage in 1966, and Kevin Watkins joined in 1967 to work in the parts department. Above the area at the front of the garage was a mezzanine floor, where panel parts were kept. It was also home to what Kevin described as "rats half the size of cats". Assistant manager Hal Jonas had a phobia of rats, so when the parts manager Merv Smith wanted Hal to get a panel, he would plead Kevin to go up instead.[82]

To measure how much petrol was left in the underground tank, every morning and night a reading was taken using a graduated stick which had markings for every 50 gallons. In charge of this was Norm Richards, who was meticulous with his records, and he was puzzled at times when the readings didn't match how much petrol had been taken out of the tank. It turns out the petrol was contracting and expanding in the cold and heat.[83]

The role of HBF Motor Division general manager was shifted in 1967 to the Napier branch in Dickens Street.[84]

11.0 A wholly owned subsidiary in 1970: Farmers Motors

There were plans in the late 1960s to build a new garage on the corner of Tomoana Road and Heretaunga Street West where the used car yard was, but a new set of circumstances would stop this.[85]

General Motors, according to accounts from various employees who worked at the HBF Garage, wanted to combine their various dealers to have one dealer per town.[86]

In preparation for this, it appears HBF created a wholly owned subsidiary, putting the garage into a separate company.

In November 1970 the company was advertising itself as Hawke's Bay Farmers' Holden, with the HBF logo.[87] However, by 1 December 1970 a new entity had been formed under Holden logo, and a new name, Farmers Motors.[88]

11.0 Baillie Farmers Motors

Baillie Motors was established around 1936 on the corner of Hastings and Eastbourne Streets by Guy Baillie. This company in 1970 carried the General Motors Vauxhall and Bedford franchise in Waipukurau, Wairoa, Hastings and Napier.

Farmers Motors had the General Motors Holden franchise for the same locations, as well as a branch in Dannevirke with the Vauxhall and Bedford franchise.[89]

Sir Edwin Bate, chairman of Baillie Motors Limited, then a public company, had announced in May 1970 that merger discussions were underway with HBF.[90]

Garry Mulvanah, who was employed at Farmers Motors, said that this period was very unsettling for the staff, but nothing was agreed upon between the two companies.[91]

However, the following year an announcement was made on 8 September that a merger would take place on 1 November 1971.[92] Shareholders of Baillie Motors Limited would receive a bonus share for every five shares they held, and HBF was then issued half of the total capital of the new company, Baillie Farmers Motors Limited, of 1,080,000 shares of 50 cents each.[93] Past employee Kevin Watkins recalls his feeling about the merger was that: "Everyone at Hawke's Bay Farmers' felt they had been shafted, but that's what General Motors wanted."[94] Peter McNab chief clerk of Farmers Motors said it had been a good business up to the time of the merger.[95]

On 24 November 1966, Baillie Motors had opened a new head office on the corner of Nelson and Queen Streets.[96] The employees of the former Farmers Motors would relocate to this site.[97] Baillie Motors also had a petrol and lube station on the other corner of Nelson and Queen streets, and further up Queen Street West, a truck workshop and sales depot.[98]

Baillie Motors general manager Gilbert Lloyd would be appointed in the same position for Baillie Farmers Motors Limited.[99]

The fate of 206 West Queen Street and the used car yard

The former Farmers Motors building at 206 Queen Street West was never used again as a garage and the petrol pumps were removed.

The used car yard was also closed on the corner of Heretaunga Street and Tomoana Road.[100]

Natusch, Shattky and Co, registered architects of Napier, drew plans in 1972 to convert the original 1926 part of the garage building into a retail liquor store for HBF, and the 1934 addition was converted to 27 car parks.[101]

After a series of mergers HBF had ceased to exist by the 1990s, and the former garage building went into various private ownerships.[102]

In 1996, the car parking area was turned into another retail store for Payless Plastics, and the front of the building was altered to enclose the former petrol pump area. The former liquor store was taken over by Briscoes in the early 1990s.[103]

Hastings District Council took ownership of the building in 2019 and announced a range of possible uses for the building, including commercial tenancies, covered car parking, and residential/mixed use.[104]

However these plans were scuttled when two subsequent engineering reports revealed the building "was significantly less than 34% of the NBS [new building standard]". The cost of restoring the building, according to the authors of the reports, would be "very expensive", and "would require a very high level of structural intervention in the building, to the extent where the heritage values of the building will be significantly compromised".[105]

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[16] *Wise's New Zealand Town Directory*, Hastings. 1910, p.452.
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[18] *Ibid* (3 August 1912).
[19] Boyd, Mary (1984). *City of the Plains: A History of Hastings*. Victoria University Press, Wellington, p.123.
[20] *Waipawa Mail* (19 October 1912).
[21] *Hastings Standard* (4 December 1912).
[22] *Waipawa Mail* (24 October 1914).
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[28] *Stratford Evening Post* (25 February 1926).
[29] *Hawke's Bay Tribune* (16 July 1926).
[30] *Ibid* (6 November 1929).
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[32] *Hawke's Bay Tribune* (6 January 1927).
[33] *Nelson Evening Mail* (23 June 1926).
[34] Retrieved from https://en.wikipedia.org/wiki/General_Motors#New_Zealand on 17 March 2022.
[35] *Evening Post* (20 January 1926).
[36] *Hawke's Bay Tribune* (6 January 1927).
[37] *Ibid* (2 November 1929).
[38] Cyril Smith, speech notes (undated). Collection of Heather Pulford.
[39] *Manawatu Herald* (3 January 1929).
[40] *Manawatu Times* (3 January 1929).
[41] *Manawatu Herald* (3 January 1929).
[42] *Hawke's Bay Tribune* (2 January 1929).
[43] *Manawatu Herald* (3 January 1929).
[44] *Hawke's Bay Tribune* (4 July 1930).
[45] *Ibid* (7 January 1930).
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[47] *Manawatu Standard* (14 February 1931).
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[49] *Ibid,* p.9.
[50] *Ibid*.
[51] *Ibid*, p.12.
[52] *Hawke's Bay Tribune* (1 November 1934).
[53] Crabbe, S J (20 September 1934) Architectural Plans. Proposed addition to premises Hastings for Hawke's Bay Farmers' Co-op Assn Ltd.
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[56] *Ibid*.
[57] *Ibid*.
[58] Kevin Watkins, personal communication (9 March 2022).
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[66] *Ibid*.
[67] *Ibid.*
[68] *Ibid*.
[69] *Otago Daily Times* (7 July 1950).
[70] *Gisborne Herald* (29 May 1950).
[71] *The Hawke's Bay Herald-Tribune* (28 October 1971).
[72] Garry Mulvanah, personal communication (9 March 2022).
[73] *Ibid.*
[74] Peter Kidd, personal communication (28 March 2022).
[75] *Ibid*.
[76] Peter McNab, personal communication (22 March 2022).
[77] Peter Kidd, personal communication (28 March 2022).
[78] Stuart Cheyne, personal communication (20 March 2022).
[79] *Ibid*.

[80] Heather Pulford, personal communication (17 March 2022).
[81] Stuart Cheyne, personal communication (20 March 2022).
[82] Kevin Watkins, personal communication (9 March 2022).
[83] *Ibid*.
[84] Heather Pulford, personal communication (17 March 2022).
[85] Peter McNab, personal communication (22 March 2022).
[86] Kevin Watkins (8 March 2022). Stuart Cheyne (10 March 2022), Peter McNab (22 March 2022), personal communications.
[87] *Hawkes Bay Herald-Tribune* (2 November 1970).
[88] *Ibid* (3 December 1970).
[89] *Press* (15 May 1970).
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[91] Garry Mulvanah, personal communication (9 March 2022).
[92] *Press* (9 September 1971).
[93] *Ibid*.
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[104] Megan Gaffaney, personal communication, (5 April 2022).
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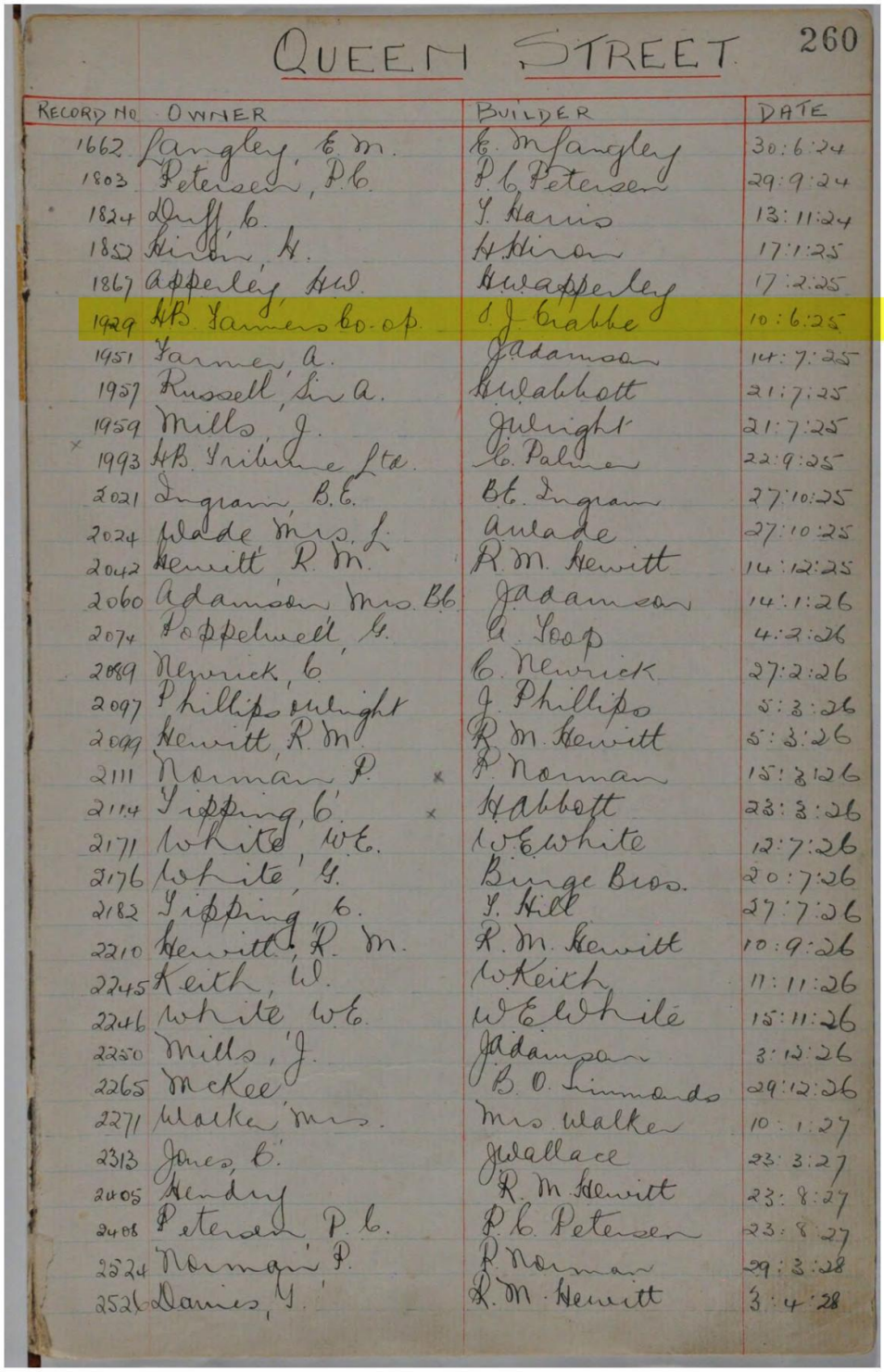
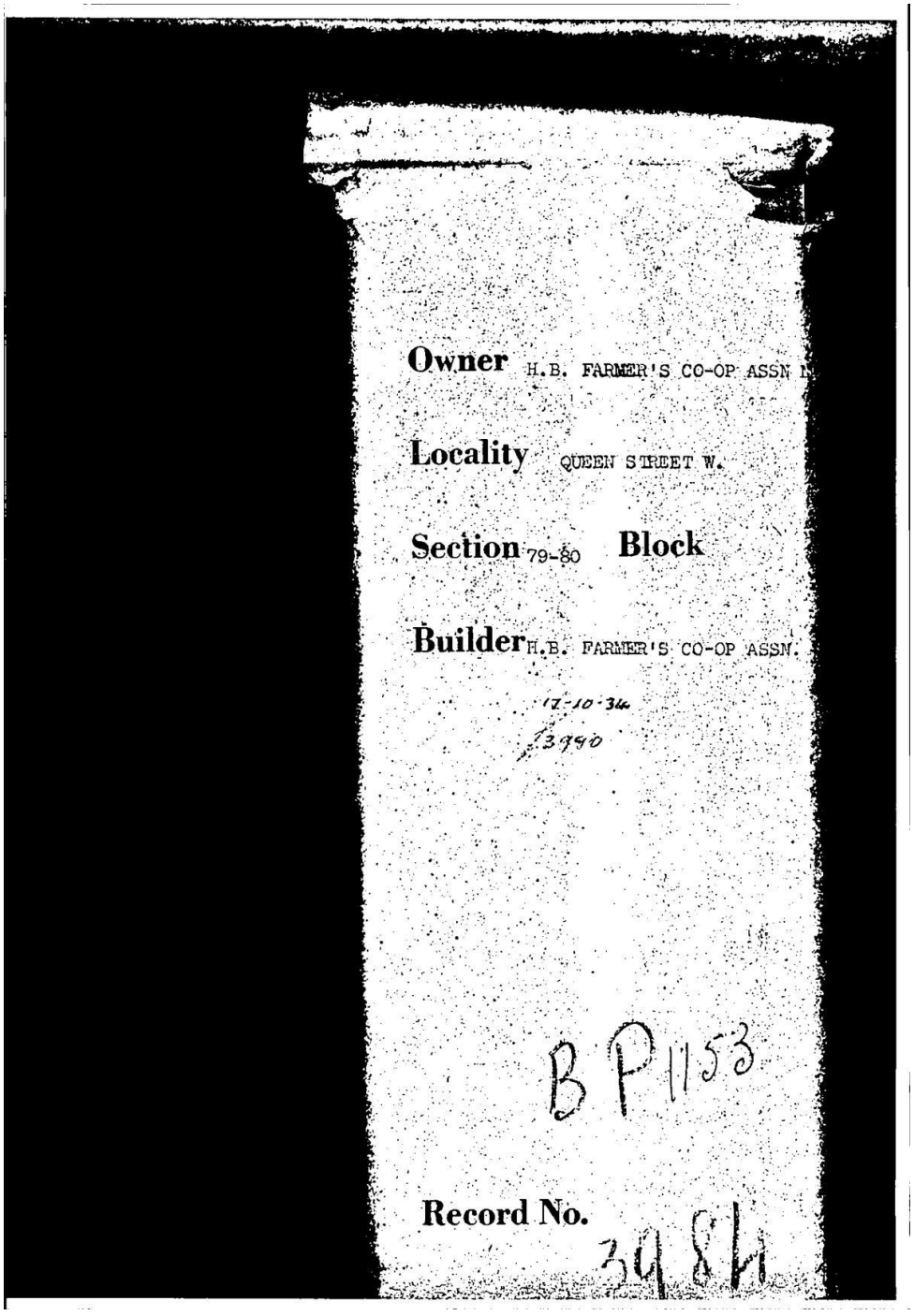
PRJ19-149-02362



QUEEN STREET 260

RECORD No	OWNER	BUILDER	DATE
1662	Langley E M.	E M Langley	30:6:24
1803	Petersen, P.C.	P.C. Petersen	29:9:24
1824	Duff C.	T. Harris	13:11:24
1852	Kirton H.	H Kirton	17:1:25
1867	Apperley H.W.	H.W Apperley	17:2:25
1929	H.B. Farmers Co-op.	J. J. Crabbe	10:6:25
1951	Farmer A.	J Adamson	14:7:25
1957	Russell, Sir A.	H.W Abbott	21:7:25
1959	Mills J.	Jubright	21:7:25
1993	H.B. Tribune Ltd.	C. Palmer	22:9:25
2021	Ingram, B.E.	B.E. Ingram	27:10:25
2024	Wade Mrs. L.	A Wade	27:10:25
2042	Hewitt R.M.	R.M. Hewitt	14:12:25
2060	Adamson Mrs. B.C.	J Adamson	14:1:26
2074	Poppelwell, G.	A. Loop	4:2:26
2089	Newrick, C.	C. Newrick	27:2:26
2097	Phillips Jubright	J. Phillips	5:3:26
2099	Hewitt, R.M.	R.M. Hewitt	5:3:26
2111	Norman P.	P. Norman	15:3:26
2114	Tipping, C.	H Abbott	23:3:26
2171	White W.E.	W.E White	12:7:26
2176	White G.	Binge Bros.	20:7:26
2182	Tipping C.	T. Hill	27:7:26
2210	Hewitt R.M.	R.M. Hewitt	10:9:26
2245	Keith W.	W Keith	11:11:26
2246	White W.E.	W.E White	15:11:26
2250	Mills J.	J Adamson	3:12:26
2265	McKee	B.O. Simonds	29:12:26
2271	Walker Mrs.	Mrs Walker	10:1:27
2313	Jones C.	J Wallace	23:3:27
2405	Hendry	R.M. Hewitt	23:8:27
2408	Petersen P.C.	P.C. Petersen	23:8:27
2524	Norman P.	P Norman	29:3:28
2526	Davies T.	R.M. Hewitt	3:4:28


Owner H.B. FARMER'S CO-OP ASSN
Locality QUEEN STREET W.
Section 79-80 Block
Builder H.B. FARMER'S CO-OP ASSN.
17-10-34
3990
B P 1153
Record No.
34 84

SPECIFICATIONS OF MATERIALS TO BE FURNISHED AND WORK TO BE PERFORMED IN THE ERECTION OF GARAGE PREMISES FOR THE HAWKE'S BAY FARMERS' CO-OPERATIVE ASSOCIATION LIMITED, HASTINGS.

EXCAVATIONS.

Do all excavating as required by the drawings, all trenches, pits, sumps, etc.,are to be excavated to their full width and depth; the bottoms to be levelled; rammed and settled where necessary. Any work excavated deeper than called for by the drawings will require to be filled up with concrete same as specified for walls, and this concrete shall be provided by the Contractor. Under no circumstances will dirt fillings be allowed.

CONCRETE WORK.

Concrete Footings etc. All footings and foundation walls and walls not otherwise shewn or specified shall be of concrete up to level shewn on drawings.

This concrete to be composed of one part Portland Cement and seven parts clean gravel. If in the opinion of the Architects it shall be found necessary to carry the foundations or footings below the levels shewn on the drawings the Contractors shall do so as directed, the difference in price being adjusted as per unit prices given in Schedule.

PROVISIONAL. Provide Twenty (20) cubic yards of concrete same as specified for foundations in addition to that as shewn on the drawings. This extra concrete shall be dealt with as "Provisional".

The Contractor is to supply all wood centres, forms, bracings,etc.,necessary for the support of concrete during erection. All forms to be set plumb and true as shewn on drawings.

Mixing Concrete. All stone, gravel, sand, cement, etc.,shall be carefully proportioned by using sectional gauge boxes, not by estimation, all to be turned twice dry and twice wet before filling into barrows, using a sprinkler to apply the water.

Contractors will only be permitted to use a machine mixer of a make approved by the Architects.

All concrete shall be laid in forms or trenches immediately after mixing in layers of not more than 8" thick and tamped thoroughly until the moisture flushes to the surface.

In placing concrete in forms Contractors must exercise all care to avoid pockets carefully tamping all solid. In case pockets occur, walls will be rejected and the Contractors shall replace with good solid walls.

All walls shall be carried up simultaneously and kept even all round.

All reinforced concrete work shall be reinforced with self spacing frames of steel with all necessary shear members stirrups lacing,etc. The members resisting the shear shall be rigidly connected to the main horizontal member, all to sizes given and made as shewn on Detail for this work.

The concrete shall be deposited as closely as possible to the place where it is to be used and each layer shall be tamped until the moisture flushes to the surface. The mixture shall be of such consistency that when thoroughly mixed it will quake slightly. The centering used must be strong enough to hold the plastic concrete to the true line and shape and shall not be removed until directed by the Architects.

The Architects shall have power to reject any concrete improperly mixed or proportioned and prevent its incorporation in the work.

Whenever the concrete is in the estimation of the Architects liable to be injured from freezing, work shall be suspended. Time lost through suspension on account of 'freezing' (which shall be at the direction of the Architects only) shall be added to the Time List.

Reinforcement bars will not be painted with oil paints. Any bars on which rust scales have begun to form will be rejected.

Where reinforced concrete is noted on the Drawings or specified it shall be composed of one part Portland Cement, four parts clean gravel (of a size that will pass through a 3/4" screen), and two parts clean sharp sand. The mixture shall be of such consistency that when thoroughly mixed it will quake slightly when tamped into forms.

Note. The concrete floors in driveways and central space between car storage floors shall be 6" thick and elsewhere they shall be 4" thick. This concrete shall be composed of one part cement and six parts gravel. Before laying any concrete on floors the whole area shall be thoroughly tamped and consolidated.

Curbs in driveways to be of concrete same as specified for wall blocks.

Centering for all concrete must be strong enough to hold the plastic material to the true line and shape, and shall not be removed until directed to do so by the Architects.

Build in Bolts. The Contractor shall build into concrete all bolts required for the fixing of woodwork, plumbing work, steel work, and also cast iron hinge blocks for fire proof doors where directed.

Mat Wells. In laying the concrete floors form Mat Wells, two at Show room entrance and one at entrance from Garage to Offices.

CHASES. The Contractor shall leave in concrete work all Chases overflow escapes and other holes, etc., as will be directed by other trades or tradesmen working on or in connection with this building.

Leave all necessary Chases in concrete where required for the bonding in of concrete blocks, etc.

Reinforcement. The reinforcement for all beams shall be built up forming self spacing frames having all necessary stirrups and shear members all carefully laced together. The reinforcements for floors roof, beams, columns, stairs, etc., all to be as figured on drawings.

Place in walls 3/4" round bars so as to form a continuous band completely around buildings, carefully hooking all joints and placed where shewn at Cornice in two storey portion and above steel trusses of Garage proper.

ROOF PARAPETS,ETC: Special care shall be taken to properly grade all roof and other gutters as directed by the Architects, and form cesspools at heads of all down pipes, fitted with overflows lined with 4lb lead as specified under Plumber.

DAMP COURSE. Lay a damp course of fine asphalt half an inch think completely around the building where shewn. All to be carefully set to secure an effective job. Also set a Malthoid damp course at upper side of beam on outside wall.

MORTAR FOR BRICKWORK. Bricks are to be laid in mortar composed of one part Roche Lime to eight parts sand, gauged with one part cement to four parts of the mortar.

MOTOR PITS. Build the motor pits using a specially dense concrete composed of one part Portland Cement, three parts fine sand, and four parts gravel of a size that will pass a half inch screen.

Thickness of concrete floor of pits to be as figured on half inch detail. These pits shall be reinforced with 3/8" mild steel rods spaced 8" apart running same across the short way of slabs, and a quarter of an inch transversed shrinkage rods at 18". centres, all laced at intersections.

NOTE. In laying down the wash, care must be taken to grade same with a fall to drain as directed.

5.

P L A S T E R E R.

MEDUSA WHITE CEMENT PLASTER. The street facade and returns including entrances up to doorways shall be plastered in Medusa white cement. (200 square yards).

Where Medusa white cement plastering is specified it shall first be rendered with ordinary Portland cement plaster, composed of one part cement and three parts clean sharp sand and then finished with Medusa White Portland Cement compo as follows. First clean the surface and thoroughly saturate with water, then apply a thin coat of neat Portland Cement Mortar, brushing the mortar into the pores with a stiff wire brush. The compo to be applied before the skim coat has set. The compo mixture to be one part of Medusa White Cement and two parts clean white sand, the finished work shall be protected from the rays of the sun by means of damp burlap or other material and kept damp for at least five (5) days. The finished coat shall not be less than 3/8" thick. Use 2% of Medusa waterproof or 8 lbs. to each barrel of the Medusa White Cement.

WATERPROOF THE PITS in Machine shop by plastering in Portland cement plaster gauged with tokement using three (3) lbs. of this material to each bag of cement. Great care must be exercised in the application of this Tokement as the dryness of the pits depends entirely upon conscientious work here.

Tokement can be obtained through Mr. Francis Holmes, Manufacturers Agent, Lambton Quay, Wellington. (P.O. Box 418).

LETTERING. All lettering on elevation shall be done in plaster coloured with Spanish Brown Oxide and stand out 3/4" from finish face of wall. The colouring matter to be mixed with the cement plaster, not merely brushed on.

Ornamental work on elevations to be in Medusa White Cement and modelled to detail.

NOTE. Form grip under all projections as required.

6.

INTERIOR PLASTERING.

Plastering work that is damaged during alteration in present building to be repaired to match existing work. Exterior Wall at back of service station and above roof of same to be of metal lathing fastened to oregon studs spaced to suit sheets. Well braced and dwanged. All end studs to be bolted to piers. All metal lathing to be carried over 4" where framing adjoins brickwork to prevent cracking at angles.

Apply render coat with sufficient force to secure a good key and scratch in two directions. All ceilings to be perfectly level and all walls plumb and true.

Mortar for rendering and floating coats to be composed of five parts clean sharp sand, one part run lime and remixed with one part Portland Cement, all to be thoroughly mixed together.

Use 1 lb. clean dry cowhair to 3 cubic feet of rendering, lime to cool before mixing in the hair.

Finish coat to be of fresh lime 2 parts, fine white sand one part, gauged with Keen's Cement and to be well secured sufficient to secure a hard dead white finish, all carefully applied and trowelled down to a smooth polished surface and left free from trowel and brush marks or blemishes.

All exterior work to match existing building.

Ceilings of Showroom (including Accessories Sales) vestibule between Manager's office and offices as per drawings, using fibrous plaster panel mouldings as detailed. Driveway entrance vestibules into double doors will be of similar design. All to have cornices of an average P.C.value of TWO SHILLINGS (2/-) per foot run.

MAKE GOOD. All damage that may be done to plaster shall be carefully made good by the Contractor for this work after all other trades are finished.

7.

CARE OF GLASS. The Plasterer must protect all windows or other glazing while any work in connection with the plastering is being carried out. Any glass damaged in any way through the negligence of the plasterers shall be taken out and replaced at the expense of the Contractor.

GUARANTEE. The Contractor hereby guarantees all work put in under this specification against popping or falling off for a period of six months from completion of the contract and hereby agrees to make good any or all work which shall fall or become unsightly within the said period of time. Provided of course that the faults are due to poor workmanship or materials.

8.

T I L I N G.

Tile below shop windows, face of piers, and 4" returns with selected 6" x 3" glazed tiles, corners to have neat tiled beads.

Floor in main showroom and out to Garage proper to have a red field with a 6" black border, remainder in one colour only (Red). The border to be placed as per Detail.

9.

METAL WORKER.

METAL WINDOWS. All exterior windows with the exception of the Show Windows shall have metal frames and sashes of approved manufacture. The metal to be of mild steel 1½ (?) x 1" x 3/16" with the necessary lugs, bolts, stays, and operating hardware complete. Sashes and fanlights marked with an X on drawings to be hinged to operate; Those marked with an X in large windows to be pivot hung and fan lights to be hinged at top to open out. Sections of frames and sashes shall be submitted for approval. All bars to be holed for sprigging glass in. The large windows on first storey front to have two 2" x 1½" T iron stiffeners behind mullions.

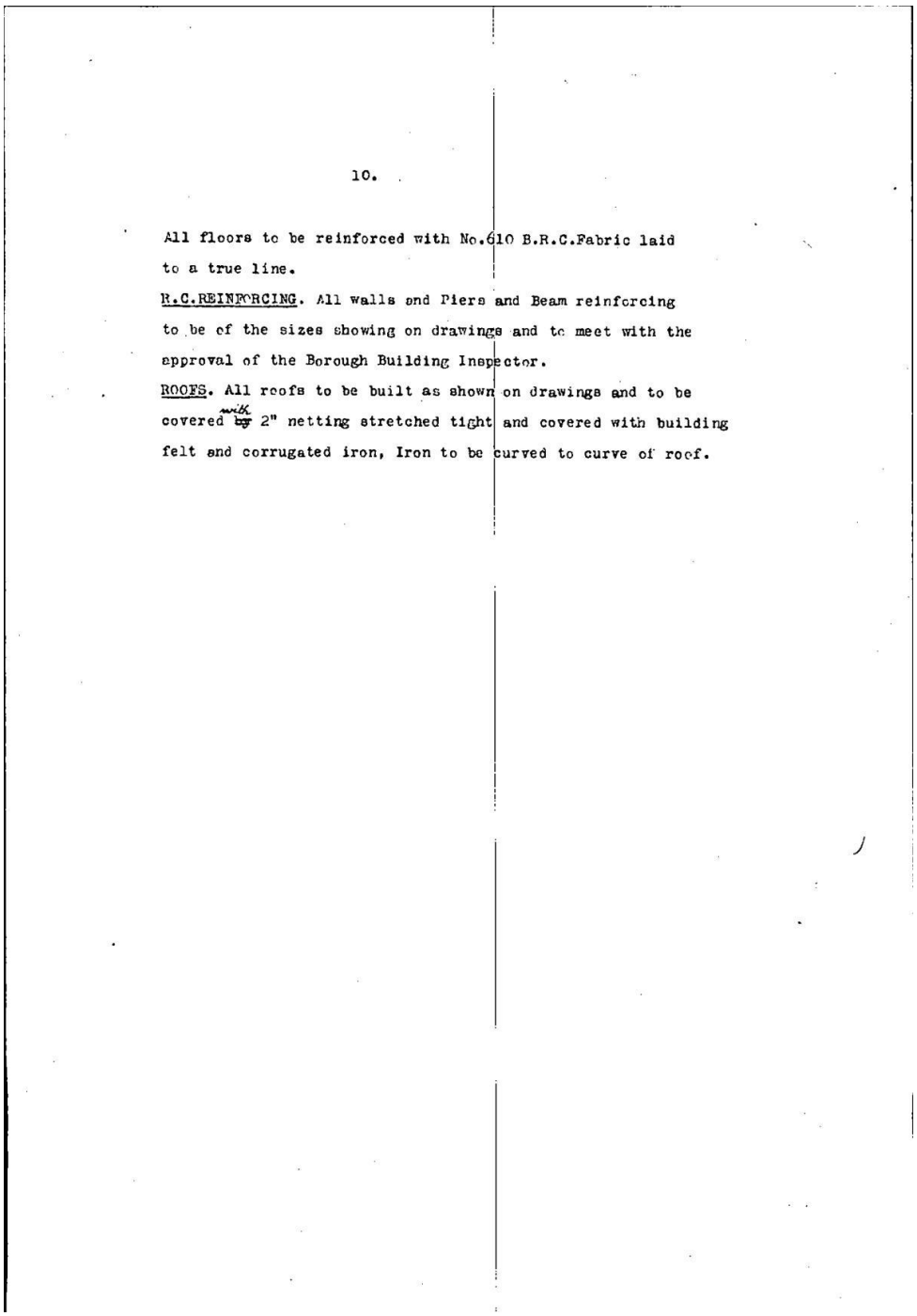
All metal sashes and frames to receive one coat of lead and oil paint before being exposed to the weather.

Contractors are referred to Messrs.Briscoe & Co.Ltd.,and The Woolnough Steel Window Company, both of Dunedin. These firms specialize in the foregoing work.

STEEL TRUSSES. Build trusses over garage and workshop to Details supplied to match trusses in existing building. All work to be bolted together. Bolts to be of size shewn on Detail. All to be made in the best approved manner of new materials free from rust, straight and true, and to the full sizes called for by the Drawings. The whole of the steel to be of British Manufacture and free from scales, blisters, laminations, and other defects. All trusses to be secured to wall with 3/4 anchor bolts.

R.S.JOIST. over front of building to be of the size shown in Drawings. To be well bolted together with ½ Fish plates and 3/4 bolts where necessary. Top and bottom flanges to be drilled to take ¾" bolts. All ends resting on concrete piers or bands to be well anchored to same with 3/4 bolts to approval.

R.S.STANCHIONS supporting R.S.JOIST to have large base plates bolted to concrete footings and 4 x 4 angle plates on top bolted to R.S. Joists with 3/4 Bolts.



10.

All floors to be reinforced with No.610 B.R.C.Fabric laid to a true line.

R.C.REINFORCING. All walls and Piers and Beam reinforcing to be of the sizes showing on drawings and to meet with the approval of the Borough Building Inspector.

ROOFS. All roofs to be built as shown on drawings and to be covered ~~by~~ with 2" netting stretched tight and covered with building felt and corrugated iron, Iron to be curved to curve of roof.

11.

CARPENTER AND JOINER.

All timber used in the constructional and finish work of this building shall be of the best grade in every respect free from large or loose knots and shakes. The timber used for the Joinery finish shall be specially selected and be entirely free from unsightly knots,etc. No White Pine will be allowed on the job.

The whole of the timber shall be stacked on the Association's property at least Sixteen (16) weeks before it is required in the work to allow same to be well seasoned. Linings and the like shall be stacked with fillets and kept clear of the ground.

The Contractor must satisfy himself that all timber is thoroughly seasoned before using same as he will be required to remove ony that may become unsightly through shrinkage. All timber unless otherwise specified must be best building heart Rimu; constructional timbers will be undressed and finishing timbers dressed.

All Joinery work unless otherwise specified will be hand dressed selected Joinery Heart Rimu, prepared for natural finish.

Inside frames to be of 1½" stuff with ½" centre stops planted on, transom bars of 4" x 4" moulded and rebated, all to be properly housed and framed together and securely fixed with solid blocking behind all hinges and striking plates.

All frames to have Fan lights where marked F on Plan. Sashed and partition lights to be same finish as doors, 1¾" thick and the sashes hinged on bottom to operate.

Garage door frames in exterior walls shall be solid rebated cut of 5" x 3" Oregon and have 1¼" Scribe mould. Those off Queen Street to have glazed Fanlights to cornice level as indicated on Drawings.

Where door frames stand on concrete or cement sills or floors they shall have two ½" diameter iron dowels 6" long set into

each door post. Exterior door frames shall be built in and have three stout 2" galvanised hoop iron lugs on each door post; these lugs shall be built into walls.

DOORS. All doors not otherwise specified, to be panelled as shewn. All to be to sizes as figured on Plans.

All interior doors shall be of figured Joinery Heart Rimu and all exterior doors unless otherwise specified shall be of selected Oregon.

All doors and panels are to be milled, mortised, and tennoned together but not glued up, and stacked together within eight weeks after contract is signed.

Door between Garage and Machine shop to be sliding and mounted on Barn door tracks and hangers.

Care must be taken not to get the stiles cut narrower than Detailed as these are made to suit Hardware.

GLAZED PARTITIONS. All sashes in glazed partitions shall be 1¾" thick and of selected Rimu.

Nosings shall be 1¼" moulded with 4" x ⅞" aprons and 1" bed mould, all stops to be moulded and ⅝" thick.

Fix at Pay-Counter a sliding sash hung with lead weights using No.9 Silverlake sash cord over brass faced pulleys. The slide to be made in the form of a sash and prepared for glass. This sash and corresponding one across Vestibule shall be circular in plan - all as per Detail.

Fix Cash-counter 1¼" material where shown, supported on Brackets, all as per Detail.

ARCHITRAVES. Fix Architraves to Detail around all interior doors and windows, all door architraves to be on plinth blocks.

SKIRTINGS. The Contractor shall fix Skirtings as per Detail in Show Room, Accessories Salesroom, Manager's Office, General Office, Ladies Waiting Room, and Salesman's office. Elsewhere finish at intersection of floor and wall with 1¼ quarter round.

13.

PICTURE MOULDING. Fix Picture Moulding as Detailed around the Showroom, Manager's Office,Ladies Waiting Room,and Salesman's Office.

HAT AND COAT HELTING. Fix fifty (50) lineal feet of 5" x 1" moulded Hat and Coat Belting in sections where directed.

FLAG POLE. Erect a Flag Pole where shewn of straight grained Oregon out of 6" x 6" tapered to 3" at the top, to be securely fixed to wall with iron straps and the necessary bolts, poles to be worked with entasis. Details will be supplied for this. Pole to be fitted with No.6 Silverlake or Samson's spot cord Halyards, and left with loops complete.

Trucks shall be turned out of Kauri and have gunmetal sheave with ½" diameter gunmetal pin complete.

WORK BENCHES. Construct the work Benches in Machine Shop of 2" Heart Rimu, tops supported on 4" x 2" framing, well braced and securely bolted to walls.

WOODEN STAIR AT MEZZANINE FLOOR. Construct this stair as shewn 10" x 2" closed strings, 1½" treads. Newels to be 4" square with 3" x 3" moulded handrail. There will be no Balusters here.

SHELVING. Construct shelving on Mezzanine Floor as per drawings upper shelves to be 15" wide, lower ones 24" wide, all out of 1" stuff. Shelves to be housed into uprights set on an average of every 3'0". Fix 2" cornice mould above top shelf. Line the back of fittings at front of Mezzanine floor with T & G V jointed lining.

HANDRAIL AND BALUSTRADE TO MAIN STAIR. Construct this Balustrade as shewn 4" x 4" Newels to Detail with Handrail out of 4" x 3". Balusters to be 1½ square set as shewn.

ROOFS. Roof timbers to be of the following sizes. Main Purlings over Garage and Workshop to be 8 x 3 Oregon or Building Heart Rimu well bolted to trusses with ½ bolts. Two 4 x 1 laminated to be fastened between each truss, wind braces to be cut in where required. Roof over service station to have 8 x 2 spaced at

not more than 2ft.6 centres with 4 x 1½ purlings spaced to suit iron.

JOISTS over Service Station to be 6 x 2 at 2 ft.centres dwanged to suit ceiling sheets, all to be fastened to 6 x 2 plates on top of R.S.Joists.

CEILINGS over Service Station and driveway to be covered with Fibrous Plaster Ceiling Sheets to be of approved pattern, all to be finished with battens and moulding to approved design of same material.

CEILING over Accessories Store and present Garage to be covered with Donnacons boards battened to approval with 3 x 1 battens.

FLASHINGS. Provide and fix all flashings as required on roofs and wherever necessary using 26 gauge galvanised iron let into raglets at least ¾" securely fixed with metal plugs and well turned down. Point up all raglets with cement mortar. All metal flashings to receive one wood coat of red lead or other approved paint on underside before being fixed.

ROOF LIGHTS. The Skylights and Glazing Bars of all roof lights to be constructed of 24 gauge galvanised iron, all set and supported in the best manner complete with counter flashings,etc.,all as directed. These lights shall be of an approved ventilating type. Bars, etc.,to be at least equal to sample in Architects' Office. All to be guaranteed thoroughly watertight.

NOTE: The glass for these lights is provided for under Glazier.

WATER SERVICE. Lay on the water from street service in 1" pipe to points marked on Plans, viz, Wash Rack (two points) Basins, W.Cs.etc. All pipes to be of galvanised iron screwed pipe of Lloyd & Lloyd's or similar approved quality, bearing the Maker's name.

All pipe ends shall be reamed to full size of bore and be tested to full pressure before being covered up.

HAND BASINS. Provide and set up where shewn Hand Basins, value of Basins complete with taps, plugs, Washers, Brackets, Chains,etc. SEVENTY SHILLINGS (70/-) each P.C. These Basins to be provided with 2" lead traps and screwed galvanised iron wastes complete carried to drains and to be back vented as required by Local Authorities.

TAPS. All taps to be of best approved make all N.P.½" to all Basins and two ¾" hose taps at Wash Racks.

W.Cs. Provide and set up where shewn White Pedestal Wash-down closets, all complete with Methven's or other approved silent flushes. Seat in Ladies Lavatory to be double flap of plain Oak; other single flap weighted to tip up, and of plain Oak.

16.

All WCs to be connected to drains with 4" cast iron soil pipes with all necessary cleaning eyes, vents, traps, etc. Soil pipes to be set in chases where necessary as directed.

DOWN PIPES. All Down Pipes shall be to sizes as figured and similar to cast iron soil pipe with socket joints, all to be leaded and coated with Dr.Angus Smith's preparation, both inside and out. All to be inspected by Architects or their Representative before being covered up.

SUMPS. Build sumps at all rain water outlets, lined with 4 lb. lead carrying same well into sockets of pipes, and all to have large covers made of strong galvanised wire as directed.

Cut overflow escapes as will be directed.

PETROL SUPPLY PIPES. Provide and lay a line of one inch galvanised screwed piping from Street curb to equipment stand. As these pipes are for the purpose of conveying Petrol to the equipment tank, great care must be exercised in selecting pipes with the galvanising in perfect condition on inside. Joints to be made in such a manner as will guarantee against leakage. Ends of pipe lines to be capped up and left as directed.

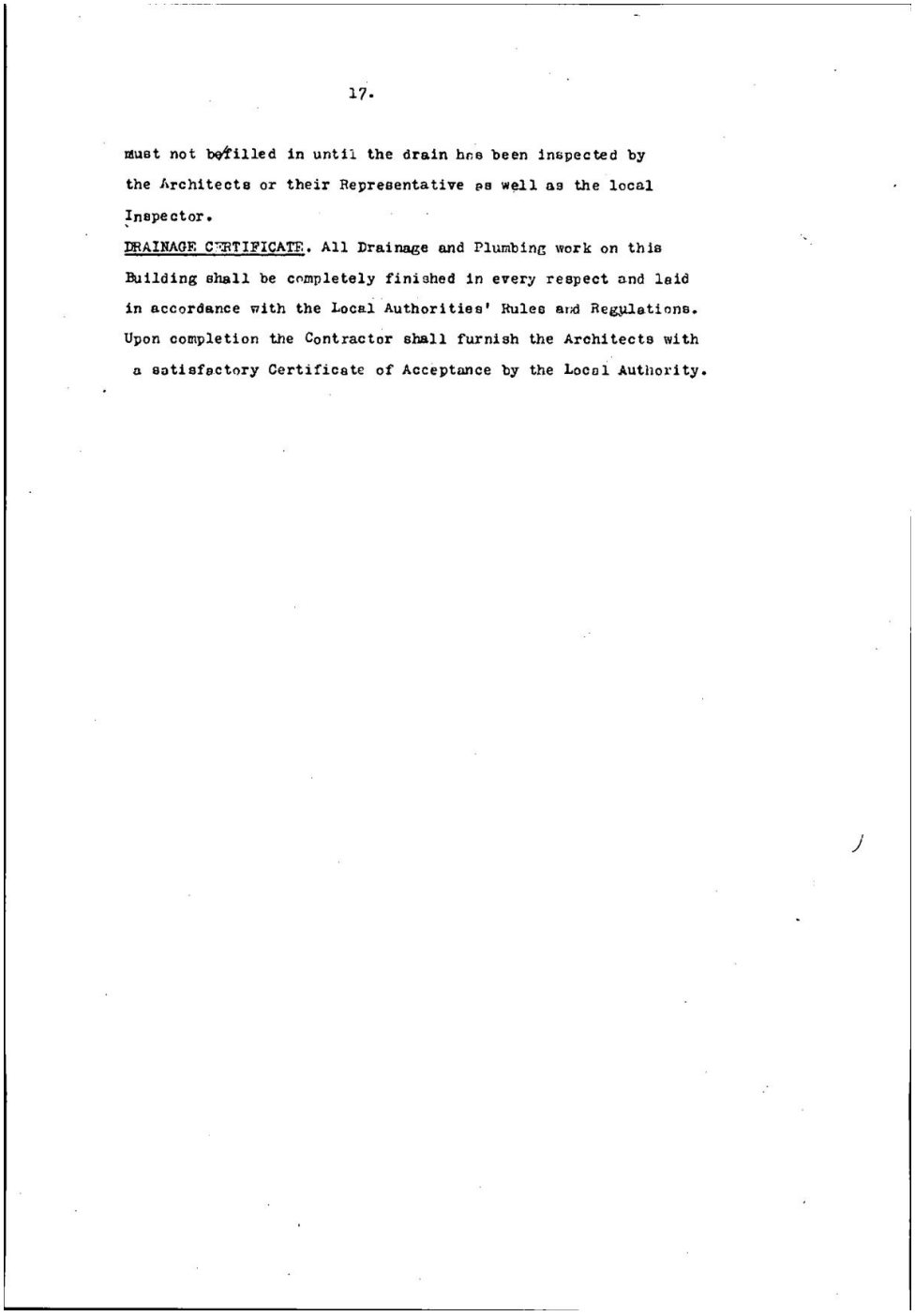
GAS. Lay on Gas from Street mains in 1½" black iron screw pipe to point marked in Machine Shop, meter to be placed where directed.

DRAINS. Lay all necessary drains with 4" F & G Stoneware Pipes connecting up with street sewer. Provide all necessary vents, inlets cleaning eyes, traps,etc.,complete.

Wherever drains are under the floors or walls, etc.,they shall be laid in concrete as called for by the Local Authorities.

Drains shall be laid with a uniform grade of not less than one in forty. Trench to be levelled its entire length and the pipes thoroughly laid and bedded so that no sags can occur.

All joints are to be caulked with Oakum and finished with cement plaster composed of one part cement and two parts clean sharp sand. Pack the earth well on each side of the pipes, taking care, however, not to crack any of the joints. Trench



17.

must not be filled in until the drain has been inspected by the Architects or their Representative as well as the local Inspector.

DRAINAGE CERTIFICATE. All Drainage and Plumbing work on this Building shall be completely finished in every respect and laid in accordance with the Local Authorities' Rules and Regulations. Upon completion the Contractor shall furnish the Architects with a satisfactory Certificate of Acceptance by the Local Authority.

18.

P A I N T E R.

The whole of the ironwork and metal work including roof trusses, skylights, flashings, and the like in this building inside and out shall unless otherwise specified receive two good coats of best lead and oil colour in selected paints.

All finish woodwork not specified to be varnished shall receive three good coats paint as above all to dry out hard and bright.

All parts needing knotting shall receive same before any paint is applied; all nail holes, sun cracks, open joints, etc.,shall be neatly stopped with best oil putty after priming is on.

The outside of Show room, Entrance doors and frames, and Show Window Frames to be properly filled with an approved paste filler, brought to an even surface, all carefully filled and french polished .

All other interior woodwork in Showroom, Accessories Sales, Offices, and Ladies Waiting Room, to be piled with one coat best raw linseed oil, stopped with putty coloured to match the wood, then coated with one coat liquid filler and finished with two coats approved flat varnish ensuring an even egg shell gloss. The varnish shall be delivered on the job in full and original packages,

All paints, varnishes, colours, oils, etc.,used in the Painters work to be of the best quality and delivered at the job in unbroken tins or packages bearing the Maker's name and be subject to inspection. All paint shall be mixed on the job.

FLAG POLES. Paint Flag Poles four (4) coats and gild the trucks with best gold leaf.

WHITE WASHING. The whole of the interior of the Garage proper (including underside of roof) except those portions specified to be painted shall receive two good coats of approved white wash.

This shall be gauged with a suitable binder and applied with pneumatic spray.

20.

GLAZIER.

All Show Windows shall be glazed with best English polished plate ⅜" thick, free from all defects. All to be set in with beads and the edges to be blackened before setting.

Lights in upper part of Show Windows on front to be glazed with 26 oz. rolled light straw tinted glass in lead cames.

Office partitions and fanlights and partition lights generally, also sashes in Manager's Office, Ladies Waiting Room, to be glazed with White Ice Floe or glass of similar value.

Lavatory Windows to be of rolled rib glass 3/16" thick. Skylight to be glazed with 3/16" English wire glass.

Elsewhere all glazing shall be done with 21 oz. clear glass English seconds. All glazing of windows shall be set in best oil putty securely fixed and neatly back puttied.

21.

G E N E R A L.

All work shall be done in a neat and skilful manner exactly as detailed or specified, and if not mentioned or detailed as the Architect may direct.

Should it become necessary to substitute material different from that specially mentioned, the written consent of the Architects or their Representative must be obtained in each and every case before the change is made and the material used must equal in every respect that originally called for.

All rejected materials shall at once be removed from the premises and shall not be used in this work.

The Drawings and Specifications shall be considered as Co-operative and work or material shewn on the Drawings and not mentioned in these Specifications, or work and materials herein specified and not shewn on the Drawings shall be executed by the Contractor the same as if specifically mentioned by both.

The Drawings and Specifications are instruments of service only and must be returned to the Architects before the payment Certificate is given at completion of the work.

Figures shall have precedence over scale measurements and details over General Drawings in every case.

Should any discrepancies or ambiguities be found in the Drawings or Specifications the same shall at once be reported to the Architects or their Representative.

The Contractor shall personally see that the Contract Drawings and these Specifications are fully and faithfully complied with at all times by all sub-Contractors, material suppliers, and workmen; that all work is prosecuted with the utmost diligence and that all materials are provided promptly so as not to delay the work. He shall supply all measurements to sub-Contractors and workmen from time to time during the progress of the work and be responsible for all work fitting into place.

REMOVING RUBBISH.At the completion of the work or at any other

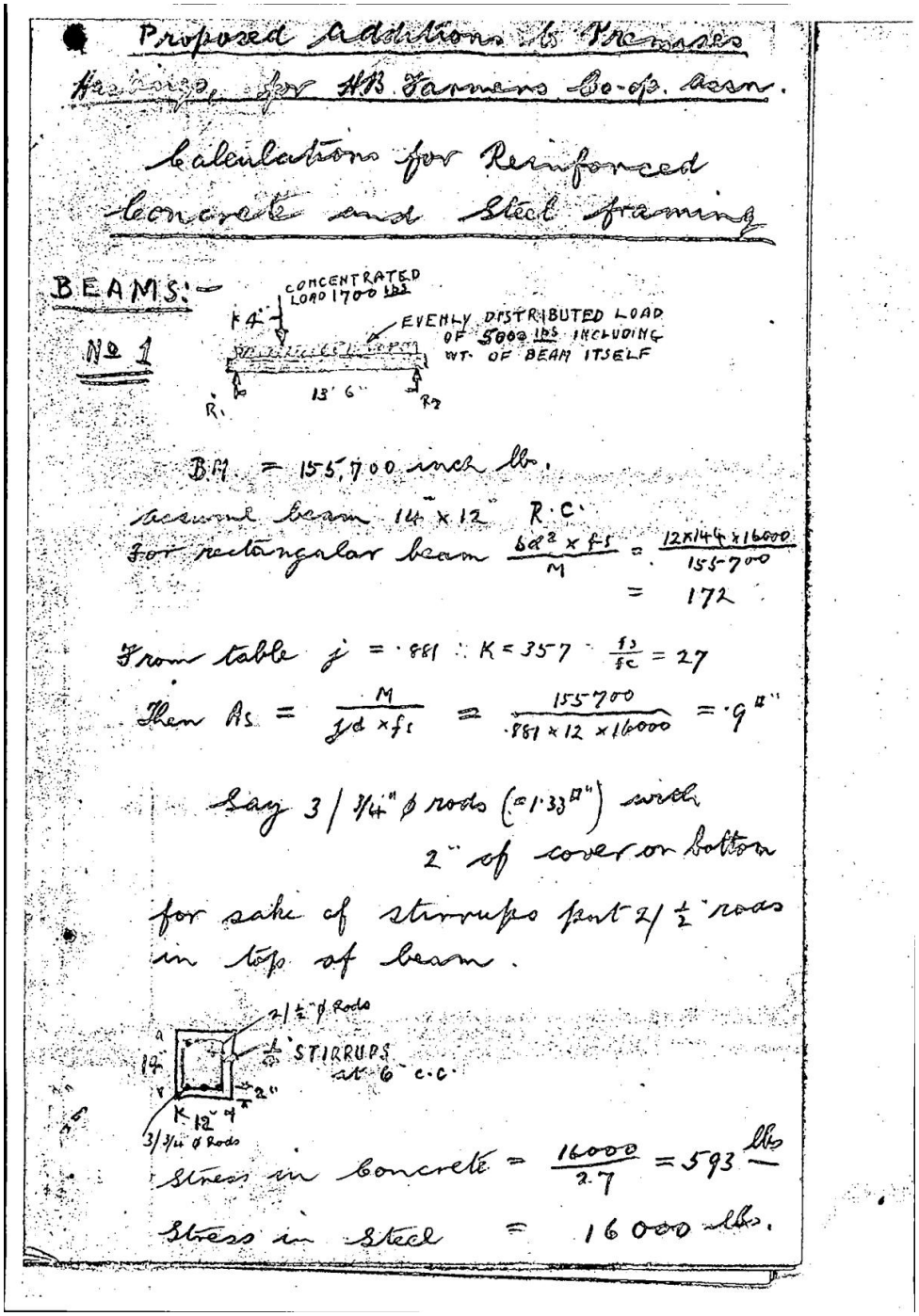
22.

time the Architects or their Representative shall direct, the Contractor shall remove from the building any and all rubbish and all scaffolding apparatus, etc.,not required.

He shall wash all windows, remove all stains, mortar, and paint marks, wash all floors and prepare the building in every respect for immediate occupancy. At all times the building shall be kept broom clean.

This Contractor hereby guarantees to furnish all materials and labour to completely finish the building in each and every part to the entire satisfaction of the Architects.

This Contractor hereby agreed to allow other Contractors to the Owners free access to the building to carry out work other than that included in this Contract.



Proposed Additions to Premises Hastings, for HB Farmers Co-op. Assn.

Calculations for Reinforced Concrete and Steel framing

BEAMS:-

No 1

B.M. = 155,700 inch lbs.

assume beam 14" x 12" R.C.

For rectangular beam $\frac{bd^2 \times f_1}{M} = \frac{12 \times 144 \times 16000}{155700}$

$= 172$

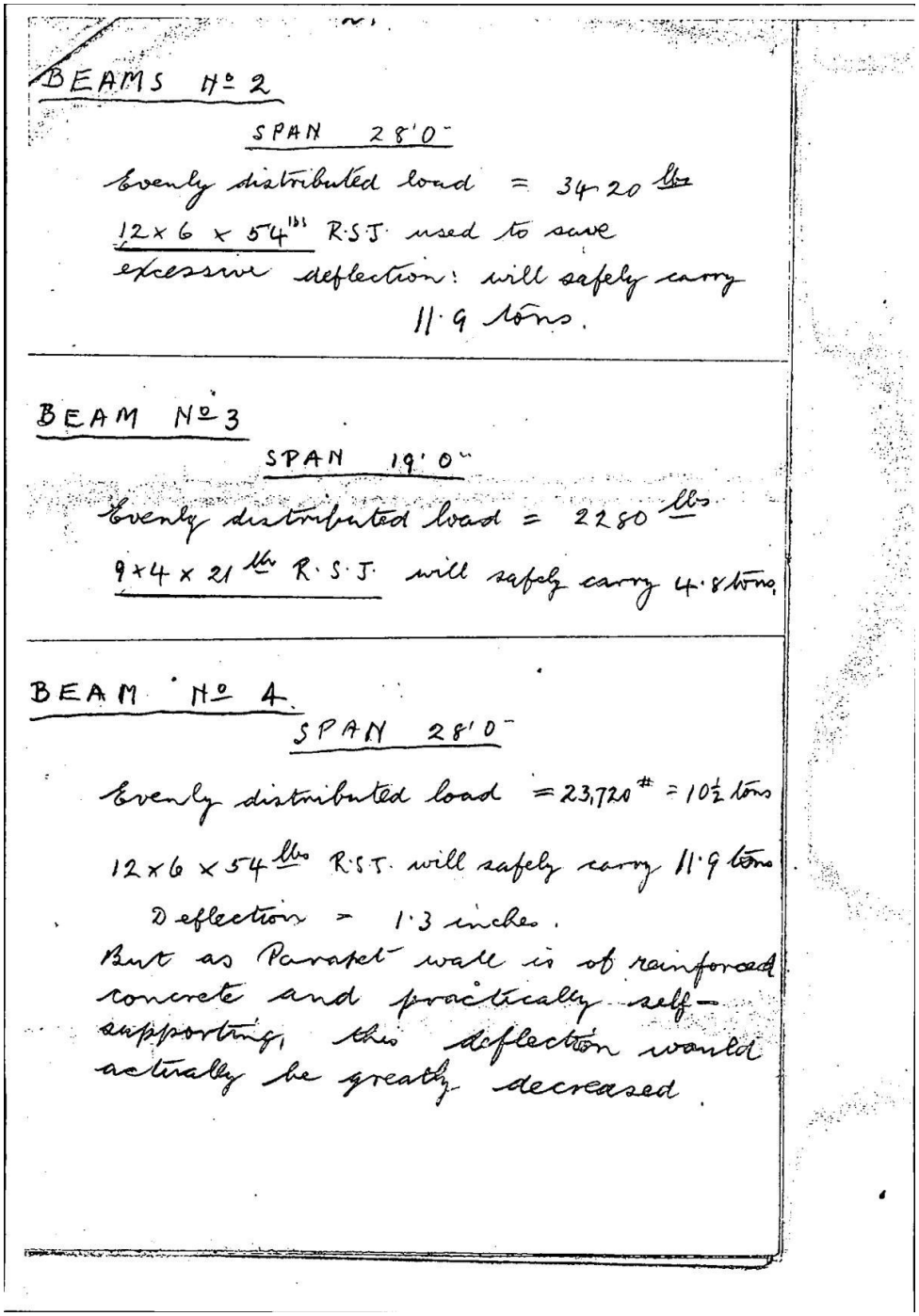
From table $j = .881 \therefore K = 35.7 \quad \frac{f_s}{f_c} = 27$

Then $A_s = \frac{M}{jd \times f_1} = \frac{155700}{.881 \times 12 \times 16000} = .9''$

Say 3 / 1/4" ϕ rods (=1.33") with 2" of cover on bottom for sake of stirrups put 2/ 1/2" rods in top of beam.

Stress in concrete = $\frac{16000}{27} = 593$ lbs

Stress in Steel = 16000 lbs.



BEAMS No 2

SPAN 28'0"

Evenly distributed load = 34,20 lbs

12 x 6 x 54 lbs R.S.J. used to save excessive deflection: will safely carry 11·9 tons.

BEAM No 3

SPAN 19'0"

Evenly distributed load = 2280 lbs

9 x 4 x 21 lbs R.S.J. will safely carry 4·8 tons

BEAM No 4.

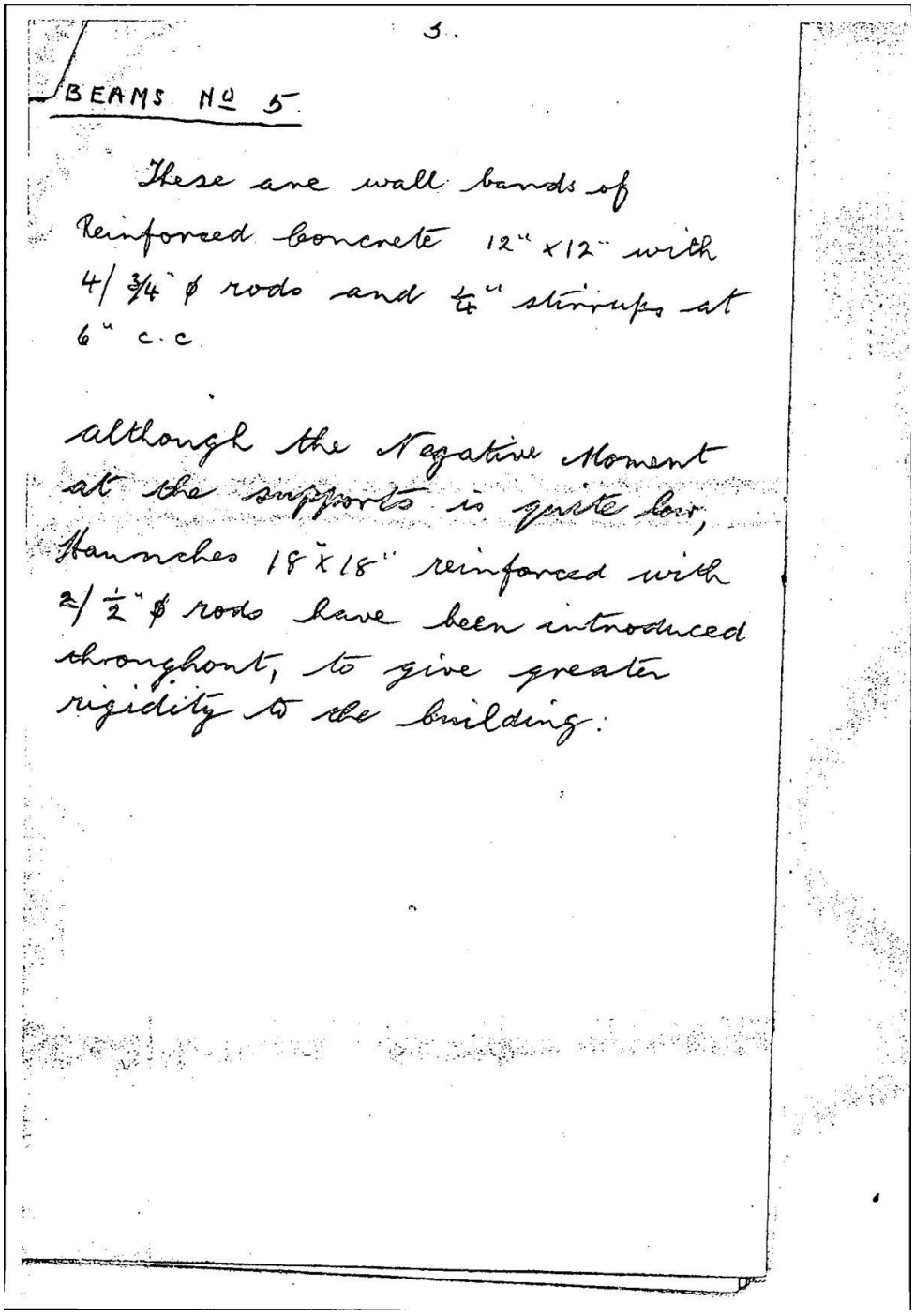
SPAN 28'0"

Evenly distributed load = 23,720 # = 10½ tons

12 x 6 x 54 lbs R.S.J. will safely carry 11·9 tons.

Deflection = 1·3 inches.

But as Parapet wall is of reinforced concrete and practically self-supporting, this deflection would actually be greatly decreased.

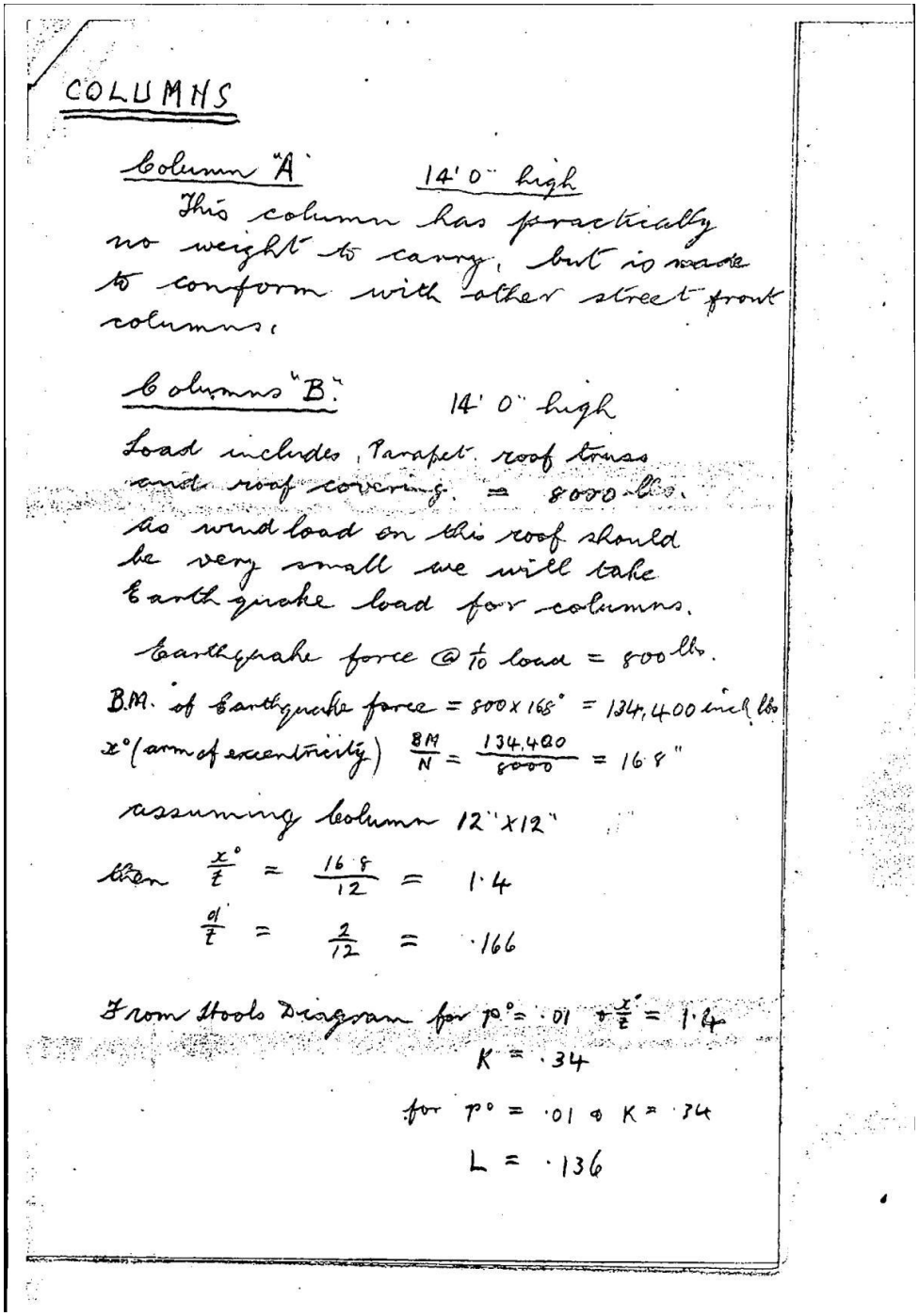


3.

BEAMS No 5

These are wall bands of Reinforced concrete 12" x 12" with 4/ 3/4" ϕ rods and ¼" stirrups at 6" c.c

although the Negative Moment at the supports is quite low, Haunches 18" x 18" reinforced with 2/ ½" ϕ rods have been introduced throughout, to give greater rigidity to the building.



COLUMNS

Column "A" 14' 0" high

This column has practically no weight to carry, but is made to conform with other street front columns.

Columns "B" 14' 0" high

Load includes, Parapet, roof trusses and roof covering. = 8000 lbs.

As wind load on this roof should be very small we will take Earthquake load for columns.

Earthquake force @ 1/10 load = 800 lbs.

B.M. of Earthquake force = 800 x 168" = 134,400 inch lbs

x" (arm of eccentricity) $\frac{BM}{N} = \frac{134,400}{8000} = 16.8"$

assuming column 12" x 12"

then $\frac{x"}{t} = \frac{16.8}{12} = 1.4$

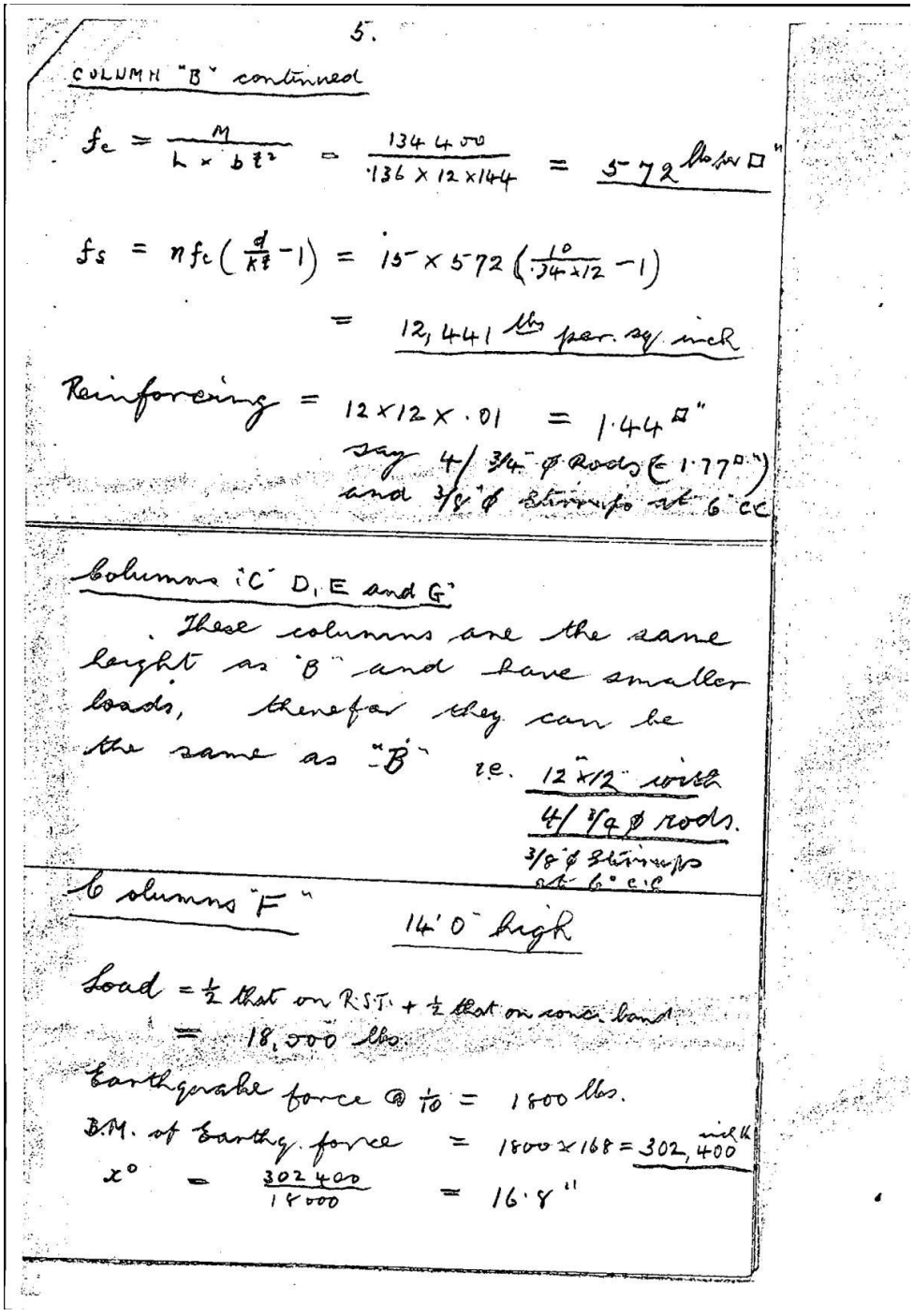
$\frac{a'}{t} = \frac{2}{12} = .166$

From Hools Diagram for $p° = .01$ + $\frac{x'}{t} = 1.4$

$K = .34$

for $p° = .01$ & $K = .34$

$L = .136$



5.

COLUMN "B" continued

$f_c = \frac{M}{k \times b d^2} = \frac{134\,400}{\cdot 136 \times 12 \times 144} = 5\cdot 72$ lbs per □"

$f_s = n f_c \left(\frac{d}{kd} - 1\right) = 15 \times 5\cdot 72 \left(\frac{10}{\cdot 34 \times 12} - 1\right)$

$= 12,441$ lbs per sq inch

Reinforcing $= 12 \times 12 \times \cdot 01 = 1\cdot 44$ □"

say 4/ 3/4" ϕ Rods (= 1·77 □")
and 3/8" ϕ Stirrups at 6" c/c

Columns "C" D, E and G"

These columns are the same height as "B" and have smaller loads, therefor they can be the same as "B" i.e. 12"×12" with 4/ 3/4 ϕ rods. 3/8" ϕ Stirrups at 6" c/c

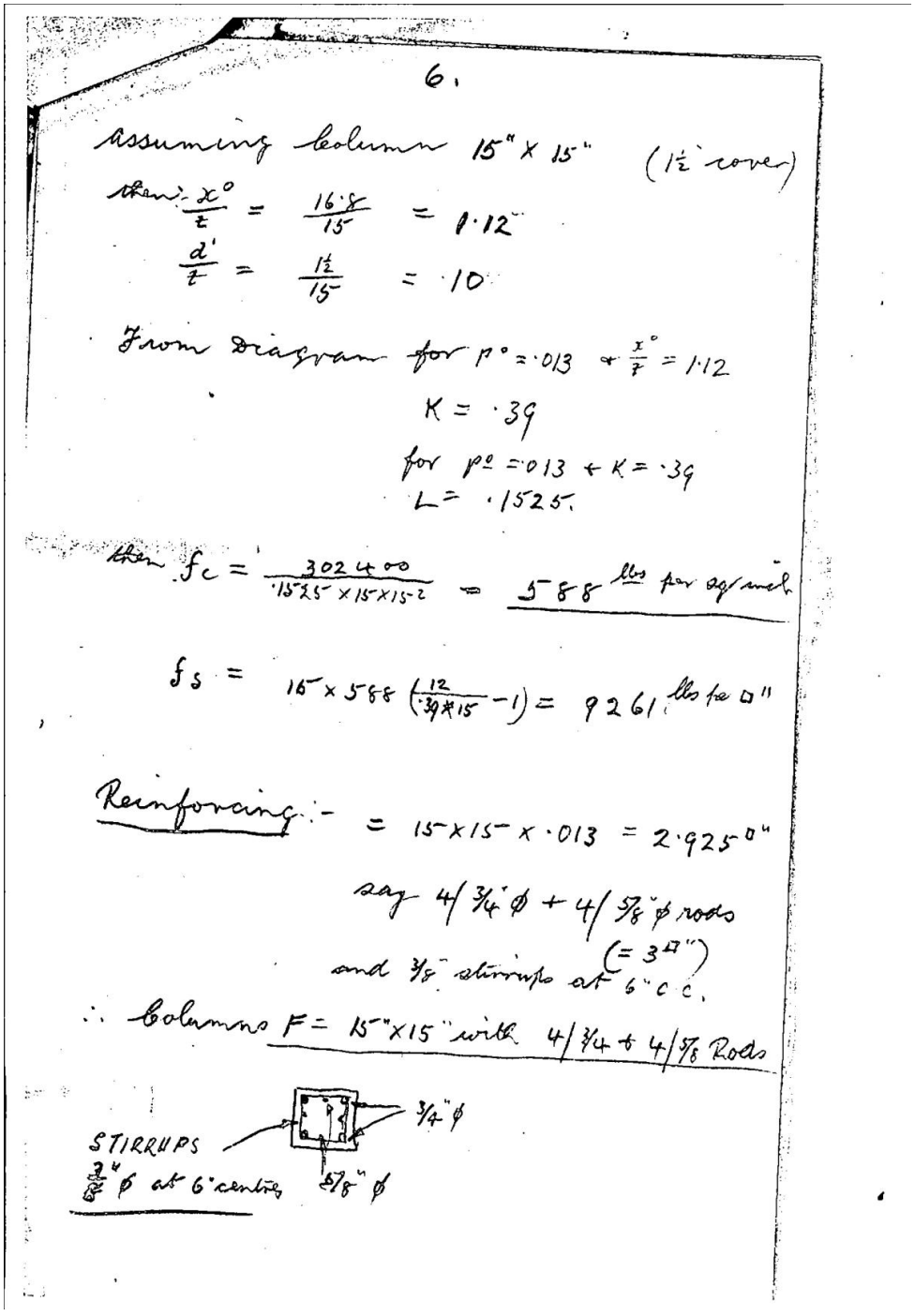
Columns "F" 14' 0" high

Load = ½ that on R.S.J. + ½ that on conc. beam
= 18,000 lbs.

Earthquake force @ 1/10 = 1800 lbs.

B.M. of Earthq. force = 1800 × 168 = 302,400 inch lbs

$x^0 = \frac{302\,400}{18000} = 16\cdot 8$"



6.

Assuming column 15" x 15" (1½" cover)

then $\frac{x^0}{t} = \frac{16.8}{15} = 1.12$

$\frac{d'}{t} = \frac{1\frac{1}{2}}{15} = .10$

From diagram for $P^0 = .013$ & $\frac{x^0}{t} = 1.12$

$K = .39$

for $P^0 = .013$ & $K = .39$

$L = .1525$

then $f_c = \frac{302400}{.1525 \times 15 \times 15 \times 2} = 5.88$ lbs per sq/inch

$f_s = 16 \times 588 \left(\frac{12}{.39 * 15} - 1\right) = 9261$ lbs to □"

Reinforcing :- $= 15 \times 15 \times .013 = 2.925$ □"

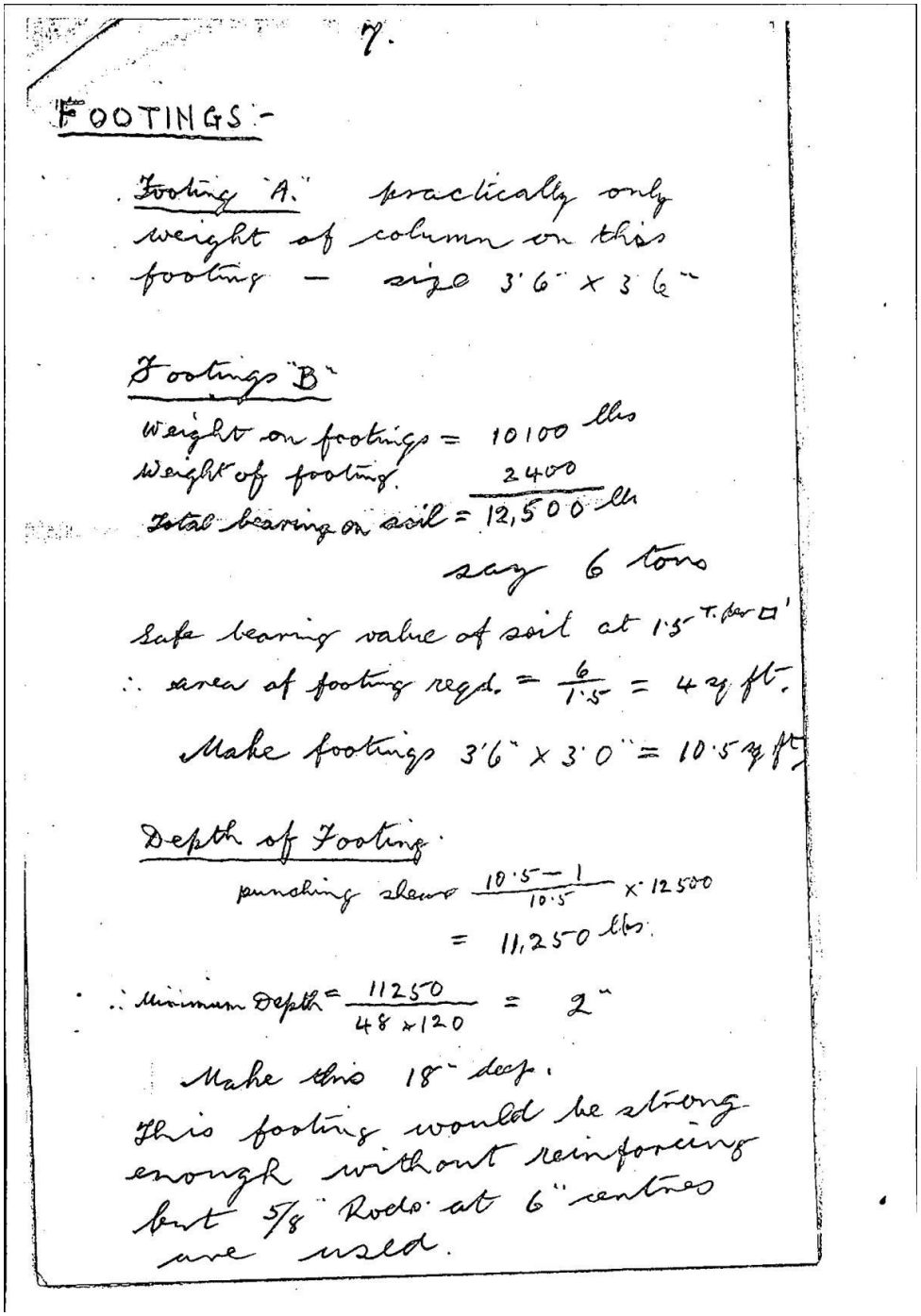
say 4/¾"ϕ + 4/⅝"ϕ rods (= 3.47□")
and ⅜" stirrups at 6" c.c.

∴ Columns F = 15" x 15" with 4/¾ + 4/⅝ Rods

STIRRUPS ⅜"ϕ at 6" centres

¾"ϕ

⅝"ϕ



7.

FOOTINGS:-

Footing "A." practically only weight of column on this footing — size 3'6" x 3'6"

Footings "B"

Weight on footings = 10100 lbs
Weight of footing. 2400
Total bearing on soil = 12,500 lbs

say 6 tons

Safe bearing value of soil at 1·5 T. per □'
∴ area of footing reqd. = $\frac{6}{1·5}$ = 4 sq ft.

Make footings 3'6" x 3'0" = 10·5 sq ft.

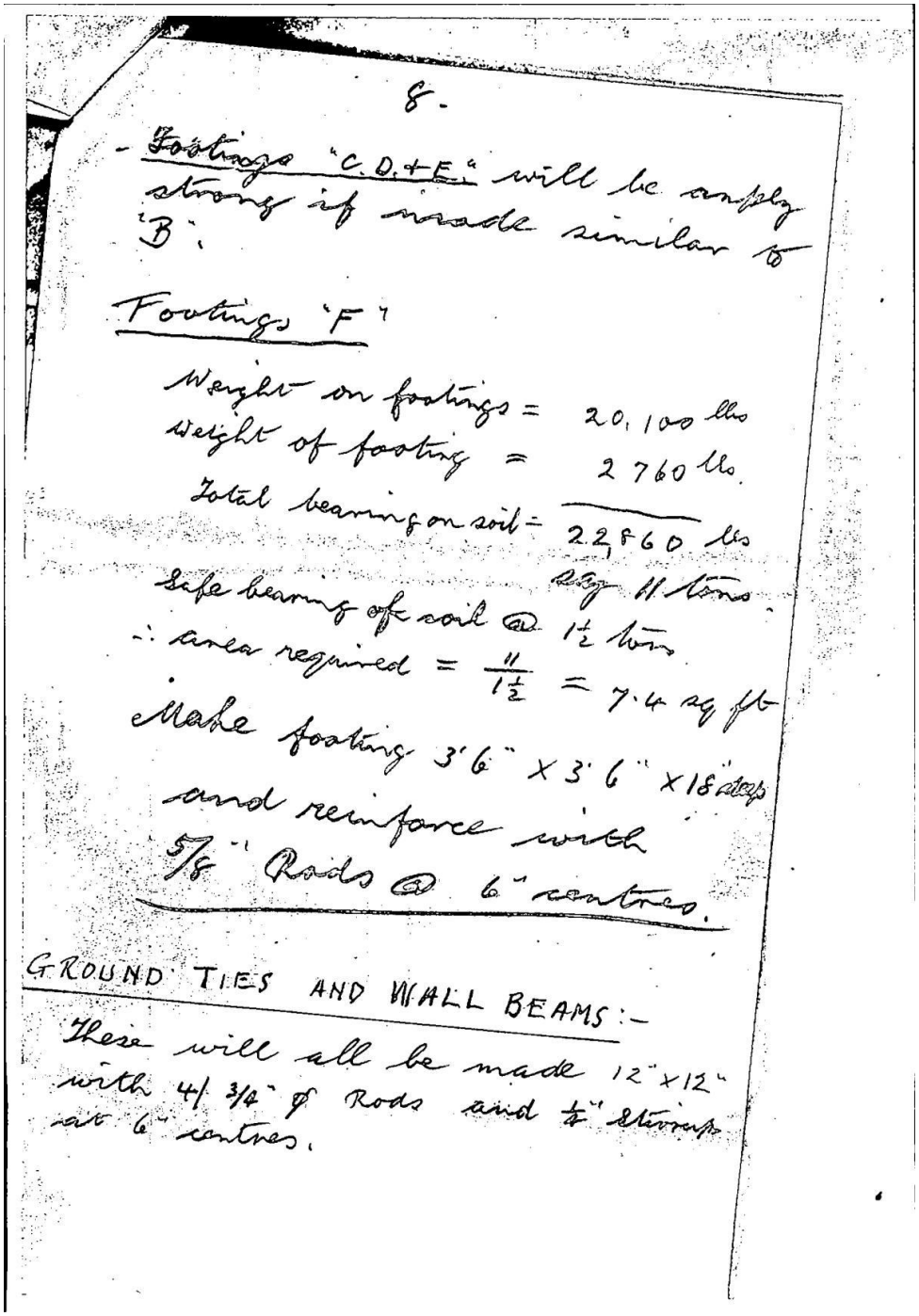
Depth of Footing.

punching shear $\frac{10·5-1}{10·5}$ x 12500

= 11,250 lbs.

∴ Minimum Depth = $\frac{11250}{48 \times 120}$ = 2"

Make this 18" deep.
This footing would be strong enough without reinforcing but 5/8" Rods at 6" centres are used.



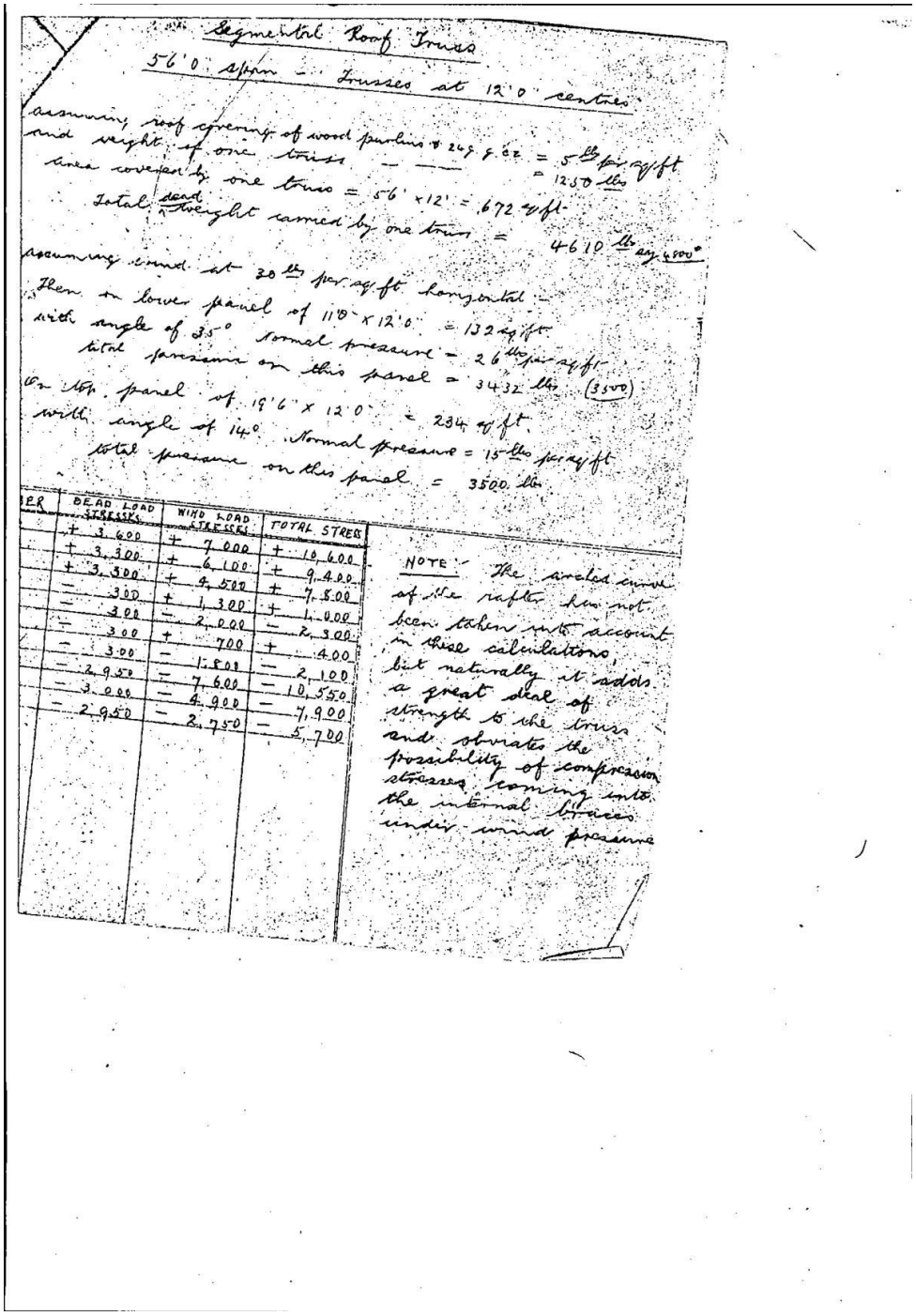
8.

- Footings "C.D.+E." will be amply strong if made similar to "B".

Footings "F"

Weight on footings = 20,100 lbs
Weight of footing = 2760 lbs.
Total bearing on soil = 22860 lbs
say 11 tons.
Safe bearing of soil @ 1½ tons
∴ area required = $\frac{11}{1\frac{1}{2}}$ = 7.4 sq ft
Make footing 3'6" x 3'6" x 18" deep
and reinforce with
5/8" Rods @ 6" centres.

GROUND TIES AND WALL BEAMS:-
These will all be made 12" x 12"
with 4/ 3/4" ø Rods and ¼" stirrups
at 6" centres.



Segmental Roof Trusses

56'0" span – Trusses at 12'0" centres

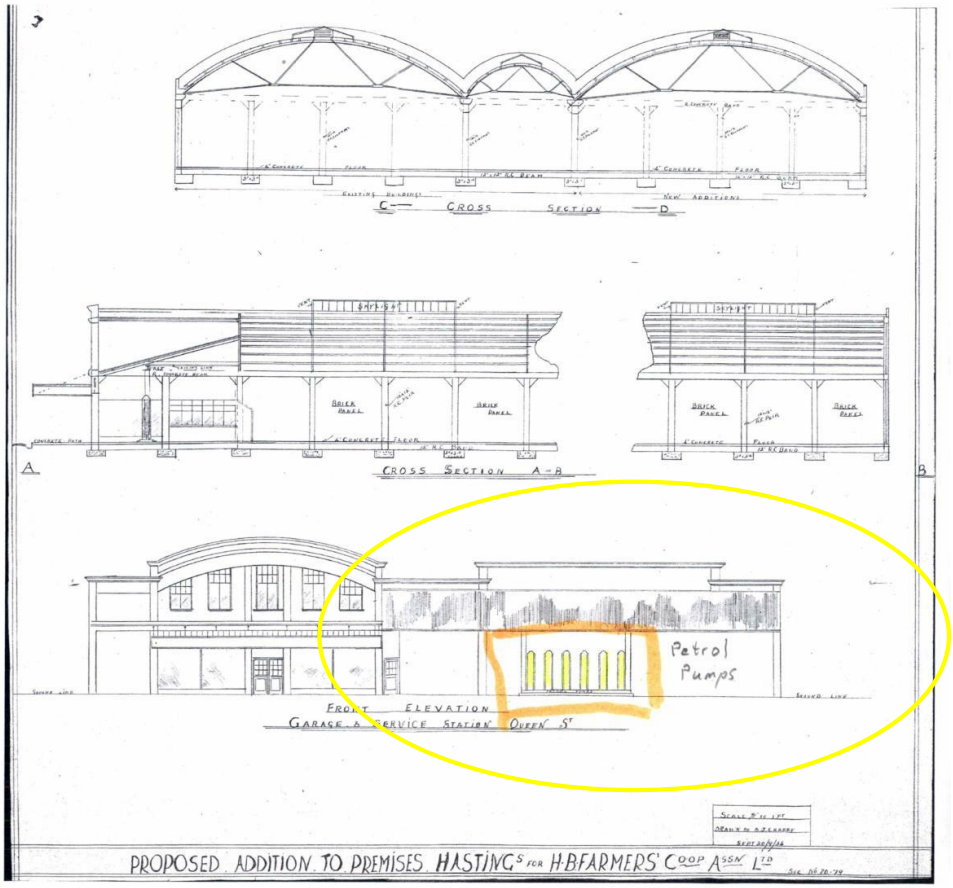
assuming roof covering of wood purlins @ 24 p.s.f. = 5 lbs per sq ft
and weight of one truss = 1250 lbs
Area covered by one truss = 56' × 12' = 672 sq ft.
Total dead weight carried by one truss = 4610 lbs say 4500

assuming wind at 30 lbs per sq ft horizontal –
Then on lower panel of 11'0" × 12'0" = 132 sq ft
with angle of 35° normal pressure = 26 lbs per sq ft
total pressure on this panel = 3432 lbs (3500)
On 16ft. panel of 19'6" × 12'0" = 234 sq ft.
with angle of 14° Normal pressure = 15 lbs per sq ft
total pressure on this panel = 3500 lbs.

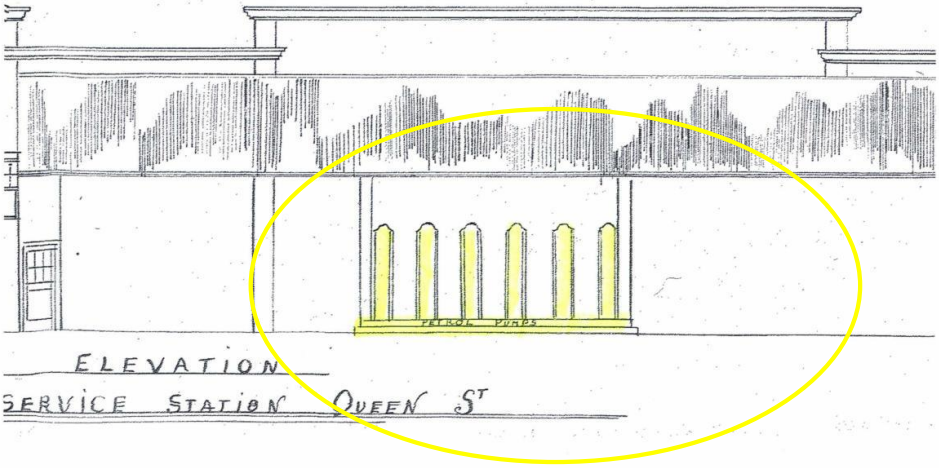
PER	DEAD LOAD STRESSES	WIND LOAD STRESSES	TOTAL STRESS
	+ 3,600	+ 7,000	+ 10,600
	+ 3,300	+ 6,100	+ 9,400
	+ 3,300	+ 4,500	+ 7,800
	– 300	+ 1,300	+ 1,000
	– 300	– 2,000	– 2,300
	– 300	+ 700	+ 400
	– 300	– 1,800	– 2,100
	– 2,950	– 7,600	– 10,550
	– 3,000	– 4,900	– 7,900
	– 2,950	– 2,750	– 5,700

NOTE – The arched curve of the rafter has not been taken into account in these calculations, but naturally it adds a great deal of strength to the truss and obviates the possibility of compression stresses coming into the internal braces under wind pressure

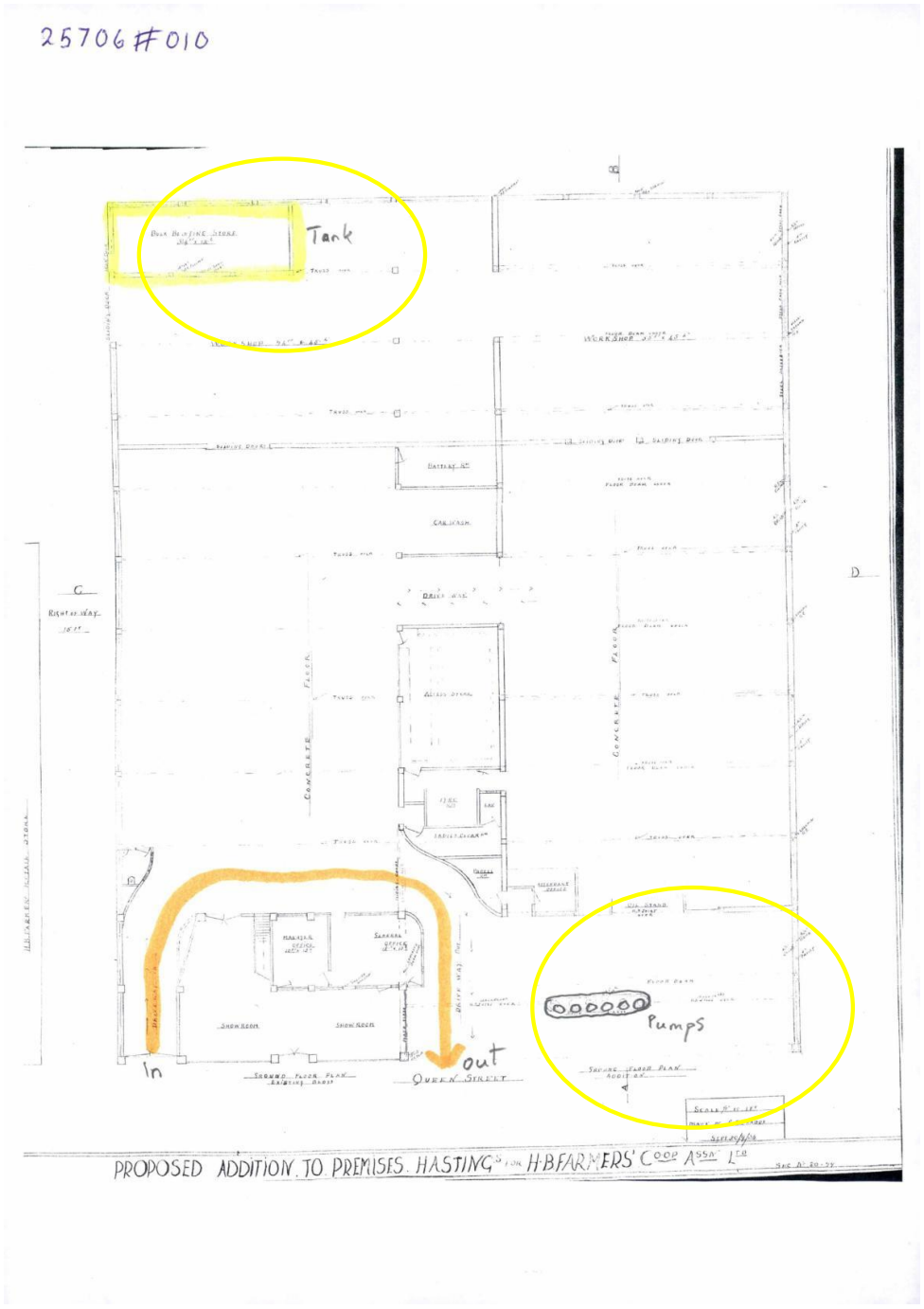
25706#010

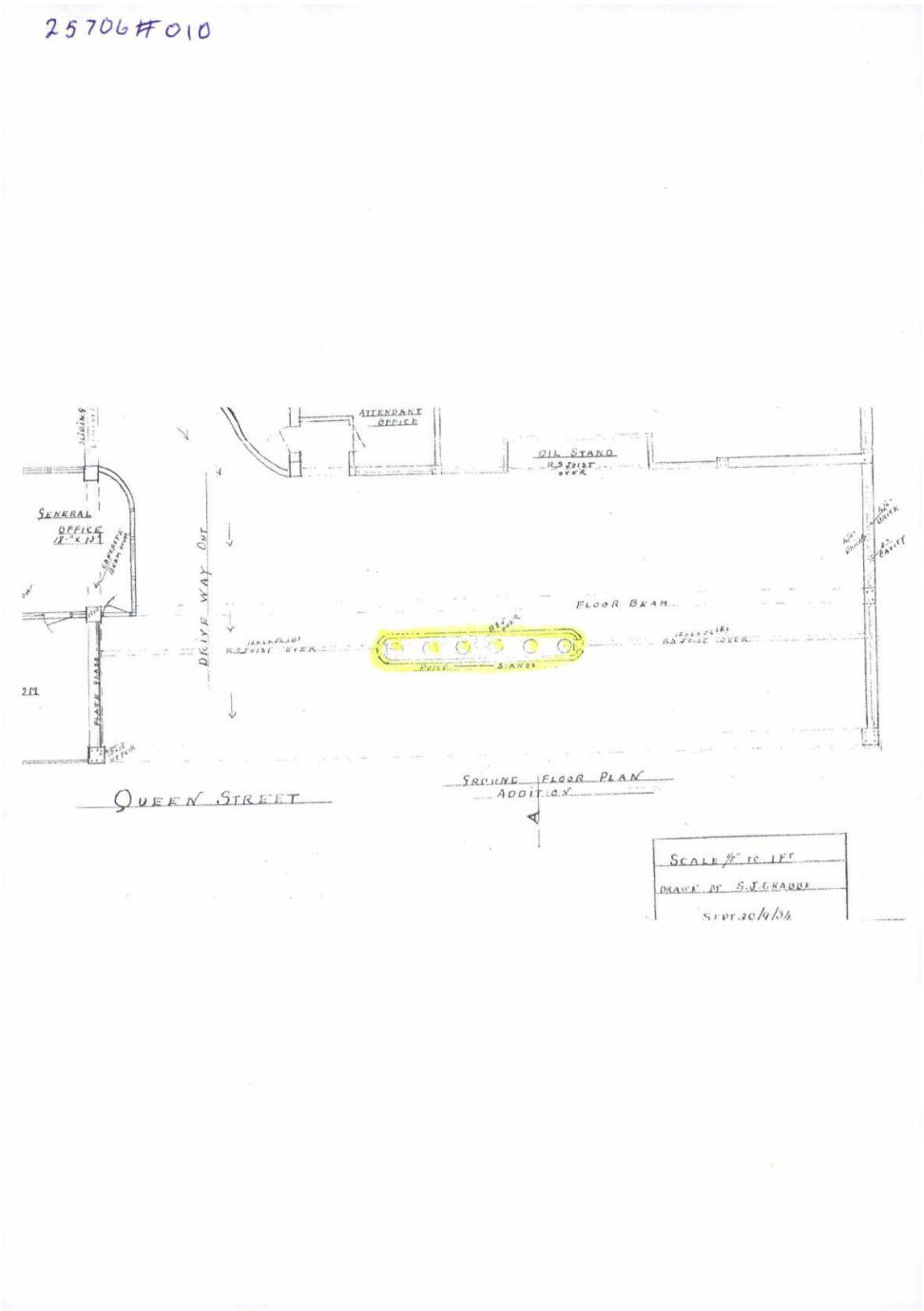

C CROSS SECTION D
A CROSS SECTION A-B B
Petrol Pumps
FRONT ELEVATION
GARAGE & SERVICE STATION QUEEN ST
PROPOSED ADDITION TO PREMISES HASTINGS FOR H.B FARMERS' COOP ASSN LTD

25706#010



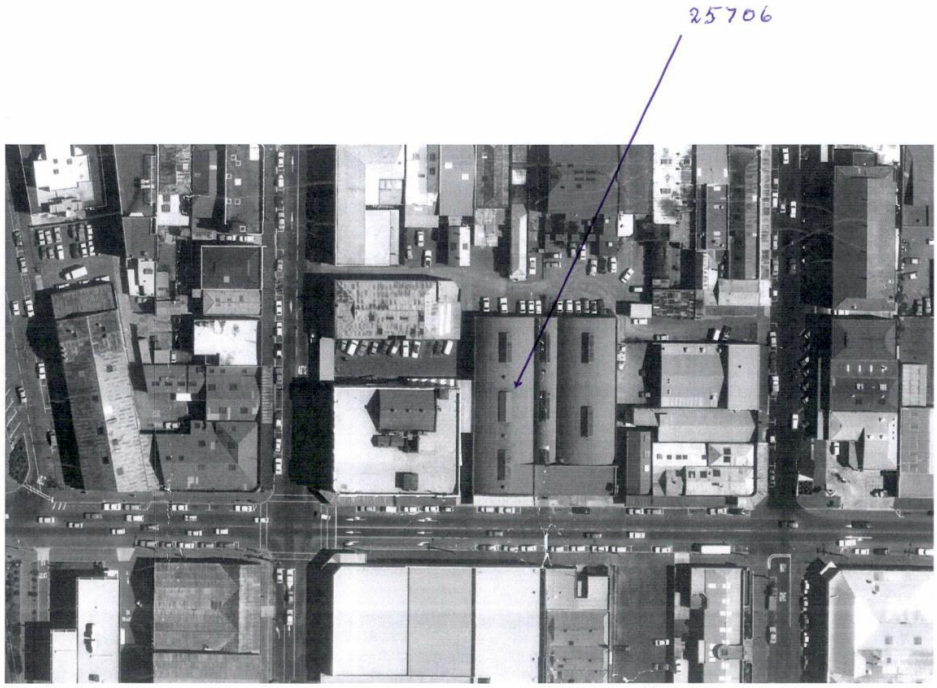
ELEVATION
SERVICE STATION QUEEN ST


25706#010
Tank
Pumps
In
out
QUEEN STREET
PROPOSED ADDITION TO PREMISES. HASTINGS FOR H.B.FARMERS' CO-OP ASSN LTD


25706#010
ATTENDANT OFFICE
OIL STAND
GENERAL OFFICE
DRIVE WAY OUT
FLOOR BEAM
QUEEN STREET
SHOWING FLOOR PLAN ADDITION
SCALE 1/8" TO 1FT
DRAWN BY S.J.C KAUWE
SEPT. 20/4/34

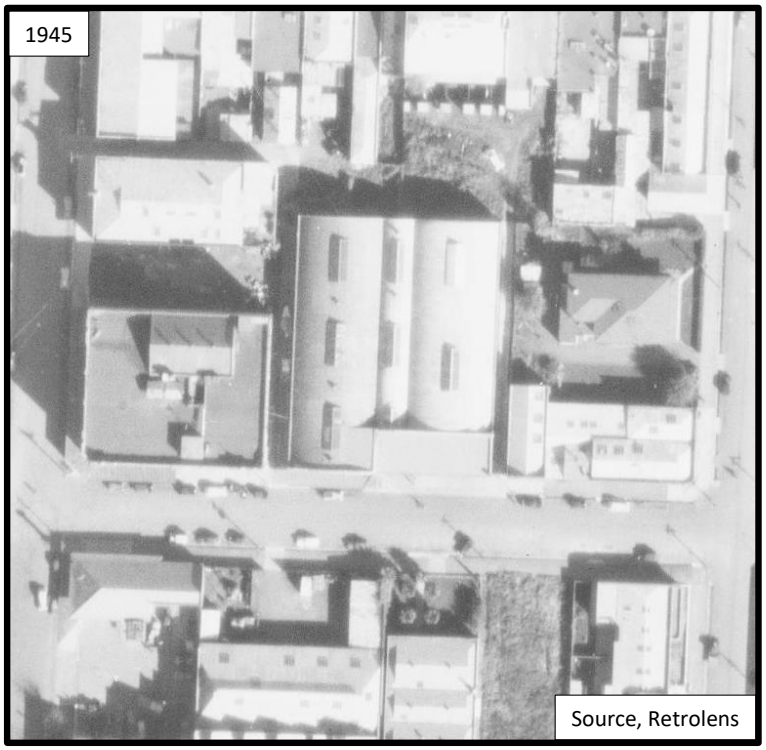

25706
CTA-02-12-09-396
Photo 1949


25706
CTA-01-17-185
c1950s

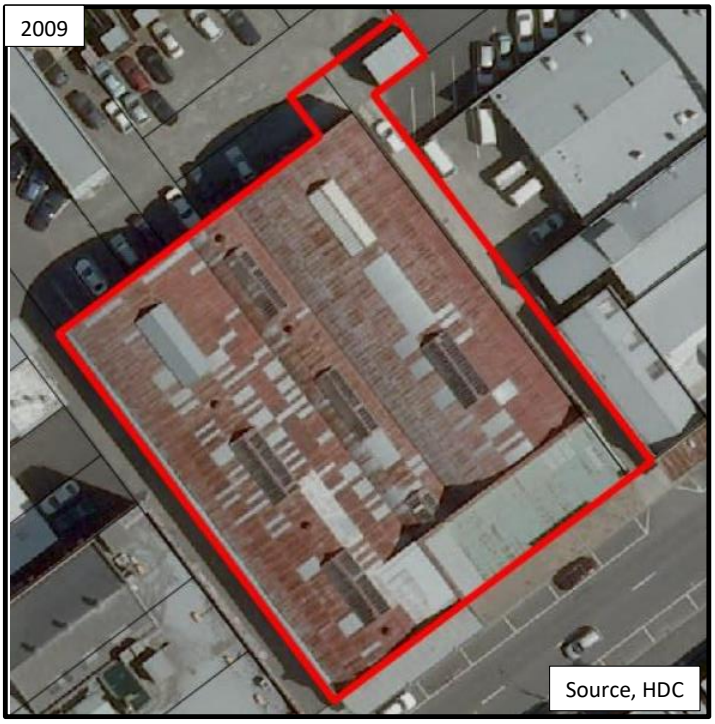


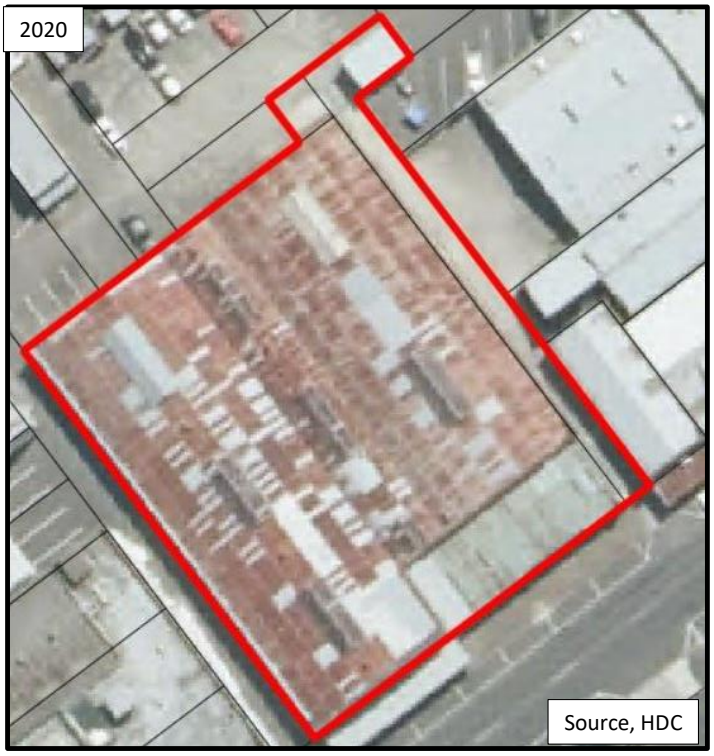
CTA-02-12-08-352 Photo 1975

APPENDIX C- AERIAL PHOTOGRAPHY


1945
Source, Retrolens


1979
Source, Retrolens


2009
Source, HDC


2020
Source, HDC

APPENDIX D- SITE PHOTOGRAPHS

Top and Middle. Queen street facing building. Bottom. Queen Street facing showroom.

Above. Discovery of historic underground fuel tank.

Top. Fill below concrete. Middle and bottom. Warehouse, currently used by a Holden collector.

Top. Cut concrete. **Middle**, exposed soil, **Bottom**. TP4, deeper fill.

Top. Buried clay pipe. Middle. Fill material and underlying light brown silt. Bottom. TP11.

Top and middle. Excavated Pits. Bottom. Asbestos Containing Material.

Above. Test pits showing fill material.

APPENDIX E- BOREHOLE LOGS

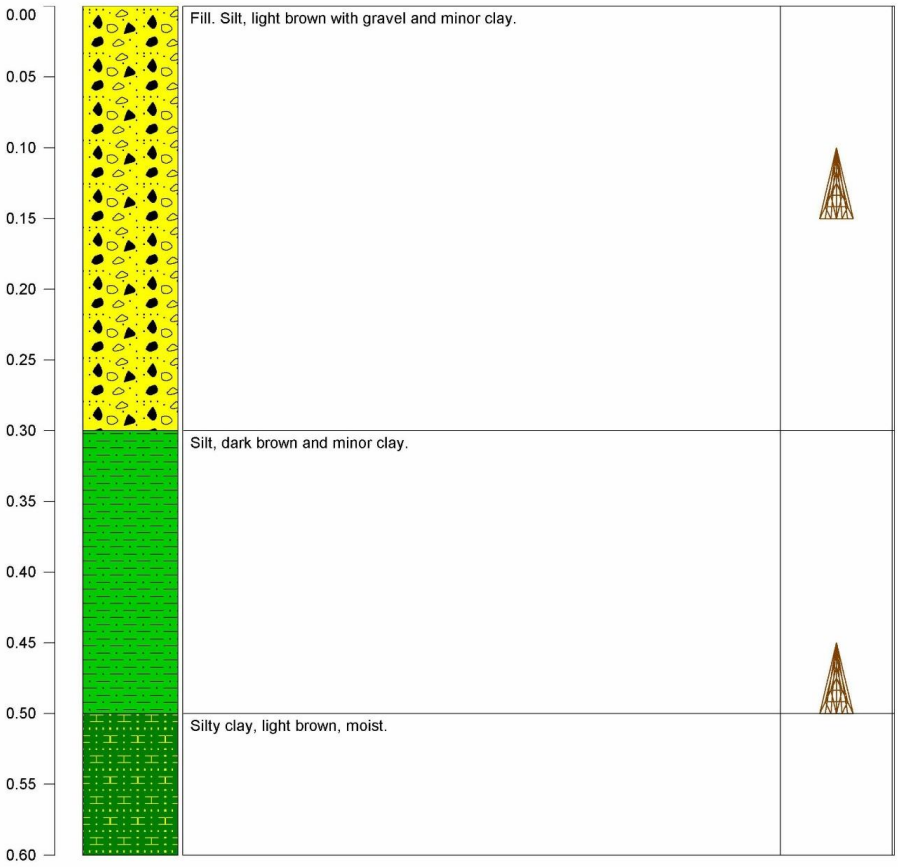
Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	1

EAM ENVIRONMENTAL CONSULTANTS

Environmental Assessments and Monitoring NZ Limited Page #1 of #1

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	2

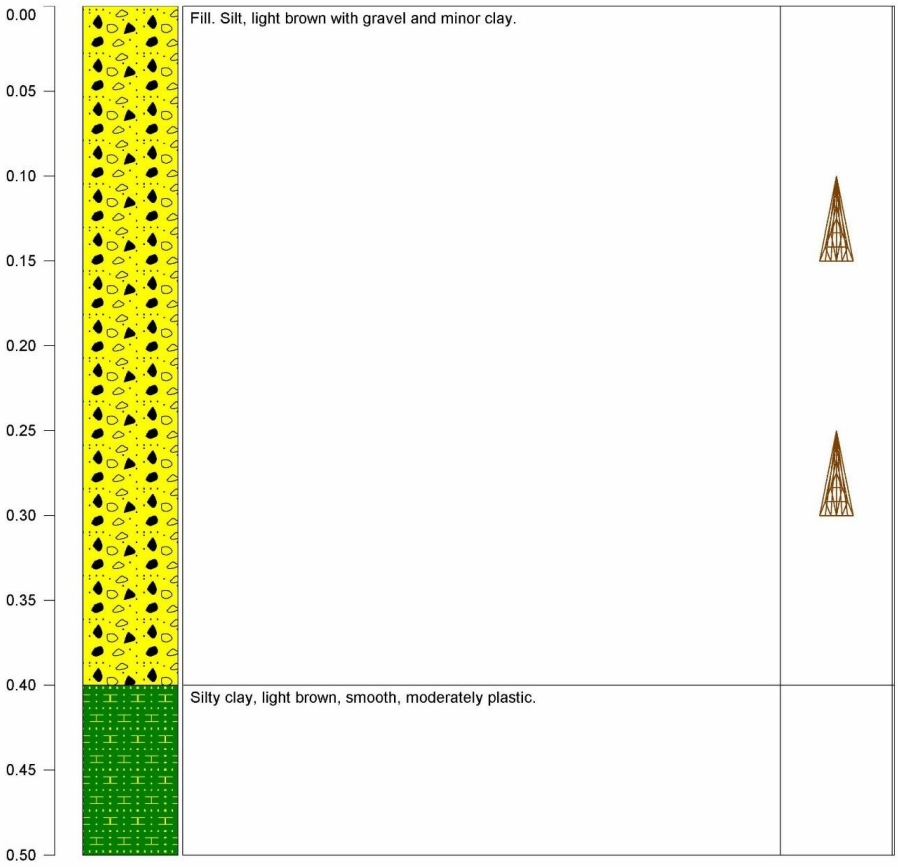
EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	3

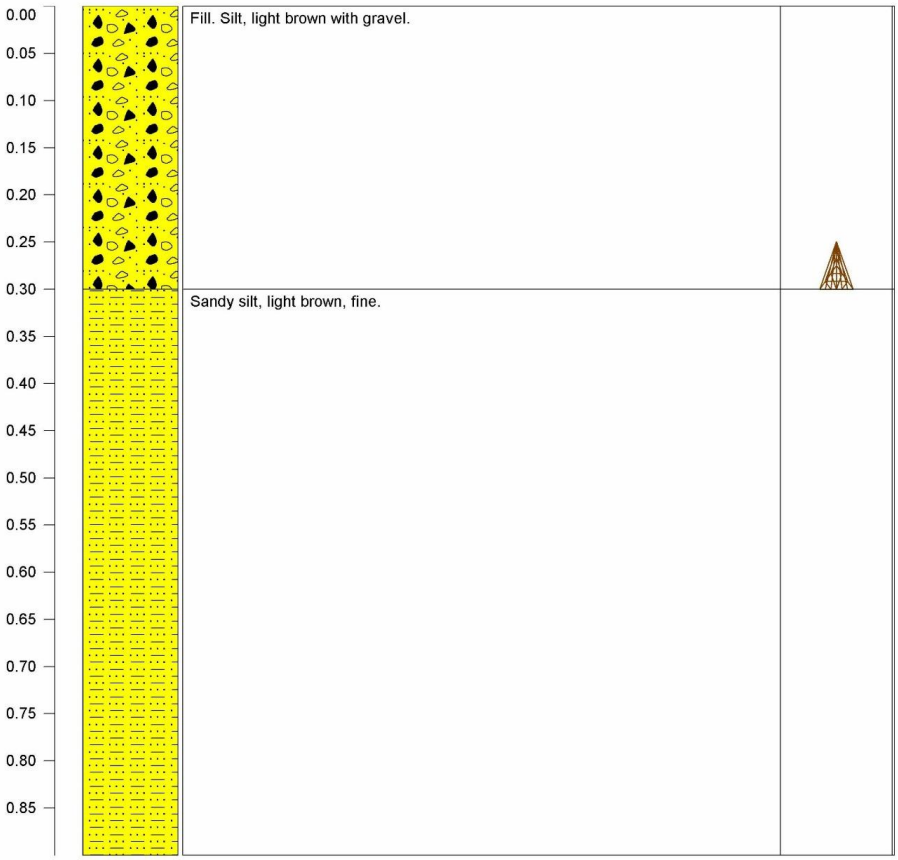
EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	4

EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

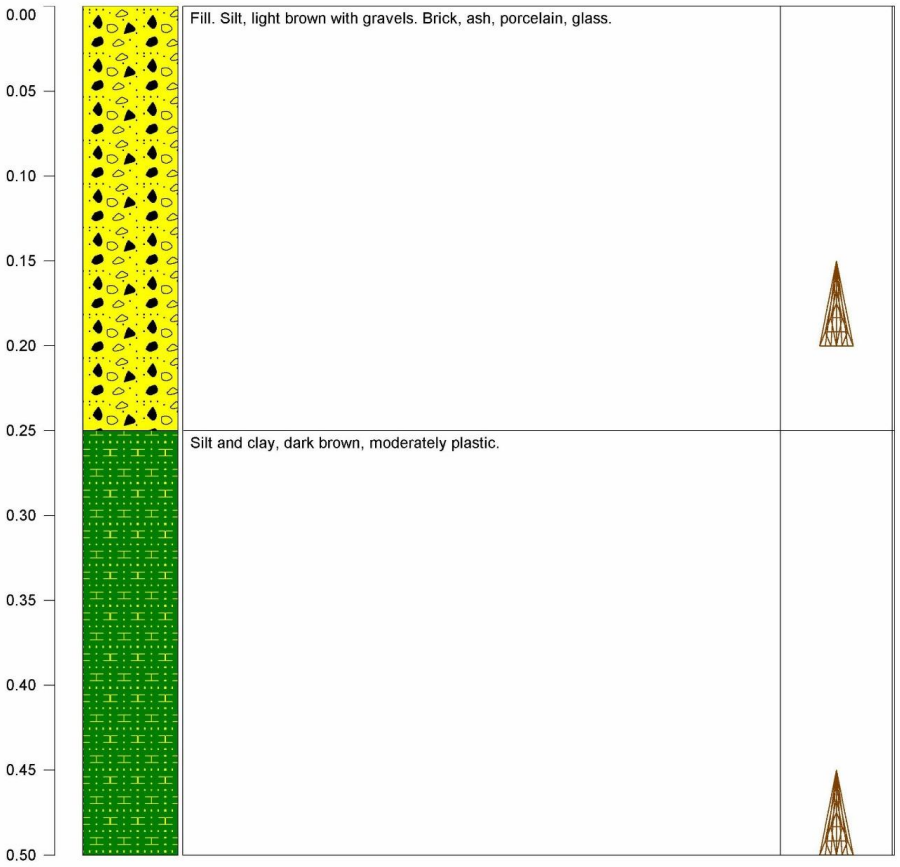
Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	**5**

EAM ENVIRONMENTAL CONSULTANTS

Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	6

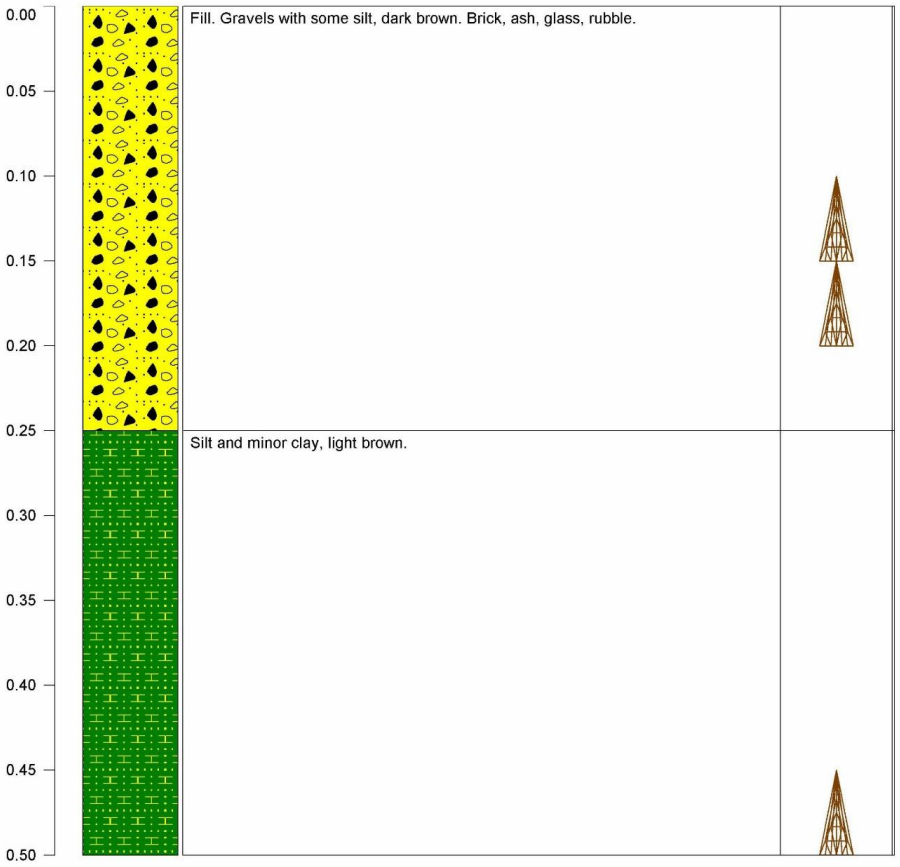
EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	7

EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	**8**

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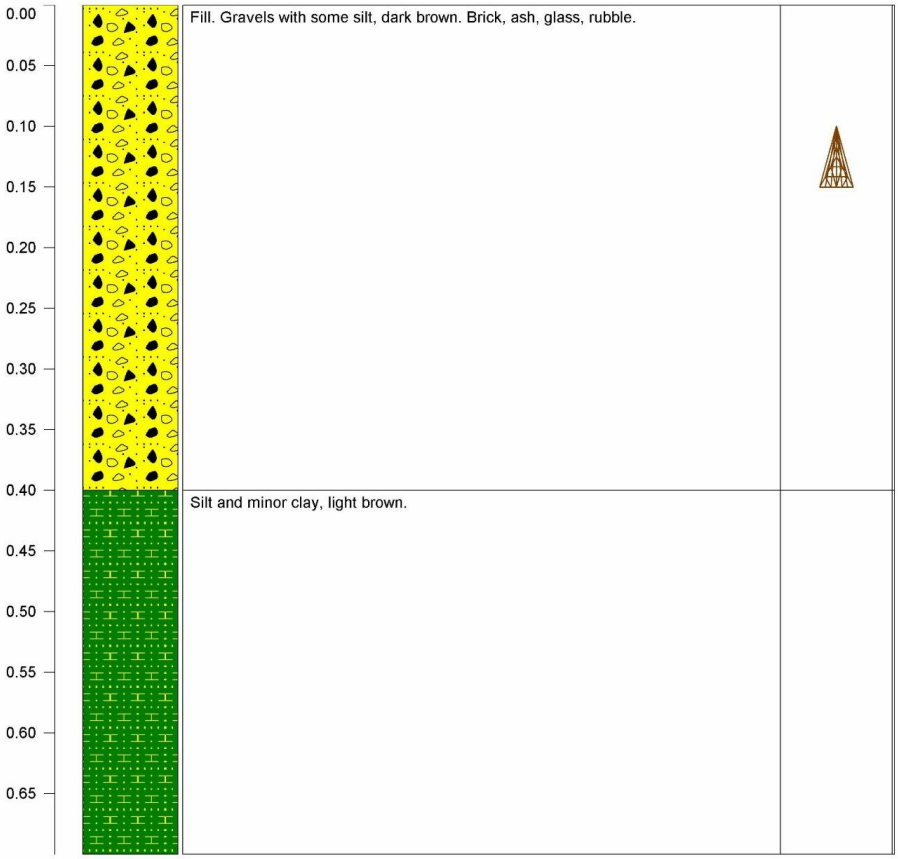
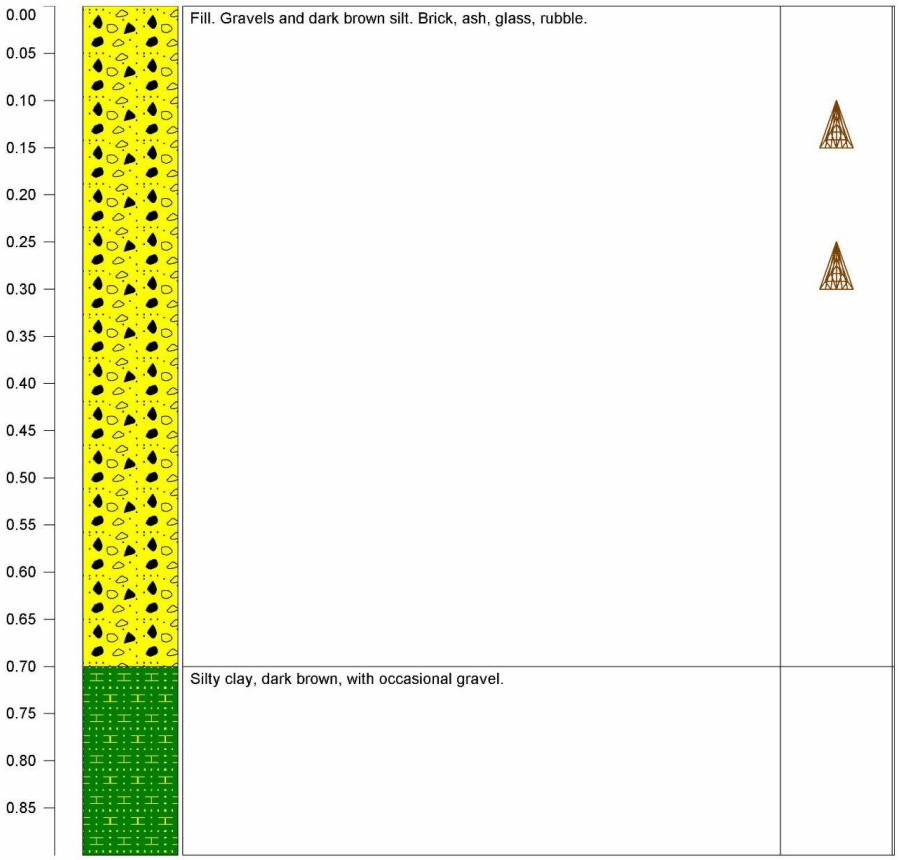


Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	9

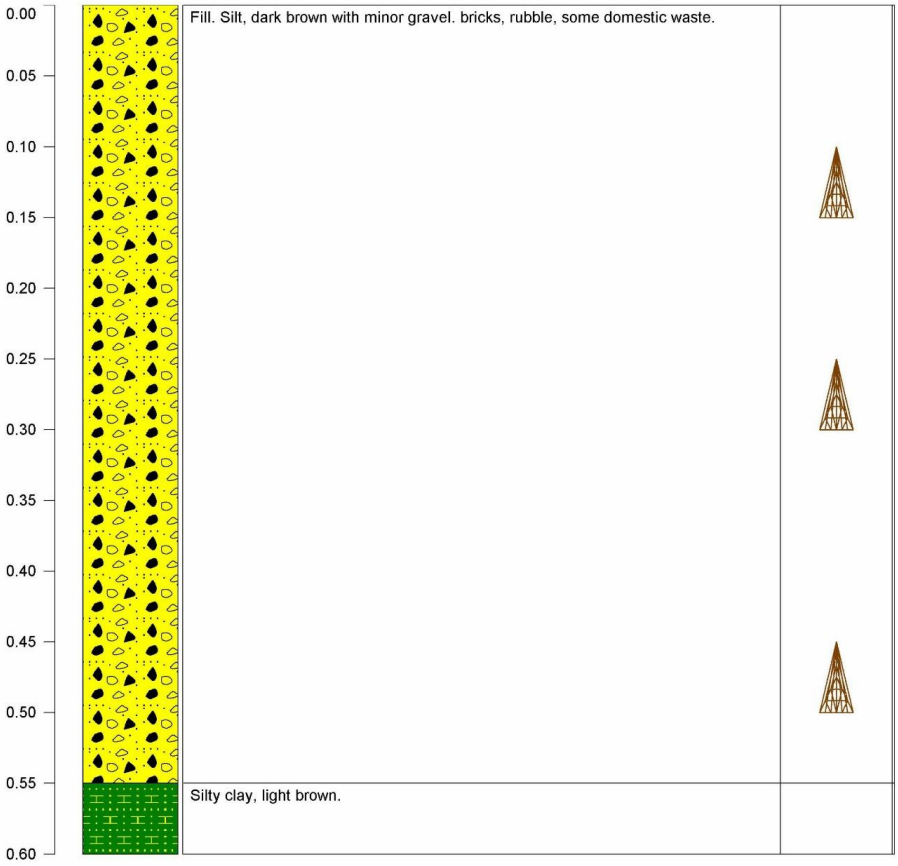
EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	**10**

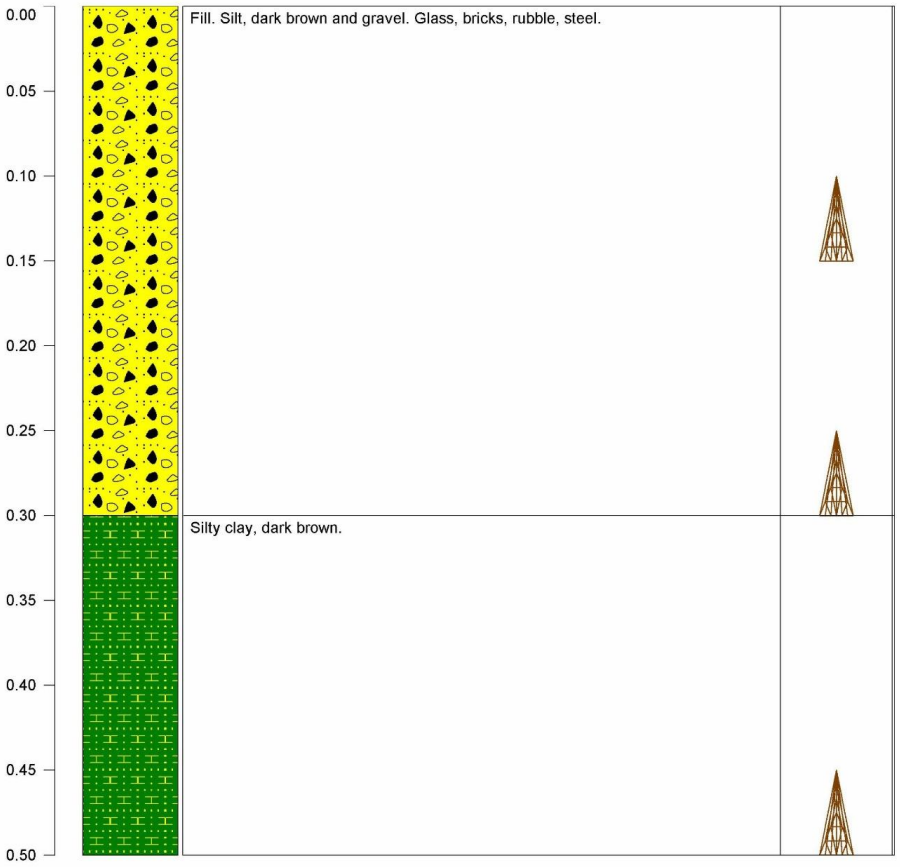
EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	12/04/2022
TEST PIT #	**11**

EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

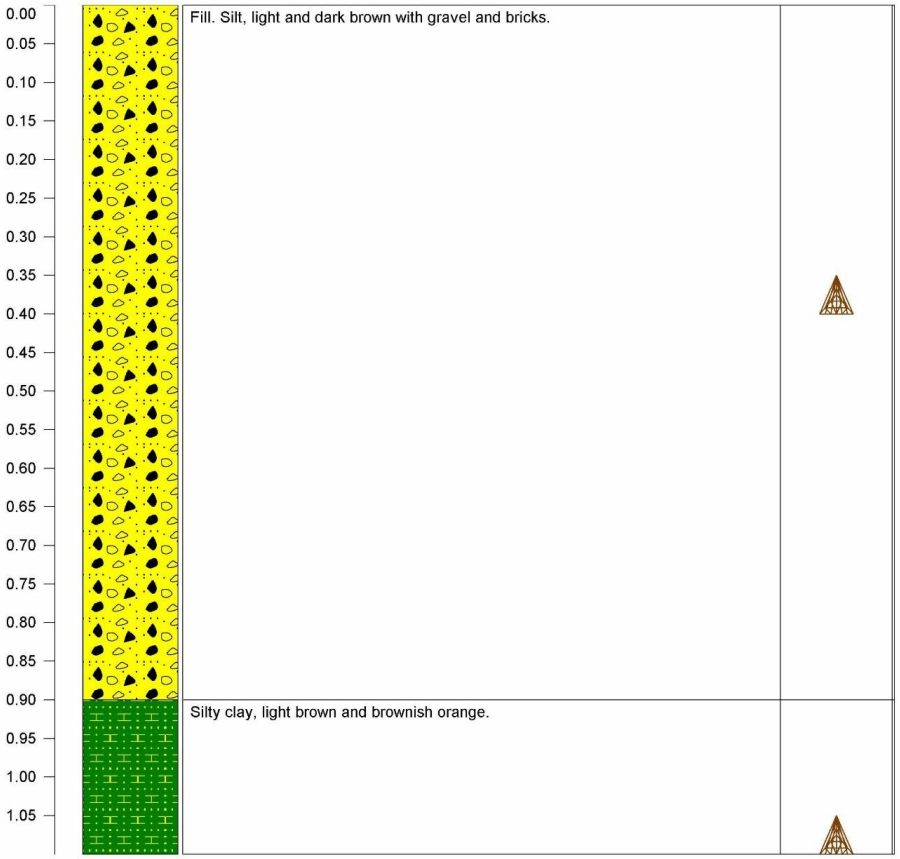
Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	4/05/2022
TEST PIT #	**1- Fuel Tank Investigation**

EAM ENVIRONMENTAL CONSULTANTS

Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	4/05/2022
TEST PIT #	**2- Fuel Tank Investigation**

EAM ENVIRONMENTAL CONSULTANTS



Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

Project	206 Queen Street West, Hastings
Project No	EAM2251
Client	HASTINGS DISTRICT COUNCIL
Recorded By	Karen Toulmin- Senior Environmental Scientist
Date	4/05/2022
TEST PIT #	**3- Fuel Tank Investigation**

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Environmental Assessments and Monitoring NZ Limited **Page #1 of #1**

APPENDIX F- ANALYTICAL RESULTS

TABLE 1. SOIL METAL RESULTS (ALL RESULTS mg/kg DRY WEIGHT)

Sample Name:	Arsenic mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Nickel mg/kg	Zinc mg/kg
TP1 0-150mm 28-Apr-2022	5	0.25	13	66	620	9	200
TP1 500mm 28-Apr-2022	8	1.56	13	81	900	22	640
TP2 0-150mm 28-Apr-2022	5	0.22	16	18	45	13	240
TP3 0-150mm 28-Apr-2022	27	0.53	12	4,000	1,680	27	820
TP2 300mm 28-Apr-2022	8	0.38	16	97	450	15	360
TP3 300mm 28-Apr-2022	30	1.26	15	1,950	1,840	30	1,000
TP4 300mm 28-Apr-2022	7	< 0.10	10	7	16.6	8	46
TP5 0-150mm 28-Apr-2022	9	0.72	15	126	440	15	830
TP6 200mm 28-Apr-2022	54	0.91	19	3,000	3,000	51	910
TP7 0-150mm 28-Apr-2022	17	0.42	18	1,160	770	24	440
TP7 200mm 28-Apr-2022	34	0.66	10	1,540	2,800	47	610
TP8 0-150mm 28-Apr-2022	40	1.37	17	2,200	13,400	39	1,200 #1
TP8 300mm 28-Apr-2022	22	0.73	16	1,190	2,400	25	770
TP9 0-150mm 28-Apr-2022	8	0.29	21	39	250	18	320
TP9 300mm 28-Apr-2022	7	0.17	19	27	220	16	210
TP10 0-150mm 28-Apr-2022	8	0.74	20	58	790	17	730
TP10 300mm 28-Apr-2022	23	0.66	16	350	1,370	25	710
TP10 600mm 28-Apr-2022	7	0.4	20	20	260	18	350
TP11 0-150mm 28-Apr-2022	19	1.23	15	250	1,720	13	910
TP11 300mm 28-Apr-2022	28	1.09	18	1,020	3,900	26	1,080
Duplicate 1 28-Apr-2022	23	0.81	21	720	1,950	28	810
TP1 300mm 04-May-2022	8	0.64	13	210	1,600	13	960
TP3 300mm 04-May-2022	6	0.17	13	27	134	12	197
TP2 400mm 04-May-2022	5	0.14	13	14	190	11	180
HB Uncontaminated Background Soil	9	0.7	24	32	27	69	105
NES Commercial/Industrial[1]	70	1300	6300	>10,000	3300		
NEPM Commercial Industrial[2]						6000	400,000

Exceeds Hawkes Bay uncontaminated background soils

[1]-MfE, June 2011. Resource Management (National Environmental Standard for Assessing and managing contaminants in Soil to Protect Human Health) Regulations 2011
[2]-National Environmental Protection (Assessment of Site Contamination) Measure, 1999

TABLE 2. ASBESTOS IN SOIL (%W/W)

Sample	Asbestos presence	Description of form	ACM %	AF/FA %
TP1	NOT DETECTED	-	<0.001	<0.001
TP5	NOT DETECTED	-	<0.001	<0.001
TP8	CHRYSOTILE	LOOSE FIBRES	<0.001	<0.001
TP1(FTI)	NOT DETECTED	-	<0.001	<0.001
ACM (BONDED)			0.05	
FA or AF			0.001	

TABLE 2. POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL (mg/kg)

Polycyclic Aromatic Hydrocarbons Screening in Soil	units	Adopted Standards	TP7 200mm
Total of Reported PAHs in Soil	mg/kg	4000[4]	14.2
1-Methylnaphthalene	mg/kg	73 [3]	0.6
2-Methylnaphthalene	mg/kg	30000 [3]	0.52
Acenaphthylene	mg/kg	2300000	0.101
Acenaphthene	mg/kg	450000	0.015
Anthracene	mg/kg	refer BaP eq	0.194
Benzo[a]anthracene	mg/kg	refer BaP eq	0.97
Benzo[a]pyrene (BAP)	mg/kg	refer BaP eq	1.09
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	mg/kg	35 [1]	1.61
Benzo[a]pyrene Toxic Equivalence (TEF)	mg/kg	refer BaP eq	1.59
Benzo[b]fluoranthene + Benzo[j]fluoranthene	mg/kg	refer BaP eq	1.26
Benzo[e]pyrene	mg/kg	refer BaP eq	0.69
Benzo[g,h,i]perylene	mg/kg	refer BaP eq	0.7
Benzo[k]fluoranthene	mg/kg	refer BaP eq	0.47
Chrysene	mg/kg	refer BaP eq	0.88
Dibenzo[a,h]anthracene	mg/kg	refer BaP eq	0.149
Fluoranthene	mg/kg	refer BaP eq	1.75
Fluorene	mg/kg	30000 [4]	0.032
Indeno(1,2,3-c,d)pyrene	mg/kg	refer BaP eq	0.72
Naphthalene	mg/kg	230 [2]	0.5
Perylene	mg/kg		0.24
Phenanthrene	mg/kg		1.35
Pyrene	mg/kg	23000 [3]	1.92

[1]-MfE, June 2011. Resource Management (National Environmental Standard for Assessing and managing contaminants in Soil to Protect Human Health) Regulations 2011
[2]- MfE Standards for assessing and managing Petroleum Htydroicarbon Contaminated Sites in New Zealand. Silty Clay, <1m.
[3]-USEPA Regional Screening Levels.
[4]-National Environmental Protection (Assessment of Site Contamination) Measure, 1999

TABLE 4. RELATIVE PERCENTILE DIFFERENCES %, ALL DUPLICATE PAIRS (mg/kg).

Sample Name:	Arsenic mg/kg	Cadmium mg/kg	Chromium mg/kg	Copper mg/kg	Lead mg/kg	Nickel mg/kg	Zinc mg/kg
TP11 300mm	28	1.09	18	1,020	3,900	26	1,080
Duplicate 1	23	0.81	21	720	1,950	28	810
Mean	25.5	0.95	19.5	870	2925	27	945
RPD %	20	29	-15	34	67	-7	29

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W www.hill-laboratories.com

Job Information Summary

Client:	EAM NZ Limited	**Lab No:**	2972216
Contact:	J Strong	**Date Registered:**	02-May-2022 8:18 am
	C/- EAM NZ Limited	**Priority:**	High
	233B Thompson Road	**Quote No:**	72316
	RD 10	**Order No:**	
	Hastings 4180	**Client Reference:**	Queen Street
		Add. Client Ref:	
		Submitted By:	Karen Toulmin
		Charge To:	EAM NZ Limited
		Target Date:	04-May-2022 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	TP1 0-150mm 28-Apr-2022	Soil	cpBag	Hold Cold
2	TP1 500mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
3	TP1 900mm 28-Apr-2022	Soil	cpBag	Hold Cold
4	TP2 0-150mm 28-Apr-2022	Soil	cpBag	Hold Cold
5	TP3 0-150mm 28-Apr-2022	Soil	cpBag	Hold Cold
6	TP2 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
7	TP2 500mm 28-Apr-2022	Soil	cpBag	Hold Cold
8	TP3 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
9	TP4 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
10	TP5 0-150mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
11	TP6 200mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
12	TP6 500mm 28-Apr-2022	Soil	cpBag	Hold Cold
13	TP7 0-150mm 28-Apr-2022	Soil	cpBag	Hold Cold
14	TP7 200mm 28-Apr-2022	Soil	GSoil300	Heavy Metals, Screen Level; Polycyclic Aromatic Hydrocarbons Screening in Soil
15	TP7 400mm 28-Apr-2022	Soil	cpBag	Hold Cold
16	TP8 0-150mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
17	TP8 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
18	TP8 700mm 28-Apr-2022	Soil	cpBag	Hold Cold
19	TP9 0-150mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
20	TP9 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
21	TP9 700mm 28-Apr-2022	Soil	cpBag	Hold Cold
22	TP10 0-150mm 28-Apr-2022	Soil	cpBag	Hold Cold
23	TP10 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
24	TP10 600mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
25	TP11 0-150mm 28-Apr-2022	Soil	cpBag	Hold Cold
26	TP11 300mm 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level
27	TP11 400mm 28-Apr-2022	Soil	cpBag	Hold Cold
28	Duplicate 1 28-Apr-2022	Soil	cpBag	Heavy Metals, Screen Level

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	2, 6, 8-11, 14, 16-17, 19-20, 23-24, 26, 28
Total of Reported PAHs in Soil	Sonication extraction, GC-MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	14
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	2, 6, 8-11, 14, 16-17, 19-20, 23-24, 26, 28
Polycyclic Aromatic Hydrocarbons Screening in Soil	Sonication extraction, GC-MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.002 - 0.05 mg/kg dry wt	14
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	14
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES	BaP Potency Equivalence calculated from; Benzo(a) anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a) pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.002 mg/kg dry wt	14
Benzo[a]pyrene Toxic Equivalence (TEF)	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.002 mg/kg dry wt	14

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Job Information Summary

Client:	EAM NZ Limited	**Lab No:**	2972342
Contact:	Karen Toulmin	**Date Registered:**	30-Apr-2022 11:11 am
	C/- EAM NZ Limited	**Priority:**	High
	233B Thompson Road	**Quote No:**	72316
	RD 10	**Order No:**	C
	Hastings 4180	**Client Reference:**	Queen Street
		Add. Client Ref:	
		Submitted By:	Karen Toulmin
		Charge To:	EAM NZ Limited
		Target Date:	04-May-2022 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	TP 1 28-Apr-2022 10:30 am	Soil	cPSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
2	TP 5 28-Apr-2022 1:30 pm	Soil	cPSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil
3	TP 8 28-Apr-2022 3:30 pm	Soil	cPSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Weight of Asbestos as Asbestos Fines in <10mm >2mm Fraction	Measurement on analytical balance, from the <10mm >2mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.00001 g dry wt	1-3
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1-3
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1-3
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-3
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1-3
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1-3
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1-3
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-3
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-3
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-3

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Asbestos in ACM as % of Total Sample	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-3
Asbestos as Fibrous Asbestos as % of Total Sample	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3
Weight of Asbestos as Asbestos Fines (Friable)	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-3
Asbestos as Asbestos Fines as % of Total Sample	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3

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Job Information Summary

Client:	EAM NZ Limited	**Lab No:**	2977381
Contact:	J Strong	**Date Registered:**	05-May-2022 1:32 pm
	C/- EAM NZ Limited	**Priority:**	High
	233B Thompson Road	**Quote No:**	72316
	RD 10	**Order No:**	
	Hastings 4180	**Client Reference:**	Queen Street
		Add. Client Ref:	
		Submitted By:	Karen Toulmin
		Charge To:	EAM NZ Limited
		Target Date:	09-May-2022 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	TP1 300mm 04-May-2022	Soil	cpBag	Heavy Metals, Screen Level
2	TP3 700 04-May-2022	Soil	cpBag	Hold Cold
3	TP3 300mm 04-May-2022	Soil	cpBag	Heavy Metals, Screen Level
4	TP1 Base of Tank 04-May-2022	Soil	cpBag	Hold Cold
5	TP2 1100mm 04-May-2022	Soil	cpBag	Hold Cold
6	TP2 400mm 04-May-2022	Soil	cpBag	Heavy Metals, Screen Level

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1, 3, 6
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1, 3, 6

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Job Information Summary

Client:	EAM NZ Limited	**Lab No:**	2980981
Contact:	Karen Toulmin	**Date Registered:**	09-May-2022 11:44 am
	C/- EAM NZ Limited	**Priority:**	High
	233B Thompson Road	**Quote No:**	72316
	RD 10	**Order No:**	
	Hastings 4180	**Client Reference:**	Queen Street
		Add. Client Ref:	
		Submitted By:	Karen Toulmin
		Charge To:	EAM NZ Limited
		Target Date:	11-May-2022 4:30 pm

Samples

No	Sample Name	Sample Type	Containers	Tests Requested
1	TP1 Queen Street 04-May-2022	Soil	PSoil500Asb	New Zealand Guidelines Semi Quantitative Asbestos in Soil

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Weight of Asbestos as Asbestos Fines in <10mm >2mm Fraction	Measurement on analytical balance, from the <10mm >2mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.00001 g dry wt	1
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1
Asbestos in ACM as % of Total Sample	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1
Asbestos as Fibrous Asbestos as % of Total Sample	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1
Weight of Asbestos as Asbestos Fines (Friable)	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1
Asbestos as Asbestos Fines as % of Total Sample	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1

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Certificate of Analysis

Client:	EAM NZ Limited	**Lab No:**	2972216	SPv2
Contact:	J Strong	**Date Received:**	30-Apr-2022	
	C/- EAM NZ Limited	**Date Reported:**	25-May-2022	**(Amended)**
	233B Thompson Road	**Quote No:**	72316	
	RD 10	**Order No:**		
	Hastings 4180	**Client Reference:**	Queen Street	
		Submitted By:	Karen Toulmin	

Sample Type: Soil

		Sample Name:	TP1 0-150mm 28-Apr-2022	TP1 500mm 28-Apr-2022	TP2 0-150mm 28-Apr-2022	TP3 0-150mm 28-Apr-2022	TP2 300mm 28-Apr-2022
		Lab Number:	2972216.1	2972216.2	2972216.4	2972216.5	2972216.6
Heavy Metals, Screen Level							
Total Recoverable Arsenic	mg/kg dry wt		5	8	5	27	8
Total Recoverable Cadmium	mg/kg dry wt		0.25	1.56	0.22	0.53	0.38
Total Recoverable Chromium	mg/kg dry wt		13	13	16	12	16
Total Recoverable Copper	mg/kg dry wt		66	81	18	4,000	97
Total Recoverable Lead	mg/kg dry wt		620	900	45	1,680	450
Total Recoverable Nickel	mg/kg dry wt		9	22	13	27	15
Total Recoverable Zinc	mg/kg dry wt		200	640	240	820	360

		Sample Name:	TP3 300mm 28-Apr-2022	TP4 300mm 28-Apr-2022	TP5 0-150mm 28-Apr-2022	TP6 200mm 28-Apr-2022	TP7 0-150mm 28-Apr-2022
		Lab Number:	2972216.8	2972216.9	2972216.10	2972216.11	2972216.13
Heavy Metals, Screen Level							
Total Recoverable Arsenic	mg/kg dry wt		30	7	9	54	17
Total Recoverable Cadmium	mg/kg dry wt		1.26	< 0.10	0.72	0.91	0.42
Total Recoverable Chromium	mg/kg dry wt		15	10	15	19	18
Total Recoverable Copper	mg/kg dry wt		1,950	7	126	3,000	1,160
Total Recoverable Lead	mg/kg dry wt		1,840	16.6	440	3,000	770
Total Recoverable Nickel	mg/kg dry wt		30	8	15	51	24
Total Recoverable Zinc	mg/kg dry wt		1,000	46	830	910	440

		Sample Name:	TP7 200mm 28-Apr-2022	TP8 0-150mm 28-Apr-2022	TP8 300mm 28-Apr-2022	TP9 0-150mm 28-Apr-2022	TP9 300mm 28-Apr-2022
		Lab Number:	2972216.14	2972216.16	2972216.17	2972216.19	2972216.20
Individual Tests							
Dry Matter	g/100g as rcvd		80	-	-	-	-
Heavy Metals, Screen Level							
Total Recoverable Arsenic	mg/kg dry wt		34	40	22	8	7
Total Recoverable Cadmium	mg/kg dry wt		0.66	1.37	0.73	0.29	0.17
Total Recoverable Chromium	mg/kg dry wt		10	17	16	21	19
Total Recoverable Copper	mg/kg dry wt		1,540	2,200	1,190	39	27
Total Recoverable Lead	mg/kg dry wt		2,800	13,400	2,400	250	220
Total Recoverable Nickel	mg/kg dry wt		47	39	25	18	16
Total Recoverable Zinc	mg/kg dry wt		610	1,200 #1	770	320	210
Polycyclic Aromatic Hydrocarbons Screening in Soil*							
Total of Reported PAHs in Soil	mg/kg dry wt		14.2	-	-	-	-
1-Methylnaphthalene	mg/kg dry wt		0.60	-	-	-	-
2-Methylnaphthalene	mg/kg dry wt		0.52	-	-	-	-
Acenaphthylene	mg/kg dry wt		0.101	-	-	-	-
Acenaphthene	mg/kg dry wt		0.015	-	-	-	-
Anthracene	mg/kg dry wt		0.194	-	-	-	-

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Sample Type: Soil						
Sample Name:		TP7 200mm 28-Apr-2022	TP8 0-150mm 28-Apr-2022	TP8 300mm 28-Apr-2022	TP9 0-150mm 28-Apr-2022	TP9 300mm 28-Apr-2022
Lab Number:		2972216.14	2972216.16	2972216.17	2972216.19	2972216.20
Polycyclic Aromatic Hydrocarbons Screening in Soil*						
Benzo[a]anthracene	mg/kg dry wt	0.97	-	-	-	-
Benzo[a]pyrene (BAP)	mg/kg dry wt	1.09	-	-	-	-
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	1.61	-	-	-	-
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	1.59	-	-	-	-
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	1.26	-	-	-	-
Benzo[e]pyrene	mg/kg dry wt	0.69	-	-	-	-
Benzo[g,h,i]perylene	mg/kg dry wt	0.70	-	-	-	-
Benzo[k]fluoranthene	mg/kg dry wt	0.47	-	-	-	-
Chrysene	mg/kg dry wt	0.88	-	-	-	-
Dibenzo[a,h]anthracene	mg/kg dry wt	0.149	-	-	-	-
Fluoranthene	mg/kg dry wt	1.75	-	-	-	-
Fluorene	mg/kg dry wt	0.032	-	-	-	-
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	0.72	-	-	-	-
Naphthalene	mg/kg dry wt	0.50	-	-	-	-
Perylene	mg/kg dry wt	0.24	-	-	-	-
Phenanthrene	mg/kg dry wt	1.35	-	-	-	-
Pyrene	mg/kg dry wt	1.92	-	-	-	-

Sample Name:		TP10 0-150mm 28-Apr-2022	TP10 300mm 28-Apr-2022	TP10 600mm 28-Apr-2022	TP11 0-150mm 28-Apr-2022	TP11 300mm 28-Apr-2022
Lab Number:		2972216.22	2972216.23	2972216.24	2972216.25	2972216.26
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	8	23	7	19	28
Total Recoverable Cadmium	mg/kg dry wt	0.74	0.66	0.40	1.23	1.09
Total Recoverable Chromium	mg/kg dry wt	20	16	20	15	18
Total Recoverable Copper	mg/kg dry wt	58	350	20	250	1,020
Total Recoverable Lead	mg/kg dry wt	790	1,370	260	1,720	3,900
Total Recoverable Nickel	mg/kg dry wt	17	25	18	13	26
Total Recoverable Zinc	mg/kg dry wt	730	710	350	910	1,080

Sample Name:		Duplicate 1 28-Apr-2022				
Lab Number:		2972216.28				
Heavy Metals, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	23	-	-	-	-
Total Recoverable Cadmium	mg/kg dry wt	0.81	-	-	-	-
Total Recoverable Chromium	mg/kg dry wt	21	-	-	-	-
Total Recoverable Copper	mg/kg dry wt	720	-	-	-	-
Total Recoverable Lead	mg/kg dry wt	1,950	-	-	-	-
Total Recoverable Nickel	mg/kg dry wt	28	-	-	-	-
Total Recoverable Zinc	mg/kg dry wt	810	-	-	-	-

Analyst's Comments

#1 It should be noted that the replicate analyses performed on this sample as part of our in-house Quality Assurance procedures showed greater variation than would normally be expected. This may reflect the heterogeneity of the sample. Replicate 1 = 1200mg/kg, replicate 2 = 1440mg/kg.

Amended Report: This certificate of analysis replaces report '2972216-SPv1' issued on 06-May-2022 at 2:12 pm. Reason for amendment: At the client's request, testing has been added.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1-2, 4-6, 8-11, 13-14, 16-17, 19-20, 22-26, 28
Total of Reported PAHs in Soil	Sonication extraction, GC-MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	14
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1-2, 4-6, 8-11, 13-14, 16-17, 19-20, 22-26, 28
Polycyclic Aromatic Hydrocarbons Screening in Soil*	Sonication extraction, GC-MS analysis. Tested on as received sample. In-house based on US EPA 8270.	0.002 - 0.05 mg/kg dry wt	14
Dry Matter (Env)	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	14
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.002 mg/kg dry wt	14
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.002 mg/kg dry wt	14

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 03-May-2022 and 25-May-2022. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Carole Rodgers-Carroll BA, NZCS
Client Services Manager - Environmental

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Certificate of Analysis

Client:	EAM NZ Limited	**Lab No:**	2972342	A2Pv1
Contact:	Karen Toulmin	**Date Received:**	30-Apr-2022	
	C/- EAM NZ Limited	**Date Reported:**	03-May-2022	
	233B Thompson Road	**Quote No:**	72316	
	RD 10	**Order No:**	C	
	Hastings 4180	**Client Reference:**	Queen Street	
		Submitted By:	Karen Toulmin	

Sample Type: Soil

Sample Name:		TP 1 28-Apr-2022 10:30 am	TP 5 28-Apr-2022 1:30 pm	TP 8 28-Apr-2022 3:30 pm		
Lab Number:		2972342.1	2972342.2	2972342.3		
Asbestos Presence / Absence		Asbestos NOT detected.	Asbestos NOT detected.	Chrysotile (White Asbestos) detected.	-	-
Description of Asbestos Form		-	-	Loose fibres	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	-	-
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	-	-
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	-	-
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	< 0.001	< 0.001	-	-
As Received Weight	g	740.3	696.8	573.1	-	-
Dry Weight	g	660.0	555.6	479.4	-	-
Moisture	%	11	20	16	-	-
Sample Fraction >10mm	g dry wt	115.9	27.0	62.6	-	-
Sample Fraction <10mm to >2mm	g dry wt	292.5	153.1	125.7	-	-
Sample Fraction <2mm	g dry wt	251.1	374.8	290.0	-	-
<2mm Subsample Weight	g dry wt	55.6	54.8	52.4	-	-
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	-	-
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	< 0.00001	< 0.00001	-	-
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	< 0.00001	0.00075	-	-

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Glossary of Terms
• Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
• Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
• ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
• ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
• Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
• Trace - Trace levels of asbestos, as defined by AS4964-2004.
For further details, please contact the Asbestos Team.

Please refer to the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.
https://www.branz.co.nz/asbestos

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Individual Tests			
Weight of Asbestos as Asbestos Fines in <10mm >2mm Fraction*	Measurement on analytical balance, from the <10mm >2mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.00001 g dry wt	1-3
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1-3
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1-3
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-3
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1-3
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1-3
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1-3
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-3
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-3
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-3
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-3
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-3

Lab No: 2972342-A2Pv1 Hill Laboratories Page 2 of 3

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-3

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 03-May-2022. For completion dates of individual analyses please contact the laboratory.

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Dexter Paguirigan Dip Chem Engineering Tech
Laboratory Technician - Asbestos

Hill Laboratories
TRIED, TESTED AND TRUSTED

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W www.hill-laboratories.com

Certificate of Analysis

Client:	EAM NZ Limited	**Lab No:**	2977381	SPv1
Contact:	J Strong	**Date Received:**	05-May-2022	
	C/- EAM NZ Limited	**Date Reported:**	11-May-2022	
	233B Thompson Road	**Quote No:**	72316	
	RD 10	**Order No:**		
	Hastings 4180	**Client Reference:**	Queen Street	
		Submitted By:	Karen Toulmin	

Sample Type: Soil

		Sample Name:	TP1 300mm 04-May-2022	TP3 300mm 04-May-2022	TP2 400mm 04-May-2022		
		Lab Number:	2977381.1	2977381.3	2977381.6		
Heavy Metals, Screen Level							
Total Recoverable Arsenic	mg/kg dry wt		8	6	5	-	-
Total Recoverable Cadmium	mg/kg dry wt		0.64	0.17	0.14	-	-
Total Recoverable Chromium	mg/kg dry wt		13	13	13	-	-
Total Recoverable Copper	mg/kg dry wt		210	27	14	-	-
Total Recoverable Lead	mg/kg dry wt		1,600	134	190	-	-
Total Recoverable Nickel	mg/kg dry wt		13	12	11	-	-
Total Recoverable Zinc	mg/kg dry wt		960	197	180	-	-

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	1, 3, 6
Heavy Metals, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	1, 3, 6

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 11-May-2022. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Martin Cowell - BSc
Client Services Manager - Environmental

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

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Certificate of Analysis

Client:	EAM NZ Limited	**Lab No:**	2980981	A2Pv1
Contact:	Karen Toulmin	**Date Received:**	09-May-2022	
	C/- EAM NZ Limited	**Date Reported:**	10-May-2022	
	233B Thompson Road	**Quote No:**	72316	
	RD 10	**Order No:**		
	Hastings 4180	**Client Reference:**	Queen Street	
		Submitted By:	Karen Toulmin	

Sample Type: Soil

Sample Name:		TP1 Queen Street 04-May-2022				
Lab Number:		2980981.1				
Asbestos Presence / Absence		Asbestos NOT detected.	-	-	-	-
Description of Asbestos Form		-	-	-	-	-
Asbestos in ACM as % of Total Sample*	% w/w	< 0.001	-	-	-	-
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	-	-
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w	< 0.001	-	-	-	-
Asbestos as Asbestos Fines as % of Total Sample*	% w/w	< 0.001	-	-	-	-
As Received Weight	g	709.4	-	-	-	-
Dry Weight	g	638.3	-	-	-	-
Moisture	%	10	-	-	-	-
Sample Fraction >10mm	g dry wt	155.5	-	-	-	-
Sample Fraction <10mm to >2mm	g dry wt	195.7	-	-	-	-
Sample Fraction <2mm	g dry wt	286.4	-	-	-	-
<2mm Subsample Weight	g dry wt	53.1	-	-	-	-
Weight of Asbestos in ACM (Non-Friable)	g dry wt	< 0.00001	-	-	-	-
Weight of Asbestos as Fibrous Asbestos (Friable)	g dry wt	< 0.00001	-	-	-	-
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt	< 0.00001	-	-	-	-

Glossary of Terms
- Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
- Trace - Trace levels of asbestos, as defined by AS4964-2004.

For further details, please contact the Asbestos Team.

Please refer to the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.
https://www.branz.co.nz/asbestos

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.

This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised.
The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked * or any comments and interpretations, which are not accredited.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Individual Tests			
Weight of Asbestos as Asbestos Fines in <10mm >2mm Fraction*	Measurement on analytical balance, from the <10mm >2mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.00001 g dry wt	1
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g	1
Moisture	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1
Sample Fraction >10mm	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1
Sample Fraction <10mm to >2mm	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1
Sample Fraction <2mm	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch.	0.1 g dry wt	1
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1
Weight of Asbestos as Fibrous Asbestos (Friable)	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 101c Waterloo Road, Christchurch. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 10-May-2022. For completion dates of individual analyses please contact the laboratory.

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Rhodri Williams BSc (Hons)
Technical Manager - Asbestos

200 Block West Redevelopment Proposal

Crime Prevention Through Environmental Design (CPTED) Appraisal

200 Block West, Hastings City central

1

Document Quality Assurance

Bibliographic reference for citation: Hastings City Centre Strategy, 2013 Hastings City Centre Parking Strategy, 2012 Hastings City Centre Parking & Pedestrian Linkages | Alternative Options Urban Design Report for Hastings District Council, January 2014 Hastings District Plan Report prepared by Hastings District Council for Hastings District Council.		
Prepared by:	Megan Gaffaney Hastings District Council	
Reviewed by:	Deyan Popova, Urban Perspectives Limited	
Status: Management Review	Revision / version: 1.0	Issue date: 7 July 2022
	Revision / version 1.1	Issue date: /7/22

Table of Contents

PART 1: INTRODUCTION/BACKGROUND /STRATEGIC CONTEXT

Introduction

This Crime Prevention Through Environmental Design (CPTED) appraisal relates to the proposed redevelopment of the 200 Block West (the 200 Block), in central Hastings. The extent of the redevelopment area is highlighted on the Site Plan (Figure 10 of this report).

The redevelopment has been assembled by the landowner Hasting District Council for the purpose of city regeneration containing inner city housing, public greenspace, pedestrian laneway, public off-street parking and vehicle and pedestrian circulation through the block. It aims to improve connectivity between Heretaunga St West and Queen St West, utilise the development potential of the site and add activity to the 200 Block by creating safe, vibrant and welcoming place to be.

The proposed redevelopment is configured as four connected elements named throughout this document as "the laneway", "the greenspace/the park or the new open space", "the carpark" and "the apartments". It is based on a design concept (referred to as the '2022 concept') which was developed as part of a comprehensive design exercise investigating alternative development options for the 200 Block. The development is unique and a first of its kind for Hasting as it features inner city apartment living.

The CPTED appraisal is carried out against the principles as set out in the National Guidelines for Crime Prevention Through Environmental Design in New Zealand (Ministry of Justice, November 2005). Its primary focus is on the measures incorporated in the proposed site layout and building and open space design to create a development with a legible structure of interconnected spaces and buildings, clearly defined public and private areas, safe and inviting usable open space and well designed pedestrian cross-block links. The appraisal forms part of the resource consent application for the redevelopment of the 200 Block.

CPTED Context/National CPTED Guidelines

The National Guidelines for Crime Prevention Through Environmental Design (the National Guidelines) state that crime and the fear of crime are real and important issues for people in New Zealand and affect people's quality of life – people may avoid going out at night or stay away from particular areas because of their fear of crime. This in turn has economic consequences as people choose to avoid certain retail and entertainment areas in favour of those that are safer or perceived as safer.

CPTED, as a crime prevention philosophy, provides a framework for incorporating crime prevention through quality urban design by focusing on reducing the opportunity to commit crime, therefore lessening the motivation to offend. The National Guidelines include four key principles that need to be considered in the redevelopment of this 200 Block. They are as follows:

1. **Surveillance** – people are present and can see what is going on.
2. **Access management** – methods are used to attract people and vehicles to some places and restrict them from others.
3. **Territorial reinforcement** – clear boundaries encourage community 'ownership' of the space.
4. **Quality environments** – good quality, well maintained places attract people and support surveillance.

The National Guidelines identify three CPTED approaches to managing the physical environment in ways that will reduce the opportunity for crime:

- **Natural** – the integration of security and behavioural concepts into how human and physical resources are designed and used (e.g. border definition, windows).
- **Organised** – the introduction of labour-intensive security (e.g. guards, police, security patrols).
- **Mechanical** – the introduction of capital or hardware-intensive security (e.g. locks, closed circuit television, lighting).

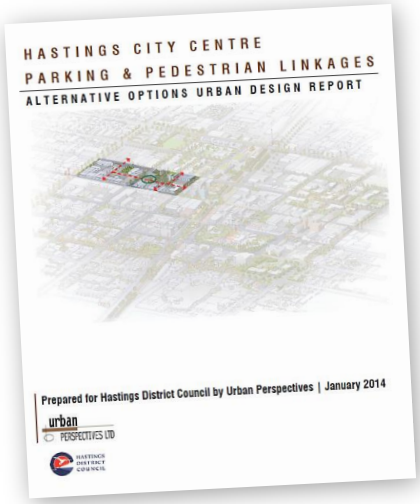
In the proposed redevelopment of the 200 Block the emphasis is on employing 'Natural' strategies with the support of some 'Mechanical' strategies given the unique nature of the proposal combining inner-city residential living, a new public open space and a formal pedestrian cross-block laneway. The key objective is to ensure that future residents and public users of the new open space and laneway feel safe and welcome.

This approach is also manifested in the Te Aranga Design Philosophy to which the new open space has been designed as discussed in the Pou Ahurea Whakakaupapatanga | Project Māori Engagement Brief, Appendix 1, which says:

> *"**Oranga Tangata / Supporting Wellbeing** - The project boldly introduces Māori art contributing to positive CPTED outcomes with the use of light and directional signage."*

Strategic Urban Design Context

In 2013, the Hastings City Strategy and the Hastings City Centre Parking Strategy identified the need for developing cross-block pedestrian connections throughout the CBD to link with appropriately located parking facilities, along with creating small public spaces (pocket parks) integrated into the city's pedestrian network.



In response to this the Council engaged Urban Perspectives Ltd to provide an urban design report named "*Hastings City Centre Parking & Pedestrian Linkages – Alternative Options Urban Design Report*", January 2014, (referred to throughout this report as the "Urban Design report"). The Urban Design report assessed four possible locations for new linkages in the west end retail area. The 200 Block was identified as one of the ideal locations to achieve this as shown in Figure 1:

Figure 1 - Alternative locations of intended pedestrian links in 200 & 300 blocks in relation to the CBD off street carparks.

The Urban Design report, which forms part of the resource consent application documentation, explored several options for the 200 Block. The 2022 concept proposal (which underpins the proposed redevelopment) is generally consistent with the options identified, in particular with Option 4 shown in Figure 6/page 9 of this report.

The 300 Block Finished Example

The aerial photograph below (Figure 2) shows the laneway completed in December 2018 located in the 300 Block adjacent to the 200 Block (the 300 Block was also identified in the Urban Design report, 2014). That laneway is now completed and serves its function well. Figure 3 shows the 300 Block plan in The Urban Design report, 2014.

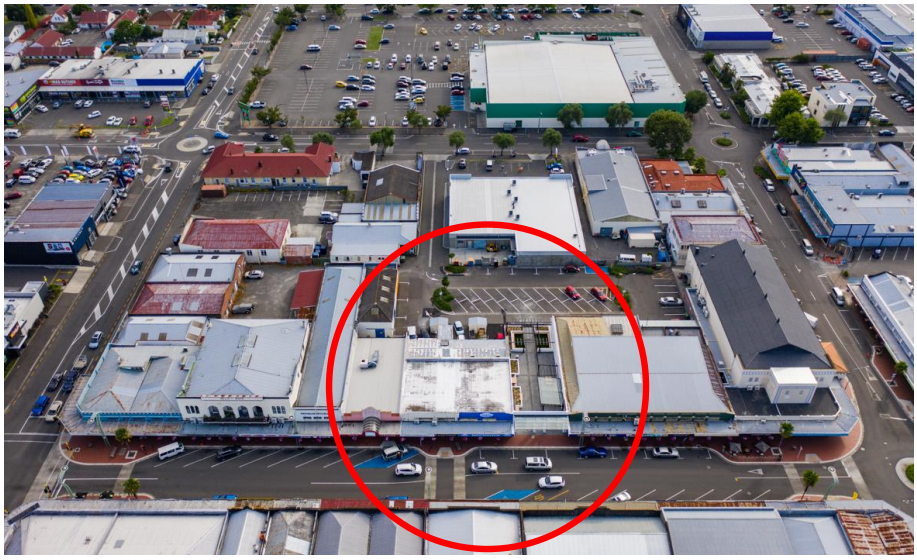


Figure 2 above -- Laneway in the 300 Block that connects the retail area with the carpark and beyond

Figure 3 - Urban Perspectives report, 2014

Figure 4 - Laneway from Heretaunga Street West view

The 300 Block laneway space has been enhanced with the support of the Hastings Business Association funding a mural (Figure 5) that tells the story of the retailing and businesses in the area, thus further promoting its sense of place and connection with the local business community.

The planting, which has matured since taking the photo in Figure 4 above, adds to the amenity of the space. The laneway and carpark beyond are surveyed by CCTV cameras. The laneway remains in excellent condition and has significantly increased the parking usage of King Street Carpark by 37%, as measured by the income of the carpark over a 12 month period (prior to Covid pandemic).

Figure 5 - Mural in development, 2021

200 Block Redevelopment

The Urban Design report, 2014, identified that securing a link through the Thanks building is critically important in relation to the possible redevelopment of the Former Briscoe's site (partly as carpark) and the associated potential to develop a pocket park. The Urban Design report stated that a link through the Thanks Building (former Envy Shoes) will be most effective if implemented as part of a wider project initiative integrating development possibilities for the entire block. Below is Option 4 for the 200 Block included in the Urban Design report, 2014.

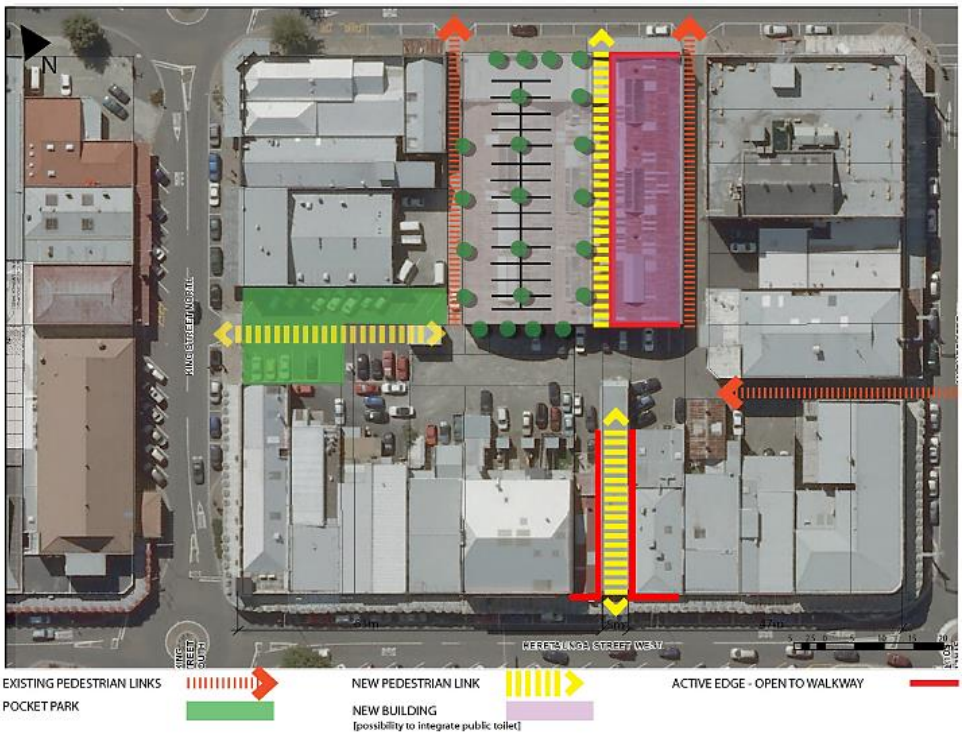


Figure 6 - linkage, parking and public space option, 2014 urban design report

The Urban Design report recommended that the 300 Block project be completed first, with the 200 Block larger development occurring second due to the scale and investment needed. This is what has eventuated.

Leading to the resource consent application the Council explored multiple options for the redevelopment of the 200 Block. The preferred option, which underpins the proposed redevelopment, is referred to as the '2022 concept'. While the 2022 concept does not follow the exact layout of the relevant 2014 option, it achieves the four recommendations of the 2014 Urban Design Report to ensure a successful outcome:

- **The purchase of two key properties: Thanks Building (Former Envy Shoes) and Former Briscoe's to enable an integrated project.**

  This was achieved with the purchase of the two sites in 2019, plus a small amount of additional land that was acquired to complete the land requirements in 2021.

- **The approach to the redevelopment should in the first instance carefully investigate opportunities for retaining and adapting the existing building to accommodate the required parking numbers. This is important in relation to the heritage value of the building and its contribution to the existing streetscape character.**

  Careful and very comprehensive investigations were undertaken regarding the re-use of the existing heritage building, including structural investigation, costing and commercial development opportunities and options. However, ultimately the outcome sought was unachievable and an alternative approach to expressing the heritage value of the building was adopted through the retention of the Hawke's Bay Farmers Co-op Façade and the proposed re-use of key heritage design elements including trusses, bricks and other reclaimed materials in the design of the new public open space.

  Further information on this matter is contained in the Heritage Assessment and other resource consent documents.

- **If the building is to be demolished, any redevelopment option should aim to provide a built/active edge along the Queen Street boundary of the site to maintain the existing continuity of street edge definition. Redeveloping the entire site as an open carpark would be highly undesirable on streetscape grounds and contrary to the CBD urban form objectives promoted by the Hastings City Centre Strategy.**

  The 2022 concept addresses positively the above recommendation by: (a) providing an active building edge along Queen Street with the front elevation of the new apartment building and the commercial tenancy at its ground level opening onto Queen Street, and (b) retaining and restoring the HB Farmers Co-Op building façade with ground level openings through to the new public open space (greenspace). This, therefore, achieves the desired street edge definition and activation (refer Figure 7 and 8).

  Furthermore, the proposal envisages another commercial tenancy within the ground level of the apartment building fronting onto the new laneway and adjacent new public open space. This, together with the two apartment entrances, will ensure an active edge and enhance the connection between the building and the park as shown in Figure 7.

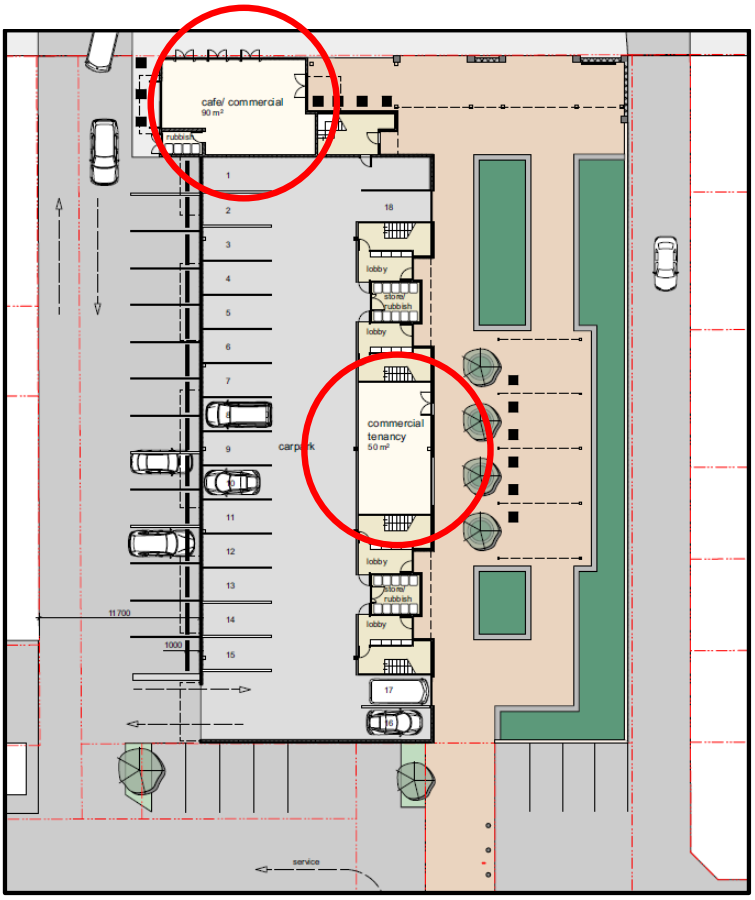


Figure 7 - Active commercial edges

Figure 8 - Street Edge Definition with retained / restored Facade and commercial / residential frontage of new apartment building fronting onto Queen St West

Conclusion - Strategic Urban Design Context

The proposed redevelopment of the 200 Block achieves the high-level urban design and strategic outcomes sought for the site and the block as a whole for cross-block pedestrian connections throughout the CBD to link with appropriately located parking facilities and creating small public spaces (pocket parks) integrated into the city's pedestrian network.

The project also achieves Council's key objective for inner city housing that is identified in the Hastings City Centre Strategy, 2013 and the Hastings Medium and Long Term Housing Plan, 2019.

PART 2: DETAILED CPTED APPRAISAL

Current Environment

Presently, the area to be redeveloped could be described as a waste land that is rundown, lacking activity and offering little to attract people. It is a poor quality urban environment, but one with significant potential for improvement. Historically, there has been little investment in this part of the CBD from both the Council and individual property owners.

The privately owned vehicle routes into and around the interior of the 200 Block are poorly maintained gravel accessways with potholes scattered throughout. The middle part of the 200 Block is used for vehicle circulation providing access to private parking for other properties in the block. However, there is no clear distinction between public and private space.

The 200 Block also provides an informal east - west pedestrian route 'cut through' between King Street North and Market Street North. Pedestrians could also walk through the two narrow private vehicle access lanes to Queen Street. However, these routes are defined by the side and rear elevations of existing buildings that are largely 'blank' and/or unattractive offering little activity and/or opportunities for overlooking.

The area is unlit at night (with exception to the Council's adjoining King Street Carpark) and provides no natural surveillance from surrounding buildings nor is it on the Councils CCTV network.

Council is presently providing some leased parking space to the rear of the former Briscoe's building for those working in the CBD which bring a small amount of foot traffic through the area at the beginning and ends of the working day. Otherwise, observations show that only a small number of people walk through from King Street carpark through the vehicle access lanes to Market Street in an east - west direction.

Overall, when assessed against the four CPTED principles (surveillance, access management, territorial reinforcement and quality environment), the current environment is not perceived as a safe and welcoming place and would feel unsafe and unpleasant to use after dark.

The following series of images and animation, which can viewed on the link below, provide a sense of the visual experience of the current environment.

https://drive.google.com/file/d/1lPlZwVfIeKXzkD4DYWraIqAMTnVuxoXU/view?usp=sharing

IMG_5086

IMG_5088

IMG_5092

IMG_5093

IMG_5100

IMG_5101

13

IMG_5059

IMG_5060

IMG_5064

IMG_5065

IMG_5069

IMG_5070

IMG_5066

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14

IMG_5061

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IMG_5067

IMG_5071

IMG_5072

IMG_5026

IMG_5028

IMG_5085

IMG_5088

IMG_5091

IMG_5093

IMG_5098

IMG_5101

16

Future Environment/Proposed Redevelopment

The proposal is an integrated development that aims to regenerate the 200 Block by providing a new inner city medium-density residential development comprising 18 one and two bedroom apartments, supported by a high quality public space/park, a mid-block laneway connection to the retailing shops and linking it with conveniently located new off-street public car park.

Inner city living - the proposed apartments (3-storey building accommodating residents' carpark and commercial tenancies at ground level) will be in very close proximity to important amenities, including the newly developed Countdown, the high amenity William Nelson Park with playground, basketball court and William Nelson (Skate) Park and within walking distance of places of employment. Figure 9 below indicates proximity to nearby amenities. Ultimately the proposed development as a whole will improve the vibrancy and liveability in this part of the CBD and, in turn, improve its safety.

New open space/park - the new public space/park, which is an integral part of the proposed redevelopment, is critical to the success of the 200 Block regeneration project. Its position within the overall site layout will not only enhance the amenity of the proposed apartments but also will benefit any future residential conversions of the adjoining commercial buildings, particularly the adjacent three storey IMS building on the corner of Queen St and Market St. District Plan rules were eased in 2019 to promote inner city living in Hastings because having more people in the city day and night is a desirable strategic outcome for the vibrancy, functionality, safety and resilience of the City.

Figure 9 - Proximity to Amenities

Extent of Redevelopment Area (Yellow)

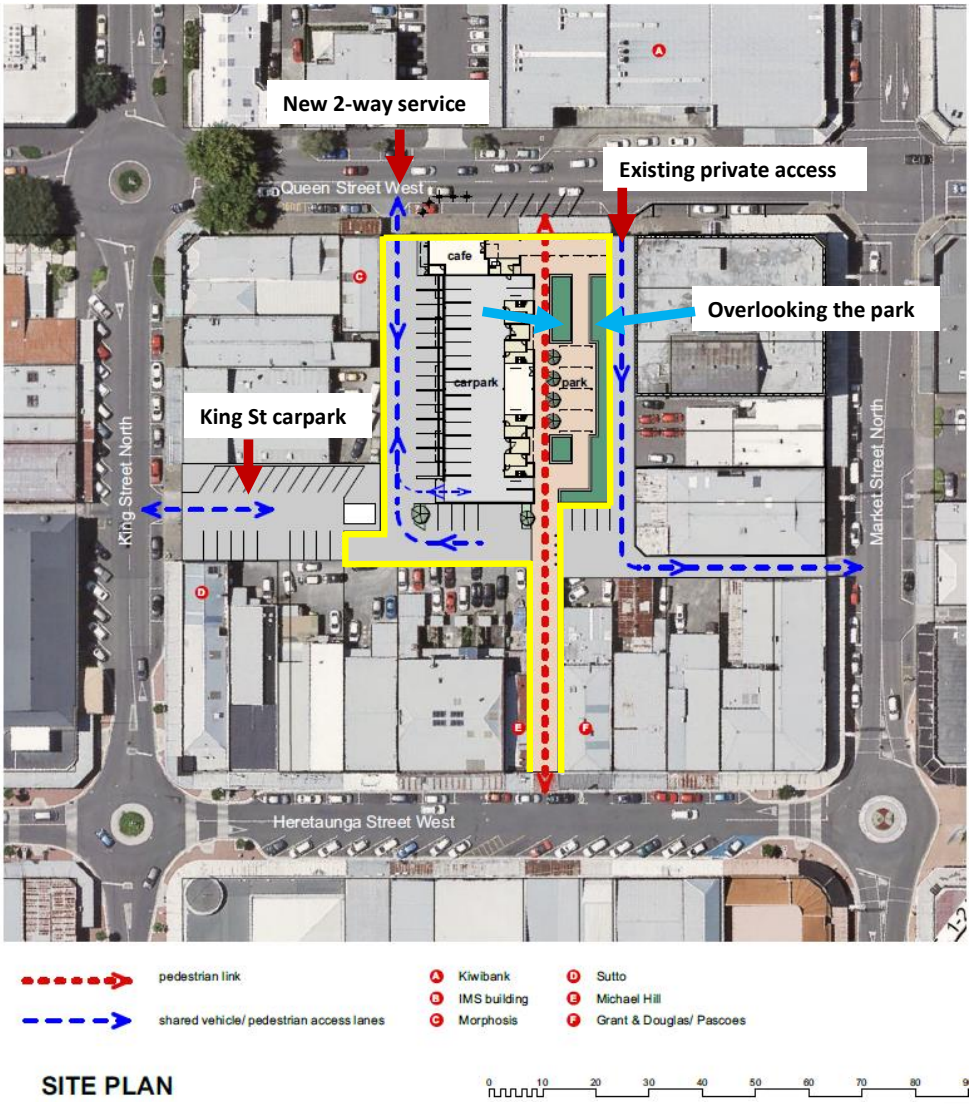
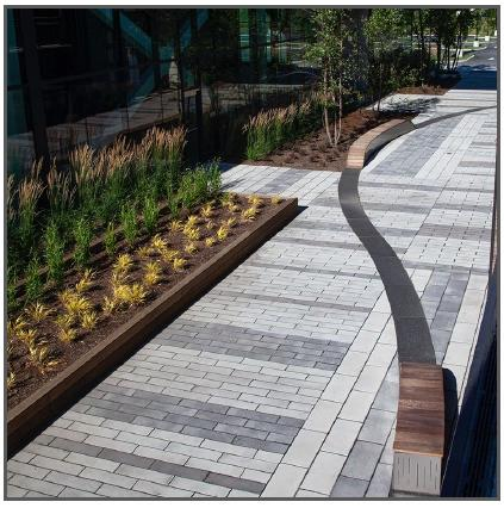


Figure 10 - Block & Site Plan

New mid-block laneway - the proposed laneway provides a new north-south mid-block pedestrian route improving the connectivity of the 200 Block. Whilst the proposed redevelopment is contained within the boundaries shown in Figure 10 above, it has been designed to integrate with the immediately surrounding environment, in particular the King Street public carpark and the adjoining private vehicle accessway. The internal service lane will be asphalted and adjoin the existing asphalted areas internal to the block. The surface treatment of the pedestrian lane will be differentiated from the shared service lane with the use of paving stones and potentially a kowhaiwhai pattern running through it similar to the examples below :



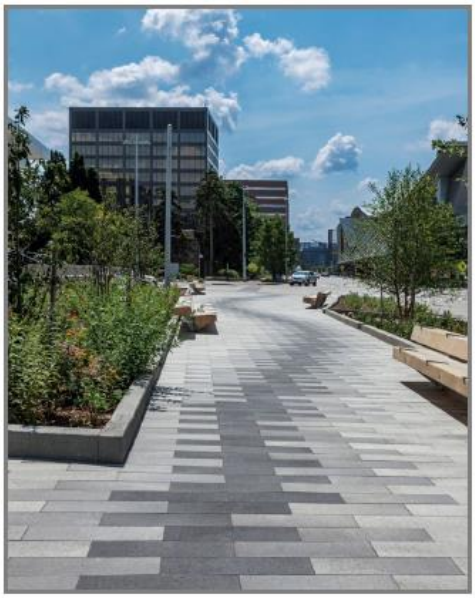


Figure 11- Kowhaiwhai patterned paving through the walkway

Seven qualities of CPTED - Assessment

This section of the report assesses the proposal against the National Guidelines which define seven qualities that characterise well designed, safer places.

These include access/safe movement and connections, surveillance and sightlines/see and be seen; layout/clear and legible orientation, activity mix/eyes on the street, sense of ownership/showing a space is cared for, quality environments/well designed, managed and maintained environments and physical protection/using active security measures.

Access: Safe movement and connections

Places with well-defined routes, spaces and entrances that provide for convenient and safe movement without compromising security.

As shown on Figure 10, the redevelopment proposes clearly defined travel routes through the site with a distinct separation of the pedestrian only routes from the shared vehicle/pedestrian access lanes.

The existing narrow vehicle lane to Queen St West (on the north/west side of the apartment building) will be significantly widened to enable a two-way vehicle movement with 18 new public parking spaces located against the wall of the apartment building carpark. This service lane provides both access to the new 18 unit apartment building carpark and services the rear of the buildings facing Heretaunga Street. Artistic bollards are proposed to stop vehicles from crossing the new pedestrian laneway to prevent this becoming a vehicle route through the site to Market Street and to protect the safety of pedestrians. The other existing one-way service lane from Queen Street to Market Street is outside the project boundary and remains unaltered.

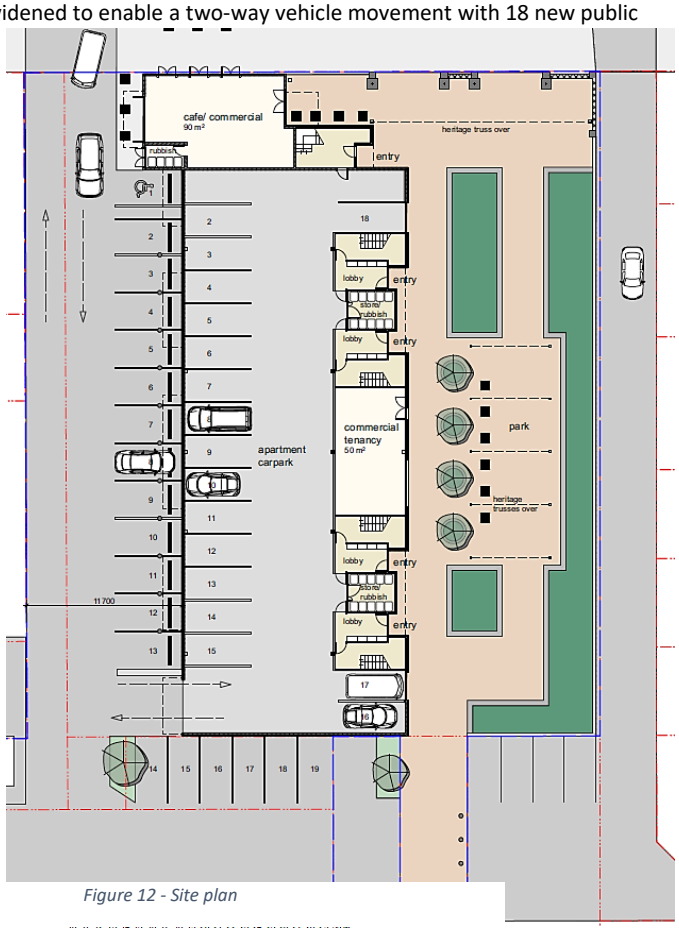


Figure 12 - Site plan

The central pedestrian route along the new laneway is appropriately configured offering a direct mid-block connection and a clear line

of sight through the block along the entire length of the laneway. The laneway, which enables a continuous view between Queen Street and Heretaunga Street, will provide pedestrian access to the apartment entrances and the adjacent new park.

The entrances to the new laneway from Queen St and Heretaunga St will be easily identifiable and clearly articulated by the retained and restored and/or remodelled facades of the respective buildings on both the Queen St and Heretaunga St frontages (refer Architectural Drawings).

Surveillance and sightlines: See and be seen

Places where all publicly accessible spaces are overlooked, and clear sightlines and good lighting provide maximum visibility.

The publicly accessible areas of the proposed development will be open and clearly visible and enable natural surveillance from all aspects. This will be achieved through:

- the proposed ground level activities within the apartment building (e.g. building entrances and a commercial tenancy opening to the lane and adjacent park and a café along the street frontage);

- the upper-level apartment units which will overlook the laneway, the park and the adjacent vehicle routes promoting 24/7 natural surveillance);

- providing clear sightlines along the laneway and visual links between the park and the adjacent street and/or access lanes; and

- the proposed lighting - the vehicle circulation area, car parking, the greenspace and laneway will be well-lit at night, with lights at regular intervals to ensure there are no unlit areas, whilst not impacting on the amenity of residents in the proposed first and second floor apartments. Lighting will also be used to highlight proposed artistic sculptural elements (as shown on the Landscaping mood board that forms part of the resource consent application).

The security of the whole public area will be supported by a network of CCTV cameras that will connect to the Councils security system and Police.

Layout: Clear and logical orientation

Places laid out to discourage crime, enhance perception of safety and help orientation and way-finding.

The proposed site layout creates a legible environment assisting with orientation and wayfinding as an important aspect of the proposal. The walkways and shared vehicle routes are well designed and generously wide with clear sightlines.

Te Aranga design principles will be integrated in the design elements of the greenspace to provide connection to the whakapapa of the area and the site.

Figure 13 View from Queen Str West

Attention has been given to the interface with the adjoining roads and publicly accessible areas with the retained heritage façade and the ground level commercial tenancies within the apartment building providing active edges and spatial definition to the street, the laneway and adjacent park.

The overall improvement in the urban environment resulting from the proposal should encourage other landowners to see the commercial opportunities in upgrading the rear elevations of their buildings and convert what currently 'reads' as a waste land, into a legitimate welcoming and safe public place that people are meant to be in - a legitimate Place in its own right with a strong sense of identity.

The design layout of the new greenspace will have a linear structure and well defined routes to lead people through the site, with raised garden beds similar to the examples below (Figure 14).

Figure 14 - Raised garden beds with seating, low shrubs with taller trees above eye line

Activity mix: Eyes on the street

Places where the level of human activity is appropriate to the location and creates a reduced risk of crime and a sense of safety at all times by promoting a compatible mix of uses and increased use of public spaces.

The mixed-use character of the proposed development as a whole will bring people to this area, with people residing in the 18 apartments (estimated at 20-30 residents), people frequenting the commercial tenancies, passing through the laneway and/or using and enjoying the greenspace.

In addition to the proposed café facing Queen Street, a second commercial tenancy has been included in the centre of the block (mid-point along the ground level of the apartment building) opening to the laneway/park to activate the laneway edge, improve safety and provide another reason to be in the space.

The main built element of the project is the new residential development. Located on the northwest side of the site it comprises 18 one and two bedroom apartments at first and second floor levels with dedicated, secure apartment car parking at ground beneath the apartments.

The apartments are generally arranged in groups of four with 2 opening at each level off a stair entry, with five 'front door' entry points along the new pedestrian route/laneway through the site. Each apartment has a front and back external terrace which enhances opportunities for overlooking/informal surveillance. The proposed smaller groupings of apartment entrances will help create a sense of community and familiarity with neighbours and those sharing the entrance, engendering a sense of safety. Bringing residential population to the site and the CBD is a CPTED strategy that promotes informal surveillance and enhances the sense of safety.

To the south-east of the apartments is the new greenspace/park providing both an outlook for those living there as well as a shared outdoor living space space for residents and for those working and shopping in the CBD.

The new park is similarly viewed from the adjacent IMS building providing the opportunity for this building to in the future be considered as a possible residential use.

Figure 15 - Apartment balconies overlooking the greenspace and windows overlooking the street

Sense of ownership: Showing a space is cared for

Places that promote a sense of ownership, respect, territorial responsibility and community.

The proposed publicly accessible spaces (the laneway and park) are clearly defined, easily found and designed to encourage public use. The quality and aesthetics of the development as a whole will engender a sense of ownership and respect for the space. The public and the residents of the apartments will both have access to the park during the day, but in the evenings/night time the park (and the adjacent laneway) will be closed to the public and available to residents only, further promoting a sense of ownership. The raised garden beds will have areas that the residents can use for community gardens and to grow their own produce (see example below).

Figure 16 - Raised Community Garden bed

Quality environments: Well designed, managed and maintained environments

Places that provide a quality environment and are designed with management and maintenance in mind to discourage crime and promote community safety in the present and the future.

The 200 Block project has been developed by a team of professionals in a collaborative and iterative design process over a 3 year period. The project team included parks designer, lead architect, heritage architect, urban designer, cultural advisors, planners and structural and project engineers. All the aspects contained in the proposal have been arrived at as the result of a lengthy and robust design process to meet economic, social, cultural and environmental aspirations for the site and for the City.

The proposed apartment building, open space and the lane will be of high design quality, including the use of appropriate materials and design detail. The apartment building, at ground level will be clad in brick, in part to pay respect to the existing heritage building that currently stands on the site, but also, because brick is a durable and robust material that is vandal resistant and expected to remain in good condition for many years. The brick theme will be carried through the development and incorporated into the design of the perimeter park wall to provide continuity and enhance the identity of the place.

The park will be tended and maintained in perpetuity by Council and the choice of landscaping materials, infrastructure and planting will in part be to ensure a sustainable maintenance regime. The detailed design of the park will be developed at a later stage with the key CPTED principles in mind.

Physical protection: Using active security measures

Places that include necessary, well designed security features and elements.

The security measures through the development have been carefully considered to provide safe and secure spaces.

The park will be defined by a perimeter low brick wall with wrought iron screens above. Attractive transparent screen-like gates (see examples below) will sit behind the retained heritage façade that can be closed at night by either Recreation Services or security patrols (as they do for other parks in the district) at both ends of the park.

Figure 17 - Security gates examples

Figure 18 - View through Laneway from Heretaunga Street West

The whole development site will have a network of surveillance cameras that are connected and monitored by Council' security team, who are also connected with the Police to ensure a rapid response as required. This approach is working successfully in the 300 Block laneway and carpark. Prior to the 300 Block laneway and carpark being camera'd the carpark and surrounding shops were subject to petty criminal activity. That stopped when the security system was activated. For further information contact Clint Adamson, HDC Security Manager.

Fences will be a mix of brick and see-through wrought iron (design detail to be confirmed as part of the park's design) to allow durability and transparency similar to the examples below:

Figure 19 - Fencing styles (Brave Brewery, Hastings)

Conclusions

The proposed redevelopment of the 200 Block is a mixed-use development introducing a new mid-block pedestrian route and a medium density apartment living supported by a new public space and commercial uses. The proposal has been approached in an integrated manner as part of the regeneration of the wider 200 Block and is consistent with the relevant Council strategic objectives for improving the connectivity and enhancing the vitality of the CBD through quality design.

An assessment against the National CPTED Guidelines established that the proposed design has taken into account the key CPTED principles and addressed positively the seven qualities of safer places.

The proposal will be a significant improvement to the current environment and will assist in transforming an existing rundown area of poor environmental quality into a memorable Place with its own identify. The proposed redevelopment as a whole will create a new public destination that is accessible, easy to find and safe and attractive to use, while providing the first example of inner-city residential living in Hastings CBD as part of a Council-led mixed-use integrated project.

The Detailed Design of the proposed greenspace will be subject to a Landscape Plan to be developed at a later stage with the key CPTED principles in mind. Once constructed, on-going monitoring of its safety will be done and improvements made as necessary.

Appendix 1

POU AHUREA WHAKAKAUPAPATANGA | PROJECT MĀORI ENGAGEMENT BRIEF

206 QUEEN STREET WEST DEVELOPMENT

Author: Charlie Ropitini, Pou Ahurea

Nā wai te kaupapa i karanga? Who has created this project and the need to engage? And most importantly – Why?	
Mahi Work	The mahi is the demolition of the HB Farmer's Association Cooperative Garages on Queen Street West, and the building of an apartment building and laneways between Heretaunga Street and Queen Streets, and Market and King Streets. The original garage façade will be maintained and a landscaped green space will be established adjacent to the apartment building. The mahi will also see the conversion of 223 Heretaunga Street west to a laneway with the art deco front façade and a canopy to remain.
Wāhi Place	For the purpose of this project the wāhi is described as the public realm of open spaces and laneways linking: Heretaunga-Queen Street west King Street-Market Street
Huanga Outcomes	The incorporation of Te Aranga design principles in the landscaping and design of the open spaces and laneways of the 206 Queen Street Development. The narrative theme for the project is **Waireporepo** ***Wetland Environments*** commemorating the wetland environment of the Karamū Plains from which Hastings was established. **Laneways:** The expression of the narrative is to be through **kōwhaiwhai, tukutuku, taniko** interpretation of waireporepo; that is the artistic representation of endemic wetland flora and fauna through Māori art. **Green Space:** The expression of the narrative is to be through landscaping and the inclusion of Stormwater gardens and capturing of water for an urban wetland environment e.g. raupō.
Rōpū Whakahaere Project Team	***Environmental Planning Team Leader:*** *Megan Gaffaney* ***Pou Ahurea:*** *Charles Ropitini* *The Project Team will work with Iwi Toi Kahungunu artists.*
Ko wai ngā Māori nei? Who are the Māori the project needs to engage or connect with?	
Whakapapa Genealogy	The whakapapa of the area is expressed in three parts: 1. Pre-1867 Natural Environment 2. HB Farmer's Association Cooperative Ltd. 3. Art Deco Zig-Zag Moderne

	The Karamū Plains were a fertile riverine wetland environment, which was changed following a flood in 1867. The flood changed the course of the Ngaruroro river and exposed a large tract of land suitable for establishing a town to service a farming economy. The site has a long association with the HB Farmer's Coop and especially its large Garage and Services site. Many of the European founders of Hastings were also members of the HB Farmer's Coop. Following the 1931 earthquake Hastings was rebuilt predominantly following Art Deco and Zig-Zag Moderne styles in its architecture and street design. Significant to Hastings is reference to Mayan Revival and inclusion of indigenous motif to building design. The majority of these motifs reference the natural environment with floral, fern and zig-zag imagery. The Māori equivalent to Zig-Zag Modern and Mayan Revival is Kōwhaiwhai and Tukutuku and Taniko artforms.
Rangatiratanga Chieftainship	The area is significant to Ngāti Hori and Waipatu Marae.
Kāwanatanga Legislation	Local Government Act 2002 Resource Management Act 2002
Mahitahi Working together	***How does the project intend to engage Māori across the IAP Spectrum:*** ☐ ***Inform*** *– Heretaunga Takoto Noa Māori Committee* ☐ ***Consult*** *– Ngāti Hori and Waipatu Marae* ☐ ***Partner*** *– Iwi Toi Kahungunu*
Mō wai tēnei kaupapa? What is the benefit of this project or work for Māori?	
Ritenga Māori Customary Practice	The project promotes and protects the customary practice of kōwhaiwhai, tukutuku, and/or taniko arts and normalises the practice in urban design.
Whakaaweawe Making a Difference	The project reinstates memory of the pre-1867 natural environment prior to the establishment of Hastings. The project reinstates Māori cultural presence to the CBD through Māori art interpreting the natural world in a built environment. The specific use of kōwhaiwhai, tukutuku and/or taniko design compliments the Zig-Zag Moderne and Mayan Revival styles introduced in 1931. Any installations must support and interact with the Uncover Hastings Heretaunga Pūrākau App and provide opportunity to tell the story of the pre-1867 natural environment in augmented reality.
Pūkenga Cultural Expertise	Cultural expertise for this project will be provided by Iwi Toi Kahungunu and guided by Pou Ahurea.
Oranga Tangata Supporting Wellbeing	The project boldly introduces Māori art form to the CBD creating cultural context for Māori to connect with their urban environment. The project should include Māori art contributing to positive CPTED outcomes with the use of light and directional signage.