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Pound Road Industrial Development, Panel Minute 14 Response Infrastructure Costs and Timeframe

Professional Statement

My full name is Todd Alexander Inness. I hold a Bachelor of Civil Engineering with Honours from the University of Canterbury. I am a Chartered Professional Engineer currently employed as an Engineering Associate at Davie Lovell-Smith. I have been involved in land development projects across the Canterbury region over the past 7 years, several of these for Ngāi Tahu Property.

I have been asked by NTP Development Holdings to provide a statement regarding infrastructure costs associated with Stage 1 of the proposed development, particularly in relation to the viability of the development if it were not to progress past Stage 1.

Although this is not an Environment Court proceeding, I confirm that I have read the Environment Court Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023 and agree to comply with it. I confirm that the opinions expressed in this statement are within my area of expertise except where I have relied on the evidence of other persons. I have not omitted to consider materials or facts known to me that might alter or detract from the opinions I have expressed.

Introduction

This memo is in response to FTAA Substantive application – Pound Road Industrial Development, Minute 14 of the Expert Panel. Much of the information contained within this memo has been covered in previously supplied documents titled “Pound Road Industrial Development, Infrastructure Servicing Memo – October 25”, “Pound Road Industrial Development, Infrastructure Servicing Memo – December 2025” and “Infrastructure Report, Pound Road Industrial Subdivision – June 2025”. This memo goes beyond to look at the timing of the infrastructure upgrades and enabling works for the development and costs associated with these works.

It is noted that Stage 4 has been omitted from financial viability calculations, construction estimates and the appendices included with this memo due to the delivery of this stage being dependent on further land acquisition.

Stage 1 Infrastructure

Stage 1, as with most land development projects is designed to facilitate the setup of the overall development. The requirements to service the development for sewer, stormwater, water supply, power and telecommunications are all bought about upon the commencement of Stage 1. As such, the cost of establishing the servicing infrastructure is borne almost entirely during Stage 1, with subsequent stages significantly benefiting from the enabling works undertaken during Stage 1. The following paragraphs provide a breakdown of the key enabling works required to service the overall development, built and paid for during Stage 1.

Stage 1 includes the construction of two new intersections to Barters Road, both of which will require significant works to the existing carriageway and street scape. The northern of the two intersections will require the installation of a new culvert to cross the water race. Alongside the intersection works the extent of the Stage 1 frontage will be upgraded with the carriageway widened to provide additional sealed and unsealed shoulders.

The existing Council water supply network has no current capacity to service the development site. As such, the upgrades to the existing Council water supply network and extension of the supply main to the development as detailed in the infrastructure reporting are all required to enable Stage 1.

The existing sewer network within reasonable proximity to the development has no capacity and is currently surcharged at peak discharge times. Additionally, it is installed at a depth that would not facilitate gravity drainage to the development site. As such, the sewer pump station and rising main constructed to the outfall at the intersection of Waterloo Road and Brixton Street are required to enable the development of Stage 1.

The development site is to be serviced for stormwater by centralised stormwater treatment, detention and disposal basins located at the southern corner of the development, being the lowest point of the site, within Stage 1. The cost of the stormwater basin construction will be borne during Stage 1. If the development were to only comprise Stage 1 the size of the basins could reduce and the loss of sellable lend and cost of construction would decrease. However, the proportional cost per lot would still be significantly higher. Larger basins, servicing a larger development area creates scale of economies therefore decreasing the cost per lot as more sellable land is developed.

Additionally, if there was no certainty around the development proceeding beyond Stage 1, the stormwater basin area would be sized solely for Stage 1. If the upstream catchment area (being the subsequent proposed stages) was to be developed in future, an additional stormwater facility would be required. This is not only an additional cost to the development, but it would also result in an increase in on-going maintenance costs due to the split facility. Likewise, if there was a time constraint placed on subsequent stages beyond Stage 1 the basin facility would still need to be sized for the overall development with the cost of construction borne by Stage 1 for an extended period before any return on that capital cost is received.

Power and telecommunication servicing for a development generally peaks with cost per lot in the first stage and then tapers and stabilises as development progresses. As with the three waters servicing, the first stage of the development will undertake the connection and extension of the existing network into the development site. It is also common for industrial developments, particularly of this size, to trigger upgrades to existing networks or require higher voltage power feeds from further away (i.e. nearest substation). The connection and extension of the existing network is required regardless of the number of lots. The upgrade to the existing network may be triggered by Stage 1 alone. If future stages were to occur at some point in time, the infrastructure will need to be sized for it with the cost incurred as part of Stage 1, or a second connection and upgrade may be required in the future, resulting in double the enabling work.

We are yet to engage power or telecommunications design for the site, however the typical scenario described above is expected to apply to this proposal.

Indicative Costings

The cost of these enabling works has been estimated at approximately $6.75m (excluding any power and telecommunications), with the entire value incurred in Stage 1. When split across the multiple

development Stages these enabling works are financially viable for the development. If the development were to stop after Stage 1 or deferred for a prolonged or unspecified period, the development no longer becomes financially viable. Please refer to Appendix A for the cost estimates associated with these works. Please refer to the further financial modelling data from Mr Dean Christie for the implications of these costs on the development's viability.

Pound Road, Waterloo Road, State Highway 1 Intersection

Initial construction estimates for the works associated with the intersection and road upgrades shown on the Novo Group plan 0383-004-DWD1001-A have been undertaken to inform NTP of the possible costs associated with the works. The estimate has been based on the following;

- All widening to facilitate the additional lane occurring to the western side of Pound Road.
- Works are limited to only those required to widen the western side and alter the median of the road.
- Works don't include rebuilding or resurfacing the entire carriageway. Only those areas affected by the widening and/or median island changes.
- Alterations to street scape, traffic control signals and signage are only as required to facilitate the layout change and widening.

The estimate of cost is still subject to the following;

- NZTA consultation and approvals
- Council consultation and approvals
- Detailed design
- Competitive tendering
- Cost escalation over time
- Force majeure

As such, the value of the estimate should be treated as a minimum cost, with the upgrade being an add on as opposed to a renew and upgrade. If the intersections and joining road section were to be altered, re-built and/or resurfaced, effectively renewing the design life of the aging road, we estimate the cost of works would over double.

Please refer to Appendix B for the construction estimate and refer to further financial modelling data from Mr Dean Christie for the implications of this cost on the developments viability.

Based on the initial concept design undertaken by Novo Group and the works outlined within the construction cost estimate, we would anticipate a construction programme of approximately 6 months. Allowing 6 months for detailed design and a further 6-12 months for NZTA, KiwiRail and CCC approvals we would anticipate a total design and construction programme duration of approximately 2 years.

Pound Road Shared Path

With reference to the cross section labelled "Typical Road Cross Section for Pound Road" on drawing sheet 13 of 13 numbered 20739 R2 the proposed widening and shared path requested by Christchurch City Council (CCC) I would consider to be unnecessary. Typically, unless a development is taking lot access from the respective existing road frontage upgrades are limited to ensure the carriageway has sufficient width to service traffic safety or increased loading concern. Installing a shared path along the Pound Road is inconsistent with typical development expectation for Council and particularly previous development undertaken along the Pound Road corridor. Additionally, any pedestrian movement generated by the development is expected to utilise the internal footpath network with connection to the existing Council pedestrian network provided at the southern end of the site.

If the Pound Road pavement was to be widened to facilitate a shoulder and shared path, the increased runoff from stormwater would need to be addressed. Due to the proximity of the overhead power lines excavation of a swale within the remaining berm area introduces construction risk. The alternative would be a kerb and channel construction with shared path installed behind the kerb and channel. This would require a reticulated stormwater network to be constructed within Pound Road, again inconsistent with the Pound Road streetscape and formation.

Conclusion

I consider there is sufficient evidence to confirm the costs of the enabling infrastructure works associated with Stage 1 of the development are significant enough, that if there were conditions of consent imposed that made the proceeding of the development beyond Stage 1 uncertain, these conditions would be significant enough to render the project unviable.

Additionally, the construction of a shared path along the Pound Road shoulder would be inconsistent with the Pound Road formation and street scape and beyond what would typically be expected for a development project not taking lot access from an existing road.

Todd Inness
Associate

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APPENDIX A – Development Cost Estimate

Development Estimate

NTP Development Holdings Ltd

Pound Road Industrial Development • Hornby

20739

November 2025

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Version Control

Version	Date	Details
R0	May 2025	High-level cost estimate
R1	November 2025	CCC upgrades and staging splits added

	Name	Signed	Date
Compiled By:	Todd Inness		06/11/2025
Checked By:	Jamie Verstappen		12/11/2025
Approved By:	Todd Inness		12/11/2025

CIVIL CONSTRUCTION ESTIMATES

INFRASTRUCTURE UPGRADE COST SCHEDULES

SUBDIVISION LAYOUT

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APPENDIX B – Intersection Upgrade Cost Estimate

Pound Road/Waterloo Road/SH1 Intersection Upgrades

20739

Provisional Estimate

5/02/2026

Item	Description	Quantity	Unit	Rate	Price
1.00	**Preliminary & General :**				
1.01	Setting Out	1	ls	$ 25,000.00	$ 25,000.00
1.02	Locate and protect maintain existing services	1	ls	$ 25,000.00	$ 25,000.00
1.03	Approved Traffic Management Plan and Traffic Management	1	ls	$ 400,000.00	$ 400,000.00
1.04	Co-ordination with other contractors on site	1	ls	$ 10,000.00	$ 10,000.00
1.05	Site Establishment	1	ls	$ 350,000.00	$ 350,000.00
1.06	Dust Control	1	ls	$ 15,000.00	$ 15,000.00
1.07	Implement Erosion and Sediment Control Plan as per Ecan Guidelines	1	ls	$ 25,000.00	$ 25,000.00
1.08	Liaise with NZTA, CCC and Kiwirail	1	ls	$ 15,000.00	$ 15,000.00
1.09	Prepare Site Management Plan	1	ls	$ 10,000.00	$ 10,000.00
1.10	Liaise with other consultants	1	ls	$ 15,000.00	$ 15,000.00
1.11	As builts to NZTA, CCC and Kiwirail Requirements	1	ls	$ 15,000.00	$ 15,000.00
2.00	**Demolition/Removal**				
2.01	Sawcut/mill and remove existing road pavement	1000	sq.m	$ 40.00	$ 40,000.00
2.02	Remove existing kerb to waste off-site	750	m	$ 50.00	$ 37,500.00
2.03	Remove existing traffic islands to waste off-site	5	ea	$ 6,000.00	$ 30,000.00
2.04	Remove existing footpath to waste off-site	875	sq.m	$ 50.00	$ 43,750.00
2.05	Remove existing road signs and store for re-installation	10	ea	$ 500.00	$ 5,000.00
2.06	Remove existing streetlights and store for re-installation	12	ea	$ 1,500.00	$ 18,000.00
2.07	Remove existing linemarking	1	ls	$ 10,000.00	$ 10,000.00
2.08	Remove existing NPD access seal to waste off site	60	sq.m	$ 150.00	$ 9,000.00
2.09	Remove existing NPD reinforced crossing to waste off site	18	m	$ 100.00	$ 1,800.00
2.10	Remove existing NPD culvert crossing to waste off-site	15	m	$ 100.00	$ 1,500.00
2.11	Remove existing sumps to waste off-site	5	ea	$ 1,500.00	$ 7,500.00
2.12	Remove existing sump pipework to waste off-site	60	m	$ 150.00	$ 9,000.00
2.13	Remove existing traffic lights and store for re-installation	7	ea	$ 3,000.00	$ 21,000.00
2.14	Remove existing fence near railway crossing	65	m	$ 100.00	$ 6,500.00
3.00	**Roading :**				
3.01	Excavate road to subgrade and remove material to waste off-site	1750	sq.m	$ 30.00	$ 52,500.00
3.02	Prep subgrade (full intersection area allowed for) (prov)	1750	sq.m	$ 5.00	$ 8,750.00
3.03	Import and lay pitrun to road 300mm depth	525	cu.m	$ 75.00	$ 39,375.00
3.04	Import and lay AP65 to road 350mm depth	612	cu.m	$ 100.00	$ 61,200.00
3.05	Import and lay TNZ M4 AP40 to road 150mm depth	262	cu.m	$ 180.00	$ 47,160.00
3.06	Import and lay grade 5 chipseal primecoat	1750	sq.m	$ 25.00	$ 43,750.00
3.07	Import and lay 140mm of AC20	1750	sq.m	$ 130.00	$ 227,500.00
3.08	Import and lay 60mm PMB AC14	1750	sq.m	$ 80.00	$ 140,000.00
3.09	225mm 28.5MPa concrete pavement with 662 reinforcing mesh for NPD driveway	60	sq.m	$ 300.00	$ 18,000.00
3.09	Standard Kerb and Channel to CCC CSS SD 601	350	m	$ 100.00	$ 35,000.00
3.10	Median kerb to CCC CSS SD 603 for pedestrian island	300	m	$ 100.00	$ 30,000.00
3.11	E/O for cutdown kerbs	50	m	$ 50.00	$ 2,500.00
3.12	2.5m footpath to SD607. All costs including ties ins at either end and removal of existing end of footpath boards. Allow for stripping out an additional 200mm excess topsoil depth and backfill with AP65.	875	sq.m	$ 110.00	$ 96,250.00
3.13	Concrete infill to pedestrian islands	225	sq.m	$ 250.00	$ 56,250.00
3.14	Pedestrian island markers and signage	6	ea	$ 2,000.00	$ 12,000.00
3.15	Tactile and directional pavers to footpath crossings	8	ea	$ 2,000.00	$ 16,000.00
3.16	Feather in and bandage all seal joins	450	m	$ 25.00	$ 11,250.00
3.17	New reinforced commercial kerb cutdown to CCC SD611 Case B for NPD	18	m	$ 300.00	$ 5,400.00
3.18	Reshape NPD access and tie into new kerb	1	ls	$ 10,000.00	$ 10,000.00
3.19	Kerb base testing	1	ls	$ 2,500.00	$ 2,500.00
3.20	Clegg testing of footpaths	1	ls	$ 1,000.00	$ 1,000.00
3.21	Benkleman Beam testing	1	ls	$ 3,000.00	$ 3,000.00
3.22	NDM testing of all payment layers	1	ls	$ 3,000.00	$ 3,000.00
4.00	**Linemarking & Signage :**				
4.01	All linemarking and signage	1	ls	$ 65,000.00	$ 65,000.00
5.00	**Stormwater :**				$ -
5.01	Supply and install double sump in kerb and channel	5	ea	$ 5,000.00	$ 25,000.00

5.02	225mm uPVC upto 2.0m deep installed in the carriageway, all costs including trench back filling, joints, trench support, bedding etc.	30	m	$ 500.00	$ 15,000.00
5.03	300mm uPVC upto 2.0m deep installed in the carriageway, all costs including trench back filling, joints, trench support, bedding etc.	30	m	$ 750.00	$ 22,500.00
5.04	Standard manhole 1050. All costs including connections, bedding, benching, dewatering etc.	2	ea	$ 8,000.00	$ 16,000.00
5.05	300mm deep raft foundation for up to and including 450mm dia pipe (Prov)	60	m	$ 300.00	$ 18,000.00
5.06	Reset existing manhole lids to new road/berm/footpath height	11	ea	$ 2,000.00	$ 22,000.00
5.07	Pressure testing	1	ls	$ 2,000.00	$ 2,000.00
5.08	Connect pipework to existing manholes and rebench as required	5	ea	$ 2,500.00	$ 12,500.00
5.09	CCTV inspections of pipes 225mm dia. and over	60	m	$ 25.00	$ 1,500.00
5.10	NDM testing	1	ls	$ 2,000.00	$ 2,000.00
6.00	**Traffic Lights :**				$ -
6.01	Install new traffic lights and associated signage, base, connections to power and data etc.	3	ea	$ 25,000.00	$ 75,000.00
6.02	Reuse existing traffic lights	7	ea	$ 15,000.00	$ 105,000.00
6.03	Supply and install detector loops in intersection (new)	5	ea	$ 15,000.00	$ 75,000.00
6.04	Supply and install 100mm ducting for traffic light data connections	200	m	$ 50.00	$ 10,000.00
6.05	Supply and install 150mm ducting for traffic light power connection	200	m	$ 60.00	$ 12,000.00
6.06	Reconfigure existing ducting to suit new traffic signal layout	100	m	$ 40.00	$ 4,000.00
6.07	Reconfigure existing detector loops in intersection	8	ea	$ 10,000.00	$ 80,000.00
6.08	Supply and install data cables for traffic lights	750	m	$ 50.00	$ 37,500.00
6.09	Supply and install power cables for traffic lights	750	m	$ 65.00	$ 48,750.00
7.00	**Miscellanous :**				$ -
7.01	Reform swale in existing berm	120	m	$ 60.00	$ 7,200.00
7.02	Install new culvert crossing for service station	16	m	$ 450.00	$ 7,200.00
7.03	Culvert headwalls	2	ea	$ 1,500.00	$ 3,000.00
7.04	Install new fence at railway crossing	70	m	$ 250.00	$ 17,500.00
7.05	Relocate level crossing signals	2	ea	$ 100,000.00	$ 200,000.00
7.06	Import topsoil, respread to berms and sow with berm mix	1750	sq.m	$ 20.00	$ 35,000.00
7.07	Common services trench 1.5m	400	m	$ 100.00	$ 40,000.00
7.08	Common services trench 0.6m	300	m	$ 80.00	$ 24,000.00
7.09	Additional streetlights (including install)	3	ea	$ 6,500.00	$ 19,500.00
				CONSTRUCTION TOTAL	**$ 3,070,085.00**
8.00	**Design & Fees :**				
8.01	Intersection design	7% of contract value			$ 213,540.95
8.02	NZTA Consultation and Approvals	3% of contract value			$ 92,102.55
8.03	Council Fees	1	ls	$ 50,000.00	$ 50,000.00
8.04	NZTA Peer Review / PM	1	ls	$ 266,733.00	$ 266,733.00
8.05	Kiwirail Review / PM	1	ls	$ 24,895.00	$ 24,895.00
				OVERALL TOTAL	**$ 3,717,356.50**