

29 April 2019

Brent McLean  
 Strategic Planning Manager  
 Victorian Planning Authority (VPA)

Dear Brent,

**Re: Minta Farm ICP – Borrowing Costs**

Thank you for your instructions to undertake an assessment of borrowing costs associated with delivering infrastructure to be funded by the Minta Farm Infrastructure Contributions Plan (ICP).

Borrowing costs are calculated in this report for two scenarios:

1. In Section 1.1, borrowing costs are calculated to enable delivery of all ICP items at the trigger date based on a cash flow of expected income and expenditure; and alternatively
2. In Section 1.2, borrowing costs are calculated for specific ICP items identified as 'early works' only, using the same approach.

Results for each scenario are set out as follows. **Appendix D** provides a plan showing the location of each ICP infrastructure item

**1.1. BORROWING COSTS FOR ALL ICP ITEMS**

A financial cash flow for all ICP items has been prepared based on information provided to Urban Enterprise by the VPA. Borrowing costs are estimated by reference to the cash flow which requires infrastructure to be delivered in advance of levy revenue. The cash flow is illustrated in **Figure 1**.

The Net Present Value (NPV) method has been used to adjust levies to take into account the interest / borrowing costs over time - the NPV method adds finance costs to the levy amounts. More detail on the method used to estimate borrowing costs is set out in **Appendix A** and the financial model is shown in **Appendix B**.

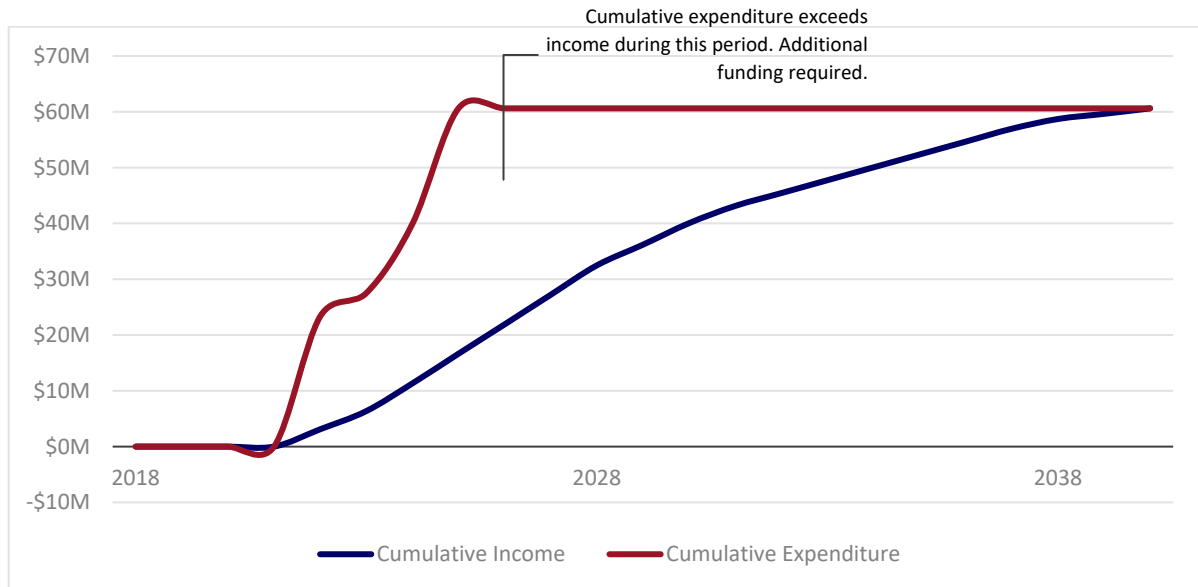
The results of the assessment are shown in **Table 1** – this shows borrowing costs associated with all ICP items.

**TABLE 1** SUMMARY OF FINANCIAL CASH FLOW MODEL RESULTS (ALL ICP ITEMS, 2018/19 VALUES)

LAND USE	RESIDENTIAL	EMPLOYMENT
Total infrastructure cost (excluding land)	\$60,618,763	
Nominal Levy per ha NDA *	\$333,053	\$189,897
NPV Levy per ha NDA	\$420,842	\$257,749
Borrowing costs per ha NDA	\$87,789	\$67,853

Source: Urban Enterprise, 2019. \* Note: nominal levy is higher than Standard ICP levies as at April 2019.

**FIGURE 1 CASH FLOW PROFILE – NOMINAL LEVY**



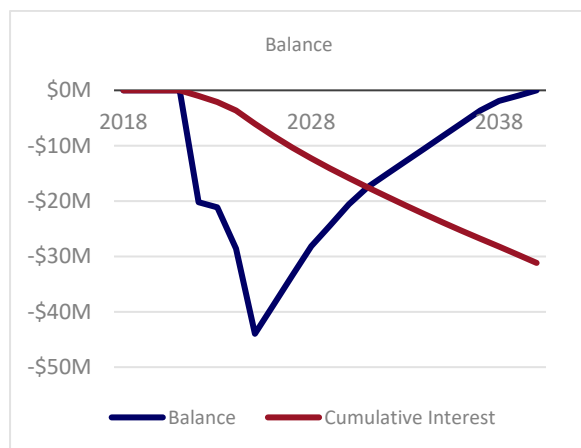
Source: Urban Enterprise.

**Figure 1** shows that the projected cumulative expenditure under a Nominal Levy ICP would exceed projected cumulative income for the majority of the ICP period.

In order to deliver the ICP infrastructure items at the specified delivery dates and assuming that income will follow the rate of development provided, funds would need to be borrowed to meet the shortfall in levy income. The interest amount associated with this borrowing is shown in **Figure 2**, with interest costs accumulating during the life of the ICP.

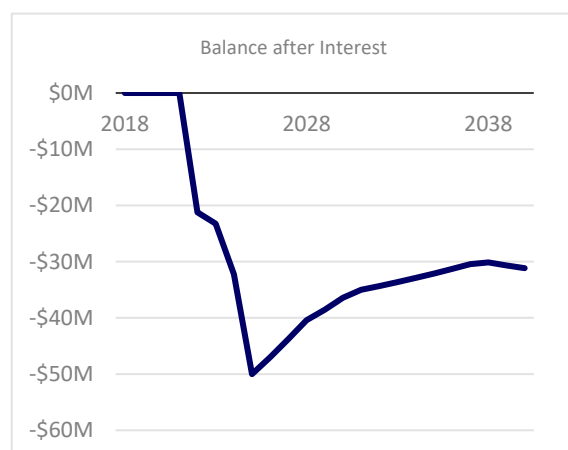
**Figure 3** shows that interest costs would accumulate over the ICP period, meaning that the net balance of the ICP could be significantly underfunded if a nominal levy approach was applied (in the order of \$31.2m to deliver all ICP infrastructure items).

**FIGURE 2 INTEREST PROFILE - NOMINAL**



Source: Urban Enterprise.

**FIGURE 3 BALANCE AFTER INTEREST - NOMINAL**



## 1.2. BORROWING ANALYSIS (EARLY WORKS ONLY)

VPA has instructed that finance costs should only be applied to selected ICP infrastructure items that form part of a package of early works which will be required before development can commence.

The early works package includes the construction of 1 through lane of the major connector road in each direction (shown as item RD01-04, also described in Appendix D as EDW-01), along with two intersections (IN01 and IN05) and one culvert (CU01) required to complete the road connection.

Table 2 shows the borrowing costs associated with delivering the early works items in advance of levy revenue being available, based on the same method as the preceding analysis. These costs would apply to both Residential and Employment land given that all early works items are within the Transport category.

**TABLE 2** EARLY WORKS ITEMS AND BORROWING COSTS

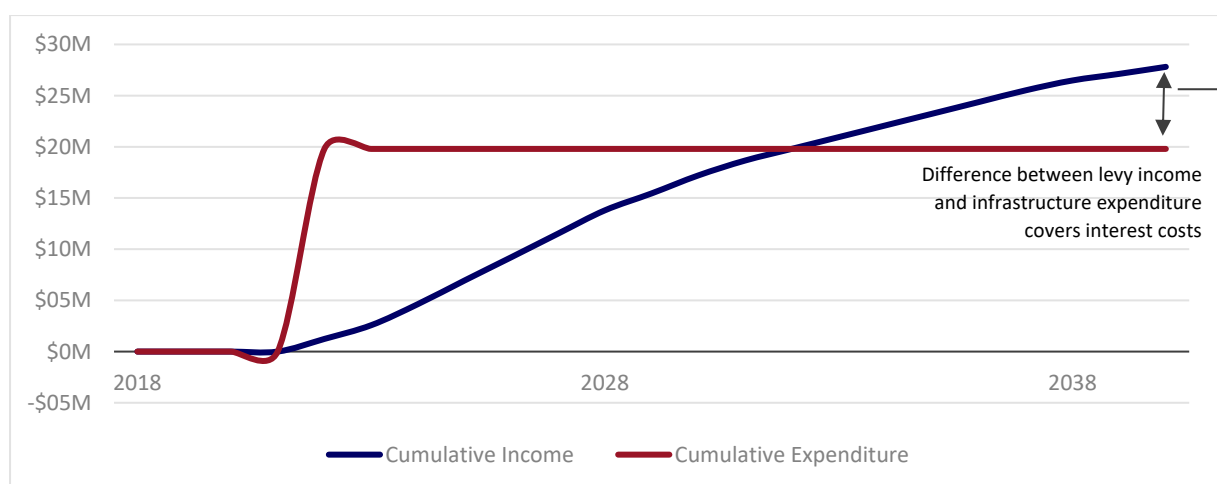
PROJECT NUMBER	NOMINAL APPROACH			NPV APPROACH			Borrowing costs per DU/HA*
	Cost	Nominal DUs	Nominal Levy per DU	PV Cost	NPV DUs	NPV Levy per DU	
RD01-04	\$5,634,000	210.14	<b>\$26,810.82</b>	\$4,866,861.03	129.21	<b>\$37,667.65</b>	<b>\$10,856.84</b>
CU01	\$572,000	210.14	<b>\$2,722.01</b>	\$494,115.11	129.21	<b>\$3,824.26</b>	<b>\$1,102.26</b>
IN01	\$6,799,000	210.14	<b>\$32,354.76</b>	\$5,873,231.83	129.21	<b>\$45,456.58</b>	<b>\$13,101.82</b>
IN05	\$6,789,000	210.14	<b>\$32,307.18</b>	\$5,864,593.46	129.21	<b>\$45,389.72</b>	<b>\$13,082.55</b>
<b>Sub-total</b>	<b>\$19,794,000</b>		<b>\$94,194.76</b>	<b>\$17,098,801.43</b>		<b>\$132,338.22</b>	<b>\$38,143.45</b>

Source: Urban Enterprise. \* Borrowing costs equates to the difference between the NPV levy and nominal levy amounts. DU = Demand Unit

The NPV approach results in a total interest cost of \$8.0m over the course of the ICP for early works which equates to an **additional levy of \$38,143.45 per ha for both residential and employment land**. This additional levy differs to the results in Table 1 which shows finance costs of all ICP items.

Figure 4 shows the increase in income required compared with expenditure to meet the cost of borrowing. Details of interest costs and payments are set out in a Borrowing Costs Profile for early works included in **Appendix C**.

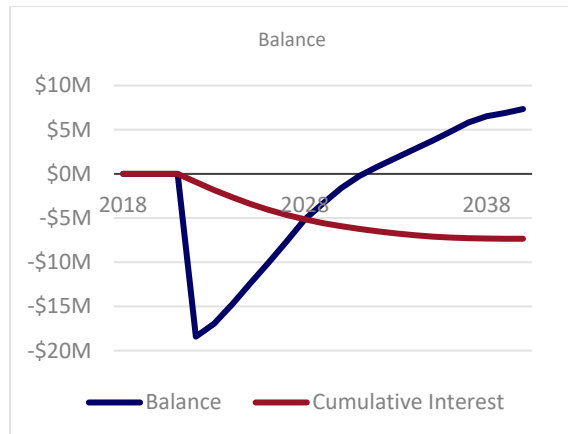
**FIGURE 4** CASH FLOW PROFILE – WITH FINANCING COST (EARLY WORKS)



Source: Urban Enterprise.

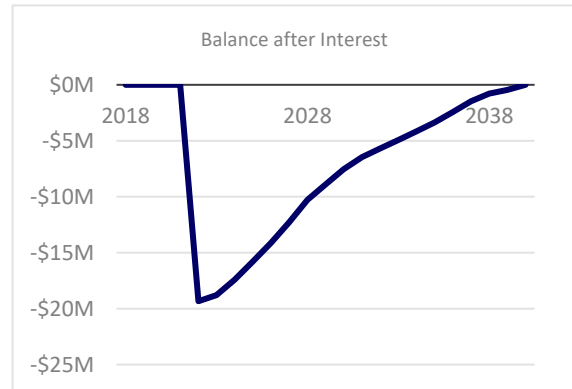
Figures 5 and 6 show that the increase in revenue balances out the cumulative interest cost over the ICP period, with the net balance after interest now equating to zero. This means that the interest / borrowing costs will be funded by the additional levy revenue by including a finance cost in the levy calculations.

**FIGURE 5** INTEREST PROFILE – WITH FINANCING



Source: Urban Enterprise.

**FIGURE 6** NET BALANCE AFTER INTEREST – WITH FINANCING



## QUALIFICATIONS

It should be noted that the information provided in this advice is preliminary only. The financial cash flow and resulting borrowing cost levy amount has been prepared on the basis of infrastructure and development timing assumptions provided to us by the VPA as shown in Appendix A - the calculations and results are highly dependent on these assumptions.

If the projected infrastructure and development timings eventuate, the Development Agency would need to borrow substantial amounts to deliver the infrastructure as planned. It is noted that in practice, developers are likely to deliver many of the infrastructure items as works in-kind, and that the timing of infrastructure delivery by Councils / credits issued for works in-kind is often adjusted based on financial considerations.

Given the high borrowing costs and substantial resulting finance levy per hectare relative to the overall ICP levy amounts, it is recommended that the assumptions regarding development rates and infrastructure timing are closely reviewed prior to finalising any levy amounts associated with borrowing costs for this ICP.

It will also be important to consider borrowing costs in the context of:

- The statutory framework for ICPs;
- The presence of Supplementary Items in the ICP infrastructure list; and
- The likelihood of developers seeking credits for works delivered in-kind (including borrowing cost credits) and the need to set out how the borrowing costs levy would be applied and administered.

I trust this meets your present needs and I would be pleased to discuss this matter further if required. I can be contacted on (03) 9482 3888.

Yours Sincerely,

**Paul Shipp**

Director

## APPENDIX A FINANCIAL MODEL METHOD

In simple terms, a per hectare cost of financing is determined by comparing the expected 'nominal' per hectare levy with an estimated 'net present value (NPV) discounted' per hectare levy.

The NPV discounted levy is determined by comparing the projected expenditure on infrastructure costs with the projected number of hectares of land to be developed over time which will generate cashflow via levies. When an infrastructure item is required to be delivered in advance of levy revenue being available, the NPV discount method calculates the interest payable on borrowings.

### INFRASTRUCTURE

The VPA has provided an estimated cost, timing and external apportionment for each infrastructure item. Based on these values the Present Value of each infrastructure item can be determined using a discounting function.

### DEVELOPMENT

The VPA has provided an estimate of projected dwelling construction and employment hectares developed for each year of the ICP period. Development estimates are shown in Table 3.

The stream of demand units (hectares) has then been discounted into a Net Present Value using a discounting function to represent the income stream for the ICP area.

**TABLE 3** DEVELOPMENT ASSUMPTIONS

YEAR	RESIDENTIAL LOTS	EMPLOYMENT LAND (HA)	YEAR	RESIDENTIAL LOTS	EMPLOYMENT LAND (HA)
2019	0	0	2030	204	4
2020	0	0	2031	156	4
2021	0	0	2032	99	4
2022	190	0	2033	95	4
2023	203	1	2034	95	4
2024	304	2	2035	95	4
2025	298	3	2036	95	4
2026	298	3	2037	95	4
2027	298	3	2038	51	5
2028	298	3	2039	0	5
2029	203	3	2040	0	5
			Total	3080	65.44

Source: VPA.

### LEVIES

A NPV levy amount for each infrastructure item can be determined by dividing the NPV infrastructure cost with the NPV of demand units applying to each item. The sum of the individual NPV levies for each item determines the total NPV levy.

The levy adjustment required to meet financing (borrowing) costs is the difference between the nominal levy amount and the NPV levy amount.

## ASSUMPTIONS AND EXCLUSIONS

The following assumptions were adopted in order to prepare the cash flow:

- A discount rate of 5% p.a. has been applied;
- All infrastructure costs and development projections for the ICP is within a single ICP cash flow with no separation of 'standard' and 'supplementary' items;
- Cost estimates were provided by the VPA. Road cost estimates for road and intersection items are sourced from *Benchmark Infrastructure Costing – Selected Minta Farm ICP Items*, Cardno, 14 March 2019;
- Urban Enterprise has not reviewed the accuracy or appropriateness of the cost, apportionment or timing of any items;
- Dwelling numbers were converted to hectares based on the expected average dwelling density of 22.4 dwellings per hectare as advised by the VPA;
- Land costs are excluded on the basis that all land will be provided in-kind by landowners;
- For the purposes of ICP levy payments:
  - Residential land is assumed to include residential, mixed use and activity centre land; and
  - Employment land is assumed to include commercial and industrial land.
- Employment land will pay levies for Transport projects but not Community and Recreation projects;
- In the absence of guidelines available in relation to ICP finance costs, all costs have been determined without placing any ICP levy caps on the collection of funds.
- Given that ICP infrastructure costs exceed the likely Standard Levy income (at current levy rates), it has been assumed that a Supplementary Levy will be applied such that the total ICP levy income will match the total ICP infrastructure costs.

## APPENDIX B INFRASTRUCTURE COST AND LEVY SUMMARY

Minta Farm ICP Financial Cash Flow Model v2.4

All items

Project No.	Title	Early Works	Timing	Costs	External	Apportioned	PV Cost	NPV DUs	NPV Levy	Nom Dus	Nom Levy	Difference
RD01	Construction of 2 northbound and 1 southbound th No		2022	\$917,000.00	0	\$917,000.00	\$792,139.08	129.21	\$6,130.86	210.14	\$4,363.78	\$1,767.08
RD02	Construction of 2 northbound and 1 southbound th No		2022	\$931,000.00	0	\$931,000.00	\$804,232.80	129.21	\$6,224.46	210.14	\$4,430.40	\$1,794.06
RD04	Construction of 2 northbound and 1 southbound th No		2022	\$1,494,000.00	0	\$1,494,000.00	\$1,290,573.37	129.21	\$9,988.55	210.14	\$7,109.58	\$2,878.97
RD01-04	Construction of 1 through lanes in each direction (In Yes		2022	\$5,634,000.00	0	\$5,634,000.00	\$4,866,861.03	129.21	\$37,667.65	210.14	\$26,810.82	\$10,856.84
PS-01	Pedestrian Signals	No	2022	\$350,000.00	0.5	\$175,000.00	\$151,171.58	129.21	\$1,170.01	210.14	\$832.78	\$337.23
CU01	Culvert across RD-02	Yes	2022	\$572,000.00	0	\$572,000.00	\$494,115.11	129.21	\$3,824.26	210.14	\$2,722.01	\$1,102.26
BR01	Pedestrian Bridge	No	2024	\$1,323,525.00	0.5	\$661,762.50	\$518,508.23	129.21	\$4,013.06	210.14	\$3,149.16	\$863.89
IN01	Primary Arterial/Primary Arterial	Yes	2022	\$6,799,000.00	0	\$6,799,000.00	\$5,873,231.83	129.21	\$45,456.58	210.14	\$32,354.76	\$13,101.82
IN02	Primary Arterial/Connector Boulevard	No	2024	\$6,575,000.00	0	\$6,575,000.00	\$5,151,684.54	129.21	\$39,872.08	210.14	\$31,288.80	\$8,583.28
IN03	Primary Arterial/Connector Boulevard	No	2024	\$5,170,000.00	0	\$5,170,000.00	\$4,050,830.28	129.21	\$31,351.89	210.14	\$24,602.75	\$6,749.13
IN04	Primary Arterial/Connector Street	No	2023	\$4,187,000.00	0	\$4,187,000.00	\$3,444,655.26	129.21	\$26,660.32	210.14	\$19,924.90	\$6,735.42
IN05	Primary Arterial/Secondary Arterial	Yes	2022	\$6,789,000.00	0	\$6,789,000.00	\$5,864,593.46	129.21	\$45,389.72	210.14	\$32,307.18	\$13,082.55
CO-01	Community Centre Construction of a Level 1 multi-ř No		2025	\$7,606,000.00	0	\$7,606,000.00	\$5,675,714.31	94.78	\$59,886.04	144.70	\$52,565.64	\$7,320.40
SR-01	Sports Reserve Construction of a local sports reserv No		2025	\$13,108,000.00	0	\$13,108,000.00	\$9,781,391.42	94.78	\$103,206.18	144.70	\$90,590.38	\$12,615.80
Total						\$60,618,762.50			\$420,841.65		\$333,052.95	\$87,788.70
Employment Total						\$39,904,762.50			\$257,749.43		\$189,896.92	\$67,852.51

Early works items only

Project No.	Title	Indicative Timi	Timing	Costs	External	Apportioned	PV Cost	NPV DUs	NPV Levy	Nom Dus	Nom Levy	Difference
RD01	Construction of 2 northbound and 1 southbound th No		2022	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
RD02	Construction of 2 northbound and 1 southbound th No		2022	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
RD04	Construction of 2 northbound and 1 southbound th No		2022	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
RD01-04	Construction of 1 through lanes in each direction (In Yes		2022	\$5,634,000.00	0	\$5,634,000.00	\$4,866,861.03	129.21	\$37,667.65	210.14	\$26,810.82	\$10,856.84
PS-01	Pedestrian Signals	No	2022	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
CU01	Culvert across RD-02	Yes	2022	\$572,000.00	0	\$572,000.00	\$494,115.11	129.21	\$3,824.26	210.14	\$2,722.01	\$1,102.26
BR01	Pedestrian Bridge	No	2024	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
IN01	Primary Arterial/Primary Arterial	Yes	2022	\$6,799,000.00	0	\$6,799,000.00	\$5,873,231.83	129.21	\$45,456.58	210.14	\$32,354.76	\$13,101.82
IN02	Primary Arterial/Connector Boulevard	No	2024	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
IN03	Primary Arterial/Connector Boulevard	No	2024	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
IN04	Primary Arterial/Connector Street	No	2023	\$0.00	0	\$0.00	\$0.00	129.21	\$0.00	210.14	\$0.00	\$0.00
IN05	Primary Arterial/Secondary Arterial	Yes	2022	\$6,789,000.00	0	\$6,789,000.00	\$5,864,593.46	129.21	\$45,389.72	210.14	\$32,307.18	\$13,082.55
CO-01	Community Centre Construction of a Level 1 multi-ř No		2025	\$0.00	0	\$0.00	\$0.00	94.78	\$0.00	144.70	\$0.00	\$0.00
SR-01	Sports Reserve Construction of a local sports reserv No		2025	\$0.00	0	\$0.00	\$0.00	94.78	\$0.00	144.70	\$0.00	\$0.00
Total						\$19,794,000.00			\$132,338.22	0.00	\$94,194.76	\$38,143.45
Employment Total						\$19,794,000.00			\$132,338.22	0.00	\$94,194.76	\$38,143.45



## APPENDIX C BORROWING COSTS PROFILE

**Interest Costs - Nominal (early works)**

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Previous Balance	\$0	\$0	\$0	\$0	\$0	-\$19,861,599	-\$19,853,977	-\$19,306,325	-\$18,542,650
Annual Cashflow	\$0	\$0	\$0	\$0	-\$18,915,808	\$953,049	\$1,467,001	\$1,646,658	\$1,616,715
Balance	\$0	\$0	\$0	\$0	-\$18,915,808	-\$18,908,550	-\$18,386,976	-\$17,659,667	-\$16,925,935
Interest Payment	\$0	\$0	\$0	\$0	\$945,790	\$945,427	\$919,349	\$882,983	\$846,297
Net Balance	\$0	\$0	\$0	\$0	-\$19,861,599	-\$19,853,977	-\$19,306,325	-\$18,542,650	-\$17,772,232

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035
Previous Balance	-\$17,772,232	-\$16,939,713	-\$16,089,147	-\$15,657,104	-\$15,124,860	-\$14,796,528	-\$14,682,305	-\$14,562,371	-\$14,436,440
Annual Cashflow	\$1,639,172	\$1,616,715	\$1,177,619	\$1,252,476	\$1,032,928	\$813,380	\$813,380	\$813,380	\$813,380
Balance	-\$16,133,060	-\$15,322,997	-\$14,911,528	-\$14,404,628	-\$14,091,931	-\$13,983,148	-\$13,868,925	-\$13,748,991	-\$13,623,060
Interest Payment	\$806,653	\$766,150	\$745,576	\$720,231	\$704,597	\$699,157	\$693,446	\$687,450	\$681,153
Net Balance	-\$16,939,713	-\$16,089,147	-\$15,657,104	-\$15,124,860	-\$14,796,528	-\$14,682,305	-\$14,562,371	-\$14,436,440	-\$14,304,213

Year	2036	2037	2038	2039	2040	Total interest
Previous Balance	-\$14,304,213	-\$14,165,374	-\$14,019,594	-\$14,000,008	-\$14,218,978	\$14,416,671
Annual Cashflow	\$813,380	\$813,380	\$686,253	\$458,124	\$488,815	
Balance	-\$13,490,833	-\$13,351,994	-\$13,333,341	-\$13,541,884	-\$13,730,163	
Interest Payment	\$674,542	\$667,600	\$666,667	\$677,094	\$686,508	
Net Balance	-\$14,165,374	-\$14,019,594	-\$14,000,008	-\$14,218,978	-\$14,416,671	

**Interest Costs - With Financing (early works)**

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026
Previous Balance	\$0	\$0	\$0	\$0	\$0	-\$19,488,201	-\$19,056,683	-\$17,845,412	-\$16,308,550
Annual Cashflow	\$0	\$0	\$0	\$0	-\$18,560,191	\$1,338,978	\$2,061,053	\$2,313,460	\$2,271,392
Balance	\$0	\$0	\$0	\$0	-\$18,560,191	-\$18,149,222	-\$16,995,631	-\$15,531,953	-\$14,037,159
Interest Payment	\$0	\$0	\$0	\$0	\$928,010	\$907,461	\$849,782	\$776,598	\$701,858
Net Balance	\$0	\$0	\$0	\$0	-\$19,488,201	-\$19,056,683	-\$17,845,412	-\$16,308,550	-\$14,739,017

Year	2027	2028	2029	2030	2031	2032	2033	2034	2035
Previous Balance	-\$14,739,017	-\$13,057,878	-\$11,325,810	-\$10,154,889	-\$8,814,994	-\$7,731,979	-\$6,918,688	-\$6,064,732	-\$5,168,079
Annual Cashflow	\$2,302,943	\$2,271,392	\$1,654,487	\$1,759,657	\$1,451,205	\$1,142,752	\$1,142,752	\$1,142,752	\$1,142,752
Balance	-\$12,436,074	-\$10,786,486	-\$9,671,323	-\$8,395,232	-\$7,363,789	-\$6,589,226	-\$5,775,935	-\$4,921,980	-\$4,025,326
Interest Payment	\$621,804	\$539,324	\$483,566	\$419,762	\$368,189	\$329,461	\$288,797	\$246,099	\$201,266
Net Balance	-\$13,057,878	-\$11,325,810	-\$10,154,889	-\$8,814,994	-\$7,731,979	-\$6,918,688	-\$6,064,732	-\$5,168,079	-\$4,226,592

Year	2036	2037	2038	2039	2040	Total interest
Previous Balance	-\$4,226,592	-\$3,238,032	-\$2,200,044	-\$1,297,693	-\$686,757	\$8,015,430
Annual Cashflow	\$1,142,752	\$1,142,752	\$964,146	\$643,638	\$686,757	
Balance	-\$3,083,840	-\$2,095,280	-\$1,235,898	-\$654,055	\$0	
Interest Payment	\$154,192	\$104,764	\$61,795	\$32,703	\$0	
Net Balance	-\$3,238,032	-\$2,200,044	-\$1,297,693	-\$686,757	\$0	

## APPENDIX D PRECINCT INFRASTRUCTURE PLAN



ICP plan area

early-works financing

pedestrian signal centrepoint

intersection project

road project

bridge/culvert project

IN ICP ID

As a result of detailed design, RD-03, as shown in the Minta Farm PSP, has been incorporated as part of IN-03 and IN-04 within this ICP.