Donnybrook-Woodstock Infrastructure Contributions Plan

Victorian Planning Authority

Part A (Part 2) Submission

Amendment GC102 to the Whittlesea and Mitchell Planning Schemes

October 2019

CONTENTS

TABLES

FIGURES

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Process

The *Donnybrook-Woodstock Infrastructure Contributions Plan* (ICP) Amendment GC102 to the Whittlesea and Mitchell Planning Schemes (the Amendment) establishes the contribution framework to enable the collection of standard and supplementary levy funds for the local infrastructure identified in the *Donnybrook-Woodstock Precinct Structure Plan* (PSP) in accordance with the *Planning and Environment Act* 1987 (the P&E Act), the *Planning and Environment Act (Public Land Contributions) Amendment 2018* (PLC Act) and the *Ministerial Direction on the Preparation and Content of Infrastructure Contribution Plans* (the Ministerial Direction).

The process of preparing the Donnybrook-Woodstock ICP has necessarily been iterative as the Victorian Planning Authority (VPA) has responded to legislative changes, refinements in the implementation of new policy, finalising the *Benchmark Infrastructure Costings*, whilst also educating and learning with its stakeholders on Victoria's new ICP policy context. Whilst the Amendment process may not have been ideal, it has been undertaken in a transparent manner that accords with the P&E Act. The benefit of the Victorian planning system with third party appeal rights and various industry publications, is that stakeholders have been able to express their views openly and publicly.

The VPA considers that the overall advantages of the ICP system in reducing time and costs in the preparation of contributions plans will be seen in the long term. In the interim however, all industry professionals are learning 'on the job' and the VPA is no exception to this. The VPA is operating in a manner that is transparent to afford stakeholders the opportunity to input and learn, while the organisation builds upon its expertise.

The VPA considers that the overall advantages of the ICP system in reducing time and costs in the preparation of contributions plans will be seen in the long term. In the interim however, all industry professionals are learning 'on the job' and the VPA is no exception to this. By operating in a manner that is transparent, the VPA has also afforded stakeholders the opportunity to input and learn.

The standard ICP that was gazetted with the Donnybrook-Woodstock PSP in 2017 was made void the day the PLC Act was introduced as no transitional provisions were included in the new Bill. The PLC Act introduced significant changes to the way ICPs were prepared and implemented and required already gazetted ICPs to be replaced with ICPs that aligned to the new system, the Donnybrook-Woodstock ICP being one of them.

In particular, the lack of transitional provisions meant that the VPA had to rapidly respond with an 'interim' supplementary ICP for Donnybrook-Woodstock (and other ICP areas), while concurrently embarking on preparing and exhibiting a full planning scheme amendment for a Final supplementary ICP. The need for a rapid response also brought forward the utilisation the *Benchmark Infrastructure Costings* (Benchmark Costings), which were in development at the time.

An interim ICP was needed:

- due to the infrastructure contributions overlay prohibiting the issuance of permits without an incorporated ICP and, as mentioned, the 2017 gazetted ICP was voided by the new Bill and;
- to enable Council to continue to issue permits and not delay development while the Amendment underwent a full planning scheme amendment.

Further, and as a condition of the 20(4) amendment for the interim ICP, the full amendment process had to commence quickly.

To ensure planning permits could continue to be issued under an ICP with the most up-to-date information, the interim ICP was replaced in July 2018 as implementation of the land component was refined and the supplementary levy amount was revised.

The VPA has undertaken an extensive informal and formal consultation as part of the Amendment process to ensure that, whilst iterative, that landowners and the Councils were awarded procedural fairness. There were two formal notification periods during which eight submissions were received, and following this there were three conclaves, four directions hearings and the upcoming Panel Hearing. Following the conclusion of the functional layout plan and costing conclaves, some of the matters relating to designs and costs referred to the Panel on 18 November 2018 have now been resolved. Some designs and costs remain in dispute whilst other outstanding matters relate to ICP systemic matters.

1.1.2 System

Under the PLC Act, an ICP comprises two key components: a land component and a monetary component. The preparation of the Amendment to introduce the Final supplementary ICP (and the interim supplementary ICP) has been a staged process due to changes in the interpretation of the new legislation and its application in practice in terms of the land component as well as resolution of the monetary component, which was in part informed by Benchmark Costings, as well as to stakeholder feedback.

Whilst the Amendment before the Panel pertains to the monetary component as directed by the Act, the VPA has also been responsible for refining and resolving the land component of the ICP. The land contribution model principle, that all landowners contribute equally to the land component, is simple in concept but takes precision to calculate with land use budgets that are balanced to a high degree of accuracy and land values that require resolution separate to a planning authority's statutory powers. It has taken time for the VPA to ensure that the land component is accurate, implements the ICP legislation correctly and allows Council to continue to issue permits that set equal contributions from landowners.

A significant improvement of ICPs over the previous DCP system is that tailored designs and costs for every piece of infrastructure funded by the monetary component of a standard levy ICP is no longer required. The VPA has responded to this changed approach by introducing the Benchmark Costings as described below.

1.1.3 Benchmark Costings

Alongside updating the interim and final ICP, the VPA has also been developing the Benchmark Costings (*Benchmark Costings Report,* Cardno, April 2019) to enable a consistent and transparent method of designing and costing standard and supplementary infrastructure items, as intended by the new ICP system. It seeks to do this by providing a set of "off the shelf" template designs and costs based on previously approved PSPs and DCPs. This document has been reviewed and revised in response to industry and council consultation. The Shire of Mitchell and City of Whittlesea were invited to participate in the process. Refinements to the scope and costs within the report, and which informed the Donnybrook-Woodstock ICP, evolved following industry and council consultation as it was finalised and progressively applied to the interim and final ICP.

Most recently and following the Melton C201 Mt Atkinson & Tarneit Plains Panel Report, the VPA has prepared the *Benchmark Infrastructure and Costs Guide* (BIC) as a consolidated document that incorporates the technical outputs of the Cardno Benchmark Costings while also providing guidance regarding how the VPA will use benchmark costs in preparing ICPs. This is being made available to assist all stakeholders to productively participate in the process. The BIC is intended to be a living document and will be regularly reviewed, updated and improved.

In addition, the BIC guide is intended to better inform discussions between different stakeholders, Councils and consultants regarding the need for and scope of "basic and essential" infrastructure and the approach to costing it. It is also intended to assist with moving beyond the previous approach of using cost rates from consultants and expert witnesses based on proprietary cost information. The methodology adopted of collating work across multiple precincts and Councils, from cost estimates prepared by different consultants and by doing this in a consistent way in consultation with the key stakeholders is intended to more robustly and transparently inform the preparation of ICPs.

The BIC Guide is provided as an appendix within this submission as a reference.

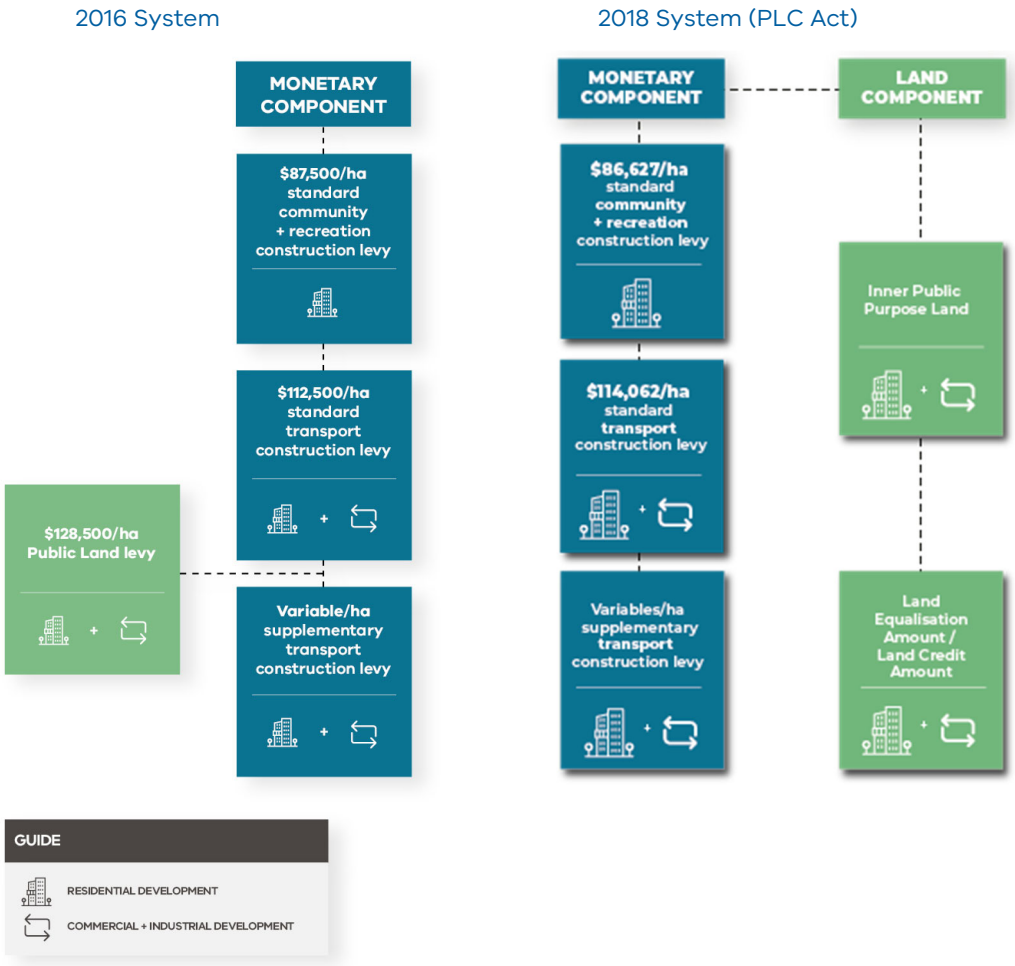
1.1.4 The Amendment

The 2017 standard ICP did not include costs for each ICP construction item, as guided by the Ministerial Direction. The supplementary levy ICP did, however, require costs for each item and as the Amendment required immediate exhibition, the exhibited ICP was informed by an early version of the Benchmark Costings. This is one of the key reasons for the increase in the supplementary levy amount from the exhibited figure to the figure that the VPA is recommending to the Panel in this submission. Using a draft document to inform costs may not have been a preferred approach, however, as mentioned earlier, there was a clear need to expedite development of a supplementary ICP for exhibition and so utilisation of the best available information, via the Benchmark Costings, was considered necessary. The exhibition and panel process for the final supplementary levy also afforded an opportunity for the Benchmark Costings to be further tested with stakeholders.

The VPA has undertaken extensive formal and informal consultation as part of the Amendment process to ensure that, whilst iterative, landowners and the Councils were afforded natural justice and procedural fairness. The VPA has sought comprehensive comments from relevant stakeholders on the ICP as it was being prepared under the new ICP system, based on concepts that differ greatly from the former Development Contribution Plan (DCP) system, and also being informed by the newly prepared Benchmark Costings.

Eight submissions were received through two formal notification periods and, as is standard practice, the VPA sought to resolve as many matters as possible prior to and after referring outstanding issues to a Panel. Following the conclusion of the functional layout plan and costings conclaves, some of the matters relating to ICP infrastructure item designs and costs referred to Panel on 18 November 2018 have now been largely resolved. Some designs and costs remain in dispute whilst the other outstanding unresolved matters relate to ICP systemic matters.

Figure 1 Diagrammatical overview of the components of the 2016 and 2018 (PLC Act) ICP systems



1.2 Changes to the ICP System

The ICP system came into effect in October 2016. The system is based on standard levies that are pre-set for particular classes of development in order to fund the construction of basic and essential infrastructure to service growing urban communities. This system also allows for a supplementary levy for transport construction costs, if required, in addition to the standard levy and where certain criteria are met.

The ICP system was updated on 2 July 2018 when the PLC Act came into effect.

Fundamental changes incorporated within the PLC Act (refer also Section 6.1) include:

- Improving the method of securing land for public purposes by introducing a land contribution model for the ICP system;
- Introduction of a separate process to determine public purpose land values via the Valuer General of Victoria (VGV);
- Prescribing the method by which the cost of providing all public land is equalised across all landowners with an ICP area; and
- No transitional provisions

The key difference in the PLC Act from the 2016 ICP system is the removal of the land monetary component for public purpose land.

1.3 Impact of the ICP System on the Amendment

When the PLC Act came into effect, the unintended consequence of implementation without transition provisions was that all existing gazetted ICPs in the state Government's 100,000 lots (Homes for Victorians) program ceased to have effect. This meant that all existing ICP, had to be significantly reworked to be translated into the new system.

An immediate response was therefore required by the VPA to replace the now redundant existing gazetted standard levy ICPs, and for those that translated into supplementary levy ICP, a planning scheme amendment process was required.

This included the Plumpton-Kororoit and Mt Atkinson & Tarneit Plains ICPs in addition to the Donnybrook-Woodstock ICP. All three of these PSP areas had planning permits issued and landowners and developers already developing within them.

There are significant overarching benefits to the ICP system as a result of the PLC Act, particularly in terms of equity and clarity regarding how land is treated. However, the change from a monetary to a contribution model for land means that in some circumstances, where there was previously a cash 'surplus' in the monetary land component that could be transferred to top up the transport construction levy, the new provisions could result in an ICP converting to become a supplementary levy. This was the case with the Donnybrook-Woodstock ICP.

The lack of transitional provisions, necessitated the VPA setting a post-PLC Act ICP implementation program which included:

- Recalculated land contribution percentages and revised resolved estimates of land value
- Full planning scheme amendment processes for the translated supplementary levy ICP
- Interim ICPs (for supplementary levy ICPs, based on the most up to date information available at the time of gazettal) to ensure that Councils were able to continue to issue subdivision permits in accordance with the approved PSPs.

The program also included extensive stakeholder consultation throughout as well as a process for finalisation of the Benchmark Costings.

1.4 Benchmark Costings Basis

In July 2018, the VPA prepared the draft Benchmark Costings to be used to inform the preparation of ICPs. Since then, the VPA has been revising the report based on consultation with outer growth Councils and industry as well as feedback through the current Amendment and Melton C201 Amendment. The Final ICP has been subsequently updated to reflect the current final draft Benchmark Costings (April 2019). The methodology and use of the Benchmark Costings was endorsed by the VPA Board on 9 October 2019.

The purpose of the Benchmark Costings Report is to inform the preparation of ICPs under the ICP system. Under the previous DCP system, the preparation, consultation and resolution on detailed designs and costs estimates was a contentious, expensive and time-consuming process. The scope of infrastructure items often entailed lengthy disputes over what constituted basic and essential infrastructure. There was often significant variation or irreconcilable differences between cost estimates prepared by different consultants for different PSP areas, with different, proprietary and/or opaque methodologies used to derive the data and estimates. This process often left a level of uncertainty for decision makers and made it difficult to make like for like comparisons between DCPs.

The Benchmark Costings have therefore been developed to have four key functions:

- Provide a transparent suite of "template" benchmark designs and costs for the typical range of allowable ICP infrastructure items based on typical project scopes and designs
- Inform or provide a starting point for costing any non-typical, being hybrid or bespoke, infrastructure items that may be required
- Inform whether an ICP will be a standard levy or supplementary levy ICP
- Form the basis of costings for supplementary levy ICPs.

By calculating benchmark costs for a range of basic and essential infrastructure items, the Benchmark Costings aims to systematically, consistently and transparently guide the preparation of ICP designs and cost estimates.

This approach is consistent with the premise of the new ICP system as outlined in the newly released *Infrastructure Contributions Plan Guidelines* is:

- The introduction of standard levy rates so that a planning authority no longer needs to calculate and justify the levy each time it wishes to levy contributions towards the provision of basic and essential infrastructure
- Planning authorities, infrastructure providers and the development industry have more certainty about the levies payable and can factor this into their forward planning
- A more consistent and transparent approach to the application of levies
- Reduced risk of escalating infrastructure charges through 'gold plating' or 'scope creep'
- A simpler and faster process for preparing and approving plans to impose a levy.

Preparation and application of the Benchmark Costings is discussed further at Section 7.

As mentioned earlier, the VPA has prepared a new document, called the Benchmark Infrastructure and Costs Guide (BIC) as a consolidated publication that incorporates the technical outputs of the Cardno Benchmark Costings Report, (April 2019) while also providing guidance regarding how the VPA will use benchmark costs in preparing ICPs and to assist all stakeholders to productively participate in the process. The BIC is intended to be a living document and will be regularly reviewed, updated and improved

The BIC guide is intended to assist in the resolution of issues of varying opinion from stakeholders, Councils and consultants regarding the need for and scope of infrastructure and the approach to costing it. It is also intended to assist moving beyond the approach to the cost rates used by consultants and expert witnesses based on proprietary cost information. The methodology adopted of collating work across multiple precincts and Councils, from cost estimates prepared by different consultants and by doing this in a consistent way in consultation with the key stakeholders is intended to more robustly and transparently inform the preparation of ICPs.

In addition, the guide is intended to assist in the identification of appropriate infrastructure to include in the ICP and to provide an appropriate approach to estimating the cost of this infrastructure. It should be read in conjunction with the *Planning & Environment Act 1987* (the Act), *Ministerial Direction on the Preparation and Content of Infrastructure Contributions Plans* (the Direction) and the *Infrastructure Contributions Plan Guidelines* (the Guidelines).

1.5 Chronology of the Amendment in Relation to the ICP System Changes

A chronology of the Final ICP Amendment, Interim ICP and preparation of the Benchmark Costings Report is provided in Figure 3. The overview of the preparation of the Final ICP is provided below, followed by an overview on the finalisation of the Benchmark Costings.

1.6 Standard ICP (GC61)

Figure 3 below provides a diagrammatic overview of the progression of the Final ICP from the Standard ICP.

The Donnybrook-Woodstock PSP (Amendment GC28) and Donnybrook-Woodstock ICP (Amendment GC61) were gazetted in November 2017 (see Table 1 below). This ICP:

- Was gazetted under the 2016 ICP legislation
- Was a standard ICP, with a $0 supplementary levy amount
- Was informed by, but did not include, designs that informed the PSP and costs that were informed by pre-July 2018 Benchmark Costings

Figure 2 Diagrammatical overview of the Progression of the Final ICP and Benchmark Costings

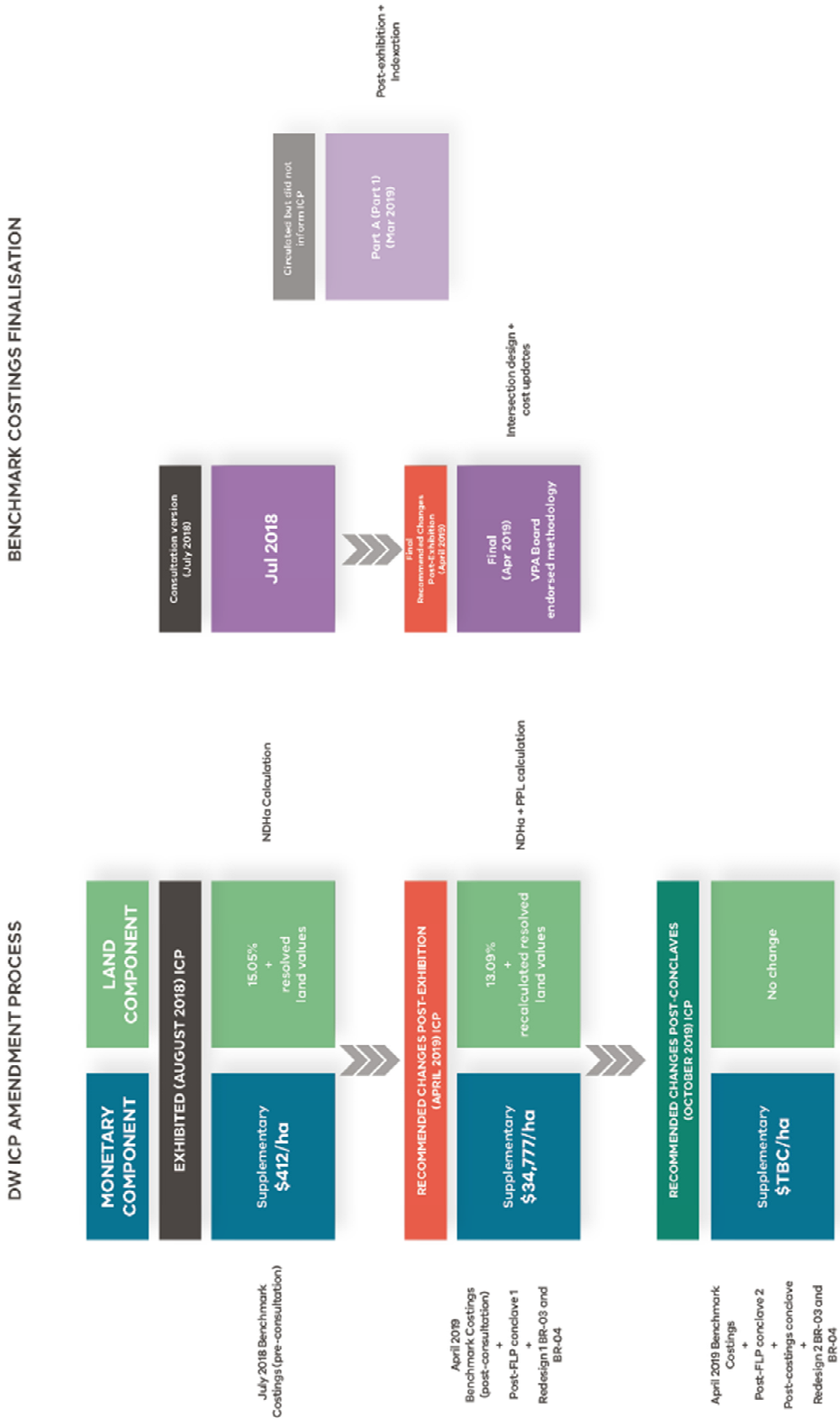
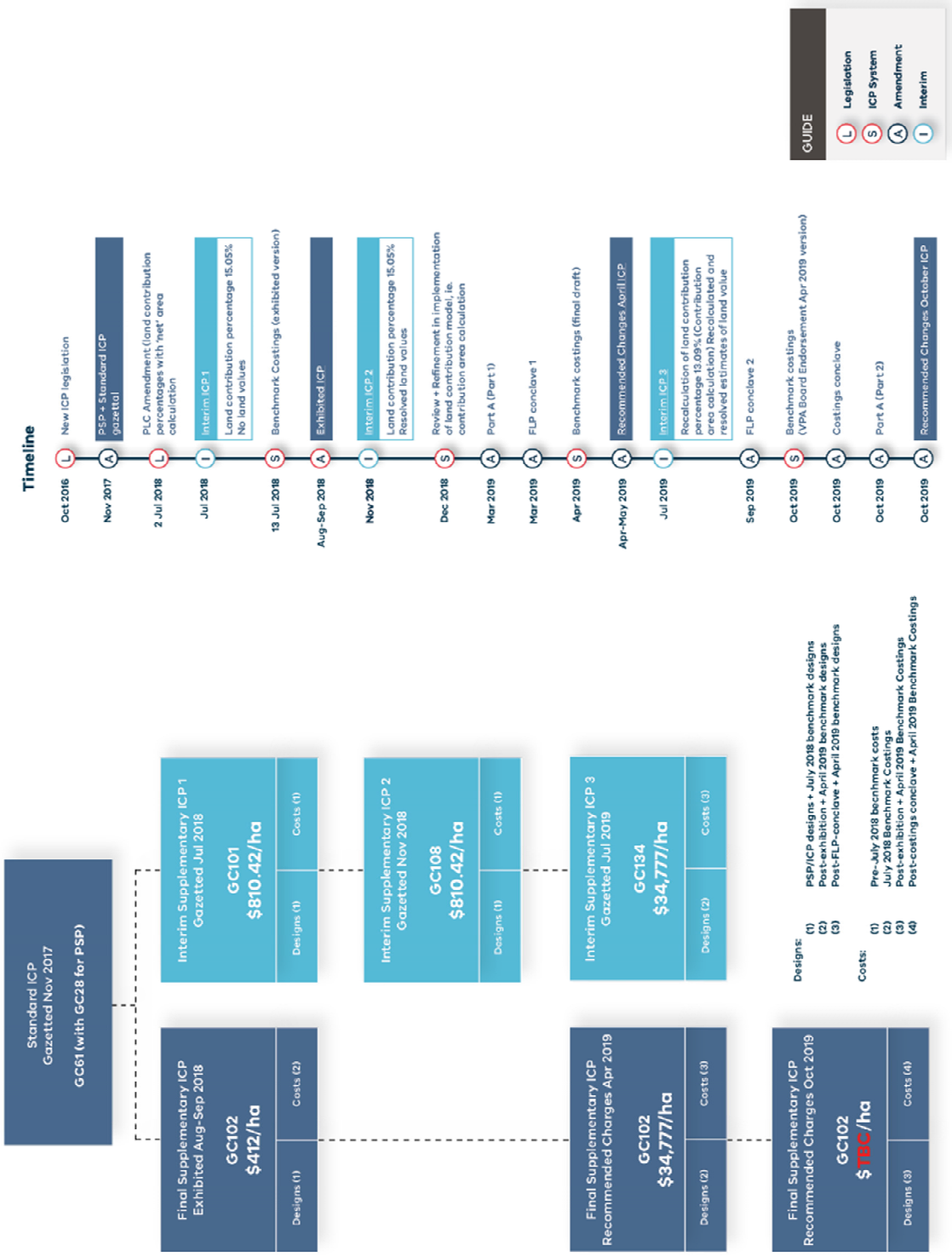


Figure 3 Donnybrook-Woodstock Interim and Final Timeline



1.7 Interim Supplementary ICPs – Three Gazetted Versions

The PLC Act required an interim ICP to be prepared and gazetted to ensure that there was a valid incorporated ICP and that it was consistent with the Act. The first interim ICP was replaced twice to update the land and monetary components of the interim ICP to ensure its contents were as close the final ICP as possible, to allow Councils to continue to issue permits under an ICP that contained up-to-date information. The changes from the standard ICP to the three interim ICP are summarised in Table 1 below.

The currently incorporated ICP, as gazetted in July this year, is the same document as the Recommended Changes (April) ICP that was prepared as part of the current Amendment.

Table 1 Key Changes from the Standard ICP to the Three Interim ICP

	Standard ICP	Interim 1	Interim 2	Interim 3
AMENDMENT DETAILS				
Amendment number	GC61	GC101	GC108	GC134
Amendment type	20A	20(4)	20(4)	20(4)
Date gazetted	November 2017	2 July 2018	November 2018	July 2019
Applicable legislation	ICP 2016 legislation (monetary land component)	PLC Act (land contribution component)	NC	NC
Applicable Ministerial Direction	27 October 2016	2 July 2018	NC	NC
LAND COMPONENT				
Land contribution percentages	N/A (monetary land component)	15.05% (NDHa calculation)	NC	13.09% (Contribution area calculation)
Estimates of land value	N/A (monetary land component)	None (asterisks in lieu of values)	Resolved	Recalculated and resolved
MONETARY COMPONENT				
Standard levy amount (per NDHa)	$334,300	$200,689	NC	NC
Supplementary levy amount (per NDHa)	N/A*	$810.42	NC	$34,777
Supplementary items	N/A	BR-02, BR-03, BR-04	BR-02, BR-03, BR-04	BR-01, BR-02, BR-03, BR-04, BR-05 Ped-02, Ped-03 IN-02, IN-03
ICP item costs	N/A*	Pre-July 2018 Benchmark Costings costs	NC	April 2019 Benchmark Costings costs And incorporating the changes as per the Recommended Changes (April) ICP
ICP item designs	N/A*	None	NC	As per Recommended Changes (April) ICP: Combination of designs from the April 2019 Benchmark Costings and bespoke designs which informed the PSP
NC – no change from the previously listed ICP N/A* - not required for a standard ICP				

1.8 Final Supplementary ICP (GC102) – Three Updates

(over the page) provides a diagrammatic overview of the progression of the Final ICP and Benchmark Costings Report.

- The exhibited ICP underwent consultation between August and September 2018. It included:
  - Costs informed by the July 2018 Benchmark Costings and designs that were either benchmark or bespoke having been prepared as part of the PSP process
  - Land contribution percentage calculated using net developable hectare and no estimates of land value
    - The first Panel directions was held in December 2018
    - The second Panel directions hearing was held on 15 March 2019
    - The third Panel directions hearing was held on 22 March 2019
    - The first functional layout plan (FLP) conclave statement was filed on 26 March 2019
    - The fourth Panel directions hearing was held on 14 May 2019
- The Recommended Changes (April) ICP underwent targeted formal consultation between April and May 2019. It included:
  - Costs informed by April 2019 Benchmark Costings and redesigns for intersection and two bridges and updated benchmark designs and costs in response to submissions and the FLP conclave statement
  - Land contribution percentages recalculated using contribution area and recalculated and resolved estimates of land value
    - A second FLP conclave statement was filed on 20 September 2019.
    - A costing conclave statement was subsequently filed on18 October 2019.
- The Recommended Changes (October) ICP document includes updates in response to the second FLP and costings conclave statements. It included:
  - Costs still informed by April 2019 Benchmark Costings and some further resolved costs following the second FLP conclave, the costing conclave, plus further redesigns for two bridges
  - No changes to the land component from the April ICP.

The key changes across the three versions of the ICP are provided out in Table 2 below.

Table 2 Key Changes from the Standard ICP to the Three Final ICP Updates

	Standard ICP	Exhibited ICP	RC April ICP	RC October ICP
AMENDMENT DETAILS				
Amendment number	GC61	GC102	NC	NC
Amendment type	20A	Section 19	Further notification version of ICP	Panel hearing version of ICP
Date gazetted	November 2017	Under preparation	NC	NC
Applicable legislation	ICP 2016 legislation (monetary land component)	PLC Act (land contribution component)	NC	NC
Applicable Ministerial Direction	27 October 2016	2 July 2018	NC	NC
Date of ICP	August 2017	July 2018	April 2019	October 2019
Exhibition	N/A*	August to September 2018	April to May 2019	Panel hearing
Exhibition parties	N/A*	Landowners in and adjoining ICP area Peak industry bodies for Benchmark Costings (informal consultation)	Landowners in Donnybrook-Woodstock and Shenstone Park ICP area	Parties to the Panel
Purpose	Original ICP	Replace gazetted standard ICP	Update the supplementary levy	Finalise the supplementary levy amount in response to:

	Standard ICP	Exhibited ICP	RC April ICP	RC October ICP
			amount in response to: • Submissions • 2019 April Benchmark Costings • FLP conclave 1 statement	• FLP conclave 2 statement • Costings conclave • Melton C201 panel report
LAND COMPONENT				
Land contribution percentages	N/A (monetary land component)	15.05% (NDHa calculation)	13.09% (Contribution area calculation)	NC
Estimates of land value	N/A (monetary land component)	None (asterisks)	Recalculated and resolved	NC
MONETARY COMPONENT				
Standard levy amount (per NDHa)	$334,300	$200,689	NC	NC **
Supplementary levy amount (per NDha)	N/A*	$412	$34,777	To be confirmed in Part B
Supplementary items	N/A *	BR-01, BR-02, BR-03, BR-04, BR-05 Ped-02, Ped-03 IN-02, IN-03	BR-01, BR-02, BR-03, BR-04, BR-05 Ped-02, Ped-03 IN-02, IN-03	To be confirmed in Part B
ICP item designs	N/A*	Bespoke PSP and benchmark designs	Bespoke post-exhibition and post-FLP conclave # redesigns Benchmark redesigns	Bespoke post-FLP conclave #2 redesigns
Key changes from previous ICP	N/A*	Bespoke intersection designs (except IN-16) Bespoke bridge designs (BR-01, BR-05) Benchmark designs for remaining items	Redesign bespoke design intersections (except IN-16) Redesign of BR-02 and BR-03 Redesign benchmark designs	Redesign IN-04 and IN-05 Redesign BR-03 and BR-04
ICP item costs informed by	N/A*	July 2018 Benchmark Costings	April 2019 Benchmark Costings	April 2019 Benchmark Costings and costings conclave statement
Key changes from previous ICP	N/A*	Hybrid costs for RD-01, RD-03, RD-04 Bespoke cost for BR-01 Benchmark costs for remaining items	Re-costed hybrid cost for intersections Re-costed bespoke cost for BR-02 and BR-03 Re-costed benchmark costs and hybrid costs	Re-cost bespoke cost for IN-04 Re-costed bespoke cost BR-03, BR-04 re

NC – no change from the previously listed ICP

N/A* - not required for a standard ICP

** - Standard levy will remain at July 2018-19 rates during the panel hearing for consistency but will be indexed to July 2019-20 upon finalisation of the Amendment

1.9 Benchmark Costings Report – Finalisation via Three Versions (One Superseded)

The VPA has circulated three versions of the Benchmark Costings. Only the July 2018 exhibited version and the April 2019 Recommended Changes version are relevant to the Panel as the second version, dated March 2019, was replaced prior to informing the Final ICP (or any other ICP). The April 2019 Benchmark Costings is the final version that formed the basis of the VPA Board endorsed BIC Guide.

Where these versions sit within the Amendment process is identified in . The changes between the three versions are summarised in the table thereafter.

The April 2019 Benchmark Costings, which informed the changes in the Recommended Changes (April) ICP, is the final draft version of this document and it formed the basis of the VPA Board's endorsement of the use and methodology of this document.

The VPA submits that the Benchmark Costings is a robust document that appropriately informs the Donnybrook-Woodstock ICP.

More broadly, the document has been prepared and tested in a manner that will ensure the consistent and transparent preparation of future ICP that was (time and time again) identified as a major shortcoming of the former DCP system. With time and practice, this document will greatly assist to realise the planned benefits of the new "standard and simplified" ICP system.

The VPA BIC Guide (accompanying this submission) incorporates the design and cost information contained within the April 2019 version of the Cardno Benchmark Costings.

Table 3 Key changes across the three versions of the Benchmark Costings

Document	July 2018	March 2019	April 2019
Status of document	Consultation draft	None	Final draft Methodology endorsed by the VPA Board
Informed which version of Final ICP	Exhibited ICP	None	Recommended Changes (April) ICP
Formed part of which Amendment GC102 documentation	Exhibition documents	Part A (Part 1)	Recommended Changes (April) 2019 further notification documents
Subject to which consultation	Formal exhibition of Amendment GC102 Formal exhibition of Melton Amendment C201 Informal consultation with peak industry groups	Formal circulation to parties to the Panel (Amendment GC102 and Melton Amendment C201)	Formal circulation to parties to the Panel (Amendment GC102 and Melton Amendment C201) Formal further notification of Amendment GC102 Formal further notification of Melton Amendment C201
Key changes from previous version	N/A (first consultation version)	Indexation of all costs Additional costs added to roads Additional costs added to intersections Additional costs added to community and recreation costs	Redesign all intersections to accord with VicRoads standards. Update corresponding costs.

1.10 Summary of Resolved and Unresolved Submissions

A summary of matters that are considered resolved and unresolved from the eight submissions received from the two formal exhibition processes for Amendment GC102 are summarised in the section below.

1.10.1 Resolved

Benchmark Costings

- Intersection design inconsistencies with VicRoads guidelines of the July 2018 version have been rectified in the April 2019 version
- Costs have generally increased (including indexation) across all items following review.
- Costs have been prepared to allow them to be applicable to all growth area geographies.
- The methodology and use of the Benchmark Costings, via the BIC Guide, have been endorsed by the VPA Board.

ICP designs and costs

- Intersection design speeds were revised and resolved through the FLP conclave.
- Four of the five Donnybrook Road intersection redesigns were resolved through the FLP conclave.
- Where applicable, benchmark costs have been tailored to respond to site-specific physical constraints (referred to as hybrid costs). Many of these ICP item costs were discussed at the costings conclave and the resolution of these items will be confirmed in the Part B submission.

ICP administrative matters

- Most typographical errors within the ICP were corrected in the Recommended Changes (April) ICP and a further review will occur when the ICP is submitted to the Minister for Planning for approval.

1.10.2 Unresolved

ICP designs and costs

- One of the five intersections along Donnybrook Road remains in dispute following the FLP conclave.
- The ICP funded design of Koukoura Drive and Patterson Drive remains in dispute following the two FLP conclaves. These cross sections are also the subject of Council's submitted urban design evidence. The VPA considers this to be a consideration of the "basic and essential" design.
- The ICP funded design of two bridges remains unresolved and were not the subject of discussion in either of the FLP conclaves. The redesigns will be tabled and explained in the VPA's Part B submission. The VPA considers this to be a consideration of the "basic and essential" design also.
- The status of submissions on cost will be confirmed in the Part B submission following the circulation of the costing conclave statement.

ICP administrative matters

- The VPA does not consider it appropriate to remove properties from the ICP area, and thereby any planning controls for contribution obligations, on land which is already subject to a planning permit.
- The VPA does not agree to reclassify land determined to be uncreditable in the gazetted PSP as creditable in the ICP.
- The listing of items under the supplementary levy in the Recommended Changes (April) ICP is considered consistent with the Ministerial Direction and is supported by the VPA's submitted planning evidence.
- Due to the redesign and proposed change in apportionments of the Donnybrook Road intersections to T-intersections, the VPA recommends that the descriptions and representation of these in the ICP be updated.

Systematic matters

- The VPA does not have the ability to include borrowing costs to forward fund all the community and recreation items in the ICP as requested by Council.

A summary of the ICP designs and costs that formed the subject of submissions, the conclaves and which of these are resolved and unresolved at the conclusion of the conclaves is provided in Table 4 below.

Table 4 Summary of resolved and unresolved submissions on ICP designs and costs

Item type	Subject to submissions	Subject to conclaves	Resolved by conclaves	Unresolved
Designs	RD-05	RD-04, RD-05	N/A	RD-04, RD-05
	IN-03, IN-04, IN-07, IN-11, IN-12, IN-15	IN-01, IN-02, IN-03, IN-04, IN-05, IN-07, IN-11, IN-15	IN-01, IN-02, IN-04, IN-05, IN-07, IN-11, IN-15	IN-03
	BR-03, BR-04	-	Not subject to conclaves	BR-03, BR-04
Costs	RD-02, RD-03, RD-05	RD-01, RD-02, RD-03, RD-04, RD-05	To be confirmed in Part B	RD-03, RD-05
	IN-01, IN-02, IN-03, IN-04, IN-05, IN-06, IN-07, IN-10, IN-11, IN-12, IN-14, IN-15,	IN-01, IN-02, IN-03, IN-04, IN-05, IN-06, IN-07, IN-08, IN-09, IN-10, IN-11, IN-12, IN-13, IN-14, IN-15, IN-16, IN-17	To be confirmed in Part B	To be confirmed in Part B
	BR-03, BR-04, BR-05	BR-01, BR-02, BR-03, BR-04, BR-05	To be confirmed in Part B	To be confirmed in Part B
	SR-01, SR-02, SR-03, SR-04, SR-05, SR-06	No	Not subject to conclaves	N/A
	CI-01, CI-02, CI-03 and CI-05	No	Not subject to conclaves	N/A

1.11 Summary of other Key Matters for the Panel's Consideration

Other matters that provide the background context for the Panel's consideration of the Amendment are:

Other applicable Panel Reports

There are also two preceding Panel Reports that contain recommendations that are applicable to the Amendment. These are:

- Melton Amendment C201 which sought to implement the Mt Atkinson & Tarneit Plains ICP. The Panel made six recommendations, of which four are applicable to Donnybrook-Woodstock ICP and are discussed at section 4.11.
- Whittlesea and Mitchell Amendment GC28, which considered the Donnybrook-Woodstock PSP. There are two recommendations within the Panel Report that are applicable to the ICP and are discussed at section 4.10.

Changes to the supplementary levy amount

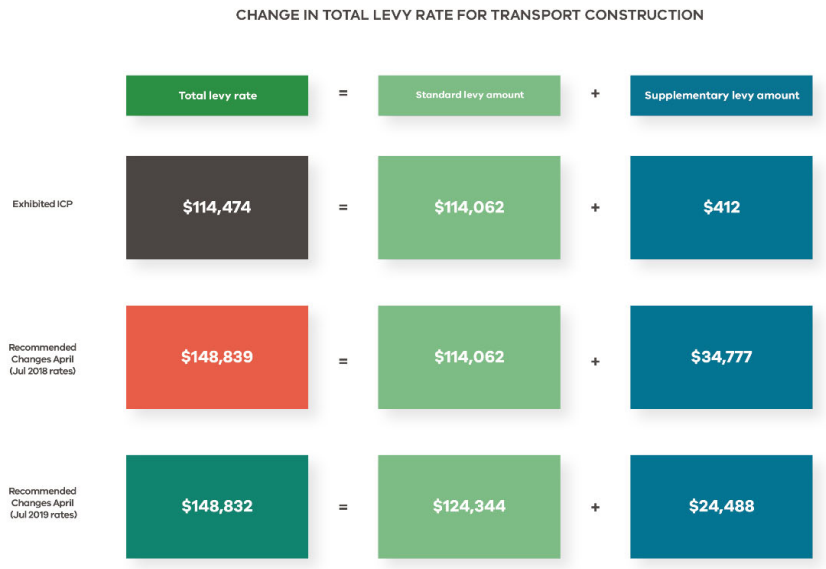
There are two key changes in the supplementary levy amounts of the interim and final ICP as outlined below and discussed further in this report:

1 The supplementary levy amount of: Interim 1 ICP being $810.42 in July 2018 and the Final exhibited ICP of $412 in August 2018
   - The change in the figures published one month apart is due to the interim being informed by pre-July 2018 Benchmark Costings and the latter being formed by the July 2018 Benchmark Costings.

2 The supplementary levy amount of: Final exhibited ICP being $412 in July 2018 and the Recommended Changes (April) ICP supplementary levy amount of $34,777.
   - The change in figure is a result of responses to: the Amendment submissions, updates from the July 2018 to April 2019 Benchmark Costings (key reason for change in figure), and the functional layout plan conclave statement dated 26 March 2019.

As well, the VPA will index the ICP with the July 2019-20 levy rates following the Panel process. For reference, indexation will apply to the standard levy rate only, increasing it from $144,062 per net developable hectare (July 2018-19 rates) to $124,334 per net developable hectare (July 2019-20) whilst the individual ICP item costs will remain as these are already indexed to March 2019, the same as the July 2019-20 levy rates. The Figure 4 below depicts the change in rate:

Figure 4 RC April ICP supplementary levy amount indexed to July 2019-20 indexed rates



Implementation of interim and final ICP

There are three key matters to note on the interim versus the final ICP:

- In its Direction, the Panel asked how the reconciliation of costs between the interim and final ICP supplementary levy amounts will be addressed. The VPA understands that the Councils are utilising Section 173 agreements to manage discrepancies between contributions collected and contribution owing.
- If planning permits have already been issued for particular properties, the VPA does not consider it appropriate to remove these properties from the final ICP, also discussed at section 9.3.8.
- For reference, the VPA has not been informed of any announcements for legislative changes that would result in another round of interim ICP.

1.12 Conclusion

The set of recommended changes before the Panel has been narrowed in scope following the FLP conclave statements and the further narrowing of scope from the costing conclave statement will be confirmed in the Part B submission. The Amendment is underpinned by the Benchmark Costings and is described for the Panel's consideration at Section 7 of this submission.

The submissions that remain unresolved largely pertain to differing views on what design standard is considered "basic and essential" for two roads and two bridges, and those that seek changes to the way in which the ICP applies to particular properties or that are systemic changes that are beyond the VPA's remit to effect.

The VPA thanks stakeholders to the Amendment for their patience during this time of transition in implementing the new ICP system and shifting from the 2016 to the 2018 ICP legislation more particularly. The preparation of the Amendment has been, as had Melton Amendment C201, a staged process entailing a notable increase in the total ICP levy amount.

In large part this was due to finalisation of the Benchmark Costing alongside the Amendment, a process necessitated by the lack of transitional provisions and the urgent need to prepare and exhibit the final ICP to replace the first interim ICP gazetted via a section 20(4) amendment. Whist this may not have been ideal in terms of documentation and time, it has provided the opportunity for the Benchmark Costings to be formally tested. Similarly, the renotification, conclaves and Panel Hearing process collectively provided a high degree of rigour necessary to finalise the Donnybrook-Woodstock ICP and provide the framework to collect contributions to fund infrastructure.

The VPA notes that the finalisation of the current Amendment has enabled the Benchmark Costings to be finalised and endorsed by the VPA Board; will replace the need for any further interim Donnybrook-Woodstock ICP; and will enable the continued development of lots under the Victorian Government's 100,000-lot program.

2 ABBREVIATIONS AND TERMINOLOGY USED

VPA	Victorian Planning Authority
DELWP	Department of Environment, Land, Water and Planning
DoT	Department of Transport (formerly VicRoads)
ICP	Infrastructure Contributions Plan
PLC	*Planning and Environment Act (Public Land Contributions Amendment) 2018*
P&E Act	*Planning and Environment Act 1987*
ICP Guidelines	*Infrastructure Contributions Plan Guidelines*
GGF Design Standards	*Growling Grass Frog Crossing Design Standards*
Cost(s)	Refers to "cost estimates" of ICP infrastructure items contained within cost sheets
Design(s)	Refers to the designs or "functional layout plans" of ICP infrastructure items
Line item	A row within the cost estimate sheet that specifies a particular component of the overall cost and includes a description, quantity and unit, P90 unit rate and P90 total
Benchmark	Refers to a "template" design or cost for an infrastructure item as taken directly from the Benchmark Costings
Bespoke	Refers to a non-template, site-specific design and/or cost for an infrastructure item
Hybrid	Refers to a design and costs for an infrastructure item that sits in between the spectrum of template and site-specific
Hybrid 1	Hybrid cost prepared based on benchmark design and can include either or both of (a) reduced/greater quantities applied to benchmark P90 rates, and (b) included additional non-benchmark components (that is, additional line items)
Hybrid 2	Hybrid cost prepared based on bespoke design using quantities of the bespoke design applied to benchmark P90 rates, and can include additional non-benchmark components (that is, additional line items)
FLP conclave 1	Expert functional layout plan conclave that reviewed the Exhibited ICP for which the statement was dated 26 March 2019
FLP conclave 2	Expert functional layout plan conclave that reviewed the Recommended Changes (April) ICP for which the statement was dated 20 September 2019
Costings conclave	Expert costings conclave that reviewed the Recommended Changes (April) ICP costs for which the statement was dated 18 October 2019
Exhibited ICP	Exhibited version of final ICP (August 2018)
RC April ICP	Set of recommended Changes to the final as notified to stakeholders during April 2019
Final RC October ICP	Final set of recommended changes being recommended to the Panel for the final ICP (October 2019)

3 INTRODUCTION

This Part A (Part 2) submission is made by the Victorian Planning Authority (VPA) to the Planning Panel in relation to Amendment GC102 to the Whittlesea and Mitchell Planning Scheme (the Amendment). The VPA is the Planning Authority for the Amendment and has prepared it in collaboration with Whittlesea City Council, Mitchell Shire Council and relevant authorities, stakeholders and landowners.

The Amendment seeks to implement the final *Donnybrook-Woodstock Infrastructure Contributions Plan* (ICP), which is required to allow funding of infrastructure identified in the *Donnybrook-Woodstock Precinct Structure Plan* (PSP).

The ICP system came into effect October 2016. In July 2018, it was replaced with the *Planning and Environment (Public Land Contributions) Act 2018* (PLC Act) and associated *Ministerial Direction on the Preparation of and Content of Infrastructure Contribution Plans* (the Ministerial Direction). As there are no transitional provisions and the legislation introduced changes to the land component within ICP, an interim and supplementary ICP was required and was incorporated in the Whittlesea and Mitchell Planning Scheme on the same day as the PLC Act was introduced. This interim ICP has since been replaced twice as refinement in the implementation of the PLC Act was realised to allow Councils to continue to issue permits under relevant ICP content. Amendment GC102 seeks to incorporate a final ICP via a full planning scheme amendment process.

The VPA has worked transparently and responsively in preparing the final ICP and alongside it, developing and finalising the *Benchmark Infrastructure Report (Cardno, April 2019)*, or Benchmark Costings. These documents formed the basis of nine consultation processes, including two formal periods for the Amendment, as detailed in section 0. The final set of changes to the ICP are made in response to:

- The extensive consultation undertaken by the VPA on the Amendment and Benchmark Costings (refer to section 7.3.1)
- The wide-ranging data and consideration applied to the Benchmark Costings (refer to section 7.3),
- Reflections from the Mt Atkinson & Tarneit Plains ICP Panel Report (refer to section 4.11)
- Three conclave statements have collectively facilitated an efficient outcome for resolution of submissions to the Amendment (refer to section 9.2.2)

The VPA submits that the three conclaves, the extensive level of engagement undertaken by both the VPA and submitters to the Amendment has served to resolve many of the issues in contention.

A total of eight submissions were received on the Amendment and several matters within these submissions have since been resolved. The unresolved matters pertain to systemic matters, ICP item designs, and ICP item cost the latter of which will be further confirmed in the Part B Submission following circulation of the costings conclave statement.

As per the Panel's directions, this Part A (Part 2) submission includes the following Amendment information:

- Overview
- Background
- Chronology of the Amendment
- Strategic Assessment
- ICP system overview
- Explanation of changes since exhibition, including through the conclaves
- Summary of resolved and unresolved matters
- VPA's final position on the Amendment, up to the time that the planning evidence was circulated on behalf of the VPA. A final set of changes, collectively referred to as Final October ICP, will be included in the VPA's Part B submission.

The submission refers to the ICP prepared under this Amendment as follows:

- Exhibited ICP (dated August 2018) refers to the ICP that was subject to the formal exhibition;
- RC April ICP (dated April 2019), herein referred to as RC April ICP, formed the basis of the further notification period; and
- Final Recommended Changes October ICP, herein referred to as Final RC October ICP, refers to the changes that the VPA is recommending to the Panel to the RC April ICP document as its final position on the Amendment.

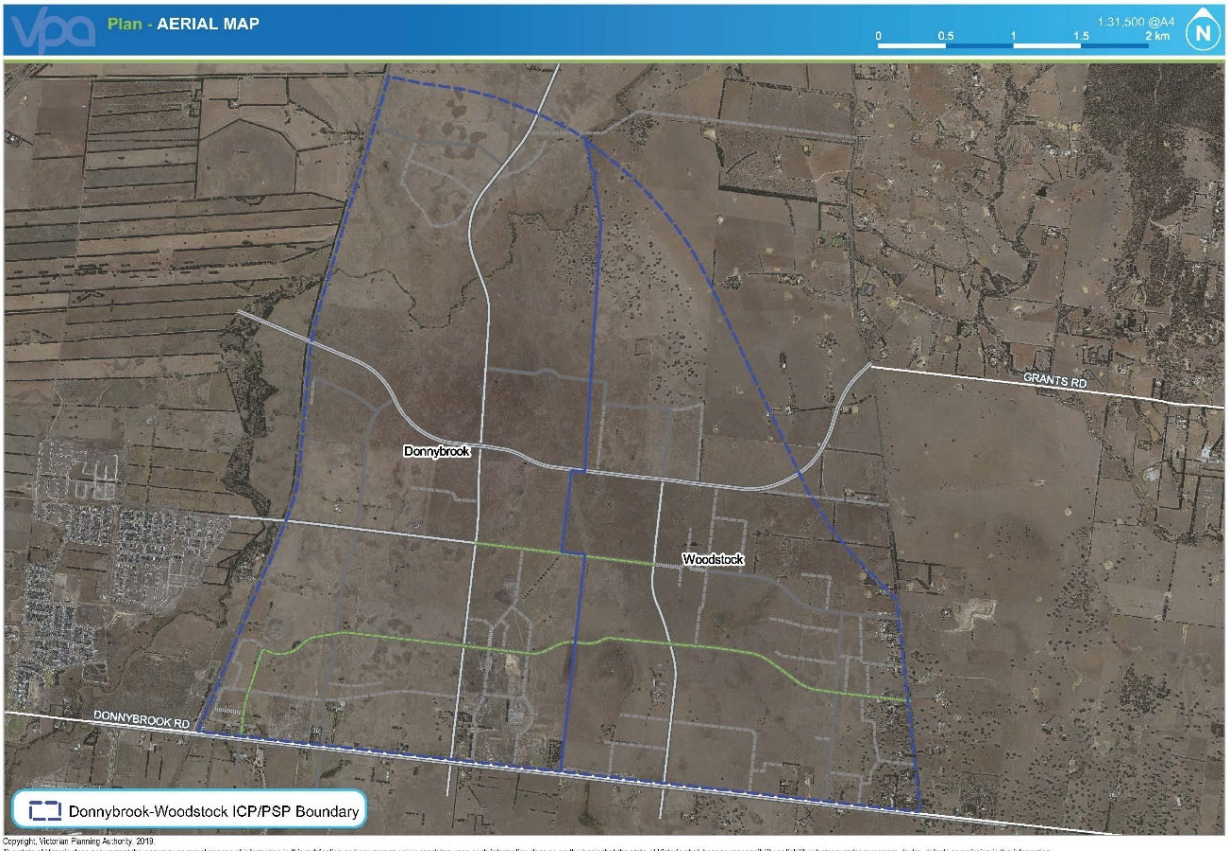
3.1 Application of the Amendment

The Amendment applies to the ICP area, being the land within the Donnybrook-Woodstock PSP area, and comprises:

- Total area of 1,786 hectares
- Contribution land area of 1,188 hectares (explained in section 6.1.1)
- Net developable area of 1,032 hectares.

The ICP area is generally bound by the E6-Outer Metropolitan Ring (OMR) reservation to the north, Merriang Road to the east, Donnybrook Road to the south and the Sydney-Melbourne railway line to the west (see Figure 5 Aerial View of the Precinct

Figure 5 Aerial View of the Precinct



3.2 Formal Response to Submissions

The VPA provided a written response to all submitters between January and March 2019 regarding matters raised, and where necessary, has also discussed matters verbally. The VPA's response to submissions formed the basis of the RC April ICP and Final RC October ICP.

3.3 Outstanding Issues

The VPA has worked to resolve the formal submissions where possible prior to the Panel hearing, including through the functional layout plan (FLP) and costings conclaves. All of the eight submissions include components that are not yet resolved, notwithstanding the costings conclave statement is expected to resolve a number of unresolved cost matters.

For issues that are within the scope of this Amendment, the VPA intends to work with stakeholders and to resolve these matters, if possible, throughout the Panel process.

3.4 Panel Directions – Preliminary Issues Raised

The Panel has provided a number of directions pertaining to this Amendment, with its latest combining these in the document titled *Consolidated Panel Directions (25 September 2019)*. These are summarised in the table below with a reference to where further detail can be found in the report.

Table 5 Summary of Panel directions

Number	Direction	Relevant Section of This Submission
17.a.	Background to Amendment GC102	4
17.b.	A chronology of events covering:	4.5
17.b.i.	The approval of the Donnybrook-Woodstock PSP	4.4
17.b.ii.	Development of the interim Donnybrook-Woodstock ICP	6
17.b.iii	Amendment GC134 (which updated the interim ICP)	0
17.b.iv.	Development of the permanent Donnybrook-Woodstock ICP and Amendment GC102 (exhibited version)	6.2.4
17.b.v.	Development of the revised Donnybrook-Woodstock ICP April 2019 version (Document 56) and the revised Infrastructure Contributions Overlay (Documents 58 and 59)	8
17.c.	Information on how the VPA envisages the transition from the interim Donnybrook-Woodstock ICP to the permanent Donnybrook-Woodstock ICP will work, including:	
17.c.i	The appropriateness of removing particular properties from the permanent ICP (as requested in the submission from DFC (Donnybrook) Pty Ltd)	9.3.8
17.c.ii.	How any discrepancies in contributions paid under interim arrangements and the final approved ICPs may be dealt with	6.3
17.d.	An explanation of how the supplementary levy items in the revised Donnybrook-Woodstock ICP (Document 56) meet the criteria of Clause 17 of the Ministerial Direction	5.2.4
17.e.	Identification of the issues raised in submissions and its response	9
17.f.	A record of any further changes to the ICP and Amendment documentation proposed in response to submissions or otherwise, including an indication of whether any such changes could impact on other landowners	10.3
17.g.	Any changes the VPA proposes to make to the Amendment in response to VC148	5.3
17.h.	An explanation of the impacts (if any) of the recently approved Infrastructure contributions plan guidelines, September 2019 on the revised ICP	5.2.5

3.5 Matters that are Out-of-Scope for the Panel

There are two matters within the ICP document that are considered out of scope of the Panel, as listed below and discussed thereafter.

1 Matters which were resolved through the gazetted PSP panel process; and

2 Submissions on the land equalisation amounts and land credit amounts as well as any estimate on the value of public purpose land.

3.5.1 Matters resolved through the PSP process

As intended by the ICP system and outlined within the *Infrastructure Contributions Plan Guidelines* (ICP Guidelines), a PSP sets out the strategic vision, future use and development and the type and location of infrastructure (that is, the type of infrastructure design and where it will be located). In this way, the Panel Report for the Donnybrook-Woodstock PSP (Amendment GC28 to the Whittlesea and Mitchell Planning Schemes, dated 8 September 2016) resolved a number of matters relevant to the current Amendment. These include:

- The strategic need for infrastructure in the PSP/ICP area

- The need and nexus of infrastructure to the PSP/ICP area (but not the apportionment)
- The type, scope, standard of infrastructure
- The projected staging of infrastructure
- The overall land budget comprising the total area, contribution area and net developable area

There are also two recommendations of the GC28 Panel Report that are directly applicable to the current Amendment, which are discussed further in section 4.10.

3.5.2 Submissions on land equalisation and land credit amounts, and the estimates of the land value for public purpose land

Section 22(5)(a) of the P&E Act restricts the ability for the VPA as the planning authority, and thereby the Panel, to consider submissions on land equalisation and land credit amounts, and the estimates of land value for public purpose land as follows:

> *"a planning authority must not consider a submission which requests a change to (a) any land credit amount or land equalisation amount specified in an infrastructure contributions plan that is to be incorporated into a planning scheme by the amendment; or (b) any estimate of the value of public purpose land (within the meaning of Part 3AB) on which the amounts referred to in paragraph (a) are based".*

There were no submissions on the land equalisation and land credit amounts, nor the estimates of land value in the exhibited ICP. Despite the submission restrictions that section 22(5)(a) places on landowners, in the interest of operating transparently in implementing the new ICP system, the VPA updated the land credit and land equalisation amounts in the RC April ICP, as it was undertaking a broader review of land contribution percentages as requested by the Minister for Planning. The supporting documentation for the RC April ICP made reference to section 22(5)(a) of the P&E Act and no submissions were made regarding the changes.

3.6 Whole of Government Position

The position presented by the VPA in this submission where possible represents a whole of government submission. The VPA consulted closely with Whittlesea City Council, Mitchell Shire Council, DELWP and affected landowners during the ICP's preparation.

No submissions on the ICP were received from State government agencies or departments. The VPA and the Department of Transport (formally VicRoads) submitted a joint whole-of-state-government response to the updates made to the RC April ICP, as circulated to parties as Document 90 (refer to Appendix 3).

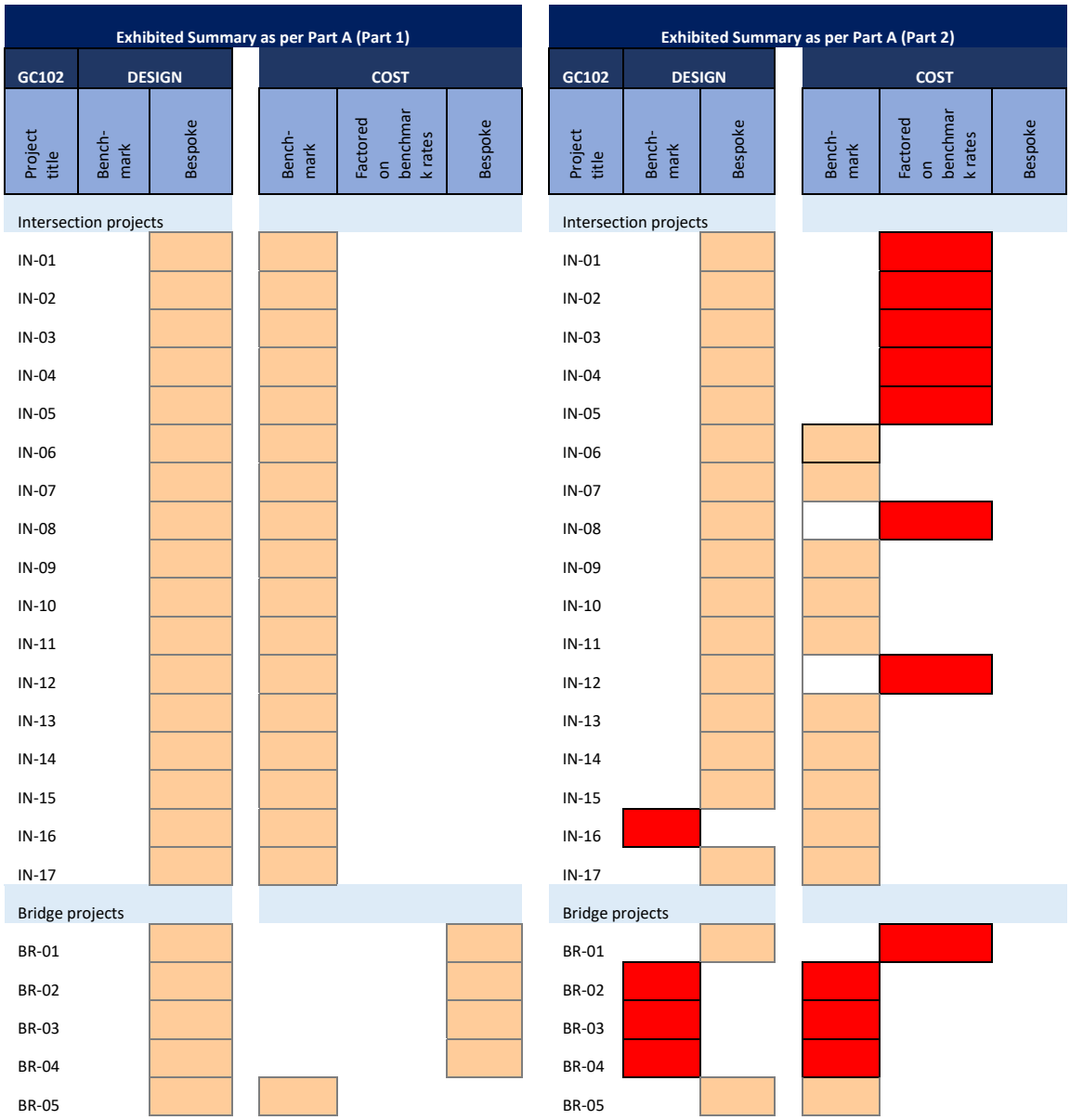
For reference, the infrastructure items as identified in the gazetted Donnybrook-Woodstock PSP were resolved by the following state agencies and departments:

- Department of Environment, Land, Water and Planning (DELWP)
- Department of Jobs, Precincts and Regions (DJPR)
- Transport for Victoria and VicRoads (TfV)
- Department of Education and Training (DET)
- Aboriginal Victoria (AV)
- Melbourne Water (MW)
- Country Fire Authority (CFA)
- Environment Protection Authority (EPA)
- VicRoads.

3.7 Correction to Part A (Part 1) Submission

Figure 4 in VPA's Part A (Part 1) submission summarises the application of the Benchmark Costings to the Donnybrook-Woodstock ICP, setting out where benchmark and bespoke designs and costs were applied. Table 6 below shows the corrections to the Part A (Part 1) submission notated by the red boxes and Appendix 2 provides further detail on where benchmark and bespoke design and costs apply. For reference, this submission defines and uses the term "hybrid" in place of "factored on benchmark rates" as discussed in section 7.4.1.

Table 6 Correction to classification of ICP items as benchmark, hybrid or bespoke in Part A (Part 1)



As well, the VPA confirms that the Victorian Planning & Environmental Law Association did not form part of the technical working group for the Benchmark Costings as noted 2.3.5 of the Part A (Part 1) submission.

3.8 Sections in this Submission

This submission addresses the following key aspects of the Amendment:

- Background to the Amendment, including a chronology of events and an overview of the Donnybrook-Woodstock PSP and Mt Atkinson & Tarneit Plains ICP Panel Reports.
- An overview of the new ICP system, why the existing gazetted Standard ICP required replacing, why there were three gazetted Interim ICP that followed and why there have been three version of the final ICP prepared.
- An explanation of the Benchmark Costings, which builds upon the VPA's Part A (Part 1) submission and provides a discussion on why and how the report was prepared including its recently finalised status. An explanation of how the Benchmark Costings informed the Donnybrook-Woodstock ICP, and why this was considered appropriate, is also provided.
- An overview of the key changes to the designs and costs for the items in the ICP that has occurred since exhibition is then discussed.

- A discussion on the resolved and unresolved aspects of the Amendment, based on the outcomes of the three conclave statements
- The last section provides a consolidated set of final recommended changes to the Donnybrook-Woodstock ICP.

In some parts this submission may read repetitively, however it has been considered necessary to ensure clarity regarding preparation of the Amendment in accordance with the new ICP legislation, is informed by the newly finalised Benchmark Costings and in part informed by template designs which is a shift to the way in which Development Contributions Plans (DCP) were prepared under the former DCP system.

3.9 Appendices to this Submission

The appendices to this submission are:

Appendix 1 – Submission Summary

Appendix 2 – Changes to the Design and Costs of ICP Items

Appendix 3 – Whole of State Government Response to Points of Agreement in FLP Conclave 1 Statement and RC April ICP

Appendix 4 – Benchmark Infrastructure Costings Guide, VPA

Appendix 5 – Donnybrook Road Intersection Redesigns

Appendix 6 – Change in costs between the July 2018 and April 2019 Benchmark Costings

4 BACKGROUND TO THE AMENDMENT

4.1 Land subject to Amendment GC102

The Amendment applies to land within the Donnybrook-Woodstock PSP area, which is generally bound by the OMR reservation to the north, Merriang Road to the east, Donnybrook Road to the south and the Sydney-Melbourne railway line to the west.

4.2 Amendment GC102 to the Whittlesea and Mitchell Planning Schemes

The Amendment seeks to make the following changes to each of the Whittlesea and Mitchell Planning Schemes:

- Amend Schedule 1 to Clause 45.11 Infrastructure Contributions Overlay (ICO1) to update the monetary component and levy rate payable within the amendment area.
- Amend the Schedule to Clause 72.04 to delete the incorporated document titled *Donnybrook-Woodstock Infrastructure Contributions Plan, April 2019* and include a new incorporated document titled *Donnybrook-Woodstock Infrastructure Contributions Plan, October 2019*.

4.3 Purpose of Amendment GC102

The Final ICP, as proposed by Amendment GC102, will provide the framework for the fair and equitable provision of infrastructure to support residential development in the ICP area. The ICP provides the legal mechanism for Councils to collect money and fund transport and community and recreation infrastructure identified in the PSP and includes a number of transport construction items listed under the supplementary levy amount in accordance with the Ministerial Direction.

The Final ICP and associated ICO1 will also include land contribution percentages and estimates of land value to accord with the PLC Act for land contribution areas. As well, updates on the timing and method of indexation have been made to accord with the Ministerial Direction.

4.4 Gazettal of the PSP (GC28)

The Donnybrook-Woodstock PSP was gazetted in November 2017 (document dated October 2017) via Amendment GC28. At the same time, the Standard ICP (document dated August 2017) was also gazetted (GC61).

The Panel Report for the PSP (dated 8 September 2016) included 39 recommendations of which recommendation 3 was:

> *Delay approval of Amendment GC28 and finalisation of the Donnybrook/Woodstock Precinct Structure Plan until the State Infrastructure Contributions reform process has been completed and an Infrastructure Contribution Plan has been prepared for the Precinct.*

This recommendation was the principle reason for the 14-month delay between the release of the Panel Report and the gazettal of the PSP.

At the time of the Hearing, introduction of the new ICP legislation was imminent (it was released four months later on 27 October 2016). A Development Contributions Plan Overlay (DCPO) applied to the land though the GC28 Amendment being considered by the Panel did not include an ICP or DCP. It did however include the Precinct Infrastructure Plan that lists the infrastructure to be delivered within the precinct (that is, not just the ICP infrastructure items) as is usual practice for a PSP. The reason for not including an ICP or DCP was that the VPA (then MPA) assessed that under the new legislation a Standard ICP would be applicable not require exhibition. Not advertising a contributions plan was relatively new practice at the time and the parties to the Panel process had mixed responses on whether it was appropriate to approve the PSP without a contributions plan. The resultant recommendations of the Panel, in addition to delaying approval of the PSP until the ICP was prepared, included revisions to the exhibited DCPO schedule in relation to the section 173 agreements that were intended to manage the collection of money until the new ICP legislation was introduced.

4.5 Chronology of the Amendment

A chronology of the Amendment, including the preparation of Interim ICP and the Benchmark Costings, is tabulated below (Table 7).

Table 7 Chronology of Amendment GC102

YEAR	MONTH (Date where relevant)	EVENT DESCRcolIPTION	Document Author
2016	**October**	New ICP legislation introduced to the Victorian Planning Provisions	Victorian Government
2017	**3 November**	PSP (Amendment GC28) and ICP (Amendment GC61), gazetted 3 November 2017. • Original standard levy ICP. • Made obsolete when the PLC Act came into effect.	VPA
2018	**2 July**	PLC Act Introduced	Victorian Government
	2 July	Interim 1 ICP gazetted (Amendment GC101) which: • Was gazetted on 2 July 2018, superseding GC61. • First interim ICP which was necessary to ensure that collecting agencies were able to continue lawfully collecting infrastructure contributions from landowners. Included an asterisk in the ICO schedules for the land credit and equalisation amounts. • The Land Equalisation Amount or Land Credit Amount were to be included in the next Interim ICP upon the conclusion of the valuation and dispute resolution process in accordance with Division 4, Part 3AB of the P&E Act.	Minister for Planning
	13 July	July 2018 Benchmark Costings (consultation version)	VPA/Cardno
	16 August - 14September	Exhibited ICP (Amendment GC102) was the final ICP which was required to undergo formal exhibition	VPA
	November	Minister of Planning's instruction to review implementation of land contribution model (i.e. contribution area calculation for ICP contribution percentage)	Minister for Planning/VPA
	15 November	Interim 2 ICP (Amendment GC108) which: • Was the second gazetted interim ICP (asterisk replacement). • Was gazetted on 15 November 2018, superseding GC101. • Updated the 'interim' ICP to include the land credit and equalisation amounts within properties identified in the Donnybrook-Woodstock PSP area. • In accordance with section 46GN and 46GO of the PLC Act, the VPA arranged for a valuer to prepare a report containing an estimate of value of any public purpose land in a parcel of land in the ICP plan area with a parcel contribution percentage of land more than the ICP land contribution percentage, and notified these affected owners between 25 June 2018 and 25 July 2018 regarding the estimate of value of public purpose land for the Donnybrook-Woodstock ICP. • As prescribed in section 46GU of the PLC Act, this process allows the planning authority to adopt the amendment under Section 29 to incorporate the ICP that includes the land credit and equalisation amounts.	Minister for Planning
	19 December	First directions held for GC102 (with Melton C201)	Parties to the Panel
2019	**March**	Part A (Part 1) submission circulated to parties (to both Amendment GC102 and Melton Amendment C201)	VPA
	March	March 2019 Benchmark Costings (document superseded by April 2019 and did not inform the ICP)	VPA/Cardno
	March	FLP evidence circulated	Technical experts
	8 March	Second directions held (with Melton C201)	Parties to the Panel
	15 March	Third directions held (with Melton C201)	Parties to the Panel
	26 March	FLP conclave 1 statement circulated to parties	Technical experts
	April	April 2019 Benchmark Costings (final)	VPA/Cardno
	April – May	RC April ICP underwent further consultation	VPA

YEAR	MONTH (Date where relevant)	EVENT DESCRcolIPTION	Document Author
	14 May	Fourth directions held (with Melton C201)	Parties to the Panel
	18 July	Interim 3 ICP (Amendment GC134) which: • Was gazetted on 18 July 2019, superseding GC108 • Recalculated land contribution percentages and resolved the estimates of land values. This followed the request of the VPA from the Minister for Planning to review the ICP to ensure that it is consistent with the land contribution model envisaged by the government and promoted by the P&E Act. This review identified that inner public land was excluded from the contribution land area for the purposes of calculating the ICP land contribution percentage and each parcel contribution percentage. • Recalculated the ICP land contribution component of the ICP, and as a result the estimated land credit and equalisation amounts for each parcel have changed.	Minister for Planning
	September	ICP Guidelines released	DELWP
	20 September	FLP conclave 2 statement circulated	Technical experts
	30 September	Urban design evidence circulated	Council's technical expert
	4 October	Costings evidence circulated	Technical experts
	11 October	Planning evidence and planning statement circulated	VPA/technical expert
	18 October	Costings conclave statement circulated	Technical experts
	18 October	Part A (Part 2) submission	VPA
	28 October	Recommended Changes October ICP	VPA

4.5.1 Exhibited ICP

The exhibited ICP comprised:

- Land component with the ICP land contribution percentage of 15.05 percent and resolved estimates of land value
- Monetary component with a total levy amount of $201,100/NDHa comprising a standard levy of $200,689 and a supplementary levy amount of $412/NDHa informed by:
  - Designs comprising a combination of bespoke designs that informed the PSP and benchmark designs
  - Costs comprising a combination of benchmark, hybrid and bespoke costs
- One supplementary levy item, BR-05.

A summary of the design and costs of the ICP are provided in Appendix 2.

A discussion on the difference between benchmark, hybrid and bespoke designs and cost is provided at section 7.4.1.

4.5.2 Recommended Changes (April) ICP

The RC April ICP updated the following:

- Land component with the recalculated ICP land contribution percentage of 13.09 percent and recalculated and resolved estimates and land value
- Monetary component with a total levy amount of $235,465/NDha comprising a standard levy of $200,689/NDHa and a supplementary levy of $34,777/NDHa. The key reasons for the change in the levy amount was:
  - Redesign of bespoke designs for IN-01, IN-02, IN-03, IN-04, IN-05 and BR-03 and BR-04
  - All costs (except the Ped-01, Ped-02 and Ped-03) increased as a result of the updates to the April 2019 Benchmark Costings
- There are nine supplementary levy items: IN-02, IN-03, Ped-02, Ped-03, BR-01, BR-02, BR-03, BR-04, BR-05

4.5.3 Overview of the reasons for the change in the supplementary levy amount from the Exhibited ICP to the RC April ICP

The increase in the supplementary levy was due to an increase in all infrastructure costs caused primarily by updates to the April 2019 Benchmark Costings as well as design changes to five intersections and two bridges. This had the consequence of a further eight items needing to be reallocated from the standard levy to the supplementary levy, as there was no longer sufficient capacity in the standard levy to fund these items, as per Clause 17 of the Ministerial Guidelines.

Refer to the discussion in Section 8.1 and the summary in Appendix 2 for information regarding the cost changes applied to each infrastructure item. The notable changes to ICP item costs from the exhibited ICP to the RC April ICP were:

- Redesigns of IN-01, IN-02, IN-03, IN-04 and IN-05 and BR-03 and BR-04
- All costs which were informed by the April 2019 Benchmark Costings (namely benchmark or hybrid costs) were updated and most increased. The largest increases in costs were for road and intersection items, and an intersection increased by almost 60% These are described in detail in section 8.1.
- Road items increased in cost by 30%
- Intersection costs all increased by 10% to 59% (in particular, the costs for the redesigned IN-01, IN-02, IN-03, IN-04 and IN-05 increased between 24% and 59%)
- Costs for BR-03 and BR-04 increased by over 300% (from $795,000 to $3.4M and $3.3M respectively)
- Community facility costs increased by between 17% and 19%

A summary of items which were reallocated from the standard to the supplementary levy in the RC April ICP are provided below in Table 8 Summary of Supplementary Levy Items in the Exhibited and RC April ICP. The total funds to be collected from the supplementary levy also increased as listed below (and taken from Table 3 of the ICP). Also provided is the final set of the Recommended Changes (October) to the supplementary levy items and these changes are further described below.

Table 8 Summary of Supplementary Levy Items in the Exhibited and RC April ICP

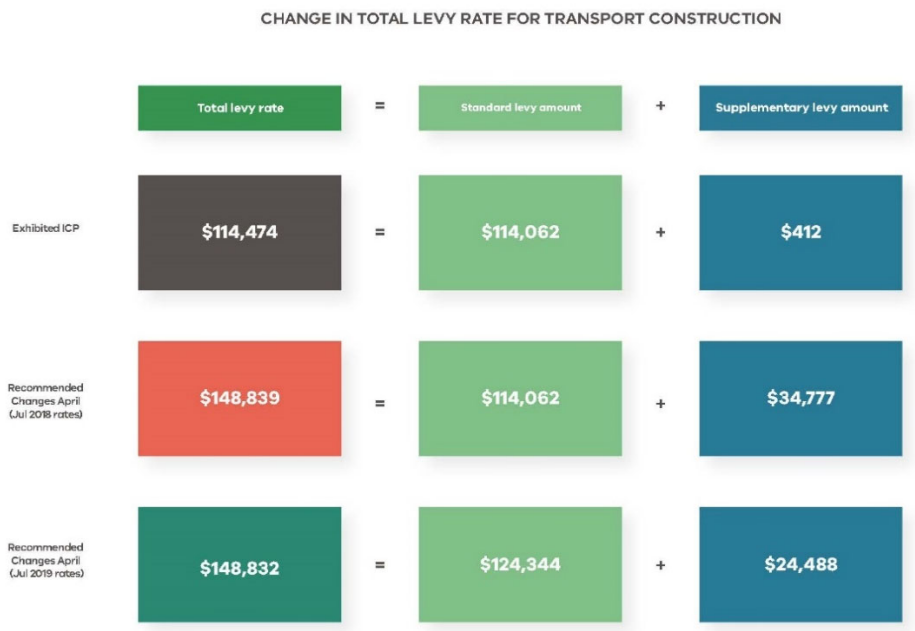
	Exhibited ICP	RC April ICP
Supplementary levy items and apportionments	BR-02 - 100% BR-05 - 93%	IN-02 – 100% IN-03 – 64% Ped-02 – 100% Ped-03 – 50% BR-01 – 50% BR-02 – 100% BR-03 – 100% BR-04 – 100% BR-05 – 100%
Total funds to be collected by supplementary levy	$425,314	$35,914,318

4.5.4 Final RC October ICP including 2019/20 Standard Levy Rates

The Recommended Changes (Final) ICP updated the following:

- Land component – no change
- Monetary component with a total levy and a supplementary levy rate that will be included in the Part B submissions and informed by updated:
  - Bespoke redesigns (ie, a third design) for IN-04 and IN-05 and associated hybrid cost in response to FLP conclave 2
  - Bespoke redesigns (ie, a third design) for BR-03 and BR-04 and associated hybrid costs to better address GGF Design Standards
  - Resolved costs by the costings conclave statement
  - Indexed standard levy rates for the 2019/20 financial year

Figure 6 Change in total ICP levy rate for transport construction



4.5.5 Benchmark Costings

Alongside the Amendment, the VPA prepared and has finalised the Benchmark Costings.

The Benchmark Costings underwent consultation concurrent to the Amendment, which is summarised in the figure below. For reference, the Benchmark Costing also informed the Mt Atkinson & Tarneit Plains ICP amendment process.

The timing of the Amendment and the resolution of the Benchmark Costings was not ideal, however it was necessary to ensure the incorporated ICP accorded with the Act and that permits could continue to be issued.

Version one, the July 2018 Benchmark Costings, informed the Exhibited ICP and namely the following ICP items:

- All road designs and costs
- IN-16 intersection design and cost
- All intersections (except IN-16) costs
- BR-02, BR-03, BR-04 bridge designs and costs
- All of the community facilities and sports reserve designs
- All of the ICP item costs (except for the pedestrian signals)

Version two, the March 2019 Benchmark Costings, was circulated as part of VPA's Part A (Part 1) Submission but did not inform any version of the Donnybrook-Woodstock ICP (nor any other ICP). This documented was superseded in April 2019.

The third and final version, the April 2019 Benchmark Costings, informed the RC April ICP (and is also intended to inform future ICP) and namely the following ICP items:

- All road designs and costs;
- IN-16 intersection design and cost;
- All intersections (except IN-16) costs;
- BR-02 bridge design;
- All of the community facilities and sports reserve designs; and
- All of the ICP item costs (except for the pedestrian signals).

The development and finalisation of the Benchmark Costings in relation to the Amendment progression is depicted in Figure 7 below.

4.6 Previously Gazetted Donnybrook-Woodstock ICP

Including the currently incorporated ICP, there are four Donnybrook-Woodstock ICP documents that have been gazetted. An overview of the changes between each of these documents is outlined below.

4.6.1 Standard levy ICP – Amendment GC61

The Standard levy ICP was gazetted on 3 November 2017 under the first ICP system and included a monetary levy for land. It applied the then standard levy rate of $334,330 per net developable hectare for residential land. The standard ICP did not include any cost or designs.

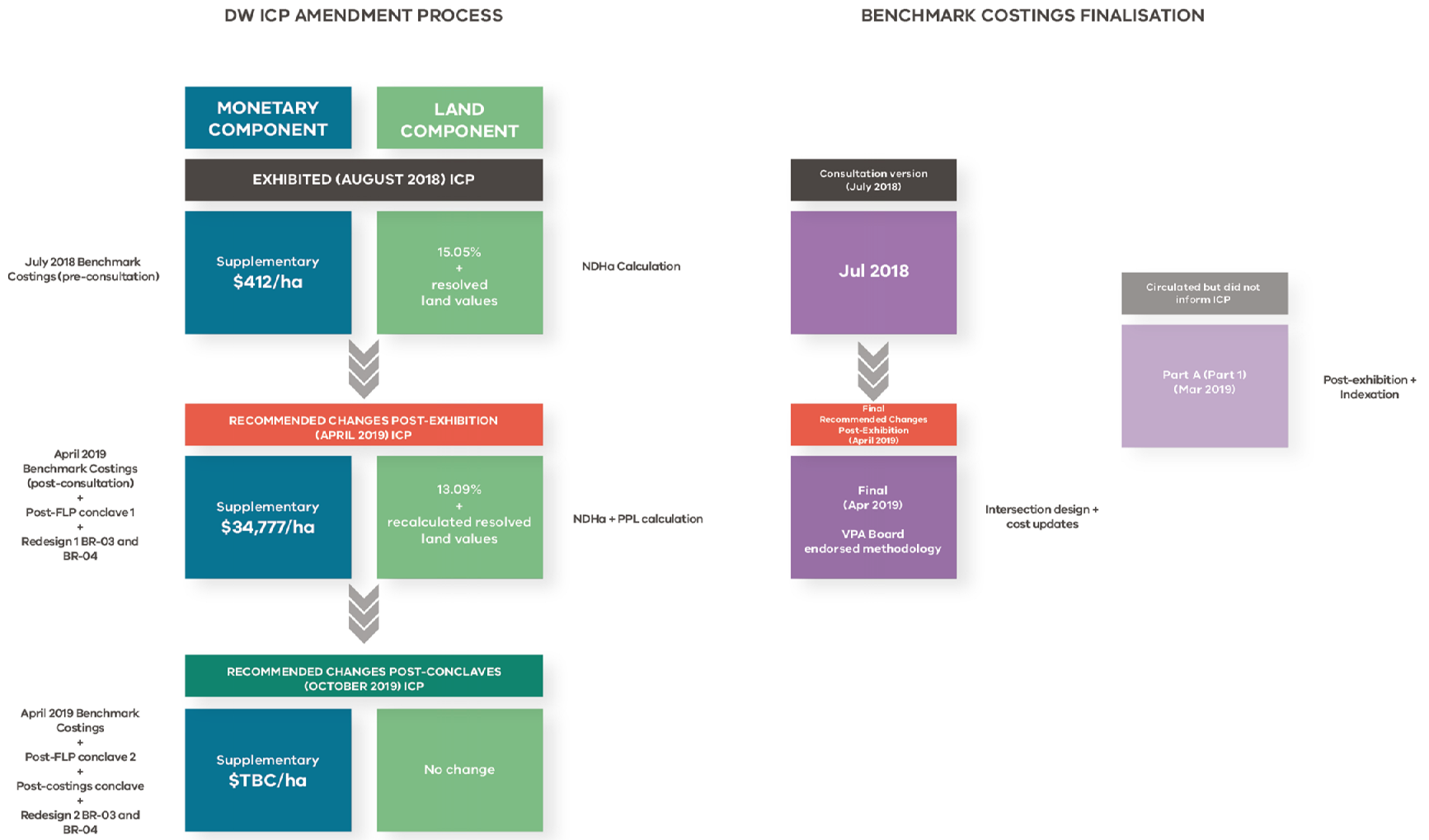


Figure 7 Development and finalisation of the Benchmark Costings in relation to Amendment GC102

4.6.2 Interim 1 ICP – Amendment GC101

ICP land contribution percentage of 15.05%,
No estimates of land value
Supplementary levy of $810/NDHa

The Interim 1 ICP (gazetted 2 July 2018, approved under 20(4) of the P&E Act) included the ICP land contribution percentage as per the PLC Act with no estimates of land value and applied a supplementary levy amount of $810.42.

The land contribution percentage was 15.05%, with "contribution land" encompassing net developable area only.

The time required under section 46GO of the P&E Act to notify landowners on the estimates of land value was not available, due to the urgent need to prepare this ICP to allow permits to continue to be issued, this ICP did not include any land credit or land equalisation amounts or estimates of land value.

Interim 1 ICP included costs (but not designs) for ICP items as required by the Ministerial Direction. These costs were informed by a draft version of the July 2018 Benchmark Costings. The ICP item costs in this ICP are listed in Appendix 2, which also summarises how these costs changed between the interim and final ICP versions.

4.6.3 Interim 2 ICP – Amendment GC108

ICP land contribution percentage of 15.05%,
Resolved estimates of land value
Supplementary levy of $810/NDHa

Interim 2 ICP (gazetted 15 November 2018, approved under 20(4) of the P&E Act) updated the Interim 1 ICP by including resolved estimates of land value. All other information remained the same including the supplementary levy amount of $810/ha.

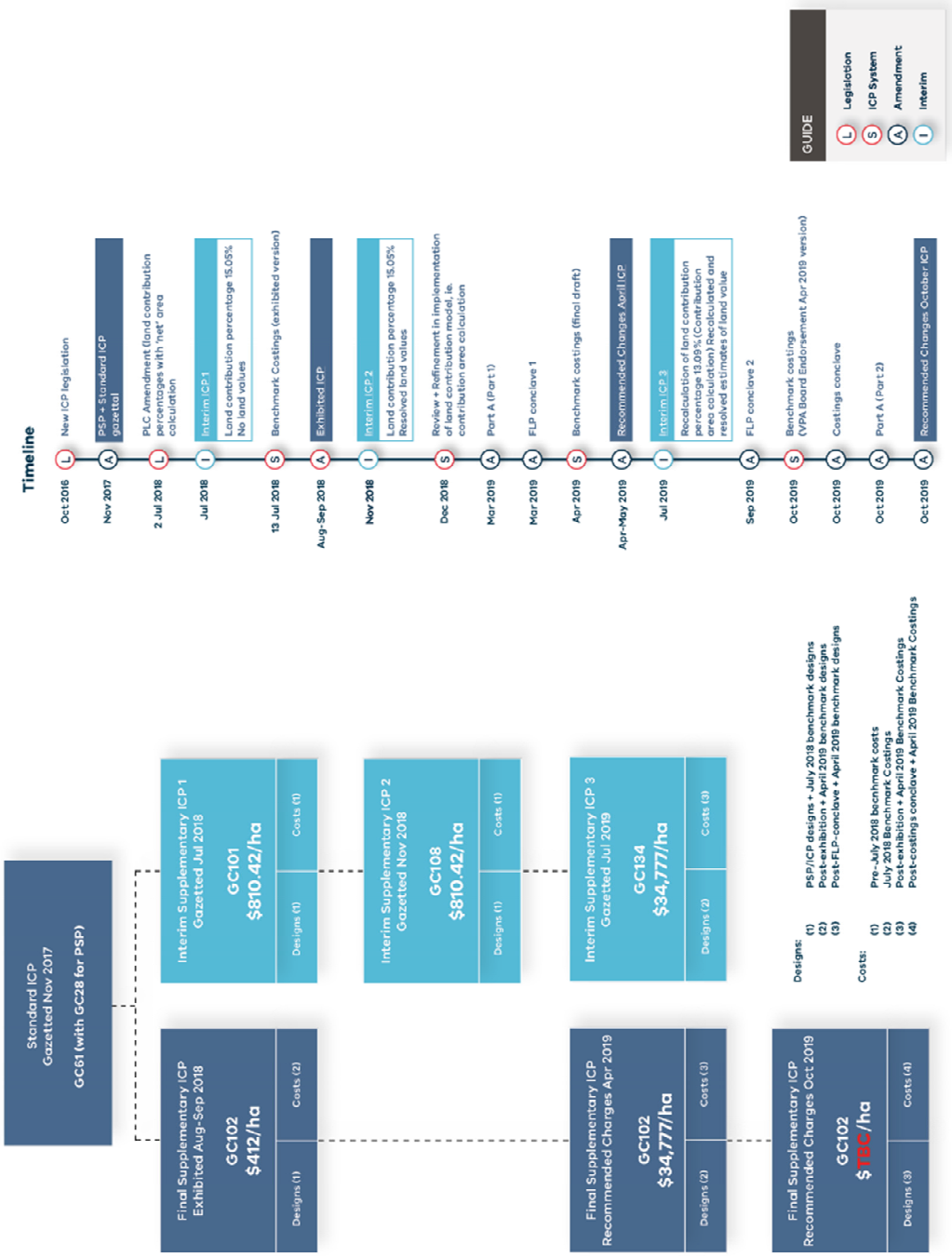
4.6.4 Interim 3 ICP – Amendment GC134

ICP land contribution of 13.09%
Resolved estimates of land value
Supplementary levy of $34,777/NDHa

Interim 3 ICP (gazetted 18 July 2019, approved under 20(4) of the P&E Act) updated the Interim 2 ICP by including recalculated ICP land contribution percentages, made at the request for the Minister for Planning (refer to section 0 for discussion on ICP contribution percentage recalculation), recalculated and resolved estimates of land value, as well as updating the supplementary levy amount to $34,777/NDha.

This third interim included the supplementary levy, and the designs and costs that informed it, as per the RC April ICP. The reason for the increase in the supplementary levy is detailed in section 6.3.

Figure 8 Interim and Final ICP Versions



4.7 Formal Exhibition and Informal Consultation

The VPA has undertaken extensive formal and informal consultation as part of the Amendment process to ensure it appropriately sought comment from relevant stakeholders on the new ICP system and newly prepared Benchmark Costings. Eight submissions were received, and all were referred to the Panel.

Exhibition of the Amendment comprised two notification periods. The first notified landowners and affected parties of the Amendment. Following this, a further notification period informed landowners that the VPA was recommending increasing the supplementary levy amount in response to submissions.

The exhibited ICP was informed by the July 2018 Benchmark Costings (included in the document package as listed in section 4.7.1 below). The ICP that formed the basis of the further notification, the RC April ICP, was informed by the April 2019 Benchmark Costings (also included in the document package as listed in section 4.7.2 below).

Five submissions were lodged during the first notification period and a further three submissions were received during the second notification period for a total of eight submissions (noting that one landowner lodged two submissions – one during each of the notification periods).

Formal notification of the Mt Atkinson & Tarneit Plains ICP occurred at the same time as these two notification periods. Some issues identified in submissions to the Mt Atkinson & Tarneit Plains ICP were incorporated into the updated April 2019 Benchmark Costings.

The Benchmark Costings also underwent informal consultation with the broader industry concurrent to the Amendment. Targeted consultation occurred with growth area Councils and selected private industry groups namely Property Council Australia, Urban Development Institute of Australia and the Association of Land Development Engineers.

4.7.1 Exhibition period – July to December 2018

Stakeholders and the community were notified of the formal exhibition as follows:

- Notification letter sent to landowners and occupiers within the notification area (see Figure 9);
- Information provided via media release and Government websites.

A total of **five submissions** were received from:

- Submitter 1 – Landowner 1
- Submitter 2 – Landowner 2
- Submitter 3 – Landowner 3
- Submitter 4 – Whittlesea City Council
- Submitter 5 – Mitchell Shire Council

The VPA provided copies of all submissions (resolved and unresolved) to Planning Panels Victoria upon requesting a Panel in December 2018.

The following documents formed part of the exhibition documentation:

- The Donnybrook-Woodstock ICP (dated August 2018)
- Clause 45_11-01 Infrastructure Contribution Overlay Schedules 1 to the Whittlesea and Mitchell Planning Schemes, as well as tracked changes versions of Clauses 72.02 and 81.01
- Explanatory report and instruction sheet

The July 2018 Benchmark Costings was provided on the VPA website for reference.

4.7.2 Further notification period – April to May 2019

In responding to submissions on the Amendment and submissions received in relation to the Benchmark Costings, the supplementary levy amount increased. In the interest of transparency, the VPA undertook a second further notification with affected landowners to inform them of further recommended changes to increase the supplementary levy amount (see Figure 9). Three more submissions were received and copies of these were provided to the Panel on 13 May 2019.

Three more submissions were received from:

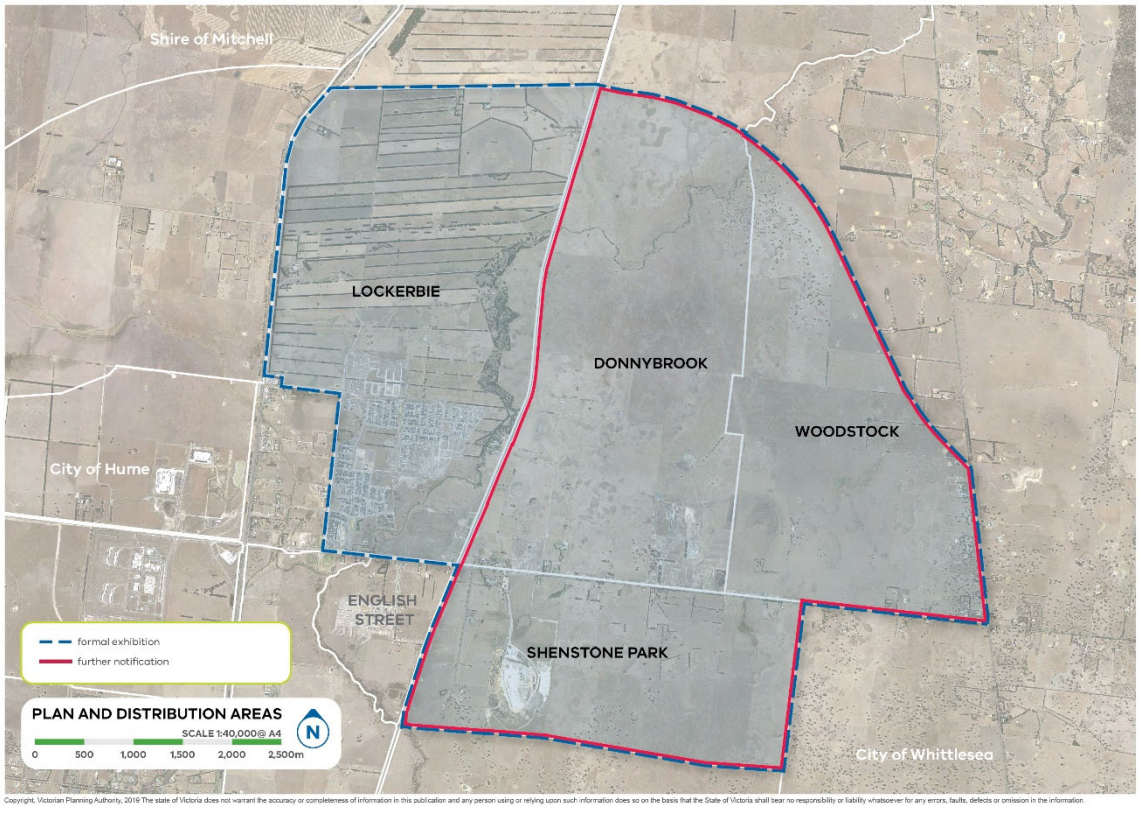
- Submitter 6 – Landowner 4 (from Shenstone Park ICP area)
- Submitter 7 – Landowner 5 (not party to the Panel process)
- Submitter 8 – Landowner 1 (same landowner as submission 1)

The notified documents were:

- Recommended Changes (April) ICP document
- Recommended Changes (April) ICO1 schedule
- April 2019 Benchmark Costings
- Summary of changes document

As the RC April ICP document included substantial text changes to ensure that the document accords with the P&E Act, only a "clean version", and not a tracked changes version, was provided.

Figure 9 Notification Area for Exhibition and Further Notification



4.8 Submissions Received

Of the eight submissions received, six were from landowners and one submission was received from each Whittlesea City and Mitchell Shire Councils.

The matters raised through the submissions are listed below and discussed further in section 9:

- Designs of ICP items
- Costs of ICP items
- Designs and costs within the Benchmark Costings Report
- ICP systemic matters
- Administrative matters

4.9 Background Documents

The Donnybrook-Woodstock ICP has been informed by a number of background documents. These are summarised in Table 9 below, as is the purpose of each document.

Table 9 Summary of documents informing preparation of Donnybrook-Woodstock Infrastructure Contributions Plan

Document title	Author	Publication date	Purpose of Document
Review of Benchmark Infrastructure Costings	Cardno on behalf of VPA	July 2018	Informed exhibited ICP Informed costs for Exhibited ICP for ICP items that are non-benchmark
Benchmark Infrastructure Costing - Result Application – Donnybrook-Woodstock ICP	Cardno on behalf of VPA	June 2018	Informed exhibited ICP Reviewed the Benchmark Costings in relation to the ICP and calculated costs for non-template items, notably BR-01
Benchmark Infrastructure Costings Project - Stakeholder Comments Review	Cardno on behalf of VPA	December 2018	Assessed submissions on July 2018 Benchmark Costings and informed April 2019 Benchmark Costings updates
Donnybrook-Woodstock ICP Stakeholder Feedback Review	Cardno on behalf of VPA	February 2019	Assessed submissions to the Amendment (first exhibition)
Donnybrook-Woodstock ICP FLP conclave statement	Cardno and other experts on behalf of parties to the Panel	March 2019	Identified the resolved position of ICP item designs (FLP) in exhibited ICP
Benchmark Infrastructure Report	Cardno on behalf of VPA	March 2019	Did not inform the ICP (circulated to Panel parties and superseded)
Benchmark Infrastructure Report	Cardno on behalf of VPA	April 2019	Updated the July 2018 version in response to submissions Informed benchmark items in RC April ICP
Benchmark Infrastructure Costing - Result Application Donnybrook-Woodstock ICP	Cardno on behalf of VPA	April 2019	Informed non-benchmark design and costs in the RC April ICP
Donnybrook-Woodstock ICP FLP conclave statement 2	Cardno and other experts on behalf of parties to the Panel	September 2019	Identified the resolved position on ICP item designs (FLP) in RC April ICP
Donnybrook-Woodstock ICP costings conclave statement	Cardno and other experts on behalf of parties to the Panel	October 2019	Identified the resolved position on ICP item costs (costings) in RC April ICP

4.10 Panel Report for the Donnybrook-Woodstock PSP (Whittlesea and Mitchell GC28)

The Panel for Amendment GC28 made two recommendations relevant to the ICP intersection designs which are listed and discussed below:

Amend 'Plan 12 – Street Network' by:

- *designating the temporary eastern section of Gunns Gully Road between Koukoura Drive and Merriang Road as a 'Local Access Street Level 1 Rural Style'.*

  This recommendation refers to a section of Gunns Gully Road that provides access between Koukoura Drive and the Outer Metropolitan Ring (OMR) Road (part of RD-02). The gazetted PSP did not identify this interim road treatment as a local access street but rather an interim primary arterial road treatment. The ICP lists this section of road as an allowable item (land and construction) as it is an essential connection from the Donnybrook-Woodstock PSP area to the OMR that will not be delivered by the state when it constructs the OMR. When the OMR is open to users, it will be essential that not only the land be set aside but also the money to construct this section of road, being the only road providing direct access from the PSP area to the freeway.

- *showing the agreed interim intersection design standards, subject to agreement between VicRoads, Whittlesea City Council and the Shire of Mitchell.*

  This recommendation referred to the Panel's preference for intersection designs to be compact rather than interim-on-ultimate as identified in the plans that informed the PSP. This was identified by document 15 of

the Panel Hearing process for GC28 and is repeated below. The gazetted PSP did not include the change requested by the Panel. As part of the ICP process however, the Donnybrook Road intersection designs have changed to compact design in response to the FLP conclave statement dated 26 March 2019. The remaining intersections in the ICP area have an interim-on-ultimate design. This is discussed further in Section 8.1.1.

Figure 10 Plan 12 of the Donnybrook-Woodstock PSP (Street network)

4.11 Panel Report for the Mt Atkinson & Tarneit Plains ICP (Melton C201)

The key considerations of and recommendations made in the Melton C201 Panel Report (dated 7 August 2019) that are applicable to the current Amendment are:

Line items (rather than whole projects [items]) as supplementary items (recommendation 2)

This recommendation pertained to the way in which the VPA listed items under the supplementary levy. The VPA and the Panel were aligned on the qualification of the listed ICP items as supplementary items (as they were consistent with the criteria listed in the Ministerial Direction). The VPA and the Panel had differing views however, as to how costs of these items could be split across the standard and supplementary levies.

The items in question were intersections that had additional and site-specific costs to accommodate particular physical constraints of the land, being costs associated with construction around a high-pressure gas pipeline.

The VPA's interpretation was, in effect, that:

- an allowable item can be qualified as only partially supplementary; and
- only costs associated with that qualification should be included in the supplementary levy; and
- for the subject intersections, only the cost of the high-pressure gas pipeline should be listed under the supplementary levy

The panel's interpretation was that:

- an allowable item can only be wholly qualified as supplementary, not partially qualified as supplementary levy, and
- that qualification occurs if the cost associated with that qualification significantly affects the estimated cost of the allowable item, and
- then it is permissible to allocate the whole of the cost estimate to the supplementary levy.

The panel's interpretation, as well as the criteria set out in the Ministerial Direction, has been applied to the way in which IN-02 and IN-03 are split across the standard and supplementary levies in the RC April ICP document. This is discussed further at section 8.3.1.

Works in kind credits (recommendation 3)

Works in kind credits was a matter raised by the Council and submitting landowner. The Panel determined that these should be negotiated between the developer and the Collecting or Development Agencies.

At recommendation number 3, the Panel sought edits to the wording of WIK credits in the ICP document being to delete the following text at section 5.10 Interim and Temporary Works which was repeated at the more appropriate location of section 5.11 Works in Kind Reimbursement of the document.

The deleted text at Section 5.10 was:

> *If the agreed value of the works in kind exceeds the monetary component the infrastructure contribution, the applicant will be reimbursed the difference between the two amounts at a time negotiated between [the] applicant and the Collecting and Development Agencies.*

And the retained text at Section 5.11 is:

> *If the Collecting Agency agrees to accept works under Section 46GX of the Act and the value of those works is greater than the monetary component of the infrastructure contribution payable by the applicant, the applicant is entitled to be reimbursed the difference between the two amounts.*

If the Councils accept, the VPA accepts the same change to the Donnybrook-Woodstock ICP.

July 2019-20 indexed rates (recommendation 6)

The panel recommended that the VPA update the ICP document and ICO schedule to reflect the 2019-2020 indexed standard and supplementary levy rates. The ICP that was submitted to the Minister for Planning for approval indexed the standard levy rate but did not need to index the individual infrastructure costs as all of these items were indexed to March 2019, being the same quarter as the July 2019-20 levy rates are indexed to.

Following the panel process, the VPA will also index the standard levy of Donnybrook-Woodstock ICP and the two applicable ICO schedules, but not the supplementary levy items. The indexed levy amount is discussed at section 8.3.4.

The [in]sufficiency of the community and recreation levy (no recommendation as outside the Panel's remit)

The Panel noted that this systemic issue is beyond the Panel's remit but noted that it appears that the community and recreation levy may lead to substantial shortfalls in the actual costs of delivering important community and recreation infrastructure in new communities. The Panel urged the VPA to continue to work with DELWP and the growth area Councils to address this systemic issue.

The VPA acknowledges that the Panel response as is discussed further as Section 9.3.8.

Consistency with the PSP, the ICP and Ministerial Direction.

There were inconsistencies between the wording of the PSP, ICP and the Ministerial Direction in relation to the descriptions for the ICP allowable items. The VPA has assessed the Donnybrook-Woodstock PSP and ICP against the Ministerial Directions and has listed a set of recommended changes to the ICP item descriptions in section 8.3.5 and will make the same changes to the PSP if Council considers appropriate.

Inclusion of road lengths in the ICP document

The exhibited and revised version of the Mt Atkinson & Tarneit Plains ICP did not include the road length measurements from which the benchmark costs, using the per metre rate, had been calculated.

The VPA proposed to address the lack of transparency on the road lengths by identifying the amounts in Appendix 3 of the ICP, which was an approach agreed by the Panel in Melton C201. The VPA also proposes to make this change to the Donnybrook-Woodstock ICP, as discussed at Section 8.1.2.

4.11.1 Shenstone Park PSP and ICP

The Shenstone Park PSP and ICP area sits adjacent to the Donnybrook-Woodstock PSP and ICP area. Relevant to the Amendment are the infrastructure items which sit along the shared boundary of Donnybrook Road and are required to support both PSP/ICP areas being IN-01, IN-02, IN-03 and IN-04, which were the subject of two FLP conclaves.

The Shenstone Park PSP commenced exhibition on 10 October 2019, concluding on 15 November 2019. The ICP will be a standard levy and for this reason will be a prescribed amendment and not required to be exhibited.

The designs and costs of IN-01, IN-02, IN-03 and IN-04 of the Donnybrook-Woodstock ICP underwent two rounds of updates: the first following the FLP conclave 1 statement (dated 26 March 2019), being the designs included in the RC April ICP and the second following the FLP conclave 2 statement (20 September 2019), being minor revisions to IN-04. The design updates are discussed in more detail in section 8.2.

For reference, Donnybrook Road is an existing road and the ultimate construction will be undertaken by the roads authority. The land for this widening, which sits to the south of the existing road reservation, is affected by Public Acquisition Overlay Schedule 2 (PAO2). For this reason, Donnybrook Road is not listed as an ICP item, for either land or construction in either ICP notwithstanding that section 46GH of the P&E Act states that an ICP cannot be incorporated into the planning scheme if: the development agency specified in the plan is not a municipal council.

Table 10 below summarises the descriptions for these items as listed in the Shenstone Park PIP and what will be recommended for the Donnybrook-Woodstock Final RC October ICP (this is discussed at section 8.1.1).

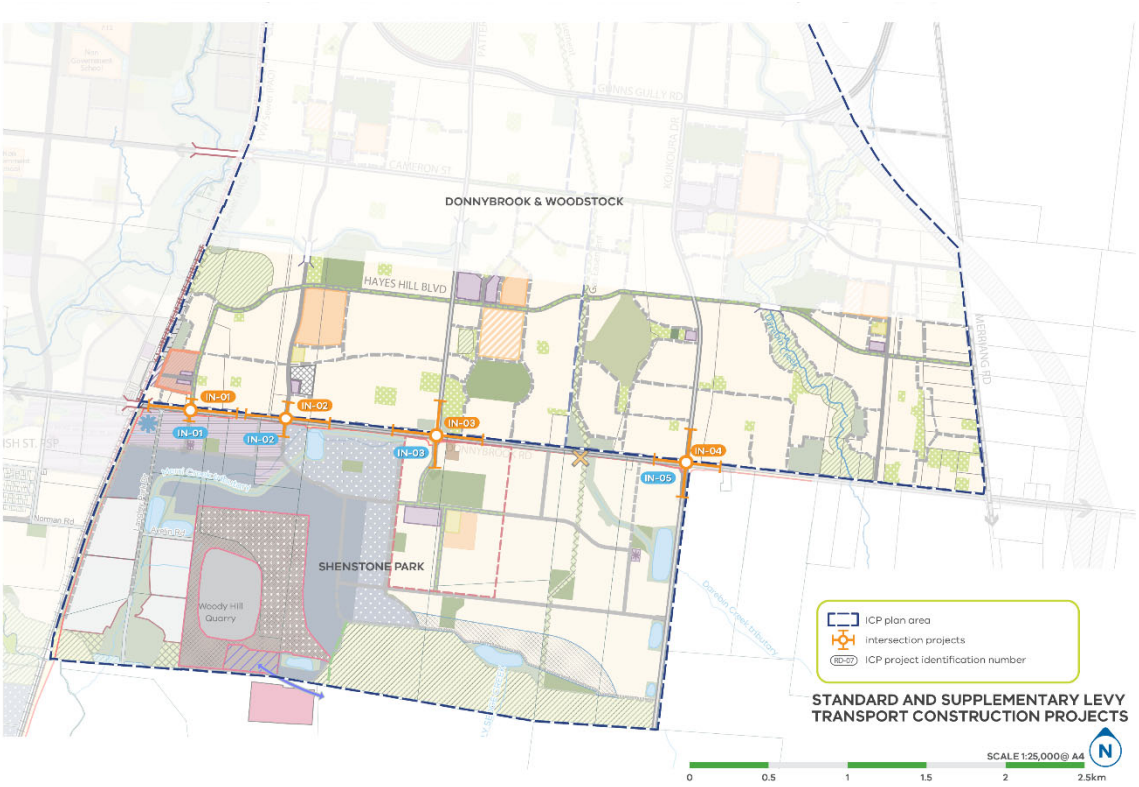
The designs and costs of IN-01, IN-02, IN-03 and IN-04 of the Donnybrook-Woodstock ICP underwent two rounds of updates: the first following the FLP conclave 1 statement (dated 26 March 2019), being the designs included in the RC April ICP and the second following the FLP conclave 2 statement (20 September 2019), being minor revisions to IN-04. The design updates are discussed in more detail in section 8.2.

For reference, Donnybrook Road is an existing road and the ultimate construction will be undertaken by the roads authority. The land for this widening, which sits to the south of the existing road reservation, is affected by Public Acquisition Overlay Schedule 2 (PAO2). For this reason, Donnybrook Road is not listed as an ICP item, for either land or construction in either ICP notwithstanding that section 46GH of the P&E Act states that an ICP cannot be incorporated into the planning scheme if: the development agency specified in the plan is not a municipal council.

Table 10 Infrastructure items shared across Shenstone Park PIP and Donnybrook-Woodstock ICP

INFRASTRUCTURE ITEM	SHENSTONE PARK PIP (October 2019)	DONNYBROOK-WOODSTOCK ICP Final RC April ICP	Design resolved through FLP conclaves
Donnybrook Road and north-south connector street intersection			
PIP/ICP number	IN-01	IN-01	Yes
Description of delivery	Provision of land (ultimate treatment) and construction of the fourth leg of a primary arterial to connector road 4-way intersection (interim treatment).	Construction of a primary arterial road to connector boulevard street 3-way intersection (interim treatment)	
Donnybrook Road and north-south connector intersection			
PIP/ICP number	IN-02	IN-02	Yes
Description of delivery	Purchase of land (ultimate treatment) and construction of the fourth leg of a primary arterial to connector road 4-way intersection (interim treatment).	Construction of a primary arterial road to connector street 3-way intersection (interim treatment)	
Donnybrook Road and Patterson Drive intersection			
PIP/ICP number	IN-03	IN-03	No
Description of delivery	Purchase of land (ultimate treatment) and construction of the fourth leg of a primary arterial to connector road 4 -way intersection (interim treatment).	Construction of a primary arterial road to secondary arterial road 3-way intersection (interim treatment)	
Donnybrook Road and Koukoura Drive intersection			
PIP/ICP number	IN-05	IN-04	Yes, with some revisions
Description of delivery	Purchase of land (ultimate treatment) and construction of the fourth leg of a primary arterial to secondary arterial 4 -way intersection (interim treatment).	Construction of a primary arterial road to a secondary arterial road 3-way intersection (interim treatment)	

Figure 11 Plan of Donnybrook-Woodstock and Shenstone Park shared infrastructure items



5 STRATEGIC CONTEXT AND ASSESSMENT

The strategic context applicable to the Amendment is: the planning framework comprising the Whittlesea and Mitchell Planning Schemes, the Ministerial Direction and ICP Guidelines, as well as the gazetted PSP which provides the strategic justification for all infrastructure items to be funded through the ICP. The Amendment is considered to be consistent with these provisions and strategically justified, as discussed below.

5.1 Whittlesea and Mitchell Planning Scheme

Clause 19 of the state policy of the Whittlesea and Mitchell Planning Schemes pertain to infrastructure. Clause 19 seeks that infrastructure is provided in an efficient, equitable, accessible and timely manner, to ensure that growth and redevelopment of settlements is planned to provide for the logical and efficient provision and maintenance of infrastructure.

The Amendment meets the objectives of Clause 19 by incorporating an ICP to provide the statutory framework for Councils to collect funds and deliver infrastructure identified in the ICP.

5.2 Ministerial Directions

The Amendment complies with the following relevant Ministerial Directions:

- Ministerial Direction 9 – Metropolitan Strategy
- Ministerial Direction 11 – Strategic Assessment of Amendments
- *Ministerial Direction on the Preparation and Content of Infrastructure Contribution Plans*

5.2.1 Ministerial Direction 9 – Metropolitan Strategy

The Amendment has been prepared in accordance with *Ministerial Direction 9* and complies with this direction.

The Amendment will facilitate the collection of developer levies to fund the required infrastructure to service the future urban land within the Urban Growth Boundary (UGB).

5.2.2 Ministerial Direction 11 – Strategic Assessment of Amendments

The Amendment accords with *Ministerial Direction 11* by:

- Implementing the objectives of planning in Victoria by providing for the fair, orderly, economic and sustainable use of land identified for urban purposes.
- Providing for infrastructure items that are not expected to have negative environmental impacts as considered during the gazetted PSP process.
- Providing opportunities for positive social effects by establishing a funding mechanism to provide essential services for the future community.

5.2.3 Ministerial Direction on the Preparation and Content of Infrastructure Contribution Plans

The above Ministerial Direction applies to the preparation and content of ICPs. The Amendment has been prepared in accordance with the Ministerial Direction, as discussed throughout this Part A (Part 2) submission.

For reference, there is an erroneous omission of 'indoor sport facility' from the lists of allowable public purpose items, as discussed in the Mt Atkinson & Tarneit Plains ICP and the Plumpton-Kororoit ICP panels is also applicable to the Amendment as the Donnybrook-Woodstock ICP does include this type of sports facility.

5.2.4 Assessment of supplementary levy items against Clause 17 of the Ministerial Direction

The Ministerial Direction requires that supplementary items are consistent with the criteria listed at Clause 17. An assessment of this is provided below.

All of the items listed under the supplementary levy in the RC April ICP document are considered to be consistent with the criteria in the Ministerial Directions, except for the two pedestrian signal crossings, Ped-02 and Ped-03,

which the VPA recommends be listed under the standard levy, consistent with the VPA's planning expert evidence. Further changes to the items listed under the supplementary levy as part of the Final RC October ICP will be discussed in the VPA's Part B submission.

Table 11 Assessment of Supplementary Items Against Clause 17 of the Ministerial Direction

CLAUSE 17 CRITIERA	ASSESSMENT
Apportionment of ICP infrastructure item in supplementary levy as per the RC April ICP	Apportionment (percentage) to the supplementary levy by nine ICP item are: • IN-02 apportionment of 100% • IN-03 apportionment of 36% (and 64% standard) • BR-01 apportionment of 50% (and 50% Lockerbie DCP) • BR-02 apportionment of 100% • BR-03 apportionment of 100% • BR-04 apportionment of 100% • BR-05 apportionment of 100%
17. When deciding whether to impose a supplementary levy, the planning authority must consider:	
(a) whether the plan preparation costs, works*, services or facilities can be wholly or partially funded from a standard levy, unless the applicable Annexure to this Direction specifies those supplementary levy allowable items must not be funded from a standard levy;*	• IN-02, BR-01, BR-02, BR-02, BR-03, BR-04 and BR-05 are construction items that cannot be wholly funded from the standard levy (insofar as these costs are apportioned to the Donnybrook-Woodstock ICP and not other ICP or DCP) • IN-03 cannot be partially funded from the standard levy. • The applicable Annexure 1 Metropolitan Greenfield Growth Areas does not restrict funding of these items from the standard levy.
(b) whether the works, services or facilities are essential to the orderly development of the area	• IN-02 and IN-03 are essential arterial road connections from Donnybrook Road into the ICP area • The bridges provide essential road access across the following changes in topography: – BR-01 passes over the rail-line – BR-02 crosses the constructed waterway – BR-03 and BR-04 pass over Darebin Creek – BR-05 passes over Merri Creek
(c) whether the works, services or facilities are identified in a precinct structure plan or equivalent strategic plan applying to the land;	• All nine construction items are identified in the gazetted Donnybrook-Woodstock PSP • BR-01 is also identified in the Lockerbie DCP as BR-04
(d) whether the land has particular topographical, geographical, environmental or other physical constraints or conditions that significantly affect the estimated cost of allowable items to be funded through the infrastructure contributions plan; and	Table 4 of Annexure 1 of the Ministerial Direction refers "physical constraints" in the context of supplementary levy allowable items for intersections and roads. To this extent, the VPA provides the following assessment for IN-02 and IN-03: • IN-02 and IN-03 both have particular physical constraints that significantly affect the estimated costs of the items being: costs associated with service relocation.
(e) any other criteria specified in the applicable Annexure to this Direction.	As per Table 4 of Annexure 1: • BR-01 and BR-05 are both road bridges that form part of the Council arterial road network, being located on secondary arterial roads of Cameron Street and Patterson Drive respectively • BR-02, BR-03 and R-04 are major culverts that have an internal cross section of at least 1.75 sqm. For reference, the cross section area refers to the size of the box or pipe culvert and can be measured from the design (where provided). The culvert sizes of BR-02, BR-03 and BR-04 are: 32.4 sqm, 46 sqm and 46 sqm respectively. • Ped-02 and Ped-03 are at-grade signalised crossings as opposed to being "pedestrian bridges and accessways" and for this reason are no longer being recommended for inclusion in the supplementary levy.

5.2.5 Infrastructure Contributions Plan Guidelines

The *Infrastructure Contributions Plan Guidelines* (ICP Guidelines) were released in September 2019. Part B – Implementation an ICP describes the matters that must be specific in an ICP.

The VPA does not propose any changes as a result of the newly released ICP Guidelines.

The relevant key change that was included in the September 2019 ICP Guidelines from the previous October 2016 version was information on the land contribution model.

The components that the ICP Guidelines list that an ICP must include are tabulated below with a reference to where this information can be found in the Donnybrook-Woodstock ICP.

5.3 Amendment GC102 Prepared in Accordance with Amendment VC148

Amendment VC148 was gazetted on 31 July 2018 and introduces changes to the Victorian Planning Provisions (VPP) and all planning schemes arising from the Victorian Government's Smart Planning program. The program aims to simplify and modernise Victoria's planning policy and rules to make planning more efficient, accessible and transparent.

The exhibited documentation associated with Whittlesea and Mitchell Amendment GC102 accords with the changes made to Victoria's planning schemes under Amendment VC148.

5.4 Donnybrook-Woodstock PSP

As is intended with the ICP system, the gazetted PSP provides the strategic justification for all infrastructure items to be funded through the ICP by:

- Confirming that the items are essential to the health, well-being and safety of the community;
- Ensuring that items are provided in a timely and/or orderly sequence; and
- Establishing the need and nexus of items including the external apportionments.

The gazetted PSP lists all infrastructure required to support development of the PSP. The infrastructure items from the PSP that are listed in the ICP are consistent with the allowable items definitions in the Ministerial Direction.

6 THE ICP SYSTEM FROM 2016 TO 2019: DEVELOPMENT OF THE INTERIMS AND FINAL ICP

The following section provides an overview of the ICP system and why the changes introduced by the new system have necessitated the 2017 gazetted Standard ICP being progressively replaced with three interim ICP. It also details the background behind the three updates to the final ICP prepared under the current Amendment. This section is provided as background information and as a response to how the transition from the interim ICP to the final gazetted ICP will be implemented.

Each version of the interim and final ICP was prepared to change either the land component, the monetary component or both. Since the PLC Act was proclaimed, the VPA has incrementally refined the way in which these are implemented. The triggers for each version of the interim and final ICP are listed below, (with the affected component of the ICP noted in brackets):

- The 2016 legislation was replaced with the PLC Act in July 2018, with no transitional provisions (both land and monetary components)
- The statutory notification requirements under the Act to notify on and resolve estimates of land value (land component)
- Release of 2018 July Benchmark Costings (monetary component)
- Recalculation of ICP land contribution percentages in late 2018 (land component)
- Release of 2019 April Benchmark Costings (monetary component)
- Submissions to the Amendment and conclave (monetary component).

6.1 2019 ICP Legislation and the 2018 PLC Act

The ICP system came into effect in October 2016. The system is based on standard levies that are pre-set for particular classes of development in order to fund the construction of basic and essential infrastructure to service the growing urban communities. This system also allows for, if required, a supplementary levy in addition to the standard levy, to fund infrastructure that accords with the criteria set out in the Ministerial Direction or where required to "unlock" the growth opportunity of an area.

The ICP system was updated with the *Planning & Environment Amendment (Public Land Contributions) Act 2018* (the PLC Act) that was proclaimed on 2 July 2018.

In simple terms, the changes from the 2016 legislation to the PLC Act are:

- Land component – the 2016 legislation applied a monetary land component whereas the PLC Act applies the land contribution model
- Monetary component – both systems had/have pre-set rates for transport construction and community and recreation construction
- Three funding streams – both systems have three funding streams: public land, transport, and community and recreation
- Transfer of money between the three streams – both systems allowed some flexibility to transfer funds from one stream to other, the difference being that the 2016 system collected more money so as to provide a greater level of flexibility

6.1.1 Land component of the PLC Act 2018 compared to 2016 ICP System

The land component is the key change introduced by the PLC Act from the 2016 ICP system. The PLC Act replaced the monetary land component of the former system with the land contribution model.

The PLC Act improves the method of securing land for public purposes from the previous DCP system and 2016 ICP legislation by introducing a land contribution model for the ICP system. The land contribution model enables land for public purposes to be provided as part of an infrastructure contribution when land is developed or earlier if Council requires it, replacing the monetary contribution (public land standard levy amount) from the 2016 ICP system. It also provides a mechanism for Councils to acquire public purpose land before the land is developed at an amount set by the ICP, rather than an amount subject to the land compensation process.

The PLC Act also prescribes the method by which the cost of providing all public land is equalised across all landowners with a PSP area.

The land contribution model of the PLC Act is based on land contribution percentage calculations:

- The **ICP land contribution percentage** is required for the total area of public purpose land specified in an ICP divided by the total area of contribution land in the ICP, expressed as a percentage and determined in respect of each class of development of land specified in the ICP.
  - Contribution land is the ICP land for which an infrastructure contribution is imposed if that land is developed (section 46GA of the P&E Act), in short, NDHa plus public purpose land
  - The parcel contribution percentage is the percentage of the contribution land that is to be set aside as inner public purpose land (section 46GA of the P&E Act)

  Then if the parcel contribution is:
  - **less** than the ICP land contribution percentage (for the applicable class of development), the development proponent must pay a **land equalisation amount** when the parcel of land is developed. The land equalisation amount is in addition to the monetary component of an infrastructure contribution required to be paid under the ICP.
  - **more** than the ICP land contribution percentage for the applicable class of development, the landowner is entitled to be paid a **land credit amount**.

Land equalisation amounts and land credit amounts are:

- calculated in accordance with the Ministerial Direction on the Preparation and Content of ICPs;
- specified in the ICP for each parcel of land.

Land equalisation amounts are used to fund the land credit amounts for inner public purpose land and the acquisition of any outer public purpose land. In simple terms, the underproviders pay the overproviders, the net dollar value is zero and Council acts as a temporary bank that stores the money going in and out.

- Inner public purpose land is the land required for public purposes inside the ICP area
- Outer public purpose land is the land required for public purposes outside the ICP area

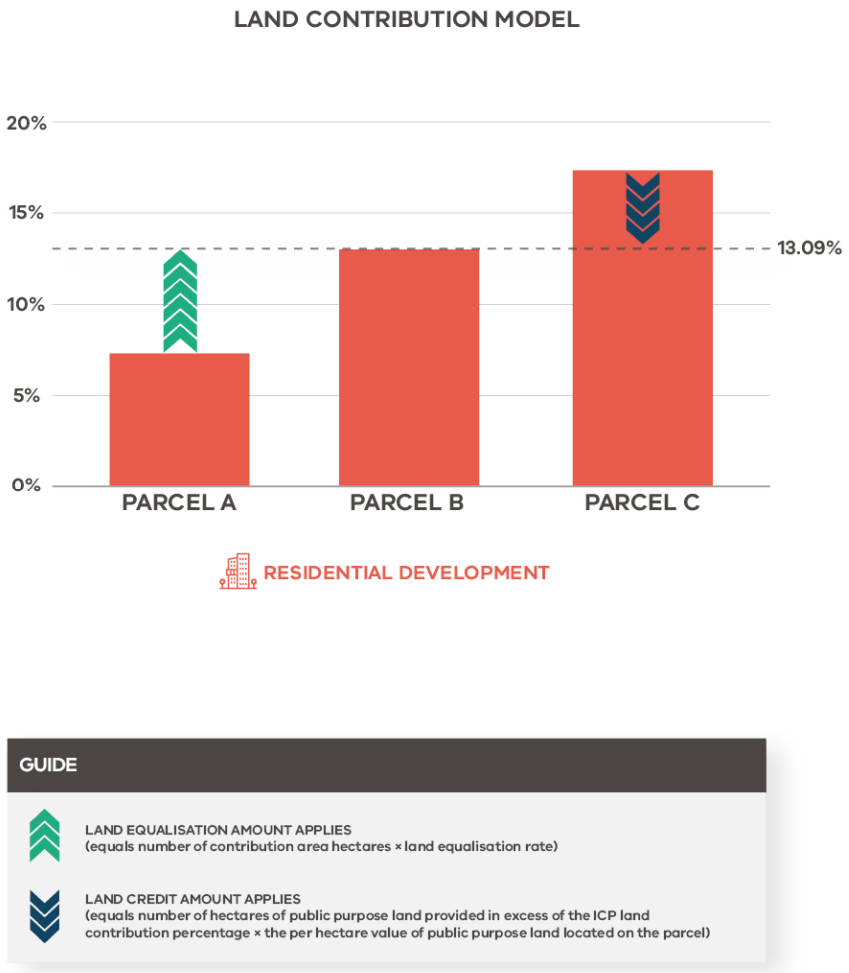
The land equalisation amounts are determined using three key calculations:

- The **land credit amount (per parcel)** is calculated by estimating the value of all individual pieces of inner public purpose land nominated on an "overproviding" parcel, combining these values and then determining an average per hectare rate specific to that land parcel (an average rate is required as it is not a particular piece of inner purpose land is nominated to be "overproviding" but rather the parcel as a whole is nominated as an "overprovider"). This parcel-specific per hectare amount is then multiplied by the number of 'over provided' inner public purpose hectares to determine the land credit amount for the respective land parcel.
- The **land equalisation rate (for the ICP area)** is calculated by totalling all of the land credit amounts (for each parcel and for all classes of development plus outer public land where applicable) across the ICP area and dividing the total by the total number of hectares of underprovided land across the ICP area, expressed as a dollar per hectare amount.
- The **land equalisation amount (per parcel)** is then calculated by multiplying the land equalisation rate by the number of underproviding hectares on "underproviding" parcels.

Within an ICP area, the land equalisation amounts are used to fund land credit amounts; the total of land equalisation amounts and the total of land credit amounts should be the same (see Table 3 of ICP).

Figure 12 illustrates how the land component is implemented and how parcels are classified as either entitled to receive a land credit amount or required to pay a land equalisation amount.

Figure 12 Implementation of ICP land component



6.1.2 Monetary component of the PLC Act 2018 compared to 2016 ICP System

The PLC Act also affected the spending allocation of standard levies, that is, it restricted the collecting agency to three separate funding streams.

The standard levy for residential development under the PLC Act comprises:

- Community and recreation construction (capped) levy
- Transport construction (standard and, if required and justified, supplementary) levy
- Land component being the inner public purpose land plus land equalisation amounts.

The standard levy for residential development under the 2016 system comprised:

- Community and recreation construction (capped) levy
- Transport construction (standard and, if required and justified, supplementary) levy
- Public land levy.

The 2016 system allowed for unused funds to be moved: from the capped community and recreation levy into either the standard transport or public land levy; as well as between the standard transport and public land levy. As the collection of levies for public land increased the total collected levy, this often prevented the need for a supplementary levy.

In comparison, the 2018 system also allows unused funds to be moved from the capped community and recreation to the standard transport levy and vice versa, however as there is no longer a levy for public land, the total levy collected is less, reducing the "buffer" that was available in the 2016 system and thereby providing greater likelihood that ICP will require supplementary levies.

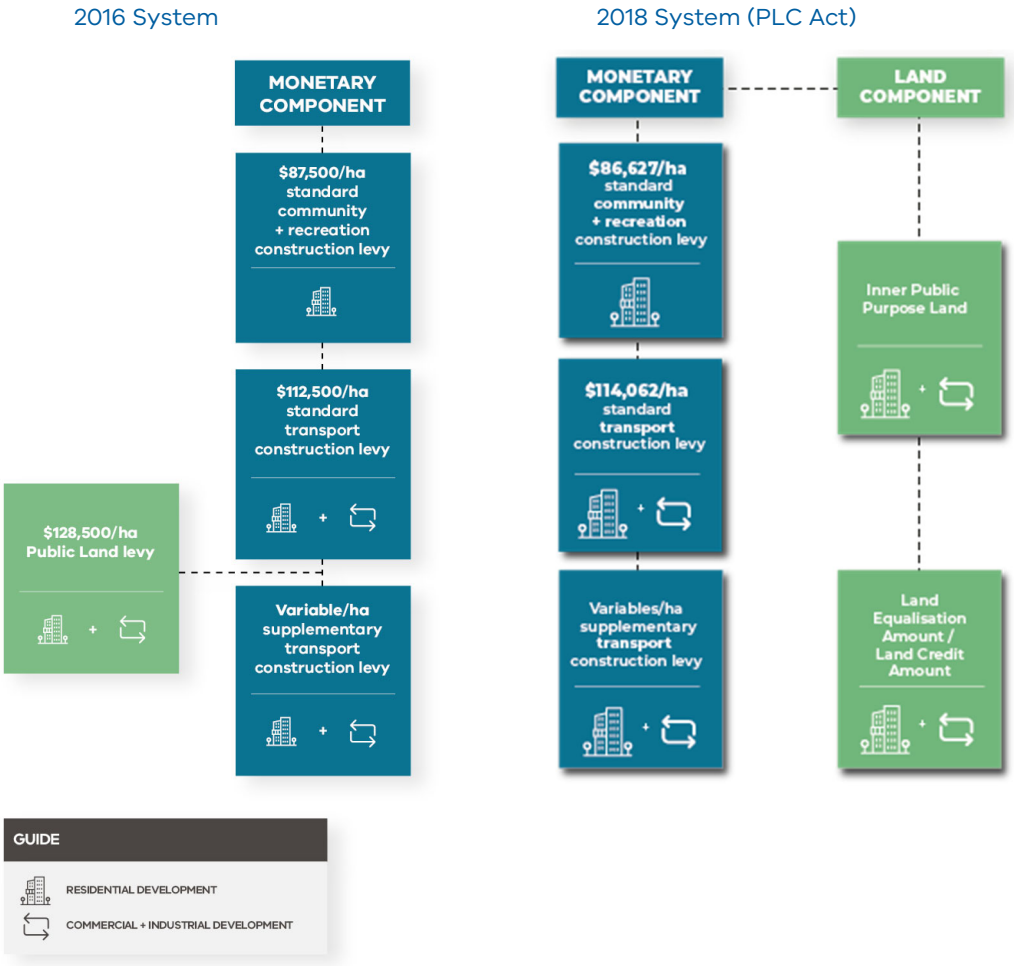
6.1.3 PLC Act – Land component and monetary component

Under the PLC Act, there are two contribution components that each landowner must provide:

- Land component – this consists of inner public purpose land and any land equalisation amount.
  - Inner public purpose land is the land that the ICP specifies to be set aside for public purposes (such as land for roads, parks and community facilities). Land identified for public purposes by the ICP is to be vested in, transferred to or acquired by Collecting Agency and/or Development Agency.
  - Land equalisation amount is required when the inner public purpose land (for a parcel) is less than the land contribution percentage (for the ICP area). If the inner public purpose land is more than the land contribution percentage, the landowner will not be required to pay a land equalisation amount but will rather be entitled to a land credit amount.
- Monetary component – may consist of a standard levy, a supplementary levy or both and varies depending on the class of development.

Figure 13 below illustrates the metropolitan greenfield growth area development setting ICP components for the two classes of development.

Figure 13 ICP metropolitan greenfield growth area development setting components



6.2 Preparation of the Interim and Final ICP documents

The three interim ICPs have been incrementally updated as refinement of the implementation of the land and monetary components under the PLC Act have been realised to ensure Council can continue to issue permits under ICP with relevant information.

Figure 14 illustrates the timeline and key details of the ICPs, and this section describes the interim ICPs that have been prepared to date.

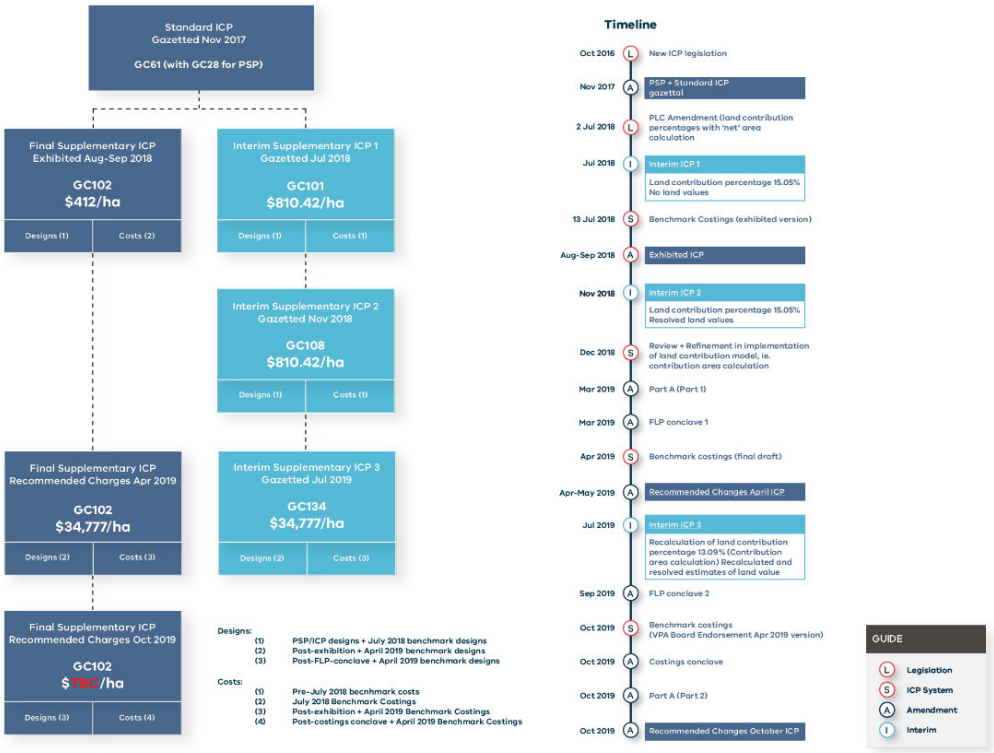


Figure 14 Interim ICP Chronology (include benchmark costings in diagram)

6.2.1 Standard ICP - Amendment GC61, November 2017

Standard ICP:

- Was introduced via Amendment GC61 under the 2016 legislation, coupled with the gazetted PSP
- Applied a standard levy only of $334,300.

6.2.2 Interim 1 ICP – Amendment GC101, July 2018

Interim 1 ICP was required to allow collecting agencies to lawfully collect infrastructure contributions from landowners as the PLC Act voided the gazetted Standard ICP.

As per the PLC Act, the Interim 1 ICP redefined the land component as per the land contribution model, and included a list of allowable items under the supplementary levy.

Interim 1 ICP:

- Was introduced via Amendment GC101 under the PLC Act
- Applied land contribution percentages, but no land values
- Applied a supplementary levy amount of $810.42.

Monetary Component

The PLC Act reduced the monetary component from including the public land levy that was included under the 2016 ICP legislation. This meant that for the Interim 1 ICP, in comparison to Standard ICP:

- the standard levy rate reduced from $334,300/NDHa to $200,689/NDha
- a supplementary levy amount of $810.42/NDHa was required
- the community and recreation cap of $86,627/NDHa was exceeded by $26,614/NDHa.

The second and third dot point above was determined following the initial costing work undertaken by the VPA to determine whether the standard levy cap of the PLC Act would fund the ICP items. The removal of the public land levy, being $138,800 per hectare, meant a supplementary levy was required and that the community and recreation cap was deficient.

The supplementary items were BR-02, BR-03 and BR-04.

Land Component

Interim 1 ICP introduced land contribution percentages, as required by the PLC Act, from calculations based on public purpose land and net developable hectares. The calculation was (as per figures in Table 6 of the ICP):

- total area of public purpose land (TPPL) divided by total NDha contribution land (TCL NDha) and expressed as a percentage
- 155.47 ha ÷ 1032.78 ha x 100 = 15.05%.

Whereby TPPL means total purpose public land and TCL means total contribution land, as per section 46GB of the P&E Act.

The land contribution percentages are used to calculate the over and underproviders which then inform the value of land credit and land equalisation amounts.

The valuation process is set by the P&E Act and requires a formal notification period under section 46GO meaning the time to undertake, notify and resolve the estimates was not available. The ICP included asterisks in place of land values.

Alongside Interim 1 ICP, the VPA completed the land valuation process as per the requirements of the P&E Act.

Table 12 Change in land and monetary components – Interim ICPs

	Standard ICP	Interim 1	Interim 2	Interim 3
Amendment number	GC61	GC101	GC108	GC134
Amendment type	20(A)	20(4)	20(4)	20(4)
LAND COMPONENT				
Land component type	Monetary component	Land contribution model	NC	NC
Land contribution percentage	N/A	15.05%	NC	13.09%
Land values	N/A	None (asterisks)	Resolved land values	Recalculated and resolved land values
MONETARY COMPONENT				
Public land	$138,800	N/A	NC	NC
Transport construction	$108,700	$114,062	NC	NC
Community and recreation	$86,800	$86,627	NC	NC
Supplementary levy amount	N/A*	$810.42	NC	$34,777
Supplementary items	N/A*	BR-02, BR-03, BR-04	BR-02, BR-03, BR-04	BR-01, BR-02, BR-03, BR-04, BR-05 Ped-02, Ped-03 IN-02, IN-03

	Standard ICP	Interim 1	Interim 2	Interim 3
Basis for costs	Pre-July 2018 Benchmark Costings	July 2018 Benchmark Costings	NC	April 2019 Benchmark Costings
Total levy rate	$334,300	$200,689	NC	$235,466
NC – no change from previously listed ICP N/A* - not required for the standard levy ICP				

6.2.3 Benchmark Costings, July 2018

The Benchmark Costings was prepared to inform ICP prepared under the new standard and simplified system. During July 2018, the Benchmark Costing underwent informal and formal exhibition as follows:

- Informal consultation with the targeted industry bodies
- Formal consultation as per of the Amendment documentation for Donnybrook-Woodstock ICP and Mt Atkinson & Tarneit Plains ICP.

The Benchmark Costings report is intended to operate as a reference document of typical designs and costs to inform the preparation of ICP as the Ministerial Direction requires the preparation of costs for supplementary levy ICP and contemplates the preparation of costs for standard levy ICP. As the standard levy ICP is not required to undergo formal exhibition, the Benchmark Costings provides a reference for whether the standard levy is sufficient, or a supplementary levy is justified.

A detailed discussion on how this report was used to inform the Donnybrook-Woodstock ICP is discussed at Section 7.4. For the purposes of this section, the primary reason for the change in the monetary component was that:

- An earlier draft of the July 2018 Benchmark Costings informed Interim 1 and 2 ICP
- July 2018 Benchmark Costings informed the Exhibited ICP

  April 2019 Benchmark Costings informed Interim 3 and the RC April ICP.

Table 13 Change in land and monetary components – Final ICPs

	Standard ICP	Exhibited ICP	Recommended Changes (April) ICP	Recommended Changes (October) ICP
AMENDMENT DETAILS				
Applicable legislation	ICP 2016 legislation (monetary land component)	PLC Amendment (land contribution component)	NC	NC
Applicable Ministerial Direction	27 October 2016	2 July 2018	NC	NC
Date of ICP	August 2017	July 2018	April 2019	October 2019
Purpose	Original ICP	Replace gazetted standard ICP	Update the supplementary levy amount in response to: • Submissions • 2019 April Benchmark Costings • FLP conclave 1 statement	Finalise the supplementary levy amount in response to: • FLP conclave 2 statement • Costings conclave • Melton C201 panel report
LAND COMPONENT				
Land contribution percentages	N/A (monetary land component)	15.05% (NDHa calculation)	13.09% (Contribution area calculation)	NC
Estimates of land value	N/A (monetary land component)	None (asterisks)	Recalculated and resolved	NC
MONETARY COMPONENT				

	Standard ICP	Exhibited ICP	Recommended Changes (April) ICP	Recommended Changes (October) ICP
Standard levy amount (per NDHa)	$334,300	$200,689	NC	NC
Supplementary levy amount (per NDha)	N/A*	$412	$34,777	To be confirmed in Part B
Supplementary items	N/A *	BR-01, BR-02, BR-03, BR-04, BR-05 Ped-02, Ped-03 IN-02, IN-03	BR-01, BR-02, BR-03, BR-04, BR-05 Ped-02, Ped-03 IN-02, IN-03	To be confirmed in Part B
ICP item designs	N/A*	Bespoke PSP and benchmark designs	Bespoke post-exhibition and post-FLP conclave # redesigns Benchmark redesigns	Bespoke post-FLP conclave #2 redesigns
Key changes from previous ICP	N/A*	Bespoke intersection designs (except IN-16) Bespoke bridge designs (BR-01, BR-05) Benchmark designs for remaining items	Redesign bespoke design intersections (except IN-16) Redesign of BR-02 and BR-03 Redesign benchmark designs	Redesign IN-04 and IN-05 Redesign BR-03 and BR-04
ICP item costs informed by	N/A*	July 2018 Benchmark Costings	April 2019 Benchmark Costings	April 2019 Benchmark Costings and costings conclave statement
Key changes from previous ICP	N/A*	Hybrid costs for RD-01, RD-03, RD-04 Bespoke cost for BR-01 Benchmark costs for remaining items	Re-costed hybrid cost for intersections Re-costed bespoke cost for BR-02 and BR-03 Re-costed benchmark costs and hybrid costs	Re-cost bespoke cost for IN-04 Re-costed bespoke cost BR-03, BR-04 re
NC – no change from the previously listed ICP N/A* - not required for a standard ICP				

6.2.4 Exhibited Final ICP, August 2018

A final supplementary ICP was required to undergo the full planning scheme amendment as it is not a prescribed 20A amendment under the *Planning and Environment Regulations 2015* (section 8).

The exhibited ICP:

- Was prepared via Amendment GC102 in accordance with the PLC Act from August to September 2018
- Applied a ICP land contribution percentage of 15.05% and included resolved estimates of land value (that is, replaced the asterisks with land credit and land equalisation amounts)
- Applied a supplementary levy amount of $412/NDHa

The ICP land contribution percentage calculation was:

- total area of public purpose land divided by (total NDha) and expressed as a percentage, being

  155.47 ha ÷ (1032.78 ha) x 100 = 15.05%

The land credit and land equalisation amounts are calculated by:

- totalling the resolved estimates of land value for the overproviding inner public purpose land across the ICP area, then dividing by the total number of hectares of inner public purpose land across the ICP area to calculate **the land equalisation rate** expressed in dollars per hectare and applied across the ICP area
- the land equalisation rate is then multiplied by the underprovided hectares to calculate the **land equalisation amount** per parcel (all amounts provided in Table 11)

Whilst the exhibited ICP was dated one month later than the Interim 1 ICP, the monetary component included the following changes:

- Updated the ICP item costs, informed by the July 2018 Benchmark Costings, which was the reason for the supplementary levy amount reducing to $410/NDha;
- Listed only BR-05 under the supplementary levy.

As per the 2016 ICP legislation, the Donnybrook-Woodstock ICP was Standard ICP and did not include a set of costs per ICP item. The VPA's assessment of the Standard ICP after introduction of the PLC Act was that a supplementary levy was required as was a set of costs. The way in which the monetary component was informed is addressed below per infrastructure category type:

- Road designs were benchmark and the costs were a combination of benchmark and hybrid where additional site-specific costs were assessed as being required;
- Intersection designs were bespoke (save for benchmark design for IN-16) and a combination of benchmark and hybrid costs, with the later including considerations for site-specific conditions;
- Two bridge designs were bespoke, with the two associated costs being bespoke and benchmark, whilst the other three bridges were benchmark design and cost;
- The three pedestrian signals were all bespoke design and cost; and
- All sports reserves and community and recreation facilities were benchmark design and cost.

6.2.5 Interim 2 ICP, November 2018

Interim 2 ICP was required to replace the asterisks for the resolved estimates of land value (as per Table 3 of ICP document).

The remaining information within the ICP was the same.

6.2.6 Benchmark Costings, April 2019

The Benchmark Costings April 2019 included updates from the July 2018 exhibited version in response to feedback from the broader industry and the Mt Atkinson & Tarneit Plains and Donnybrook-Woodstock ICP amendments.

The notable changes include updates to:

- All cost through indexing (increased by 10 to 15 percent)
- Intersection designs to accord with VicRoads standards. The configuration of the intersections all increased in size and the associated costs were updated;
- Road costs, which increased due to indexing, higher quantities and P90 rates and the inclusion of additional line items ;
- Intersection costs, which increased due to indexing, higher quantities and P90 rates and the inclusion of additional line items ; and
- Community facilities costs, which increased more than just indexing due to: higher P90 rates and provision for ESD line item.

The above changes then required updates to all the costs within the Donnybrook-Woodstock ICP that were informed by the Benchmark Costings report, being every item except the three pedestrian signal projects.

6.2.7 Interim 3 ICP, July 2019 (and Recommended Changes (April) ICP, April 2019)

In late 2018, the Minister for Planning requested that the VPA review the Interim 1 ICP, Interim 2 ICP and the exhibited ICP to ensure that they were consistent with the land contribution model envisaged by the government and promoted by the P&E Act. In simple terms, the purpose of the review was to determine the definition of total contribution land. The findings of the review were that the land contribution percentages needed to be recalculated requiring preparation of Interim 3 ICP.

No landowners changed from their exhibited ICP classification of an overprovider or underprovider, however the land credit and land equalisation amounts changed. All landowners were informed of the change.

Interim 3 ICP also updated the supplementary levy amount to the same figure as the RC April ICP being $34,777/NDha.

Land Component Review

The review found that TCL was the total of net developable area plus total public purpose land. This meant that the 15.05% identified in the Interim 1, Interim 2 and Exhibited (final) ICP required updating and the new calculation is listed below and explained thereafter:

The new calculation was (changes from the previous calculation are underlined)

- total area of public purpose land divided by (total NDha + <u>public purpose land</u>) and expressed as a percentage, being (noting that the 155.58 ha increases from the 155.47 figure from the previous calculation because of an additional 0.12 ha of public purpose land as a result of the redesign of IN-3 and IN-04 as discussed in section 8.1.1):

  155.58 ha ÷ (1032.78 ha <u>+ 155.58</u>) x 100 = 13.09%

The findings of the review undertaken by the VPA found that:

- inner public purpose land was excluded from the contribution land for the purposes of calculating the ICP land contribution percentage and parcel contribution percentage; and
- inner public purpose land be included in contribution land for the purposes of calculating the relevant percentages, and
- the recalculated land contribution percentage meant that the land credit and land equalisation amounts also required recalculating.

As a result, the quantity of public purpose land that was eligible for land credit amounts reduced from 31.7765 ha to 27.6688 ha in the exhibited to RC April ICP, reducing the total ICP land credit amount from $78,934,595.19 to $68,727,569.13.

Stepping through the changes using Table 3 and Table 11 of the Exhibited ICP and Recommended Changes ICP for say, parcel 7:

- The number listed under “inner public purpose land (HA)” or “parcel contribution total (ha)” remained the same per parcel as these are defined by the allowable items (noting that there was a minor variation to the public purpose land areas for IN-03 affecting properties 19 and 20 and for and IN-04 affecting properties 32 and 33 as a result of the design changes following the FLP conclave 1 statement).

  The area for parcel 7 was 11.3472 ha.

- The land contribution percentage was lower as the public purpose land was apportioned over a larger area (in mathematical terms, the denominator of the fraction increased from 1032.78 ha to 1,188.25 ha, meaning the percentage lowered), therefore the parcel percentage contribution was also lower.

  The percentage for parcel 7 decreased from 26.34% to 20.85%

- The area of land being credited per parcel decreased as the land contribution percentage was lower.

  The land credit area for parcel 7 decreased from 4.8614 ha to 4.2203 ha.

- The land credit value decreased as less land was being credited (noting that the average per hectare value of public purpose land per parcel remained the same).

  The land credit amount for parcel 7 decreased from $10,208,268 to $8,862,020

Table 14 Parcel 7 – land component changes

Parcel 7	Parcel contribution total (Ha)	ICP contribution percentage	Parcel contribution percentage	Land credit amount (ha)	ICP land contribution	Land credit Amount (Total $)
Exhibited ICP	11.3472	15.05%	26.34%	4.8614	6.4858	$10,208,268
RC April ICP	11.3472	13.09%	20.85%	4.2203	7.1269	$8,862,020

Monetary Component – Updated Supplementary Levy Amount

Also updated in Interim 3 ICP from Interim 2 ICP, was the supplementary levy amount of $34,777/NDHa and the designs and costs that informed this figure, as per the RC April ICP.

The key reason for the change in the supplementary levy amount was from the updates within the April 2019 Benchmark Costings. Costs in this revised document increased all costs (except for sports reserve) by 10 to 15% and cost for roads and intersections had further increases and up to 30 percent. The increases had flow on effects for all benchmark costs and hybrid costs in the Interim 3/RC April ICP.

The other significant change was the redesign of BR-03 and BR-04 to comply with DELWP's *Growling Grass Frog Crossing Design Standards* (GGF Design Standards), which increased the exhibited benchmark cost of $795,000 to $3,438,000 and $3,336,000 for BR-03 and BR-04 respectively.

Interim 3 ICP and the RC April ICP listed the following items under the supplementary levy:

- IN-02, IN-03
- BR-01, BR-02, BR-03, BR-04, BR-05
- Ped-02, Ped-03.

6.2.8 Final Recommended Changes (October) ICP

As part of this submission, the VPA includes a final list of changes to the RC April ICP, these changes collectively referred to as Final RC October ICP, which are mostly in response to the FLP conclave 2 and costings statements. As well, BR-03 and BR-04 have been redesigned for a second time.

No changes to the land component are recommended.

The recommended change to the monetary component is a supplementary levy amount will be confirmed in the Part B and provided in July 2018-19 rates for the purpose of consistency for the Panel Hearing process (but will be indexed when submitted to the ICP is submitted to the Minister for Planning for approval).

The recommended supplementary levy items will be confirmed in the Part B also.

6.3 Reconciling Differences Between the Interim and Final ICP Levy Amounts

The VPA provided a response for the Mt Atkinson & Tarneit Plains ICP, as provided below as to the way in which it considers that monies collected under the interim can be reconciled with the final ICP levy amount. The discussion that ensued in the Panel Report noted that that P&E Act does not provide a mechanism specific to reconciling differences between interim and final levy amounts and Council noted that in this absence, it had been using voluntary section 173 agreements as negotiated with permit applicants.

The VPA repeats its response provided for the Mt Atkinson & Tarneit Plains ICP panel submission here:

> *If an infrastructure contribution imposed under an interim arrangement has been discharged (paid) there is no ability for a collecting agency to impose an additional or different amount of contribution under a final ICP to be paid in respect of that development.*
>
> *If the amount of the infrastructure contribution paid to a collecting agency under an interim arrangement is greater than the amount that would have been imposed under the final ICP and the difference is not expended in accordance with the ICP before the ICP expires, the collecting agency or development agency (as applicable) will need to deal with that amount in accordance with the responsibilities set out in Division 7 of Part 3AB of the Planning and Environment Act 1987.*

7 HOW THE BENCHMARK COSTINGS WAS PREPARED AND HOW IT INFORMED THE ICP

This section provides an overview of how and why the Benchmark Costings was prepared, building upon the discussion of the VPA's Part A (Part 1) submission. This section then explains the way in which the Benchmark Costings informed the Donnybrook-Woodstock ICP, focussing on the Recommended Changes (April) ICP and includes how this ICP changed from the exhibited ICP based on the updates in the April 2019 Benchmark Costings. This section also provides an overview of how the VPA intends to use the Benchmark Costings to inform other ICPs.

The Benchmark Costings was commissioned by the VPA and prepared by Cardno to guide the preparation of the ICP.

The ICP system is underpinned by the principles of standard and simplified contribution plans. The Ministerial Direction requires the preparation of the designs and costs for supplementary ICP and contemplates the preparation of designs and costs for standard ICP.

To inform the preparation of the ICP in a consistent, transparent and simplified manner, the Benchmark Costings comprises a set of "off the shelf" or template benchmark designs and costs which can be used as is or modified to inform the costs contained within ICP documents. The Report also provides a set of verified benchmark rates for usual practice construction components, which can be used to inform non-benchmark (described as hybrid and bespoke) costs where appropriate.

The costs and verified set of rates within the Benchmark Costings are expressed as P90. This figure provides a 90 percent probability that the identified cost will be within budget or less. This is discussed in further detail below.

Before the Panel is consideration of the designs and costs contained within the Donnybrook-Woodstock ICP. These have all been informed by the Benchmark Costings, for either the design, cost or a combination of, with exception to the pedestrian signals.

It is intended the Benchmark Costings will inform the preparation of future ICPs. Aspects of the application of the Benchmark Costings to inform the Donnybrook Woodstock ICP that will be relevant to other ICPs include:

- Principle of using "template" road and intersection benchmark designs
- Principle of using "template" bridge and major culvert designs
- Principle of using "template" community and recreation designs
- Use of the P90 amount to inform the capped transport construction standard levy and capped community and recreation construction levy
- Use of the P90 amount to inform the variable supplementary levy rate
- Format of the "template" cost estimates and the ability to adjust these to accommodate hybrid cost estimates.

Provided below is a discussion on:

- Purpose of the Benchmark Costings
- Current status and ongoing role of the Report
- Methodology for how the Benchmark Costings was prepared, including consultation, designs, costs and discussion on P90
- How the Benchmark Costings is intended to inform the preparation of ICPs.

The way in which the Benchmark Costings has informed the Donnybrook-Woodstock ICP, including the changes in the ICP in response to changes in the July 2018 and April 2019 versions of the Benchmark Costings is explained below. There were three versions of the Benchmark Costings that was circulated to parties: July 2018, March 2019 and April 2019. The March 2019 version did not inform any version of the Donnybrook-Woodstock ICP, or any other ICP, and for this reason has been omitted from the discussion below.

7.1 Purpose of the Benchmark Costings

The purpose of the Benchmark Costings is to inform the preparation of ICPs under the new ICP system which "*does not require a planning authority to calculate and justify the standard levy each time it proposed to fund the provision of essential infrastructure through an [ICP]*" (page 8 of the ICP Guidelines). That is, like the Cardinia Creek South ICP (Casey Planning Scheme Amendment C261) and Lindum Vale ICP (Hume Planning Scheme C236), a standard levy ICP does not need to include costs for individual items, nor does it need to undergo a formal planning scheme amendment process. These are significant changes from the previous DCP system and will likely require ICP administrators to have a greater level of understanding of infrastructure designs and costs. The Benchmark Costings provides a useful manual to this regard.

The Ministerial Direction identifies matters the planning authority is to consider when applying either a standard or supplementary levy, as well as the allowable items and a description of any applicable provision within each levy. Cost estimates (referred to costs elsewhere in this document) are used to determine if a standard levy is sufficient or whether a supplementary levy is justified. A key principle of the ICP system (standard and/or supplementary) is that the provision of infrastructure is "basic and essential" (ICP Guidelines).

Under the previous DCP system, the preparation, consultation and resolution of detailed designs and costs estimates was a contentious, expensive and time-consuming process. The scope of infrastructure items often entailed lengthy disputes over what constituted basic and essential. There was often significant variation and irreconcilable differences between cost estimates prepared by different consultants for different PSP areas, viewed as proprietary and opaque data. This process often left a level of uncertainty for decision makers. By providing benchmark designs and calculating benchmark costs for a range of 'basic and essential' infrastructure items, the Benchmark Costings aims to systematically, consistently and transparently guide ICP cost estimations. This would reduce the administrative burden of preparing an ICP and increase transparency and certainty of the ICP process for all stakeholders involved.

The intention of the Benchmark Costings is to provide a reference document compiling a set of "off the shelf" designs and costs for a range of basic and essential, or benchmark, infrastructure items. The principles and benefit of preparing such a report was identified by the Advisory Committee Report on Standard Development Contributions. The Committee noted such a report would assist to apply a consistent range of 'basic and essential' infrastructure to ensure a consistent scope of works (design) and costs. The design templates provide the basis for a clear, consistent and transparent basis for preparation of ICP infrastructure.

The Benchmark Costings provides three sets of information:

- Benchmark designs
  - These are considered basic and essential, usual practice, template designs for a range of standard infrastructure items
- Verified set of benchmark rates
  - These can be used when preparing cost estimates for designs that are non-benchmark, that is either bespoke or combination hybrid (benchmark and bespoke) designs. These rates have been scenario tested to provide the same high degree of probability that the costs will be within budget. The quantities from the hybrid or bespoke designs can be measured and applied to the verified set of rates to prepare a cost estimate.
- Cost estimates for the benchmark designs
  - The use the P90 scenario tested rates and are composed of list of rates against which quantities are multiplied to prepare a total cost estimate.

7.2 Current Status and Ongoing Role

7.2.1 What is the current and ongoing status of the report?

The Benchmark Costing Report was commissioned by VPA. Stakeholder review and comment from local government and UDIA informed the final report.

The report has been reviewed by external stakeholders including growth area councils and UDIA.

The VPA Board endorsed the methodology of the Benchmark Costings on 9 October 2019. It is intended that the report will be reviewed 12 months' time, at the same time that costs within the document will be indexed.

The April 2019 Benchmark Costings will continue to be used to inform the preparation of ICPs. The way in which the report is used to inform supplementary levy ICPs will be identified in the relevant ICP document. Standard

levy ICPs will be informed by the Benchmark Costings insofar as the VPA (or other planning authority) seeks to confirm whether the standard levy rate is sufficient.

Any recommendations for changes to benchmark design and costs within an ICP as a result of the Panel process will be updated in that individual ICP..

7.3 Methodology of Benchmark Costings

In simple terms, the Benchmark Costings was prepared by:

- Compiling a set of benchmark designs through the review of:
  - Typical designs within gazetted DCPs
  - Construction standards of typical designs
- Extracting a verified set of rates by:
  - Statistically analysing unit rates extracted from a large number of past approved DCPs
  - Calculating a risk-based estimates for each benchmark infrastructure item costs by combining quantities for the benchmark designs with Monte-Carlo probabilistic cost scenarios
  - Reverse-engineering the resultant costs to extract P90 unit rates

There are two main categories for benchmark ICP design and cost, consistent with the two types of levies identified in the Ministerial Direction. These are:

1 Transport construction infrastructure, comprising roads, intersections, bridges and culverts

2 Community and recreation construction infrastructure, comprising community facilities and sports and recreation facilities.

Provided within these two categories are:

- "Benchmark" designs and costs for 60 items which are representative of basic and essential infrastructure
- A set of verified benchmark rates for typical construction components

Excluded from these two categories are:

- Non-allowable items being those infrastructure projects, which are not included in the allowable items lists in the Ministerial Direction
- Bespoke designs and cost estimates which are considered "unusual" practice, that is not benchmark, and are specific to a particular PSP context.

7.3.1 Consultation and engagement on Benchmark Costings

Cardno Consultants was engaged by the VPA in 2017 to assess infrastructure costing data available from cost estimates in existing DCP areas. The scope of the project was transport and community infrastructure items. The DCP cost estimates were subjected to probabilistic cost risk modelling using Monte Carlo computer simulation. Monte Carlo simulation provides a range of cost outcomes which can be used to analyse the cost distribution of a given project (scenarios).

After initial cost simulations were completed (late August 2018), benchmark costs were presented to the growth area councils and the Urban Development Institute of Australia, Property Council of Australia and the Association of Land Development Engineers (stakeholders) for comment. The purpose of consultation was to determine whether Monte Carlo cost modelling of DCP data was consistent with stakeholder experience and practice.

Feedback was received from stakeholders on the overall scope of the project and provision of additional cost estimates to inform further Monte Carlo cost modelling simulations. Two growth area councils also engaged an engineering consultant to peer review the benchmark cost and designs for transport (Council A and B) and community infrastructure (Council A). Provision of additional cost estimates from infrastructure projects and peer review of the initial benchmark modelled estimates was designed to provide rigour to the probabilistic cost modelling process initially undertaken by Cardno.

Cardno reviewed all submissions and provided a response to VPA in early-November 2018 in a 'Stakeholder Comments Review' report. The submissions and Cardno (VPA) response to stakeholders will be summarised below. The results of the initial report were presented to stakeholders from mid-December 2018.

Consultation on the Benchmark Costings, prior to the VPA Board endorsement on 9 October 2019 is provided in the table below.

Table 15 Consultation on benchmark costings

Document version	Consultation date	Consultation event	Parties
July 2018 Benchmark Costings	August-September 2018	Exhibition of current Amendment	Landowners, Council and government
	August-September 2018	Exhibition of Melton C201	Landowners, Council and government
	August 2018	Transport construction workshop	Technical working group
	September 2018	Community and recreation construction workshop	Technical working group
	October-December 2018	Final stakeholder workshop	Technical working group
April 2019 Benchmark Costings	June 2019	Costings conclave of Melton C201	Landowners, Council and government
	March 2019	FLP conclave 1 of current Amendment	Technical experts for VPA, landowners and Council
	September 2019	FLP conclave 2 of current Amendment	Technical experts for VPA, landowners and Council
	October 2019	Costing conclave of current Amendment	Technical experts for VPA, landowners and Council
Benchmark Infrastructure Costings Guide	Endorsed by the VPA Board	Endorsed by the VPA Board	VPA Board

Type of consultation undertaken

Two workshops were held on the 27th August (transport infrastructure) and 31st August 2018 (community and recreation) to discuss the results of probabilistic cost modelling prepared by Cardno. The workshops were attended by officers from four growth area councils and representatives from the UDIA.

Following the workshops, stakeholders were requested to submit written comments and any additional background data that could be used to calibrate the benchmark costs. A variety of drawings and costing data were submitted by stakeholders during mid-late October 2018.

Following the review of submitted drawings and costing data, Cardno made seven broad recommendations to VPA to respond to stakeholder feedback on the initial report. Consultation with stakeholders continued through early-2019 and the Final Benchmark Costing Report (Cardno) was released in April 2019.

What did the submissions say?

The Cardno Report titled: *Benchmark Infrastructure Costings Project - Stakeholder Comments Review* (12 December 2018) provided a detailed summary of submissions received in relation to the Benchmark Costings. The submissions were generally related to one of three categories: additional cost estimates to better calibrate benchmarks, peer review analysis of Cardno benchmark estimates and general comments on the benchmark project.

Additional cost estimates were provided for intersection projects, recreation reserves and community centres by two greenfield councils. The submissions provided costed line items and analysis of significant differences. The data was reviewed by Cardno and commentary was provided on each significant difference.

Two greenfield councils provided a peer review of transport and community and recreation benchmarks projects. Peer review was conducted by consultancies which undertake work in these areas. Detailed comments were provided to Cardno and a recommendation was made to the VPA for each item. Key changes were made to street lighting, landscaping (roads) and sub-grade preparation (roads).

The development industry association provided a submission which recommended the use of actual costing data, reviewed the suitability of P90 costing method and recommended the application of cost escalation. Where available the benchmark costing has used actual costing data from council submissions and incorporated this data into Monte Carlo analysis (scenario testing). The issue of P90 was addressed and cost estimations will be indexed with Australian Bureau of Statistics (ABS) data.

How have the submissions been addressed?

A summary of the key changes from the July 2018 to April 2019 version of the Benchmark Costings is provided in Table 16 below. The designs generally remained the same, save for the intersection designs for which dedicated right hand turns were added to the primary arterial legs.

The costs all changed as a result of indexing and then item-specific costs changes were included in response to submissions. These change a combination of: the quantities, the P90 rates and the line items themselves.

7.3.2 Changes between the July 2018 and April 2019 Benchmark Costings

A summary of the changes to the cost of items between the July 2018 and April 2019 Benchmark Costings report is provided in Appendix 8. The notable changes are described in the table below.

Table 16 Benchmark costings changes summary

Section of report	Change in cost estimate	Impact on cost (approx. figures)
All cost estimates	Indexation of all costs	Increased to between 10% and 15%
Road and intersection template cost estimations	Quantities added under line item "site-preparation" (previously zero)	Increased between $150,000 and $300,000
	P90 rates for cycle path increased from 68 to 91 sqm	Increased from $154,000 to $206,000 for primary-primary intersection, for example
Road template cost estimates	Quantities added under line item "landscaping" (previously zero)	Increased by up to $280,000
	P90 rates for all "delivery" line items increased by 30%	Increased from $518,000 to $704,000 for a primary road, for example
Intersection designs	Additional through lanes provided (as per VicRoads guidelines), increasing quantities under line item "pavement"	Increased by $100,000 for a primary-primary intersection, for example
Intersection cost estimates	Quantities added within line item "sub-grade"	Increased by up to $40,000
	P90 rate for "drainage – sub-soil" increased from 26 to 43 per metre	Increased from $43,000 to $139,000 for a primary-primary intersection, for example
	P90 rates added to line item "street lighting" (previously zero)	Increased by up to $223,000
	P90 rates for all "delivery" line items increased by 22%	Increased from $1,020,000 to $1,303,000 for a primary-primary intersection, for example
Community facility cost estimates	P90 rate for "playground" increased from $536 to $1131 per square metre	Increased from $429,000 to $905,000

7.3.3 Benchmark Designs

The benchmark designs were compiled by reviewing the various applicable design standards and gazetted DCP and preparing a set of drawing that include the key components of each type of infrastructure. The key components of the designs are provided per category below.

It should be noted that benchmark designs are concept (2D) designs and estimated costs as required by the ICP system are not intended to be construction drawings and figures. The final designs and detailed costs will not be known until the works are ready to be constructed, often many years after the ICP is gazetted. In the intervening period other influences such as known costs of providing other infrastructure nearby, changes to construction standards or even scope as well as market fluxes of material conditions and labour costs could vary the final designs and figures. Although the Monte Carlo analysis provides information for probabilistic cost distribution analysis, contingencies, indexation (as guided by the Ministerial Direction), ICP reviews have also been factored into the process.

BENCHMARK ROAD ITEMS

ICP roads are colloquially known as "ultimate land and first carriageway". The benchmark designs comprise:

- Road types of primary arterial roads, secondary arterial roads, connector boulevards streets and connector streets
- The layout for the ultimate road configuration, notated by the faded grey linework, to identify the land take for the ultimate construction of the road

- The layout for the interim road configuration which consists of:
  - 14 m cross section for primary and arterial roads. This is provided as an undivided carriageway or "first carriageway" which includes a shared path to one side. This layout is considered to be 'basic and essential' and provides a balanced outcome of reducing the level of disruption to the community when the ultimate road is constructed and proportions a reasonable cost between developers (via the ICP) and appropriate levels of Government (for the ultimate construction).
  - 25 m and 31 m cross section for connector and connector boulevard roads respectively. This is the ultimate treatment and is usually provided by the developer and has been included in the Benchmark Costings for guidance regarding how the connector legs of arterial to connector intersections taper down to the road cross section (discussed further below).
  - Design speeds of 60 km/hr for primary and secondary arterial roads and 50 km/hr for connector and connector boulevards

The road designs are considered 'off the shelf' as the Benchmark Costings provides a per linear metre cost of the interim road cross section and this figure is multiplied by the road length (measured via GIS) to cost the ICP item.

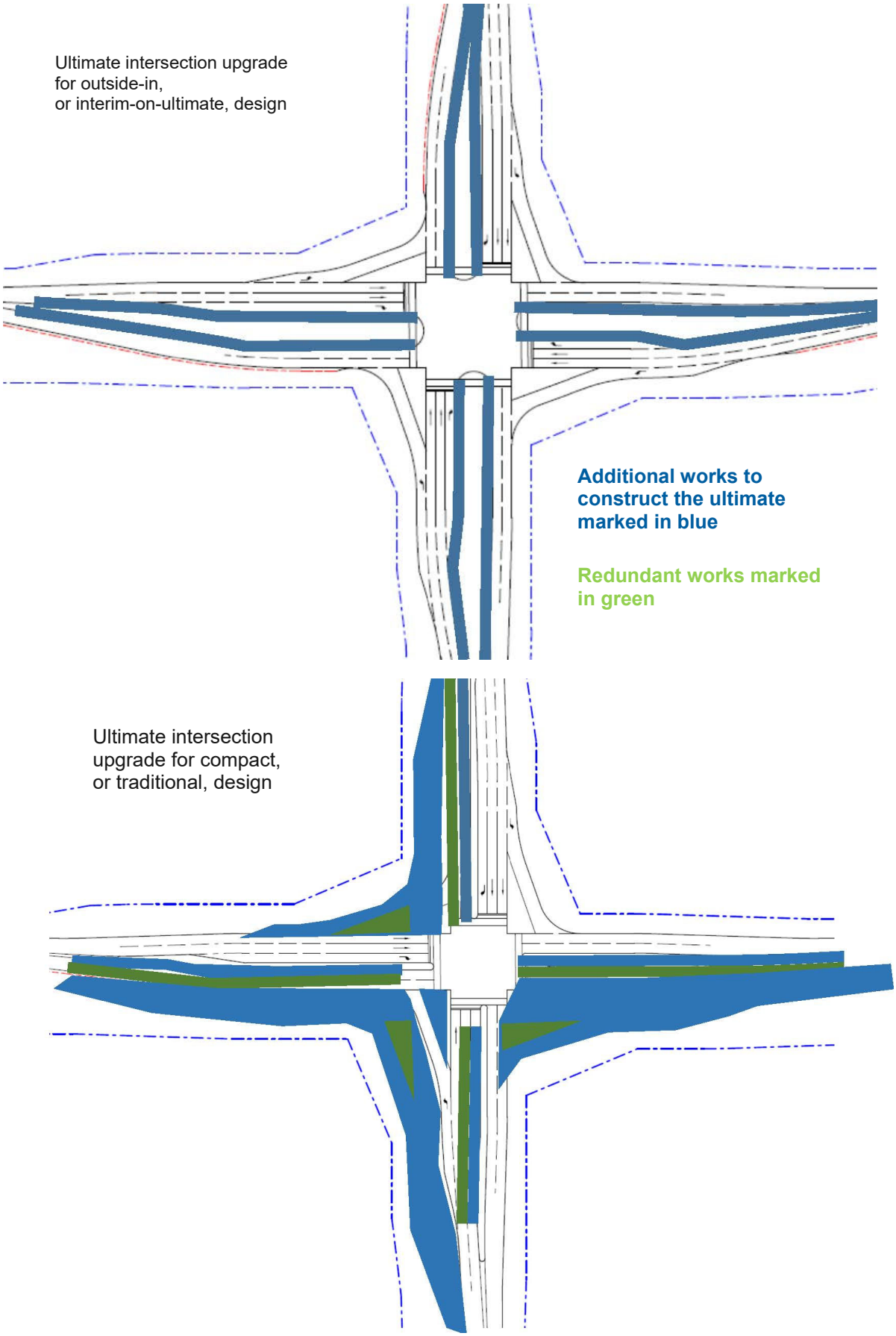
Benchmark Intersections items

The ICP-funded intersections, as was also the case for the previous DCP system, are colloquially known as "land plus interim-on-ultimate". The benchmark designs for intersections following the same principles and comprise:

- Designs for the 12 intersection configurations possible to make cross- and T-intersections using primary arterial roads, secondary arterial roads and connector boulevards
- The layout for the ultimate intersection configuration, notated by the faded grey linework, to identify the land take for the ultimate construction of the intersection
- The various layouts for the interim intersection configurations each consist of:
  - Outside-in design. This layout is considered to be basic and essential and to provide a balance of planning considerations for the fair and orderly development of land; the benefits of the safer environment provided by speeds of 60 km/hr and 50 km/hr and less disruption when the ultimate is constructed outweighs the negative community aspects of higher construction costs (to the benefit of the authority) and higher maintenance cost for the life of the interim intersection (this can be up to 20 years). The redundant works created by an outside-in versus inside-out (also known as compact or traditional) is illustrated by the blue shaded areas of the diagrams below. Figure 15 illustrates the area of works (in blue) required to construct the ultimate intersection configuration on compact versus interim-on-ultimate intersection design. The green area in the compact design reflects the redundant works.
  - One of a range of intersection arrangements of cross- and T-intersections and cross- and T-round-a-bouts
  - Tapers. This is the section of the intersection that flares down to the mid-block road cross section. In the benchmark design and cost, the taper refers to the section of intersection converges to the road cross section (ie, road mid-block). Where the road mid-blocks are primary or secondary arterial roads, the taper will converge the divided lanes of the intersection converge to the undivided lanes of the mid-block (seFigure 15 below).
  - Design speeds of 60 km/hr for primary and secondary arterial road legs and 50 km/hr for connector and connector boulevard legs (the design speed determines the length of the intersection leg and is guided by the VicRoads *Manual For Planning Roads in Growth Areas*.
  - Bus-jump lanes are not included in design of template intersections as these are not considered benchmark but rather on a case-by-case basis. Bus jump lanes are however considered basic and essential and for this reason will be funded by an ICP as required.

The intersection designs are considered off-the-shelf as the Benchmark Costings design shows the concept layout for the interim intersection, how the interim configuration can tie in to the ultimate configuration and how the interim configuration fits within the land take and finally how the intersection can join with the mid-block road section. See also Appendix 4 for the BIC Guide.

Figure 15 Works to construct the ultimate for an interim outside-in versus compact design



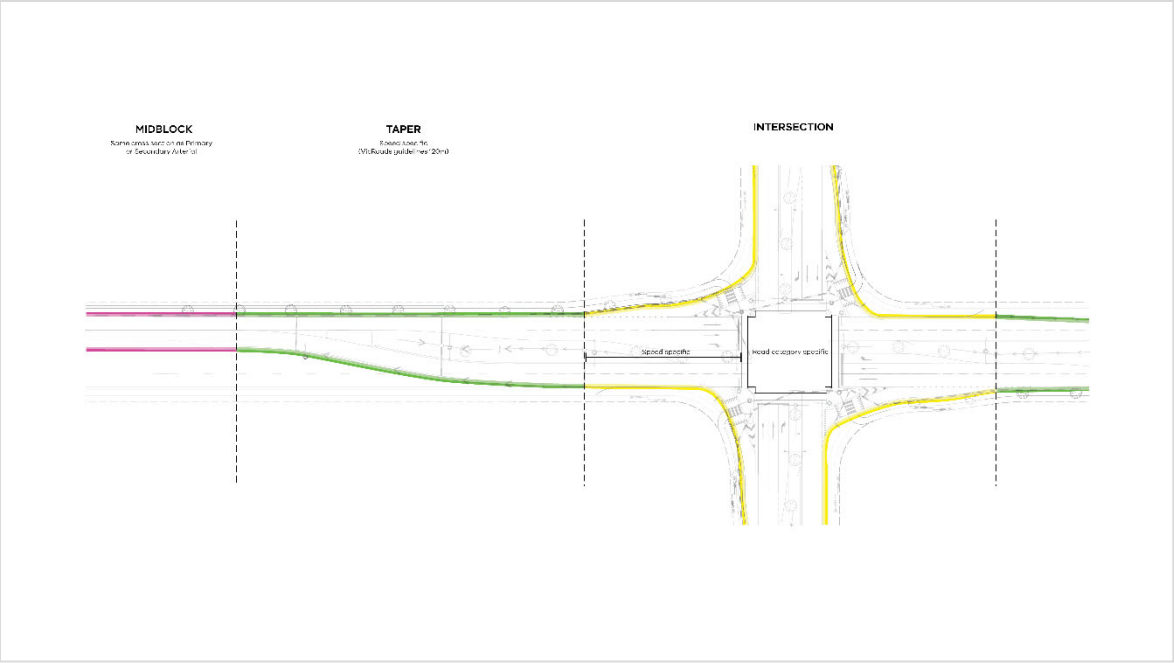


Figure 16 Components of a benchmark intersection design from the Benchmark Costings

Benchmark Bridges and Culverts Items

Bridges and major culverts are usually required under roads where there is a significant change in terrain which may be caused by natural and manmade features, such as waterways, gullies or railway lines.

The benchmark designs comprise:

- Designs for:
  - Interim construction of bridges between primary and secondary arterial roads
  - Ultimate construction of bridges between connector roads (as per the discussion on the road design types, the ultimate configuration for connector road bridges are provided because they will connect with connector roads that are generally provided as ultimate configuration as part of developer works).
  - Ultimate construction for pedestrian bridges
  - Connects to the mid-block road
  - Super-T construction for all bridge types, that is, roads and pedestrian bridges.

For reference, the land take area associated with bridges is determined by the road reservation that the bridge will sit within.

These designs are considered “off the shelf” as the designs can be added to connect sections of the road that overpass changes in terrain, with configurations that will join to benchmark designs for mid-block roads.

The benchmark culvert designs comprise:

- Both box culverts and circular culverts, used to suit the water flow that needs to be accommodate below
- Box culverts for secondary arterial and connector boulevard and in two sizes for each: 1200 mm x 2000 mm and 1800 mm x 3000 mm
- Pipe culverts for secondary arterial and connector boulevards and in two sizes for each: 1200 mm diameter and 2100 mm diameter
- No road pavement above as this component is usually added to the road item that sits above the culvert.

These designs are considered “off the shelf” as the Benchmark Costings provides a per unit (square metre or cubic metre) rate which is simply adjusted as needed.

COMMUNITY AND RECREATION BENCHMARK DESIGNS

The Benchmark Costings provides two categories of community and recreation facilities designs:

- Community facilities (levels 1, 2 and 3)
- Sports and recreation facilities comprising:
  - multi-purpose sports and recreation centres (levels 1 and 2) and
  - sporting pavilions in two sizes to be provided in conjunction with either 2 and 3 sporting field configurations.

The Benchmark Costings does not provide 'interim' layouts for community and recreation facilities because there is only one standard of delivery of these items. The designs comprise:

- Ultimate configuration of facility
- Designs for:
  - Three levels of community facilities: all levels comprise a kindergarten, playground and consulting rooms. The difference between levels 1, 2, and 3 is the progressive increase in meetings spaces moving up the levels
  - Two sporting pavilions configurations: level 1 sits adjacent two playing fields and level 2 sits adjacent three playing fields
  - Two sizes of multi-purpose sports and recreation centres are provided in two sizes: one AFL/soccer/cricket field (5 to 6 ha) and two AFL/soccer/cricket fields (8 to 10 ha).

7.3.4 P90

The P90 rates provides 90 percent likelihood that the cost of the item will be as listed or less, or in other words, provides a 10 percent chance of the items exceeding the listed cost. The P90 rates were used to compile the cost estimate sheets of transport and community recreation projects. The P90 estimate was used as this is consistent with cost risk estimation practice of Department of Infrastructure, Transport, Regional Development and Local Government (estimating road and rail construction).

The P50 rates have been included in the Benchmark Costings because this is also consistent with practice of Department of Infrastructure, Transport, Regional Development and Local Government estimating road and rail construction.

Based on analysis undertaken by Cardno for the benchmark cost project, the difference between the P50 and the P90 rates were generally 10 to 15 percent of total project cost. The P90 estimate is provided in addition to the contingencies set by the Ministerial Direction.

7.3.5 Benchmark Costs

The benchmark costs were developed by using the benchmark unit quantities multiplied by 200,000 risk-based unit rate scenarios to provide a risk-based total infrastructure item estimate. The P90 unit rates were then estimated by "reverse engineering"

The costs estimates are formatted to group the similar components, or "line items" and generally in the order of construction, for example for an intersection: site preparation, road pavement, concrete works, drainage, traffic signals, landscape, street lighting, miscellaneous and delivery.

Where costs are hybrid and include non-benchmark components, a P90 estimate for that component will usually be added as line items to the "other" category.

Where costs are hybrid and use different quantities, this will be reflected in the column labelled "qty". The rates used will be the P90 estimated unit ratees that were "reverse engineered" from the benchmark infrastructure costs.

Contingencies are added as additional line items in the amounts identified in the Ministerial Direction, being 15 percent for roads and intersections and community and recreation items and then 20 percent for bridges.

7.4 How the Benchmark Costings can Inform ICP Designs and Costs

The template designs and costs are intended to both reduce the preparation of, documentation for and detail within the ICP consistent with the principle of the new contributions system by:

- Reducing the need to design and cost every ICP item

  For usual practice designs, the template design can be used. For example, in the Donnybrook-Woodstock ICP, BR-02 design and cost were taken directly from the Benchmark Costings

- Reducing the need to replicate designs for the same ICP item type

  For usual practice designs, the same template design can be used as a reference for multiple ICP items if there are the same type. For example, there are two road designs in the Donnybrook-Woodstock ICP: primary arterial and secondary arterial, as opposed to 16 designs for each section of the road items.

7.4.1 Definition of benchmark, hybrid and bespoke

The Cardno report used the terminology 'Standard' to describe infrastructure items that were consistent with benchmark designs and cost and 'Non-standard' to describe infrastructure that was not. To provide greater consistency and transparency in the preparation of the ICP, VPA divided Cardno 'non-standard' items into 'Hybrid and Bespoke'. The definition of each is outlined below:

Benchmark Item: The design and cost of the infrastructure item exclusively uses the design and cost template of the Benchmark Report. Benchmark is considered 'off the shelf' or 'usual practice'.

Hybrid 1 (benchmark design) Item: The design is benchmark, but hybrid costs are prepared as the item requires some adjustment to the quantities and rates of the associated benchmark cost (e.g. benchmark intersection with extra pavement) or additional line items are added for non-benchmark components (e.g. service relocation).

Hybrid 2 (bespoke design) item: The design is bespoke but comprises benchmark components. The cost is preparing by using the quantities from the bespoke design and benchmark rates (e.g. bespoke arterial intersection design), noting that cost may also need additional line items for non-benchmark components (e.g. service relocation).

Bespoke Item: The infrastructure item does not 'fit' into a benchmark design. The P90 rate is used where available for costing line items, but may require a bespoke cost estimate for the infrastructure item (e.g. grade separation of a road). Bespoke are considered 'site specific' infrastructure items.

The VPA definitions allow a transparent and replicable process to be followed for design and costs of all items within an ICP. The process will be described in more detail below.

The starting point for ICP item preparation is categorisation of deign type (road, intersection) and confirmation of which design, and the scope for that design, is appropriate. Items are then classified as either benchmark, hybrid or bespoke as outlined in the diagram below. Infrastructure items may be both hybrid (uses P90 line item of benchmark costing) and bespoke (non-standard item in benchmark costing report). Once the design of the infrastructure has been determined, preparation of the cost follows.

Benchmark Costings can be used to inform five key combinations of designs and costs, as depicted in below (using intersection designs and costs as examples). Designs and costs can range from benchmark, being usual practice, to bespoke, being site-specific, and three hybrid combinations in between as described in the definitions (in the figure, benchmark items are shown in blue, hybrid in green and bespoke in yellow).

Table 17 provides an explanation of using items from the Donnybrook-Woodstock ICP to describe the five key combinations. It is worth nothing that the "Hybrid 1" and "Hybrid 2" examples have been separated in the table below to clarify the two ways in which hybrid costs can be derived from benchmark designs. In application however, a hybrid cost could combine H1 and H1, that is, it could include both greater and reduced quantities and non-benchmark components. For example, using the description in the figure, an intersection could include both extra pavement and major service relocation.

Figure 17 Benchmark Costings design and cost estimate combinations

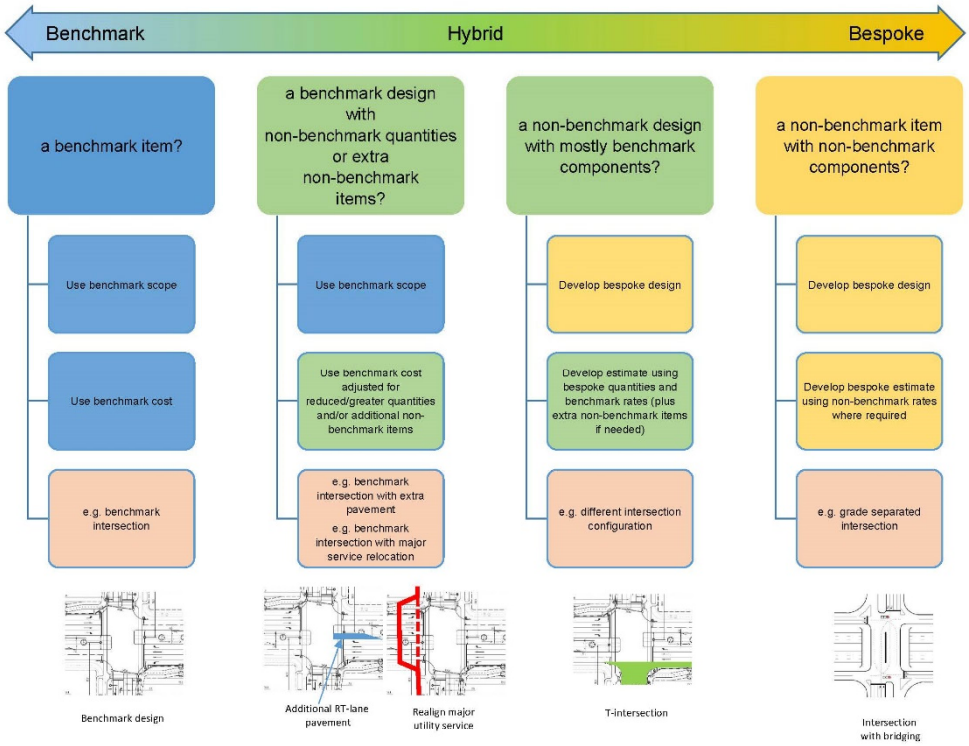


Table 17 Explanation of benchmark, hybrid and bespoke items in the Donnybrook-Woodstock ICP

Combination	Benchmark	Hybrid 1	Hybrid 2	Bespoke
Design	Benchmark	Benchmark	Bespoke	Bespoke
Cost	Benchmark	Hybrid	Hybrid	Bespoke
Application	Usual practice	→		Site-specific
Description of design	Directly from benchmark	Directly from benchmark	Design specific to ICP	Design specific to ICP
Description of cost	Benchmark	Hybrid cost with uses more or less quantities and/or non-benchmark components	Bespoke design using benchmark rates	Bespoke design with bespoke cost
Explanation of cost	Directly from BC	Hybrid cost uses greater or less quantities in "QTY" column in BC cost estimate and/or additional line items that are not listed in the BC cost estimate	Hybrid cost uses the quantities measured from bespoke design and rates from BC cost estimate for the same item type	Bespoke cost based on bespoke design (and may use limited rates from BC)
Example in ICP	BR-02 uses item 27 design and cost with no change from BC	SR-03 and SR-05 uses BC item 43 design and a hybrid BC item 43 cost adjusted for playing fields IN-16 uses BC item 15 design and hybrid BC item 15 cost adjusted to include rock excavation	IN-10 is a bespoke design and the hybrid cost was prepared by multiplying the quantities from the design by the rates of item 8 in addition to non-benchmark line items such as for service relocation	BR-03 and BR-04 have bespoke designs and bespoke costs (with some, but relatively few, BC rates) Ped-01, Ped-02, Ped-03 do not have a design and cost is not based on benchmark rates

BC – Benchmark Costings

By way of example, the intersections within the RC April ICP (except IN-16) are “hybrid 1” type as they have bespoke designs with hybrid costs because:

- the designs are bespoke as they were prepared specifically for the PSP/ICP area (bespoke quantities)
- the costs are hybrid as they were calculated by applying the quantities of the bespoke design to benchmark (benchmark rates, notwithstanding some intersections also had some non-benchmark components such as service relocation).

In the exhibited ICP, IN-06, IN-07, IN-09, IN-10, IN-11, IN-13, IN-14, IN-15 and IN-17 had bespoke designs and benchmark costs applied, a combination of design and cost that is not identified in the figure above and could be considered to be a “part-H2-part-benchmark”. The exhibited benchmark costs were updated to hybrid costs in the RC April ICP to provide a more accurate cost based on the known quantities and in response to submissions which sought review of the intersection costs.

For reference, the potential to include benchmark designs, in place of the bespoke designs, in the exhibited ICP was not considered appropriate for two key reasons: the bespoke interim designs were based on the ultimate designed intersections which also informed the public purpose land for each intersection and planning permits had already been issued for land within the ICP area and the bespoke designs were already being constructed.

The pathway to determining which combination of design and cost is appropriate is guided by the following flow chart as provided in the VPA’s Part A (Part 1) submissions and repeated here for reference:

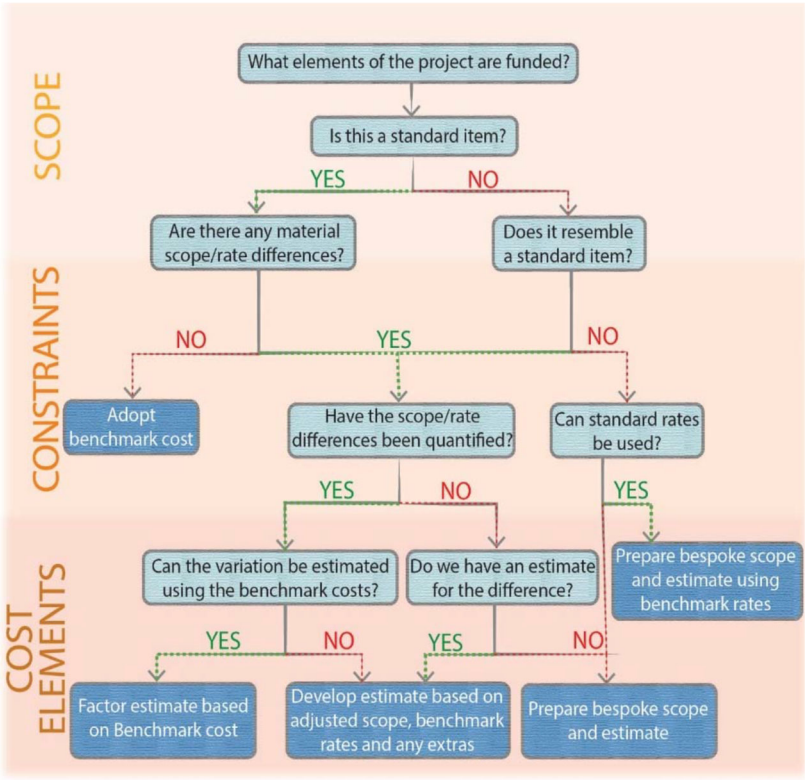


Figure 18 Project type decision pathway

In summary, the Benchmark Costings comprises:

- benchmark designs which are considered usual practice
- benchmark costs which are considered usual practice and are applicable across of all growth areas as the P90 rates provide a 90 percent probability that costs will be as listed or less
- a set of verified benchmark P90 rates which can be used to inform hybrid and bespoke costs.

Using the above listed contents, the Benchmark Costings can inform the preparation of ICP documents in three key ways:

- benchmark designs
- benchmark costs
- hybrid and bespoke costs.

As well, ICP documents will usually comprise design and costs in five combinations:

- Benchmark: benchmark designs plus benchmark costs
- Hybrid 1: benchmark designs plus hybrid costs
- Hybrid 2: bespoke designs plus hybrid costs
- Bespoke: bespoke designs plus bespoke costs.

7.5 How the Benchmark Costings informed the preparation of the Donnybrook-Woodstock ICP

The Benchmark Costings informed the following components of the exhibited ICP and RC April ICP:

- benchmark designs
- benchmark costs and
- hybrid and bespoke costs.

A summary of the way in which the RC April ICP items that were informed by Benchmark Costings is provided in Table 18 below. Items that changed in their combination of design and cost type, that is between benchmark, H1, H2, H3 and bespoke, from the exhibited ICP to RC April ICP are marked in red text and explained below.

Table 18 Summary of impact of Benchmark Costings on Recommended Changes ICP (April 2019)

RC (April) ICP					
Item category	**Benchmark**	**Hybrid 1**	**Hybrid 2**	**Bespoke**	**Updates in RC April ICP from exhibited ICP**
Roads	RD-02, RD-05	RD-01, RD-03, RD-04			Increased cost estimate: RD-01, RD-02, RD-03, RD-04, RD-05
Intersections	IN-16		IN-01, IN-02, IN-03, IN-04, IN-05, IN-06, IN-07, IN-08, IN-09, IN-10, IN-11, IN-12, IN-13, IN-14, IN-15, IN-17 (these were updated to H1 from a "partial H3" in the RC April ICP)		Increased cost estimate: IN-01-07; IN-10, IN-11, IN-13-16 Decreased cost estimate: IN-06, IN-08, IN-09, IN-12
Bridges and culverts	BR-02		BR-01, BR-05	BR-03, BR04 (these were updated to bespoke from benchmark in the RC April ICP)	Increased cost estimate: BR-03, BR-04, BR-05 Decreased cost: BR-01, BR-02
Pedestrian signals				Ped-01, Ped-02, Ped-03	No change
Sports reserves	SR-01, SR-02, SR-04, SR-06, SR-07	SR-03, SR-05			Decreased cost: SR-01, SR-02, SR-03, SR-04, SR-05, SR-06, SR-07
Community facilities	CI-01, CI-02, CI-03, CI-04, CI-05, CI-06, CI-07				Increased cost: CI-01, CI-02, CI-03, CI-04, CI-05, CI-06, CI-07

From the exhibited ICP to the RC April ICP, changes in the Benchmark Costings which translated to changes in the ICP were:

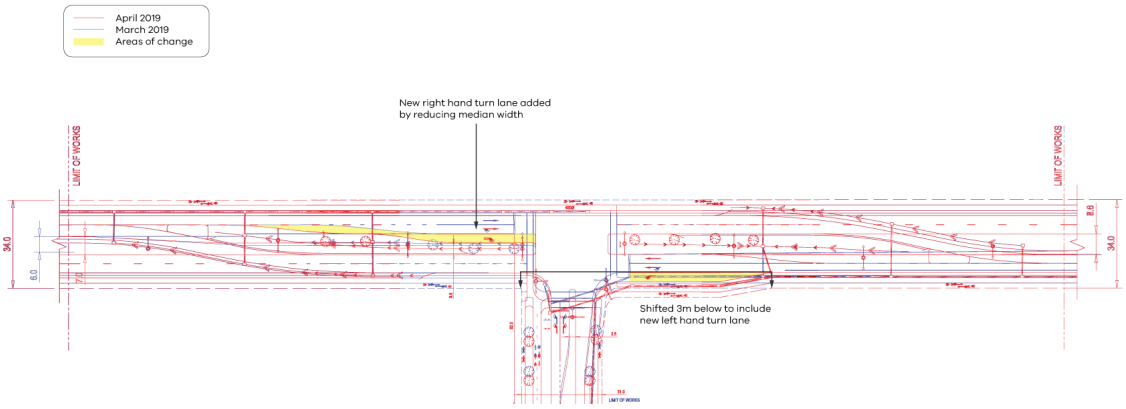
- All the benchmark designs were updated. In most part the design changes were relatively minor
- Benchmark costs were indexed and most costs increased (with exception to sports reserves) with some costs, such as roads and intersections increasing further as a result of quantity and P90 rates updates.

The other key change from the exhibited ICP to the RC April ICP was that:

- The bespoke designs for all intersections (except IN-16) and BR-05 had hybrid costs prepared, in place of the benchmark costs that were applied in the exhibited ICP
- A hybrid cost was calculated for each of SR-03 and SR-05, in place of the benchmark cost of the exhibited document
- A bespoke design was prepared for BR-03 and BR-04 (in place of the exhibited benchmark design and cost).

For reference, there was a change in the design of IN-16 being benchmark item 15 from the July 2018 (and March 2019) and the April 2019 Benchmark Costings to ensure consistency with VicRoads requirements. This change was to include an additional turn lane on the secondary arterial and is shown in yellow in Figure 19 below.

Figure 19 Changes in IN-16 (benchmark item 15) design from the exhibited to Recommended Changes (April) ICP



Summarised in the table below are:

- The ICP items that use the benchmark designs
- An explanation of how these designs changed from the July 2018 to April 2019 version of the Benchmark Costings
- The appropriateness of these designs for the Donnybrook-Woodstock ICP.

The ICP items supported by hybrid costs are discussed in Table 19 below.

Table 19 ICP items supported by hybrid costs

Item	Benchmark Design	Change in design from July 2018 to April 2019 version of Benchmark Costings	Appropriateness for ICP
RD-02,	Primary arterial (Item 1)	No significant changes in template design	The ICP delivery of arterial roads is relatively consistent with what was usually delivered under DCP being "land a first carriageway", that is, for the ICP to fund the land for the ultimate configuration and construction of the first (undivided) carriageway. The key difference in use of the Benchmark Costings is that it provides one "off the shelf" benchmark design for primary arterial roads plus a per metre cost, with the metre lengths measured from GIS, as opposed
RD-01, RD-03, RD-04, RD-05	Secondary arterial (item 2)	Minor amendment to drawing annotations on template design	

Item	Benchmark Design	Change in design from July 2018 to April 2019 version of Benchmark Costings	Appropriateness for ICP
			to each road having designs that follow the road network of the PSP. The ICP approach is considered appropriate as it provide a suitably qualified cost estimate and to sufficient level of detail required for an ICP and is consistent with the principles of a standard and simplified ICP system
IN-16	T-intersection secondary arterial to connector (item 15)	Additional through lane added in each direction. Turning lane separate from through lane	This is the first example of an ICP intersection being informed by a benchmark design. The benchmark design is a T-intersection secondary arterial to connector boulevard which is appropriate to tie into the interconnecting mid-block section of RD-02 and the interconnecting mid-block section of the connector road beyond the intersection. The design in the July 2018 was updated in the April 2019 Benchmark Costings to include an additional turn lane to accord with VicRoads' standards (see below for the change). The ICP public purpose land size for IN-16 is recommended to be updated to 1.48 ha to correspond with the 1.48 ha intersection identified in the Benchmark Costings (the RC April ICP land size allocation of 1.79 ha reflects the July 2018 Benchmark Costings design as discussed at section 8.1.2)
CI-01, CI-02, CI-03 and CI-05	Level 2 community facility (item 38)	Additional public lighting, additional drawing annotations (car park numbers)	The benchmark design includes the typical components of a level 2 community facility and the associated benchmark cost is calculated on the quantities identified in the design. The final layout and configuration will be subject to detailed design at the time of construction.
CI-04	Level 3 community facility (item 39)	Minor amendments to drawing annotations on template design	The benchmark design includes the typical components of a level 3 community facility and the associated benchmark cost is calculated on the quantities identified in the design. The final layout and configuration will be subject to detailed design at the time of construction.
CI-06 and CI-07	Level 1 community facility (item 37)	No change to template design	The benchmark design includes the typical components of a level 1 community facility and the associated benchmark cost is calculated on the quantities identified in the design. The final layout and configuration will be subject to detailed design at the time of construction.
SR-01, SR-02, SR-03 SR-04, SR-05, SR-06	Sport and Recreation Facility Level (item 43)	No change to template design	The benchmark design includes typical components of an 8 to 10 ha or 5 to 6 ha (as applicable) sports reserve and the associated benchmark cost is calculated on the quantities identified in the design. The final layout and configuration will be subject to detailed design at the time of construction.
SR-07	Sport and Recreation Facility Level 1 (item 42)	No change to template design	The benchmark design includes typical components of a 5 to 6 ha sports reserve and the associated benchmark cost is calculated on the quantities identified in the design. The final layout and configuration will be subject to detailed design at the time of construction.

Table 20 Change in cost estimate from Exhibited (July 2018) to Recommended Changes (April 2019) ICPs

Item	Benchmark or hybrid cost	Change in cost from the July 2018 to April 2019 version of the Benchmark Costings (for the applicable benchmark cost)	Appropriateness for ICP
RD-01	Primary arterial – hybrid	Benchmark rates for roads increased as a result of indexing plus a further increase in selected P90 rates	RD-01, RD-03 and RD-04 included an overall additional cost of 20%, 10% and 10% respectively for these roads to covers the cost for rock excavation. This is discussed further in Section 8.1.2 and the costs of the roads were resolved through the costing conclave statement.
IN-01, IN-02, IN-03, IN-04,	Intersection - hybrid	Benchmark rates for intersections	Hybrid costs adapt benchmark cost for intersection items (various) and adjusts the quantities as measured from the

Item	Benchmark or hybrid cost	Change in cost from the July 2018 to April 2019 version of the Benchmark Costings (for the applicable benchmark cost)	Appropriateness for ICP
IN-05, IN-06, IN-07, IN-08, IN-09, IN-10, IN-11, IN-12, IN-13, IN-14, IN-15, IN-17		increased as a result of indexing plus a further increase for selected P90 rates	bespoke designs. As well, some intersection included additional non-benchmark line items (generally found in the "other" category of the cost sheet).
SR-03	5 to 6 ha sports and recreation facility – hybrid cost	Benchmark rates for sports reserves were indexed but decreased slightly overall	Hybrid cost adapts benchmark cost for item 43 and adjusts to change the quantities of playing fields to meet PSP-specific quantities.
SR-05	8 to 10 ha sports and recreation facility - hybrid cost	Benchmark rates for sports reserves were indexed but decreased slightly overall]	Hybrid cost adapts benchmark cost for item 43 and adjusts to change the quantities of playing fields to meet PSP-specific quantities.

7.6 How the Benchmark Costings will inform future ICP across all Growth Areas

The the Benchmark Costings is intended to inform the preparation of ICPs across all growth areas using a consistent and transparent method to provide basic and essential infrastructure. Through the process of identifying benchmark, hybrid and bespoke items, there is transparency regarding cost and design in the preparation of each ICP.

Probabilistic cost risk simulation of existing DCP and cost data (Monte Carlo modelling) suggests that the benchmark costs are appropriate for off the shelf (usual) infrastructure applications in an ICP area. Through the identification of hybrid and bespoke infrastructure items, the benchmark process retains the flexibility to respond to unique challenges such as extreme terrain, existing services and grade separated intersection in an ICP area. Using the benchmark process, will provide for a transparent approach to the preparation of ICP design and costs for basic and essential infrastructure.

8 KEY CHANGES TO AMENDMENT GC102 – DESIGNS AND COSTS

This section includes the set of design and cost changes recommended to the Panel as part of this submission, there are three ICP that formed part of the Amendment: the exhibited ICP, the RC April ICP and the final set of recommended changes included as part of this submission.

The RC April ICP included updates in response to:

- Submissions on the Amendment and Benchmark Costings
- FLP conclave 1 statement.

The final set of changes will incorporate updates in response to:

- Planning evidence (discussed below)
- The (second) bespoke redesign BR-03 and BR-04 (to be included in Part B submission)
- FLP conclave 2 statement (to be included in Part B submission)
- Costings conclave statement (to be included in Part B submission).

The specifics of the updates are:

- Most benchmark costs increased by a range of 2 percent and 38 percent and these also translated into an updated set of verified benchmark rates. These updates were applied to items of the April ICP that were informed by the Benchmark Costings, as well of the hybrid costs where these were informed by the verified set of rates.
- The cost of the road items in the April ICP, all of which the applied benchmark designs and costs, increased by 30 percent, as a result of the updates to the Benchmark Costings report in addition to changes to hybrid costs (while the designs generally remained the same). An update on the resolved position in relation to road lengths with be provided in the VPA's Part B submission.
- All intersections of the April ICP were redesigned following the FLP conclave 1 statement and designs for the five intersections along Donnybrook Road, being IN-01 to IN-05, changed significantly in design. As well, hybrid cost types were applied to all intersections (some intersections had benchmark costs in the exhibited ICP). The costs for all intersections increased between 24 percent and 59 percent.
- As a result of the intersection design changes, there were slight variations to the public purpose land sizes allocated to IN-02, IN-03 and RD-05, which affected four parcels in the April ICP.
- The April ICP included redesigned (bespoke) and re-costed BR-03 and BR-04 to meet the design standards within DELWP's GGF Guidelines. Updated information regarding water flows of the Darebin Creek necessitated a second redesign recommended for the Final October ICP. The updated design and cost will be included in the Part B submission.
- Ped-02 and Ped-03 are proposed to remain under the standard levy in the Final October ICP.

8.1 Key Design and Cost changes Across the Three Final ICP Documents

Appendix 2 summarises the costs for each item in the Exhibited ICP and April ICP, including where bespoke designs and/or hybrid or bespoke costs have been applied. A more succinct version is provided in Table 21 below, which also includes some of the final set of recommendations to the Panel which will be confirmed in the Part B Submission. Items are grouped by type of infrastructure and by type of change that occurred. Where item designs have been updated, it is assumed, but not specifically listed, that associated cost changes occurred too. Where benchmark designs were used and had only minor updates via the April 2019 Benchmark Costings, these have not been listed. The key changes are described thereafter.

Table 21 Summary of cost estimates – Exhibited (July 2018) and Recommended Changes (April 2019) ICPs

	Exhibited ICP (July 2018)	RC ICP (April 2019)	Final RC October ICP
MONETARY COMPONENT			
RD-01, RD-02, RD-03, RD-04, RD-05	Benchmark design Hybrid cost	Updated cost as per April 2019 BC Road lengths recalculated *	Confirm road lengths in Part B submission following costings statement
IN-01, IN-02, IN-03, IN-04, IN-05	Bespoke design Benchmark cost	Bespoke redesign Hybrid cost Public purpose land revision IN-02 and IN-03 * Listed under supplementary levy *	Bespoke redesign IN-04 and IN-15 as per FLP conclave 2 statement
IN-06, IN-07, IN-08, IN-09, IN-10, IN-11, IN-12, IN-13, IN-14, IN-15, IN-17	Bespoke design Benchmark cost	Bespoke redesign Hybrid cost	Costs to be confirmed in Part B
IN-16	Benchmark design Hybrid cost	Hybrid re-cost	To be confirmed in Part B
BR-01, BR-05	Bespoke design Hybrid cost	Hybrid re-cost	To be confirmed in Part B
BR-02	Benchmark design Benchmark cost	Updated cost as per April 2019 BC	To be confirmed in Part B
BR-03, BR-04	Benchmark designs Benchmark cost	Bespoke design Bespoke cost	To be confirmed in Part B
Ped-01, Ped-02, Ped-03	Bespoke design Bespoke cost	NC	List under standard levy * as per submitted planning evidence
CI-01, CI-02, CI-03, CI-04, CI-05, CI-06	Benchmark designs Benchmark cost	Updated cost as per April 2019 BC	NC (not subject to conclaves)
SR-01, SR-02, SR-04, SR-04, SR-06, SR-07	Benchmark designs Benchmark cost	Updated cost as per April 2019 BC	NC not subject to conclaves)
SR-03, SR-05	Benchmark designs Benchmark cost	Hybrid cost	NC not subject to conclaves)
Supplementary levy items and apportionments	BR-02 - 100% BR-05 - 93%	IN-02 – 100% IN-03 – 64% Ped-02 – 100% Ped-03 – 50% BR-01 – 50% BR-02 – 100% BR-03 – 100% BR-04 – 100% BR-05 – 100%	To be confirmed in Part B submission
NC – no change from previously listed ICP * change described in the section below			

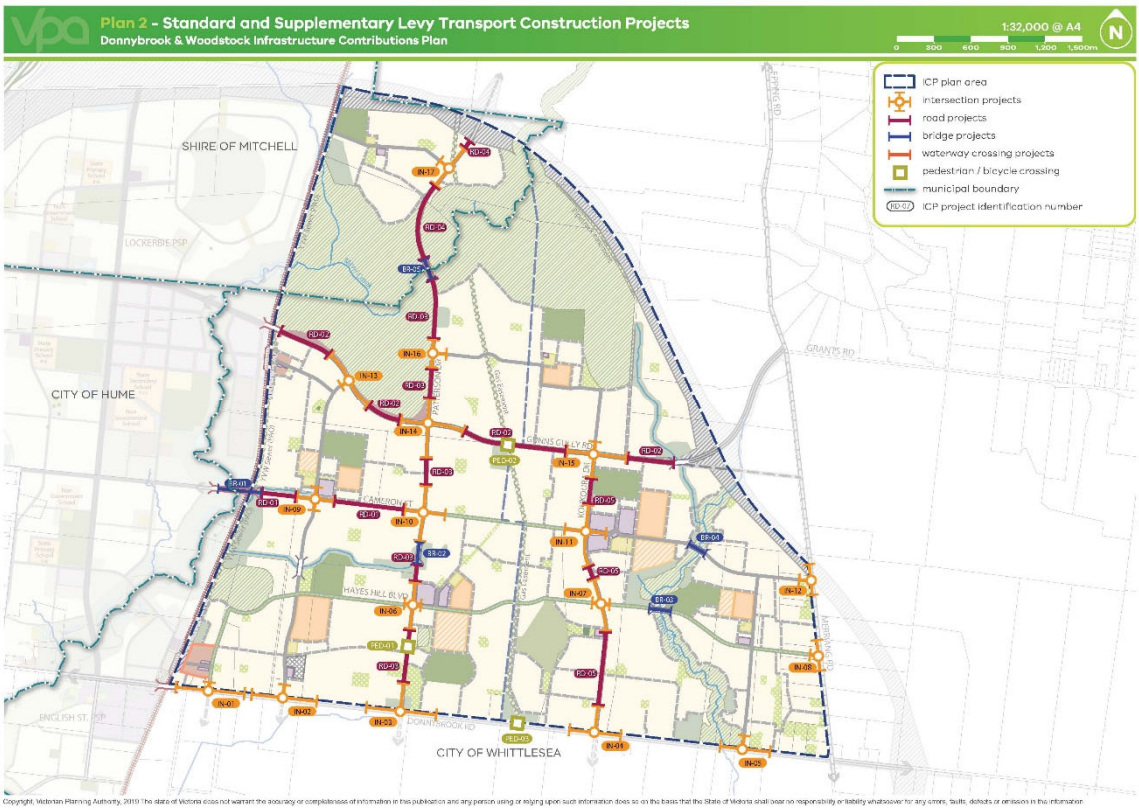
8.1.1 Redesign of (bespoke) Donnybrook Road Intersections – IN-01, IN-02, IN-03, IN-04 and IN-05

IN-01, IN-02, IN-03, IN-04, IN-05 were significantly redesigned following the FLP conclave 1 statement and IN-04 and IN-05 underwent further minor revisions following the FLP conclave 2 statement. These changes are described collectively in section 1.1.1 as IN-03 remains unresolved. The redesigns are provided in Appendix 5 and discussed in section 9.3.2.

The costs for these intersections also changed and increased, with the hybrid costs being based on the quantities taken from the redesigned intersections and applied to the higher P90 rates of the April 2019 Benchmark Costing.

To consequential changes from the redesign of these intersections from an interim-on-ultimate cross intersection configuration to a compact T-intersection configuration are:

- Plan 2 of the ICP will be updated to depict these intersections as T-intersections (see Figure 20 below).
- The description of these intersections in Table 5 and 6 of the ICP will be “3-way” not ”4-way” (discussed in section 8.3.5)
- The apportionment of the T-intersections to the Donnybrook-Woodstock ICP will be 100% (the exhibited ICP apportioned 75% of a cross-intersection to the ICP and 25% to the Shenstone Park ICP).
- Minor public purpose land area changes are required for IN-03 and IN-04, each intersection affecting the two parcels being 19 and 20, and 32 and 33 respectively, in addition to parcel 33 also being affected by public purpose land area changes for RD-05. The overall public purpose land by 0.12 hectares as shown in



- Table 22 below.

Figure 20 Recommended revision to Plan 2 of ICP to reflect the revised designs for the Donnybrook Road intersections

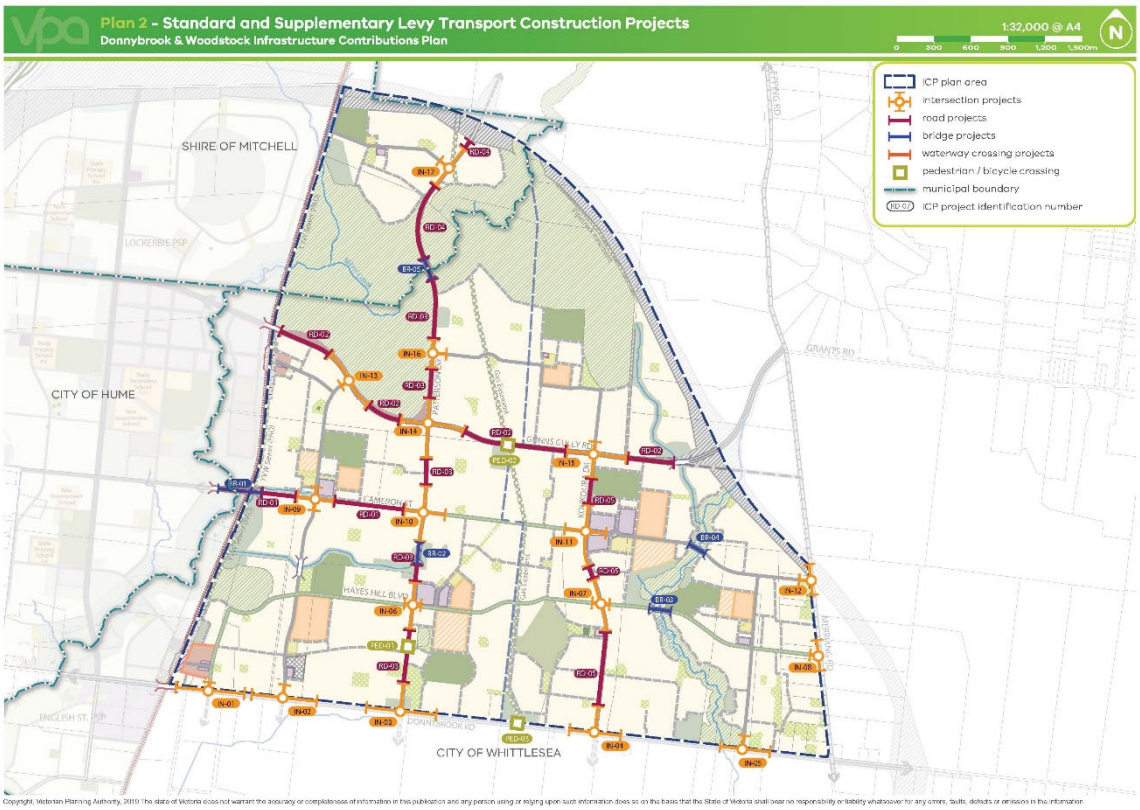


Table 22 Donnybrook-Woodstock transport infrastructure project land take comparison – exhibited and VPA recommended changes to Panel ICPs

ICP ITEM	PUBLIC PURPOSE LAND (HA)		DIFFERNCE (ha)
	Exhibited ICP (August 2018) (ha)	**VPA Recommended changes to the Panel (April 2019) (ha)**	
IN-02	0.23	0.23	0.00
IN-02	0.31	0.31	0.00
IN-03	0.85	0.88	0.03
IN-04	0.84	0.91	0.07
IN-05	0.28	0.28	0.00
IN-06	1.81	1.81	0.00
IN-07	2.09	2.09	0.00
IN-08	0.27	0.27	0.00
IN-09	0.93	0.93	0.00
IN-10	2.27	2.27	0.00
IN-11	3.28	3.28	0.00
IN-12	0.34	0.34	0.00
IN-13	2.39	2.39	0.00
IN-14	4.36	4.36	0.00
IN-15	2.23	2.23	0.00
IN-16	1.79	1.79	0.00
IN-17	0.94	0.94	0.00
RD-01	1.25	1.25	0.00
RD-02	9.26	9.26	0.00
RD-03	6.03	6.03	0.00

ICP ITEM	PUBLIC PURPOSE LAND (HA)		DIFFERNCE (ha)
	Exhibited ICP (August 2018) (ha)	**VPA Recommended changes to the Panel (April 2019) (ha)**	
RD-04	2.72	2.72	0.00
RD-05	3.21	3.23	0.02
TOTAL	**47.68**	**47.79**	**0.12**

Table 23 Summary of key properties affected by changes in public purpose land take

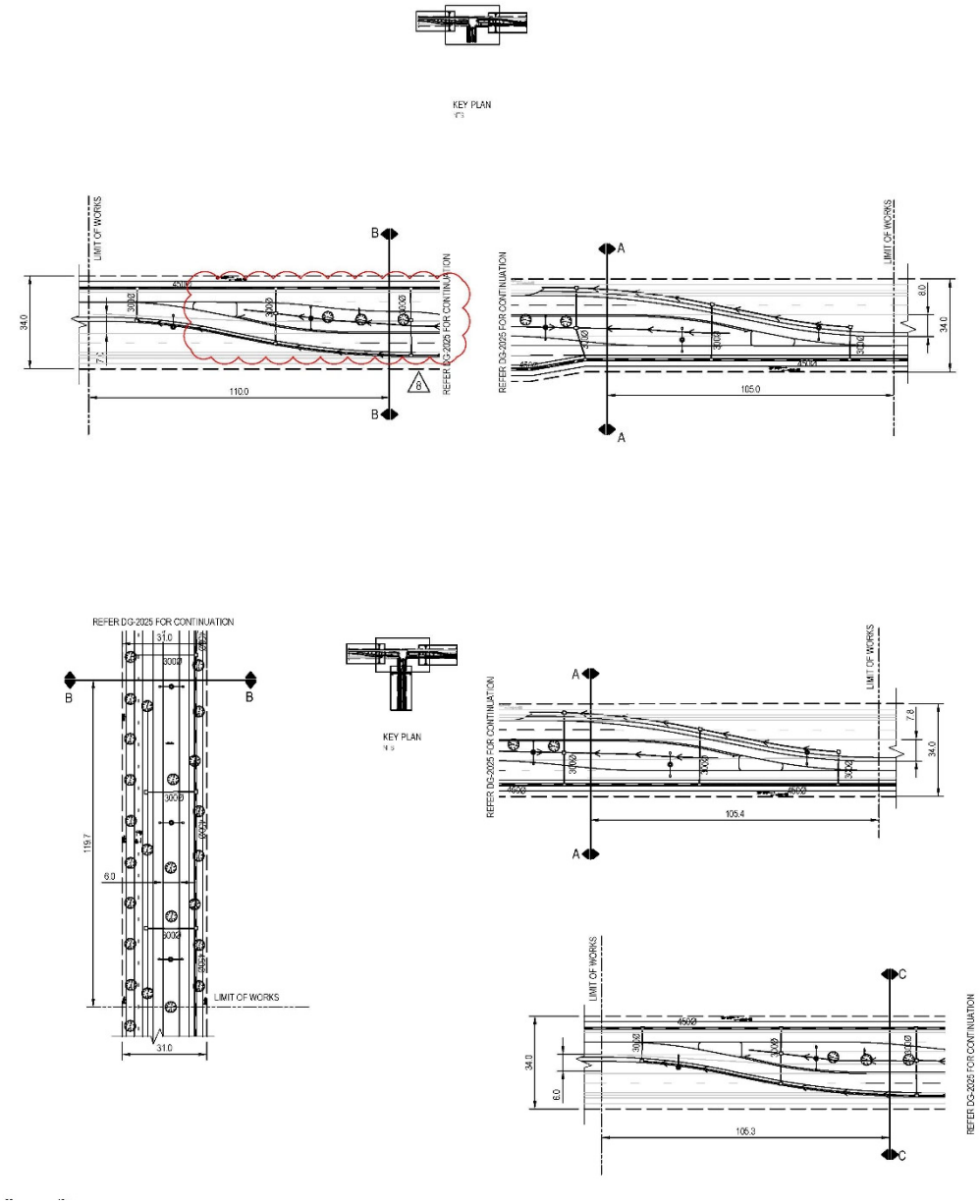
Parcel	Exhibited ICP (ha)	RC ICP (ha)	Difference (ha)	Items that caused the change
19	11.5337	11.5477	0.014	IN-03
20	20.7026	20.7138	0.0112	IN-03
32	11.0640	11.1514	0.0874	IN-04 and RD-05
33	10.7728	10.7756	0.0028	IN-04 and RD-05
TOTAL	**54.0731**	**54.1885**	**0.1154 ha**	

8.1.2 Intersection IN-16 benchmark design change in public purpose land area

The design for intersection IN-16 is a benchmark. The exhibited ICP applied the July 2018 Benchmark Costings design and allocated 1.79 ha of public purpose land. The RC April ICP applied the April 2019 Benchmark Costings design but did not change the 1.79 ha of public purpose land however the benchmark design changed and reduced in size by approximately 300 sqm. The VPA recommends that the Final RC October ICP be updated to allocate 1.48 ha of public purpose land for IN-16.

The design change for IN-16, being benchmark item 15, is shown in the Figure 21 below. The difference between the two designs is the reduced length of the connector leg, which thereby reduces the total area required for the design. This means the subject 0.31 ha on parcel 8 will be deducted from the “parcel contribution total” of 9.9919 ha identified in Table 3 of the ICP and will be added to the net developable area of this parcel.

Figure 21 Change in the design of IN-16 (benchmark item 15) from the July 2018 to the April 2019 Benchmark Costings



8.1.3 Road lengths and road costs per linear metre – RD-01, RD-02, RD-03, RD-04 and RD-05

The April ICP remeasured the lengths of all road items, being RD-01, RD-02, RD-03, RD-04, RD-05. The total lengths calculated in the April ICP slightly updated the lengths from the Exhibited ICP in response to the intersection design speed changes that occurred to respond to FLP conclave 2 statement. The road lengths and costs were discussed during the costings conclave and the outcomes will be discussed in the Prat B Submission.

8.1.4 Pedestrian signals Ped-02 and Ped-03 as standard levy items

The planning evidence submitted on behalf of the VPA noted that Ped-02 and Ped-03 are not consistent with the criteria at Clause 17 of the Ministerial Direction for listed items under the supplementary levy as discussed in section 5.2.3. These items are recommended to be listed under the standard levy and if required, the cost apportionment of IN-03 can be increased to accommodate additional costs that cannot be located in the standard levy because of the reallocation.

8.1.5 Bridges BR-03 and BR-04 bespoke redesign to meet GGF Design Standards

BR-03 and BR-04 both had bespoke designs prepared under the RC April ICP in response to submissions that the designs are to meet DELWP's Growling Grass Frog Design Standards. These designs underwent another revision based on informed on information received from Melbourne Water on the average recurrence interval, or ARI, or put simply water flow information. The updated designs, how they comply with the GGF Design Standards and updated costs will be provided in the Part B Submission.

8.1.6 Sporting Facilities SR-03 and SR-05 hybrid costs

The RC April ICP updated the benchmark costs (item 43) for SR-03 and SR-05 in the exhibited ICP to hybrid costs. The hybrid cost updated the exhibited benchmark costs, to reflect the playing field types and quantities identified in the PSP for these sites by including and excluding the following:

- SR-03 – three soccer pitches (in place of the benchmark design of one each of football field, cricket pitch, soccer field and two netball courts)
- SR-05 – eight netball courts, six tennis courts and two lawn bowls (in place of benchmark design of two each of football fields, cricket pitches, netball courts and tennis courts and no lawn bowls)

These changes were made to accord with the following Table 6 Open Space Delivery Guide in the Donnybrook-Woodstock PSP, an extract of which is provided in Table 24 below.

Table 24 Donnybrook-Woodstock ICP Table 6 – Open Space Delivery Guide extract

Subtotal	44.13			
PARK ID	AREA (HECTARES)	TYPE	POTENTIAL COMPONENTS	RESPONSIBILITY
SR-01	8.10	Sports Reserve	3 x Soccer Pitches, 6x Tennis courts with pavilion	Whittlesea City Council
SR-02	9.01	Sports Reserve	2x AFL/Cricket ovals, 2x Netball courts with pavilion	Whittlesea City Council
SR-03	8.00	Sports Reserve	3x Soccer Pitches with pavilion	Whittlesea City Council
SR-04	8.03	Sports Reserve	2x AFL/Cricket ovals, 2x Netball courts with pavilion	Whittlesea City Council
SR-05	8.01	Sports Reserve	2x lawn bowls, 6x tennis courts, 1x play skate facility, 8x netball courts with pavillion, 6x court indoor recreation centre,	Whittlesea City Council
SR-06	8.00	Sports Reserve	3x rectangular sports grounds with pavilion	Whittlesea City Council
SR-07	5.65	Sports Reserve	1x Sports grounds with pavilion	Mitchell Shire Council
Subtotal	54.80			

8.1.7 Sporting facilities SR-01 apportionment from the English Street DCP

The planning evidence submitted on behalf of the VPA noted that the English Street DCP apportions "6% contribution", valued at $1.6M in 2015, to sports reserves in the Donnybrook-Woodstock ICP.

The reference to this external apportionment in the English Street DCP is provided in Figure 22. This external funding source was not acknowledged in the Standard ICP.

Following the Panel Hearing, the VPA will seek confirmation from Council as to the DCP-indexed dollar value of this contribution and recommends that this value be identified as an external apportionment (expressed as a percentage) for a nominated sports reserve within the Donnybrook-Woodstock ICP.

As the community and recreation facility is capped, this change will not affect the community and recreation levy identified in the RC April ICP, but will reduce the amount of shortfall in the funds collected for community and recreation and the total costs of items listed under this levy.

8.1.8 Community facility CI-01 apportionment from English Street DCP

The English Street DCP lists an external apportionment for "construction of additional space for a 0.8 of a kindergarten room (external)" for a project titled Donnybrook Kindergarten space. The reference to this external apportionment in the English Street DCP is provided in Figure 22. The description means that an additional 0.8 of a room is required to be delivered in the Donnybrook-Woodstock ICP.

This external funding source was also not acknowledged in the Standard ICP.

The cost of CI-01 is based on benchmark item 38 being community facilities – level 2. The VPA recommends, subject to Council's agreement, that the line items of "kindergarten space" and "kindergarten play area" have additional 0.8 of the listed quantity added. These changes would increase the kindergarten room to 1,350 sqm and the kindergarten play area to 1,260 sqm.

To document this change, the VPA proposes that an updated and hybrid cost sheet for CI-01 to be prepared, however does not consider that an updated design is necessary.

The public purpose land for CI-01 is 0.82 ha, being 0.2 ha larger than the public purpose land allocated to CI-02 which is also based on benchmark item 38. The VPA considers that the 0.2 ha will be sufficient to accommodate the additional 0.116 ha of kindergarten space.

As per the discussion for the external funding source for the sports reserve, this cost change will not affect the community and recreation levy identified in the RC April ICP because the levy is capped, though it will reduce the amount of shortfall in the funds collected for community and recreation and the total costs of items listed under this levy.

Figure 22 Plan 7 and Table 11 from the English Street DCP identifying external apportionments

Table 11 External Apportionment

DCP PROJECT NO.	PROJECT	% APPORTIONED TO DCP (INTERNAL USE)	NOTES ON COSTINGS
IN-1	Intersection: Donnybrook Road / English Street	50%	Shared with PSP 1066 Lockerbie
BR-1	Merri Creek Road bridge (CoW & HCC)	50%	Shared with PSP 25.1 Craigieburn North
SR-1	Contribution to upgrade of Sporting Ovals, Laffan Reserve (HCC)	50%	Sited in PSP 25.1 Craigieburn North, shared with Kalkallo PSP Area
SR-2	Contribution to upgrade of pavilion, Laffan Reserve (HCC)	50%	Sited in PSP 25.1 Craigieburn North, shared with Kalkallo PSP Area
SR-3	Donnybrook Sporting Reserve SW (CoW)	100%	Sited in PSP 1067 Donnybrook

20 ENGLISH STREET DEVELOPMENT CONTRIBUTIONS PLAN - November 2015

8.1.9 Items listed under the supplementary levy

The increase to the total cost of ICP items in the April ICP in comparison the Exhibited ICP meant that fewer items were required to reach the standard levy cap and more items were reviewed to appropriateness for listing under the supplementary levy.

The Exhibited ICP listed one item under the supplementary levy and the April ICP included an additional eight items for a total of nine items. These are summarised in Table 25 below.

Seven of these items have their full apportionment listed in the supplementary levy (to the extent that the Donnybrook-Woodstock ICP is funded the item, being only 50% for BR-01), and two have partial apportionments: 64% for IN-03 and 50% for Ped-03.

The Final October ICP is recommended to have the same items listed under the supplementary levy as the April ICP with exception to the following:

- Ped-02 and Ped-03 will be reallocated back to the standard levy, as per the Exhibited ICP, to respond to the planning evidence submitted on behalf of the VPA
- IN-03 will likely change apportionments to accommodate changes to the standard levy capped rate in response to the change for Ped-02 and Ped-03 listed above, as well as changes to the overall cost of items that arise from the costings conclave statement. For the latter, if the total cost of items listed under the standard levy:
  - reduces in response to the statement, then the apportionment of IN-03 under the supplementary levy can also decrease as a higher portion of its cost will be able to be funded by the standard levy cap.
  - increases in response to the statement, then the apportionment of IN-03 under the supplementary levy can increase as a lesser portion of its cost will be able to be funded by the standard levy cap.

  The above is consistent with the Mt Atkinson & Tarneit Plains ICP panel report in relation to the split of items across the supplementary and standard levies, as discussed in section 8.3.1.

Table 25 Supplementary levy item changes

	Exhibited ICP	Recommended Changes (April) ICP	Recommended Changes (October) ICP
Supplementary levy amount (per NDha)	$412	$34,777	To be confirmed in Part B
Supplementary levy items and apportionments	BR-05 - 7%	IN-02 – 100% IN-03 – 64% * Ped-02 – 100% Ped-03 – 50% BR-01 – 50% BR-02 – 100% BR-03 – 100% BR-04 – 100% BR-05 – 100%	To be confirmed in Part B
* Apportionment to be confirmed in Part B submission			

8.2 Recommended Changes following Expert Witness Conclaves

As per the Panel's directions, there were three conclaves held for the Donnybrook-Woodstock ICP: two FLP and one costings conclaves. The FLP conclave 1 statement informed the April ICP and the FLP conclave 2 statement and costing conclave statement will inform the Final October ICP (with detail to be confirmed in the Part B submission).

8.2.1 FLP conclave 1 and 2 statements – resolved and unresolved items

As directed by the Panel in its letter dated 15 August 2019, expert functional layout plan conclaves were held on 21 March and 18 September 2019, and:

- Attended by experts representing the VPA (Stephen Howe/Benjamin Mentha and Viraj Abeykoon of Cardno), submitter 1 (Peter Malley on behalf of Steve Hunt of Ratio Consultants), submitter 2 and 3 (Nathan Woolcock of Traffix Group), submitter 6 (Jason Walsh of Traffix Group), as well as staff from Department of Transport, Whittlesea Council and VPA as observers only.

- Concluded through the filing of the statements signed by all parties and circulated on 26 March and 20 September 2019. Table 26 summarises the points of agreement and disagreement set out in the latter conclave statement, which represents the most up-to-date position of the conclave on the issues discussed.

Only road and transport items formed the subject of the FLP conclaves.

The FLP conclave 1 statement included points of agreement, some of which sought the VPA's further review and some which sought different design outcomes to intersections that were subject to the same set of issues raised through submissions. The VPA sought to respond to these as appropriately as possible through the April ICP.

Prior to the FLP conclave 2, the VPA and the Department of Transport (formerly VicRoads) documented a whole-of-State Government response and agreement to the transport designs as identified in the April ICP. This response was circulated to parties as Document 90 and is provided again in Appendix 3.

A consolidated set of points of agreement and points of disagreement from the two conclave statements are provided below, as are VPA comments where relevant.

Table 26 Summary of changes following FLP conclaves statements 1 and 2

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
CONCLAVE STATEMENT DATED 26 MARCH 2019				
Points of agreement				
a)	All intersections	Interim FLPs for intersections on all roads (except Donnybrook Road and certain sections of Cameron Street and Merriang Street and connector roads generally, where 50 km/h would apply) need to be designed based on 60kmh. Design speed for Donnybrook Road at all intersections to be 80km/hr and for Cameron Street and Merriang Street to be less.	Recommended Changes ICP FLP updated as follows: • Donnybrook Road (primary arterial) legs (IN-01 to IN-05) to remain at 80 km/hr (Merriang Roads remains at 60 km/hr) • Primary and secondary arterial legs at remaining intersections (IN-06 to IN-17) reduced from 80 km/hr to 60 km/hr • Connector street legs (including Cameron Street as applicable) reduced form 60 km/hr to 50 km/hr	None
b)	All intersections	If the exhibited ICP interim FLPs for intersections are based on interim design speeds different to that discussed in the conclave, they should be updated to reflect the appropriate design speeds (so that they are neither inadequate nor excessive), noting the proviso that the land take for the ultimate speeds and FLP should not be compromised.	Recommended Changes ICP FLP updated as follows: • All intersections, except IN-16, updated to reflect the design speeds identified in point (a) (NB: IN-16 is a Benchmark Costings report design and has design speeds of 60 km/hr for the secondary legs and 50 km/hr for the connector legs)	None
c)	All roads and intersections	Based on the technical information and input provided by VicRoads and the VPA, provision for bus infrastructure in ICP interim FLPs is not required as it is not 'basic and essential'	No updates to the recommended changes ICP.	DoT agreed that no bus queue jump lanes are required for the Donnybrook-Woodstock ICP due to predicted traffic volumes in the interim period.
d)	All roads and intersections	Where more detailed design work (for specific developments) inclusive of outcomes from discussions with VicRoads and Councils creates minor differences in interim FLPs but no impact on ultimate layout land requirements, it is appropriate to use the exhibited ICP FLPs for GC102 for ICP purposes	No updates to the recommended changes ICP.	This refers to the usual ICP/planning permit process whereby the ICP identifies concept FLP and planning permits require detailed design FLP.
e)	All intersections	Where updated SIDRA modelling for specific intersections can demonstrate that the land requirement for the ultimate layout will be greater for a given intersection within the	No updates to the recommended changes ICP.	It is not intended that ICP are based on SIDRA analysis. The premise of the new ICP system is to reduce time and cost associated with preparing detailed designs and costs (as per the previous

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
		Donnybrook-Woodstock ICP update, the final version of the PSP (and ICP update implemented under GC102) should reflect this, provided it is available in time to do so.		DCP system) and instead ICP are informed by benchmark designs and costs.
f)	IN-03 Donnybrook Road & Patterson Drive	At IN-03, there is no need to extend the verge from 7m to 8.3m if Council's advice regarding utility services is correct. This is subject to confirmation by a suitably qualified Authority expert.	No updates to the recommended changes ICP required.	None
g)	IN-03 Donnybrook Road & Patterson Drive	At IN-03, the relevant Cardno 'benchmark' design for the interim layout for the road hierarchy should be used in lieu of the OMG design currently exhibited in the ICP, subject to sufficient allowance for turn and through lane configurations, and the amended design speeds being adopted.	Recommended changes ICP updated with revised FLP (for IN-03 and other Donnybrook Road intersections being IN-01, IN-02, IN-04 and IN-05) which provide: • Updated design speeds as per point of agreement (a) • Fully functional T-intersection in place of a cross-intersection (which has the same capacity) to respond to point of agreement (j) • T-intersection funded 100% from Donnybrook-Woodstock ICP in place of a cross-intersection funded 75/25% between Donnybrook-Woodstock and Shenstone Park ICP to address point of agreement (i) • Two through lanes have been provided along the Donnybrook Road legs and the secondary arterial legs, in place of one through lane identified in the exhibited ICP designs, to provide capacity that is consistent with the benchmark design, in line with point of agreement (g) • Compact design in place of an interim-on-ultimate design to allow the ICP intersection to be constructed entirely within the existing Donnybrook Road reservation in response to point of agreement (j) These principles have been applied consistently for all Donnybrook Road intersections, in response to point of agreement (i) and (j) which requested that the VPA review the split of these intersection costs with the adjoining Shenstone Park PSP and consider a change from the usual outside in approach to reflect land availability to deliver ICP intersection, as well as point of agreement (g) which sought to increase the capacity of the Donnybrook Road intersections. This allows the landowners in Donnybrook-Woodstock to deliver ICP intersections through the planning permits currently being developed and without needing to rely on land within the Shenstone PSP are being available (the PSP is in pre-exhibition phase).	As per the listed changes, the VPA confirms that for the FLP changes: • The speeds are consistent with point of agreement (a) • The fully functional T-intersection responds to point of agreement (j) • A fully functional T-intersection 100% funded from Donnybrook-Woodstock ICP responds to point of agreement (i) • The compact design is consistent with point of agreement (j) and was agreed during the VPA-DoT (then VicRoads) meeting on 4 March 2019 • The increase from one to two through lanes on the primary and secondary arterial legs is consistent with the benchmark design and considered sufficient to accommodate traffic volumes in the interim period • The intersection has been designed to allow easy conversion to a cross-intersection at the time of development of the Shenstone Park PSP, with the costs of this conversion to be included in the Shenstone Park ICP. VPA has reviewed the methodology used to determine the scope of works and apportionment of costs. The reasons for updating the FLP intersection designs from interim-on-ultimate to compact are as follows: • The Benchmark Costings report was prepared to inform the preparation of ICP. The primary arterial road intersections in the Benchmark Costings report adopt the following net community benefit outcome: – Design speeds of 60 km/hr – Interim-on-ultimate design • Whereby the “negative” community aspects: – Higher construction costs (to the benefit of the authority)

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
				– Higher maintenance costs for the ~ 20 year life of the intersection • Are sufficiently outweighed by the positive community aspects being: – Safer environment – Less construction disruption when the ultimate intersection is built • For the Donnybrook Woodstock ICP, the positive aspects are no longer available to the Donnybrook Road intersections as: – The FLP conclave set the design speeds at 80 km/hr – Planning permits have already been issued for land along Donnybrook Road and intersections that sit wholly within the road reserve will soon be built. The less disruptive construction option in this instance would be for the interim ICP intersection to adopt a compact design that sits wholly within the ICP area and road reserve. – As well, the Panel report for the Donnybrook Woodstock PSP recommended the Donnybrook Road intersections be compact design unless otherwise justified
h)	IN-03 Donnybrook Road & Patterson Drive and IN-06 Hayes Hill Boulevard & Patterson Drive	Cardno-Mirvac plans for IN-03 and IN-06 interim FLPs show additional departure side through lanes which may now be considered unnecessary given revised speed assumptions. However as these were not in the OMG plans used for the ICP, there is no impact on the ICP process from this issue.	No updates to the recommended changes ICP required.	None
i)	IN-03 Donnybrook Road & Patterson Drive	At IN-03, the 75/25 current cost split between the 2 abutting PSPs and ICPs should be revised by VPA, and consideration given to changing this if required.	Recommended Changes ICP updated with revised FLP at IN-03 as follows: • Replace a cross-intersection with costs apportioned 75% to the Donnybrook-Woodstock ICP and 25% to the Shenstone Park ICP with a fully functional T-intersection funded 100% by the Donnybrook-Woodstock ICP	As per the response at (g) above, the VPA confirms the following updates, which have been made consistently to all the intersections along Donnybrook Road: • The speeds are consistent with point of agreement (a) • The fully functional T-intersection responds to point of agreement (j) • A fully functional T-intersection 100% funded from Donnybrook-Woodstock ICP responds to point of agreement (i) • The compact design responds to point of agreement (j) and was agreed during the VPA-DoT (then VicRoads) meeting on 4 March 2019

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
				• The increase from one to two through lanes on the primary and secondary arterial legs is consistent with the benchmark design and considered sufficient to accommodate traffic volumes in the interim period
j)	IN-04 Donnybrook Road & Koukoura Drive	At IN-04 (Donnybrook-Koukoura), the VPA should consider changing the ICP plans to allow for a change to the usual 'outside in' approach and reflect the actual land availability for the interim road carriageway and intersections.	Recommended changes ICP updated at the FLP for IN-04 as follows: • Replace cross-intersection 'interim on ultimate' FLP layout with a T-intersection FLP layout using traditional compact intersection design to allow intersection to be contained entirely within the existing Donnybrook Road reservation.	As above.
k)	Hayes Hill Road (mid-block connector road – non-ICP project)	Hayes Hill road width could be reduced from 31m to 28m in revised ICP layout plans.	No change in the recommended changes ICP.	The mid-block section of Hayes Hill Boulevard (a connector boulevard) is developer works, not an ICP item. This agreement refers to planning permit functional layout plans.
l)	IN-11 Koukoura Road and Cameron Street	At IN-11 (Koukoura/Cameron), Cameron Street to be reduced to 31m in ICP layouts; and Western leg left slip lane removed, and Koukoura Road width to be reduced to meet revised speed and hierarchy requirements.	Recommended changes ICP updated at IN-11 to reduce: • Cameron Street legs from 34 m to 31 m to reflect its status as a boulevard connector, and the western leg slip lanes have been removed • Koukoura Road width from 44.5 m to 34 m	VPA understands that the reduced road widths are to correspond to the road hierarchy and not to meet revised design speed (that is, the reduced design speed requirements are not relevant to road widths and are referenced in this point of agreement in error).
m)	See below	At IN-12 (Cameron/Merriang), it was agreed that:	See below	None
m) (i)	IN-12 Cameron Street & Merriang Road	The width of Merriang Road does not need to exceed the current extents of the road reserve	Recommended changes ICP updated to: • Contain Merriang Road legs within existing road reserve.	None
m) (ii)	IN-12 Cameron Street & Merriang Road	Widening to both sides of the Cameron Road as advised by council is not a matter for the ICP, and can be resolved with council	No change in the recommended changes ICP.	Of note, the Cameron Street leg of IN-12 is 25 m wide.
m) (iii)	IN-12 Cameron Street & Merriang Road	Ultimate land take should account for SIDRA analysis if available	No change to recommended changes ICP made.	As per (e) above, the VPA notes that it is not intended that ICP are based on SIDRA analysis. The premise of the new ICP system is to reduce time and cost associated with preparing detailed designs and costs (as per the previous DCP system) and instead ICP are informed by benchmark designs and costs.
m) (iv)	IN-12 Cameron Street & Merriang Road	Land take component should include land that is currently owned by a private developer	Land take should be updated to ensure full land requirement is included.	There were minor updates to land take (public purpose land) required for IN-03, IN-04 and RD-05 which is discussed at section 8.1.1 above.
n)	IN-12 Cameron Street & Merriang Road	Experts agreed that the intersection doesn't need to be 25.5m wide. VPA mentioned that plans will not be amended. However, experts agreed that the land take requirements will need to be assessed.	Cameron Street legs reduced from 25.5 m to 25 m in recommended changes ICP.	The changes to land take is as per (n) above.
o)	IN-15 Gunns Gully Road &	At IN-15 (Gunns Gully/Koukoura), it was agreed	No change to recommended changes ICP required.	The VPA notes that DoT agreed that bus queue jump lanes are not

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
	Koukoura Drive	that VicRoads would revisit previous advice regarding the need for 2 right hand turning lanes from Koukoura into Gunns Gully (as Koukoura was a secondary arterial road) and this would potentially mean a lesser road reserve width was needed. Also, it was agreed that the bus queue jump lanes were not needed and so would not lead to wider road reserve, and thus should not affect interim ICP.		required for the interim intersections due to expected traffic volumes, as noted at (g) above and that two right hand turn lanes are not required in the interim.
Points of Disagreement				
a)	All roads	The issue of divided vs undivided interim midblock carriageways was not resolved, excepted as noted for IN-04 (Donnybrook-Koukoura)	No changes made to the recommended changes ICP (apart from IN-04 where the compact design is considered appropriate in place of the outside-in approach, as detailed at (g) and (j) above.	The VPA considers: • An undivided carriageway to be consistent with the 'basic and essential' premise of the ICP system. This is also consistent with the common practice of DCP to pay for the "land and first carriageway" of primary and secondary arterials. • VPA supports retention of undivided midblock carriageways in order to reduce cost of construction of ultimate road alignment and reduce the level of disruption to the community when the ultimate is constructed.
CONCLAVE STATEMENT DATED 20 September 2019				
Points of agreement				
1 (a)	Donnybrook Road shared path (IN-01, IN-02, IN-03, IN-04 & IN-05)	It was agreed that the shared path along the north side of Donnybrook Road should be located in the services corridor rather than the road reserve due to: i. The inability to reasonably accommodate the shared path in the road reserve for the compact design ii. The PSP cross-sections for the services corridor show a shared path located within the services corridor. It is noted that the PSP primary arterial cross-section also shows bicycle paths on both sides and pedestrian path on one side.	Designs for IN-01 to IN-05 have been updated to relocate the shared path to services corridor located on the north side of the Donnybrook Road reserve. A 6.4m reserve has generally been adopted, with a lesser 5m reserve between IN-04 and IN-05 as per the services cross-sections in the PSP.	None
1 (b)		It would be beneficial for a consolidated cross-section to be prepared that shows the services corridor alongside Donnybrook Road to provide greater clarity where the path(s) should be located.	No change to the ICP required.	The VPA does not consider the noted change to the gazetted PSP as necessary as the PSP cross sections provided can be adapted to suit different service road types and is not considered necessary to inform the ICP as the ICP does not fund the service road.
1 (c)		Discussion of the funding of the mid-block sections of the shared path occurred.	No change to the ICP required.	None
2 (a)	Donnybrook Road / Koukoura Drive intersection (IN-04)	It was agreed that a compact 3-lane cross-section on Donnybrook Roade would be acceptable for IN-04 due to the lower traffic volumes east of Patterson Drive.	Design for IN-04 has been updated as follows: • the Donnybrook Road cross-section provides a single through lane in each direction, with left and right turn lanes	None

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
			• lanes have been widened to a more typical 3.5m compared to the 3.0m shown for the other Donnybrook Road intersections • a slip lane has been added for the left turn movement from Donnybrook road into Koukoura Drive.	
2 (b)		The approved Traffix Group design for IN-04 should be adopted as the basis for the concept layout for the ICP.	As described above, the design for IN-04 has been amended to include only a single through lane in each direction along Donnybrook Road, which is generally in accordance with the approved FLP prepared by Traffix Group.	None
2 (c)		Nathan Woolcock expressed concern on the constructability of a 5-lane compact cross-section within the Donnybrook Road reserve.	No change to the ICP required.	None
3 (a)	Donnybrook Road / Connector T-intersection (IN-05)	It was agreed that a compact 3-lane cross-section on Donnybrook Road would also be acceptable for IN-05 due to the lower traffic volumes east of Patterson Drive.	Design for IN-05 has been updated as follows: • the Donnybrook Road cross-section provides a single through lane in each direction, with left and right turn lanes • lanes have been widened to a more typical 3.5m compared to the 3.0m shown for the other Donnybrook Road intersections a slip lane has been added for the left turn movement from Donnybrook road into Koukoura Drive.	None
4 (a)	Koukoura Drive / Hayes Hill Boulevard Intersection (IN-07)	The revised concept functional layout addresses concerns previously raised by Nathan Woolcock.	No change to the ICP required.	None
5 (a)	Koukoura Drive / Cameron Street Intersection (IN-11)	The revised concept functional layout addresses concerns previously raised by Nathan Woolcock.	No change to the ICP required.	None
6 (a)	Koukoura Drive / Gunns Gully Road Intersection (IN-15)	The revised concept functional layout addresses concerns previously raised by Nathan Woolcock.	No change to the ICP required.	None
7 (a)	Turn Lane Lengths	It was agreed that it would be appropriate to provide turn lane lengths at interim intersections in accordance with the declaration length requirements of Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections.	No change to the ICP required.	Turn lane lengths for the Donnybrook Road intersections are consistent with Austroads design standards.
Points of current remaining disagreement				
8 (a)	Donnybrook Road / Patterson Drive Intersection (IN-03)	It was agreed that the ICP intersection should be constructed as a T-intersection 100% funded by the Donnybrook-Woodstock ICP, with the design enabling for a future forth leg to be constructed to accommodate access to Shenstone Park, as shown on the Cardno ICP plan.	Recommended changes ICP updated with revised FLP (for IN-03 and other Donnybrook Road intersections being IN-01, IN-02, IN-04 and IN-05) which provide:	

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
			• Fully functional T-intersection in place of a cross-intersection (which has the same capacity) to respond to point of agreement (j) in conclave statement dated 26 March 2019 • T-intersection funded 100% from Donnybrook-Woodstock ICP in place of a cross-intersection funded 75/25% between Donnybrook-Woodstock and Shenstone Park ICP to address point of agreement (i) in conclave statement dated 26 March 2019 and forth leg to be funded by Shenstone Park ICP.	
8 (b)		It was agreed that the revised intersection layout, providing 2 through lanes in each direction on Donnybrook Road, would provide for suitable levels of capacity to accommodate traffic requirements of Donnybrook-Woodstock prior to the ultimate duplication of Donnybrook Road.	No change to the ICP required.	Note: it was agreed that only a single through lane is required at IN-04 and IN-05 (refer points of agreement 2(a) and 3(a)). These changes are included in the final set of recommended changes by the VPA.
8 (c)		It was agreed that provision of a southern leg as shown on the Cardno ICP plan would accommodate likely traffic generation from Shenstone Park.	No change to the ICP required.	None
8 (d)		There were differing opinions on the level of uncertainty as to whether the compact 5-lane design could be: iii. Constructed within the road reserve and/or iv. Approved by VicRoads and/or v. Satisfy a Road Safety Audit.	No change to the ICP required.	This is an ICP implementation issue. As far as practicable at this stage, it appears that the FLP designs can be constructed within the existing Donnybrook Road reserve. Designs that inform ICP, as was the case for DCP, will always be subject to approval by the relevant authorities.
8 (e)		It was agreed that the compact design as prepared, and endorsed by the Whole-of-State-Government position statement between VPA and DoT dated 11 September 2019, represents a design that compromises on some road design principles, such as lane widths, to enable the proposed 5-lane treatment to be accommodated within the existing Donnybrook Road reserve.	No change to the ICP required.	While there may be some compromises on some road design principles to enable the compact design, delivery of the intersection in the short term is considered of high priority to service the newly developing communities. Safety considerations for pedestrian and cyclists are not considered to be unreasonable given that in this section, Donnybrook Road will be flanked by new PSP/ICP development on both sides around IN-03, which will provide service lanes, and thereby slower speed environments.
8 (f)		Steve Hunt and Benjamin Mentha consider that the design 'compromises' are appropriate.	No change to the ICP required.	
8 (g)		Jason Walsh considers that the design 'compromises' are unacceptable.	No change to the ICP required.	Refer to comment relating to point of disagreement 8(a).
8 (h)		Jason Walsh stated that his client is willing to make the land available to the south, subject to suitable agreements to accommodate the standard benchmark intersection, and this is his preferred outcome.	No change to the ICP required.	This is an ICP implementation issue.

STATEMENT REFERENCE	RELEVANT ICP ITEM	POINT OF AGREEMENT FROM CONCLAVE STATEMENT	UPDATES MADE IN RC APRIL ICP DOCUMENT IN RESPONSE TO NOTED POINT	VPA COMMENT
8 (i)		Jason Walsh expressed concern that a higher design standard than considered on the Cardno ICP plan may be imposed on Shenstone Park when seeking approval for construction of the southern leg, considering that land on the southern side of Donnybrook Road could be used to reconstruct the intersection.	No change to the ICP required.	This is an ICP implementation issue. ICP designs are prepared for cost estimation purposes and are always subject to approval by the relevant authorities.
9 (a)	Patterson Drive and Koukoura Drive Cross-Sections	Consensus could not be reached on whether the ICP should fund a 'boulevard' type interim cross-section (one lane in each direction separated by a central median or more typical interim cross-section where a single (two lane) carriageway is constructed.	No change to the ICP required.	The VPA considers this matter to be defined by the "basic and essential" criteria identified in the ICP Guidelines and considers that the undivided carriageway is the basic and essential configuration of this road.
9 (b)		It was generally agreed that both cross-sections provide similar functionality in terms of traffic flow, but concerns were raised about the effects on local street intersections during the interim (i.e. inability to easily undertake U-turns if local street intersections are restricted to left-in / left-out access).	No change to the ICP required.	The VPA does not consider the undivided carriageway will restrict nor unnecessarily burden road users from changing travelling direction as this will be achievable at intersections and side streets.
9 (c)		Debate centered on the benefits of providing a divided 'boulevard' treatment in the interim vs. the basic and essential requirements for ICP funding.	No change to the ICP required.	As per comment for 9(a) above.

8.2.2 Costings conclave – resolved and unresolved items

As directed by the Panel in its letter dated 15 August 2019, an expert conclave on infrastructure costings was scheduled the week commencing 14 October 2019 and the conclave statement was circulated on Friday 18 October 2019. Changes arising from this statement will be included in the VPA's Part B submission.

For reference, there were three sets of expert evidence submitted in relation to costings and the statements reference to transport item costs only:

- Stephen Howe, representing the VPA and addressing primarily transport item costs
- Sian McKenna, representing the two Councils and providing costs for all the transport item costs
- Chris White, representing submitter 2 and 8 (same submitter) and addressing RD-01, RD-02, RD-03, IN-03, IN-06, IN-10, IN-13, IN-14, IN-16, BR-02, Ped-01, Ped-02.

The response to the costings conclave statement will be discussed in Part B.

8.3 Changes to the Exhibited Documents in Response to the Melton C201 Panel Report

The Panel Report for Melton C201 (dated 7 August 2019) made six recommendations, two of which are Mt Atkinson & Tarneit Plains ICP-specific editing recommendations and four that are relevant of the Amendment. The way in which the VPA proposes to make changes to the April ICP in response to the recommendations, as well as one relevant conclusion of the Panel, is provided below.

8.3.1 Splitting of items across the standard and supplementary levies (recommendation 2)

The VPA had recommended to the Panel that if an ICP item has additional and significant costs that arise from particular physical constraints, but that the item is otherwise defined as a standard levy allowable item, then only the additional costs qualify for listing under the supplementary levy. The item in question was an arterial road intersection and had additional "line item" for costs associated with demolition and a high-pressure gas line protection slab.

Conversely, the Panel recommended that where line items for ICP projects arise from particular topographical, geographical, environmental or other physical constraints or conditions that significantly affect the estimated cost of the project, then the whole item qualifies for a supplementary levy, not just that the line item (provided the remaining criteria in clause 17 of the Ministerial Direction are also met).

There are no changes proposed to the April ICP in response to this recommendation as the split of IN-02 and IN-03 across the standard and supplementary levies in the Donnybrook-Woodstock RC April ICP is consistent the Panel's recommendations and the assessment of the VPA's expert planning evidence.

8.3.2 Section 5.10 of the ICP for Work-in-kind credits (recommendation 3)

At recommendation 3, the Panel sought edits to the text at section 5.10 which was repeated at the more appropriate location of section 5.11 as listed below. If the Councils as the collecting agency accepts, the VPA proposes the same change to the Donnybrook-Woodstock ICP.

The **deleted** text at Section 5.10 Interim and Temporary Works was:

> *If the agreed value of the works in kind exceeds the monetary component the infrastructure contribution, the applicant will be reimbursed the difference between the two amounts at a time negotiated between [the] applicant and the Collecting and Development Agencies.*

And the **retained** text at Section 5.11 Works in Kind Reimbursement is:

> *If the Collecting Agency agrees to accept works under Section 46GX of the Act and the value of those works is greater than the monetary component of the infrastructure contribution payable by the applicant, the applicant is entitled to be reimbursed the difference between the two amounts.*

8.3.3 Land for indoor recreation facilities (recommendation 5)

The Panel made a typographical recommendation regarding the additional text that was required in the Mt Atkinson & Tarneit Plains ICP, which is also required for SR-05 of the Donnybrook-Woodstock ICP, to correct an erroneous omission in the Ministerial Direction to list indoor recreation facility to be an allowable public purpose land item.

The text that the VPA proposed to include as the last paragraph of the introduction text at section 4 of the Mt Atkinson & Tarneit Plains ICP is provided below, with the panel recommended change underlined for reference. The VPA proposes to include the same text as the below at the same section within the Donnybrook-Woodstock ICP:

The Minister has exempted the Mt Atkinson & Tarneit Plains Infrastructure Contributions Plan from complying with Table 7 of Annexure 1 of the *Ministerial Direction on the Preparation and Content of Infrastructure Contributions Plan* dated 1 July 2018 in respect of the land required for project CI-01 (Indoor Recreation Facility (Mt Atkinson Town Centre)). This exemption has been granted on the basis the 'land for indoor sports facilities was unintentionally excluded from the Ministerial Direction when it was revised as a result of the commencement of the *Planning and Environment Amendment (Public Land Contributions) Act 2018*.

8.3.4 Applying July 2019-2020 levy rates (recommendation 6)

The Panel recommended that the VPA update the Mt Atkinson & Tarneit Plains ICP document and ICO schedule to reflect the 2019-2020 indexed standard and supplementary levy rates. The VPA proposes the same change as recommended by the Panel in Melton C201 to the Donnybrook-Woodstock ICP and the two ICO schedules.

For reference, the individual ICP items in either the standard levy or supplementary levy, do not need to be indexed as these costs are already indexed to March 2019 being the same quarter as the July 2019-20 indexing. What will be indexed is the standard levy cap amount from the July 2018-19 amount of $114,062 to the July 2019-20 amount of $124,334 per net developable hectare for transport construction and from $86,627 to $89,518. A summary of the final supplementary levy amount is provided Figure 23 below.

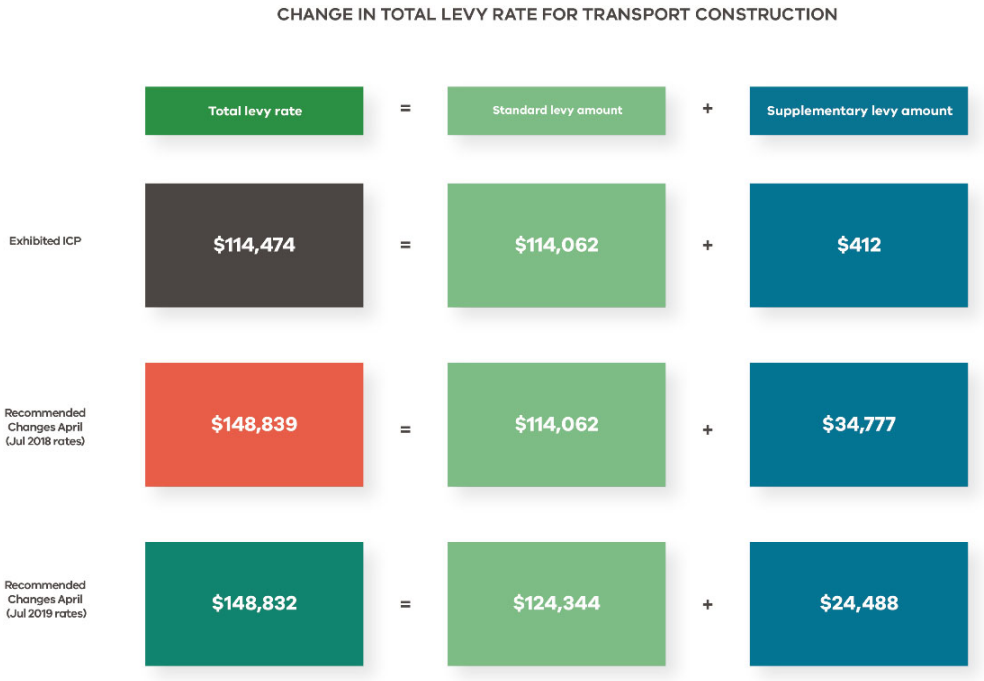


Figure 23 Indexed rate for transport construction, based supplementary levy amount of April ICP

8.3.5 Consistency in terminology of infrastructure items (Panel conclusion, page 36)

There were inconsistencies in the description of items between the Mt Atkinson & Tarneit Plains PSP and ICP and Council requested that the ICP be changed to match the PSP. The VPA's position was that, as only allowable items defined by the Ministerial Direction can be funded by an ICP, the ICP is required to include a description relevant to the Ministerial Direction (and not necessarily, but ideally, the PSP). The Panel concluded that the item descriptions in both the PSP and ICP documents be consistent with one another, and that these descriptions also be consistent with the relevant allowable item descriptions in the Ministerial Direction. For example, the Mt Atkinson & Tarneit Plains PSP described an ICP road item as a "2 lane carriageway (interim treatment)", which was not an appropriate description for the ICP as it does not include the allowable item description of "arterial road" as per Table 4 of Annexure 1 of the Ministerial Direction.

For clarity, the ICP item descriptions of the Donnybrook-Woodstock ICP have been reviewed and the recommendations for the final set of changes are provided below, pending Council's support. Also recommended is to replace:

- "purchase" of land with "acquisition" of land to reflect that under the ICP system, not all public purpose land is transferred to Council as part of the infrastructure contribution, for allowable public purpose items
- "4-way" to "3-way" in the descriptions for IN-01, IN-02, IN-04 and IN-05 to accord with the FLP conclave 2 statement.

If the changes outlines in

Table 27 below are considered suitable, the same changes can be made to the item descriptions in the PSP via a Ministerial Amendment at the same time as an adopted ICP is submitted for approval.

Table 27 Proposed changes to infrastructure project descriptions to ensure consistency in the Donnybrook Woodstock ICP item descriptions and the Ministerial Direction

ICP Ref. No.	Exhibited ICP and RC April ICP (as per Table 5 and 6 for construction and Table 8 for public purpose land)	Final Recommended Change (October) ICP (Consistent with Ministerial Direction)
RD-01	**Cameron Street** Eastern edge of the Melbourne-Sydney Railway overpass to Patterson Drive - Purchase of land for widening of existing arterial road reservation to create 34m wide ultimate road reservation	**Cameron Street Arterial Road** (Eastern edge of the Melbourne-Sydney Railway overpass to Patterson Drive) Acquisition of land for widening of existing arterial road reservation to create 34m wide ultimate road reservation
	Cameron Street Eastern edge of the Sydney-Melbourne railway overpass to Patterson Drive - Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)	**Cameron Street Arterial Road** (Eastern edge of the Sydney-Melbourne railway overpass to Patterson Drive) Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)
RD-02	**Gunns Gully Road** Eastern edge of the Sydney-Melbourne railway overpass to E6 / OMR reservation - Purchase of land to create road reservation to create 41m wide ultimate road reservation	**Gunns Gully Road Arterial Road** (Eastern edge of the Sydney-Melbourne railway overpass to E6 / OMR reservation) Acquisition of land to create road reservation to create 41m wide ultimate road reservation
RD-02	**Gunns Gully Road** Eastern edge of the Sydney-Melbourne railway overpass to E6 / OMR reservation - Construction of a primary arterial road (2 lane carriageway), excluding intersections (interim treatment)	**Gunns Gully Road Arterial Road** (Eastern edge of the Sydney-Melbourne railway overpass to E6 / OMR reservation) Construction of a primary arterial road (2 lane carriageway), excluding intersections (interim treatment)
RD-03	**Patterson Drive** Donnybrook Road to Merri Creek - Purchase of land for widening of existing road reservation to create 34m wide ultimate road reservation	**Patterson Drive Arterial Road** (Donnybrook Road to Merri Creek) Acquisition of land for widening of existing road reservation to create 34m wide ultimate road reservation
RD-03	**Patterson Drive** Donnybrook Road to Merri Creek - Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)	**Patterson Drive Arterial Road** (Donnybrook Road to Merri Creek) Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)
RD-04	**Patterson Drive** Merri creek to OMR/E6 reservation - Purchase of land for widening of existing road reservation to create 34m wide ultimate road reservation	**Patterson Drive Arterial Road** (Merri creek to OMR/E6 reservation) Acquisition of land for widening of existing road reservation to create 34m wide ultimate road reservation
RD-04	**Patterson Drive** Merri creek to OMR/E6 reservation - Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)	**Patterson Drive Arterial Road** (Merri creek to OMR/E6 reservation) Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)
RD-05	**Koukoura Drive** Donnybrook Road to Gunns Gully Road - Purchase of land for widening of existing 34m wide ultimate road reservation	**Koukoura Drive Arterial Road** (Donnybrook Road to Gunns Gully Road) Acquisition of land for widening of existing 34m wide ultimate road reservation
RD-05	**Koukoura Drive** Donnybrook Road to Gunns Gully Road - Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)	**Koukoura Drive Arterial Road** (Donnybrook Road to Gunns Gully Road) Construction of a secondary arterial road (2 lane carriageway), excluding intersections (interim treatment)
IN-01	Donnybrook Road & Hayes Hill Boulevard/Langley Park Drive (arterial - boulevard connector/connector street) Purchase of land for ultimate alignment	**Donnybrook Road & Hayes Hill Boulevard Arterial Road Intersection** Acquisition of land for ultimate alignment
IN-01	Intersection: Donnybrook Road & Hayes Hill Boulevard/Langley Park Drive (N-S Boulevard Connector) Construction of a primary arterial to connector road 4-way intersection (interim treatment)	**Donnybrook Road & Hayes Hill Boulevard Arterial Road Intersection** Construction of a primary arterial road to connector boulevard street 3-way intersection (interim treatment)
IN-02	Donnybrook Road & Nth-Sth connector street (arterial - connector street) Purchase of land for ultimate alignment	**Donnybrook Road & North-South Connector Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-02	Intersection: Donnybrook Road & Connector Street (N-S Connector) Construction of a primary	**Donnybrook Road & North-South Connector Street Arterial Road Intersection**

ICP Ref. No.	Exhibited ICP and RC April ICP (as per Table 5 and 6 for construction and Table 8 for public purpose land)	Final Recommended Change (October) ICP (Consistent with Ministerial Direction)
	arterial to connector road 4-way intersection (interim treatment)	Construction of a primary arterial road to connector street 3-way intersection (interim treatment)
IN-03	Donnybrook Road & Patterson Drive (arterial - arterial) Purchase of land for ultimate alignment	**Donnybrook Road & Patterson Drive Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-03	Intersection: Donnybrook Road & Patterson Drive Construction of a primary arterial to secondary arterial road 4- way intersection (interim treatment)	**Donnybrook Road & Patterson Drive Arterial Road Intersection** Construction of a primary arterial road to secondary arterial road 3-way intersection (interim treatment)
IN-04	Donnybrook Road & Koukoura Drive (arterial - arterial) Purchase of land ultimate alignment	**Donnybrook Road & Koukoura Drive Arterial Road Intersection** Acquisition of land ultimate alignment of intersection
IN-04	Intersection: Donnybrook Road & Koukoura Drive Construction of a primary arterial to a secondary arterial road 4-way intersection (interim treatment)	**Donnybrook Road & Koukoura Drive Arterial Road Intersection** Construction of a primary arterial road to a secondary arterial road 3-way intersection (interim treatment)
IN-05	Donnybrook Road / Nth-Sth connector street (arterial - connector street T) Purchase of land for ultimate alignment	**Donnybrook Road / North-South Connector Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-05	Intersection: Donnybrook Road & Connector Street (Nth-Sth Connector) Construction of a primary arterial to connector road 3-way intersection (interim treatment)	**Donnybrook Road / North-South Connector Street Arterial Road Intersection** Construction of a primary arterial road to connector street 3-way intersection (interim treatment)
IN-06	Patterson Drive & Hayes Hill Boulevard (arterial - boulevard connector street) Purchase of land for ultimate alignment	**Patterson Drive & Hayes Hill Boulevard Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-06	Intersection: Hayes Hill Boulevard & Patterson Drive Construction of a secondary arterial to boulevard connector road 4-way intersection (interim treatment)	**Patterson Drive & Hayes Hill Boulevard Arterial Road Intersection** Construction of a secondary arterial road to boulevard connector street 4-way intersection (interim treatment)
IN-07	Koukoura Drive & Hayes Hill Boulevard (arterial - boulevard connector street) Purchase of land for ultimate alignment	**Koukoura Drive & Hayes Hill Boulevard Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-07	Intersection: Hayes Hill Boulevard & Koukoura Drive Construction of a secondary arterial to boulevard connector road 4-way intersection (interim treatment)	**Koukoura Drive & Hayes Hill Boulevard Arterial Road Intersection** Construction of a secondary arterial road to boulevard connector street 4-way intersection (interim treatment)
IN-08	Hayes Hill Boulevard & Merriang Road (boulevard connector street - 2 lane arterial) Purchase of land for ultimate alignment	**Hayes Hill Boulevard & Merriang Road Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-08	Intersection: Hayes Hill Boulevard & Merriang Road Construction of a boulevard connector to arterial 3-way intersection (interim treatment)	**Hayes Hill Boulevard & Merriang Road Arterial Road Intersection** Construction of a boulevard connector street to a primary arterial road 3-way intersection (interim treatment)
IN-09	Cameron Street & Connector Street (arterial - connector street) Purchase of land for ultimate alignment	**Cameron Street & Connector Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-09	Intersection: Cameron Street / Connector Street (Nth-Sth Connector) Construction of an arterial to connector road 4-way intersection (interim treatment)	**Cameron Street & Connector Street Arterial Road Intersection** Construction of a secondary arterial road to connector street 4-way intersection (interim treatment)
IN-10	Cameron Street & Patterson Drive (arterial - arterial) Purchase of land for ultimate alignment	**Cameron Street & Patterson Drive Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-10	Intersection: Cameron Street (arterial west/boulevard connector east) & Patterson Drive (arterial) Construction of secondary arterial to a secondary arterial road 4-way intersection (interim treatment)	**Cameron Street & Patterson Drive Arterial Road Intersection** Construction of secondary arterial road to a secondary arterial road 4-way intersection (interim treatment)

ICP Ref. No.	Exhibited ICP and RC April ICP (as per Table 5 and 6 for construction and Table 8 for public purpose land)	Final Recommended Change (October) ICP (Consistent with Ministerial Direction)
IN-11	Koukoura Drive & Cameron Street (arterial - connector street) Purchase of land for ultimate alignment	**Koukoura Drive & Cameron Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-11	Intersection: Cameron Street & Koukoura Drive Construction of a secondary arterial to secondary arterial 4- way intersection (interim treatment)	**Koukoura Drive & Cameron Street Arterial Road Intersection** Construction of a secondary arterial road to secondary arterial road 4-way intersection (interim treatment)
IN-12	Cameron Street & Merriang Road (connector street - 2 lane arterial) Purchase of land for ultimate alignment	**Cameron Street & Merriang Road Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-12	Intersection: Cameron Street / Merriang Road Construction of a connector to secondary arterial road 3-way intersection (interim treatment)	**Cameron Street & Merriang Road Arterial Road Intersection** Construction of a connector street to secondary arterial road 3-way intersection (interim treatment)
IN-13	Gunns Gully Road & Connector Street (arterial - connector street T) Purchase of land for ultimate alignment	**Gunns Gully Road & Connector Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-13	Intersection: Gunns Gully Road & Connector St (Nth-Sth Connector) Construction of primary arterial to connector road 3-way intersection (interim treatment)	**Gunns Gully Road & Connector Street Arterial Road Intersection** Construction of primary arterial road to connector street 3-way intersection (interim treatment)
IN-14	Gunns Gully Road & Patterson Drive (arterial - arterial) Purchase of land for ultimate alignment	**Gunns Gully Road & Patterson Drive Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-14	Intersection: Gunns Gully Road & Patterson Drive Construction of primary arterial to a secondary arterial road 4- way intersection (interim treatment)	**Gunns Gully Road & Patterson Drive Arterial Road Intersection** Construction of primary arterial road to a secondary arterial road 4-way intersection (interim treatment)
IN-15	Gunns Gully Road & Koukoura Drive (arterial - arterial/connector nth of Gunns Gully Road) Purchase of land for ultimate alignment	**Gunns Gully Road & Koukoura Drive Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-15	Intersection: Gunns Gully Road & Koukoura Drive Construction of a primary arterial to a secondary arterial road 4-way intersection (Connector road north of Gunns Gully Road) (interim treatment)	**Gunns Gully Road & Koukoura Drive Arterial Road Intersection** Construction of a primary arterial road to a secondary arterial road 4-way intersection (interim treatment)
IN-16	Patterson Drive & Connector St (arterial - connector street T) Purchase of land for ultimate alignment	**Patterson Drive & Connector Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-16	Intersection: Patterson Drive / Connector St (East-West Connector) Construction of secondary arterial to connector road 3-way intersection (interim treatment)	**Patterson Drive & Connector Street Arterial Road Intersection** Construction of secondary arterial road to connector street 3-way intersection (interim treatment)
IN-17	Patterson Drive & Connector St (arterial - connector street T) Purchase of land for ultimate alignment	**Patterson Drive & Connector Street Arterial Road Intersection** Acquisition of land for ultimate alignment of intersection
IN-17	Intersection: Patterson Drive / Connector St (East-West Connector) Construction of secondary arterial to connector road 3-way intersection (interim treatment)	**Patterson Drive & Connector Street Arterial Road Intersection** Construction of secondary arterial road to connector road 3-way intersection (interim treatment)
BR-01	Bridge: Cameron Street Construct a 2 lane interim road bridge spanning Merri Creek and Melbourne-Sydney Railway	**Cameron Street Bridge** Construct a 2-lane interim road bridge spanning Merri Creek and Melbourne-Sydney Railway
BR-02	Culvert: Patterson Drive Construct a 2 lane interim culvert crossing of constructed waterway	**Patterson Drive Major Culvert** Construct a 2-lane major culvert interim culvert crossing of constructed waterway
BR-03	Culvert/bridge: Hayes Hill Boulevard Construct a Growling Grass Frog Habitat suitable culvert/bridge crossing of Darebin Creek - 2 lane culvert crossing	**Hayes Hill Boulevard Major Culvert** Construct a Growling Grass Frog Habitat suitable culvert/bridge crossing of Darebin Creek – 2-lane major culvert crossing
BR-04	Culvert/bridge: Cameron Street Construct a Growling Grass Frog Habitat suitable	**Cameron Street Major Culvert**

ICP Ref. No.	Exhibited ICP and RC April ICP (as per Table 5 and 6 for construction and Table 8 for public purpose land)	Final Recommended Change (October) ICP (Consistent with Ministerial Direction)
	culvert/bridge crossing of Darebin Creek - 2 lane culvert crossing	Construct a Growling Grass Frog Habitat suitable culvert/bridge crossing of Darebin Creek - 2 lane major culvert crossing
BR-05	Bridge: Patterson Drive Construct a 2 lane interim bridge crossing of Merri Creek (shared development agency responsibility (City of Whittlesea/Shire of Mitchell))	**Patterson Drive Bridge** Construct a 2-lane interim bridge crossing of Merri Creek (shared development agency responsibility (City of Whittlesea/Shire of Mitchell)
CI-01	Donnybrook Farmhouse Community Activity Centre Purchase of land	**Donnybrook Farmhouse Community Facility** Acquisition of land for a community facility (level 2 multipurpose facility at LCC-1)
CI-01	Donnybrook Farmhouse Community Centre Construction of a Level 2 Community Activity Centre at LCC-1	**Donnybrook Farmhouse Community Facility** Construction of a community facility (level 2 multipurpose facility at LCC-1)
CI-02	Patterson Drive Community Activity Centre Purchase of land	**Patterson Drive Community Facility** Acquisition of land for a community facility (level 2 multipurpose facility at LCC-1)
CI-02	Patterson Drive Community Centre Construction of a Level 2 Community Activity Centre at LTC-2	**Patterson Drive Community Facility** Construction of a community facility (level 2 multipurpose facility at LTC-2)
CI-03	Darebin Creek Community Activity Centre Purchase of land	**Darebin Creek Community Facility** Acquisition of land for a community facility (level 2 multipurpose facility at LTC-4)
CI-03	Darebin Creek Community Centre Construction of a Level 2 Community Activity Centre at LTC-4	**Darebin Creek Community Facility** Construction of a community facility (level 2 multipurpose facility at LTC-4)
CI-04	Koukoura Drive Community Activity Centre Purchase of land	**Koukoura Drive Community Facility (with library)** Acquisition of land for a community facility (level 3 multipurpose facility at LTC-1 with family resource centre and branch library)
CI-04	Koukoura Drive Community Centre (with library) Construction of a Level 3 Community Activity Centre, Family Resource Centre and Branch Library at LTC-1	**Koukoura Drive Community Facility (with library)** Construction of a community facility (level 3 multipurpose facility at LTC-1 with family resource centre and branch library)
CI-05	Lockerbie East Community Activity Centre Purchase of land	**Lockerbie East Community Facility** Acquisition of land for a community facility (level 1 multipurpose facility at LCC-3)
CI-05	Lockerbie East Community Centre Construction of a Level 2 Community Activity Centre at LTC-3	**Lockerbie East Community Facility** Construction of a community facility (level 2 multipurpose facility at LCC-3)
CI-06	Woodlands Community Activity Centre Purchase of land	**Woodlands Community Facility** Acquisition of land for a community facility (level 1 multipurpose facility at LCC-4)
CI-06	Woodlands Community Centre Construction of a Level 1 Community Activity Centre at LCC-4	**Woodlands Community Facility** Construction of a community facility (level 1 multipurpose facility at LCC-4)
CI-07	Merristock Community Activity Centre Purchase land	**Merristock Community Facility** Acquisition of land community facility (level 1 multipurpose facility at LCC-5)
CI-07	Merristock Community Centre Construction of a Level 1 Community Activity Centre at LCC-5	**Merristock Community Facility** Construction of a community facility (level 1 multipurpose facility at LCC-5)
SR-01	Donnybrook Farmhouse Sports Reserve Purchase of land for a sporting reserve	**Donnybrook Farmhouse Sports Facility** Acquisition of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-01	Donnybrook Farmhouse Sports Reserve construction of a multi purpose sports pavilion	**Donnybrook Farmhouse Sports Facility** Construction of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-02	Patterson Drive Sports Reserve Purchase of land for a sporting reserve	**Patterson Drive Sports Facility** Acquisition of land for a sports and recreation facility (outdoor multi-purpose sports field)

ICP Ref. No.	Exhibited ICP and RC April ICP (as per Table 5 and 6 for construction and Table 8 for public purpose land)	Final Recommended Change (October) ICP (Consistent with Ministerial Direction)
SR-02	Patterson Drive Sports Reserve Construction of sports fields (AFL/Cricket and Netball) and construction of a multi purpose pavilion (located near LTC-2)	**Patterson Drive Sports Facility** Construction of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-03	Darebin Creek Sports Reserve Purchase of land for a sporting reserve	**Darebin Creek Sports Facility** Acquisition of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-03	Darebin Creek Sports Reserve Construction of sports fields (Soccer) and construction of a multi purpose pavilion (located near LTC-4)	**Darebin Creek Sports Facility** Construction of land for a sports and recreation facility (indoor sports centre)
SR-04	Lockerbie East Sports Reserve Purchase of land for a sporting reserve	**Lockerbie East Sports Facility** Acquisition of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-04	Lockerbie East Sports Reserve Construction of sports fields (AFL/Cricket and Netball) and construction of a multi purpose pavilion (Located near LTC-3)	**Lockerbie East Sports Facility** Construction of land for a sports and recreation facility (indoor sports centre)
SR-05/ SR-05b	Koukoura Drive Sports Reserve Purchase of land for a sporting reserve including land for an indoor sports centre	**Koukoura Drive Sports Facility** Acquisition of land for a sports and recreation facility (indoor sports centre)
SR-05/ SR-05b	Koukoura Drive Sports Reserve Construction of sports fields (Tennis, Netball and Lawn bowls) and construction of a multi purpose pavilion (Located near LTC-1)	**Koukoura Drive Sports Facility** Construction of sports and recreation facility (outdoor multi-purpose sports field)
SR-06	Woodlands Sports Reserve Purchase of land for a sporting reserve	**Woodlands Sports Facility** Acquisition of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-06	Woodlands Sports Reserve Construction of sports fields (Soccer) and construction of a multi purpose pavilion (Located near LCC-4)	**Woodlands Sports Facility** Construction of sports and recreation facility (outdoor multi-purpose sports field)
SR-07	Merristock Sports Reserve Purchase of land for a sporting reserve	**Merristock Sports Facility** Acquisition of land for a sports and recreation facility (outdoor multi-purpose sports field)
SR-07	Merristock Sports Reserve Construction of sports fields (AFL)and construction of a multi purpose pavilion (Located near LCC-5)	**Merristock Sports Facility** Construction of sports and recreation facility (outdoor multi-purpose sports field)
LP-01 – LP-52	Local Park Purchase land	**Public Open Space (local open space)** Acquisition of land for a public open space

9 SUMMARY OF RESOLVED AND OUTSTANDING MATTERS

This section provides a summary of the recommended changes to the supplementary levy amount as well as the resolved and unresolved matters. Further detail is provided at Appendix 1. This section did not include the resolved position identified in the costings conclave statement.

The unresolved matters can be grouped into three key categories:

- Designs of items, including scope of "basic and essential"
- Cost of items
- Clarification on the broader implementation of the Donnybrook-Woodstock ICP and ICP system.

The resolved matters pertain to those issues that led to:

- overarching updates to the Benchmark Costings
- systemic matters which the VPA does not have the ability to change, and
- designs and costs that were identified as resolved through the conclave statements.

Where submissions to the exhibited ICP made comment on individual ICP items, these have been noted as unresolved unless specifically resolved through the conclave statements, regardless of what the original submission stated. The reason for this is two-fold:

- the change that occurred between the exhibited and RC April ICP documents following which just one party resubmitted, and
- some submitters changed their view of individual items from their original submission (to the submitted evidence), to their position stated in the conclave statements.
  - For example: submission 4 noted support for the costs of Ped-02 and Ped-03, which did not change between the two notified ICP documents, but then its expert's submitted evidence sought cost changes for these two items.
  - Similarly, submission 7 made commentary on IN-03 only, as did its submitted FLP evidence, and then in the later FLP conclave 1 statement, submitter 7's expert objected to RD-04 and RD-05.

As mentioned elsewhere in this report, the FLP evidence and conclave statements referred only to road and intersection items. The costings evidence and statement referred only to transport items (roads, intersections, bridges, culverts and pedestrian signals).

A recap of the key changes to the ICP supplementary levy amount is provided below for reference.

9.1 Summary of the Recommended Changes to the Supplementary Levy Amount

The change from the exhibited ICP to the RC April ICP is as follows:

- The exhibited ICP identifies:
  - A total levy rate of $201,100 per net developable hectare
  - A supplementary levy amount of $412 per net developable hectare
- The RC April ICP identifies:
  - A total levy rate of $235,466 per net developable hectare
  - A supplementary levy amount of $34,777 per net developable hectare
- The final October ICP will identifies (indexed to July 2019-20 rates):
  - A total levy rate and supplementary levy rate informed by the costings conclave statement

The changes in the April ICP document were informed by:

- Submissions received on the Amendment which sought changes to infrastructure item designs and costs
- Updates to the Benchmark Costings Report in response to submissions received on the Amendment and from broader industry consultation on the report.
- The points of agreement identified in the FLP conclave 1 statement

The changes in the October ICP document are informed by:

- The points of agreement identified in the FLP conclave 2 and costings conclave statement
- Redesign of BR-03 and BR-04 as based on correct water flow data and response to GGF Design Standards
- Indexing to July 2019-20 rates.

9.2 Resolved Submissions

9.2.1 Benchmark Costings

The submissions which sought overarching changes to the Benchmark Costing report itself have been grouped together below as the specific ICP items that have been informed by the Benchmark Costings have been discussed for the individual item.

Basis for Benchmark Costing costs – actual versus estimated cost

(Submission 1)

Submission 1 sought that the costs contained within the Benchmark Costings report be based on actual costs, rather than being estimated costs. The VPA considers that an estimated cost, as opposed to the actual cost, is consistent with the intent of the ICP system, as guided by the following wording on page 19 of the ICP Guidelines (VPA emphasis underlined):

> *The rate of the supplementary levy is based on the estimated cost of the specific infrastructure item being funded from the levy (rather than being a pre-determined rate) and so will vary depending on the infrastructure needs of the area.*

Using an estimated cost, as opposed to actual cost, is appropriate to cost concept level designs for the purpose of determining whether a standard levy is appropriate or if a supplementary levy is justified.

Intersection configuration

(Submission 1)

Submission 1 notes that the intersection configurations (called footprints in the submission) were different to what was required by the *VicRoads Guidance for Planning Road Networks in Growth Areas*. The VPA agreed with the submission and the April 2019 version of the Benchmark Costings report has been updated for all intersection designs to include the following:

- Dedicated right hand turn lane on the primary arterial road legs
- Dedicated right hand turn lane on the secondary arterial road legs

Missing Line Items, missing quantities and different P90 Rates

(Submissions 1 and 4)

The Benchmark Costs were updated to include additional line items for a number of different item types across the cost estimate sheets including:

- “Site preparation” line item has had quantities added for road and intersection costs (previously zero)
- “Traffic signals” line items are updated to include operation and maintenance costs
- “Pavement” line item P90 rate updated
- “Traffic management costs” line item has been added for roads and intersections

Site-specific costs

(Submissions 1 and 4)

Submissions 1 and 4 noted that benchmark costs do not account for site-specific conditions. The VPA agrees that it will be appropriate for particular items to have additional costs to accommodate particular physical conditions, to be assessed on a site-specific basis.

Appendix 2 identifies which items have had a hybrid cost applied to a benchmark design, meaning that additional (or less) costs for site-specific constraints have been accounted for.

In particular for submission 3, “service relocation costs”, “pavement demolition” and “rock excavation” have been added as specific line items for IN-03.

Regardless of the above, and as urged by the Panel in its report for Melton C201, the VPA will continue to work with DELWP and Growth Area Councils to identify and assess any potential responses to ICP systemic issues.

9.2.2 Conclave-resolved designs and costs

The three conclaves resolved the following:

- Designs of IN-01, IN-02, IN-04, IN-05, IN-07, IN-11, IN-15
- Public purpose land area changed for IN-04, as identified in the RC April ICP, by virtue of agreeing to the design.
- Costs resolutions will be confirmed in the Part B submission.

Design of intersections IN-01, IN-02, IN-04, IN-05, IN-07, IN-11 and IN-15

(Submissions 1, 2, 4, 7, and 8 and FLP and costings evidence)

Four of the five intersections along Donnybrook Road were resolved for designs in the FLP conclave 2 statement subject to some revisions to IN-04 and IN-05, and the resolution of costs will be confirmed in Part B.

The way in which these intersections were changed from exhibition to being resolved is outlined in the previous section of this report and is discussed below in the context of the unresolved Donnybrook Road intersection IN-03. The submissions pertaining to the designs and costs for IN-01, IN-02, IN-04 and IN-05 are considered resolved.

The designs for IN-07, IN-11 and IN-15, as identified in the RC April ICP, were also resolved through the FLP conclave 2 statement, as per costs through the costings conclave statement. The design changes from exhibition included design speeds, number of shared paths, extent of works, and for IN-11 and IN-15 road category, as well as kerb and line work specifically for IN-04.

9.3 Unresolved Submissions

9.3.1 Roads – RD-04 and RD-05 - The ‘basic and essential’ design

(Submissions 1, 2 and 4 and FLP and costings conclaves statements)

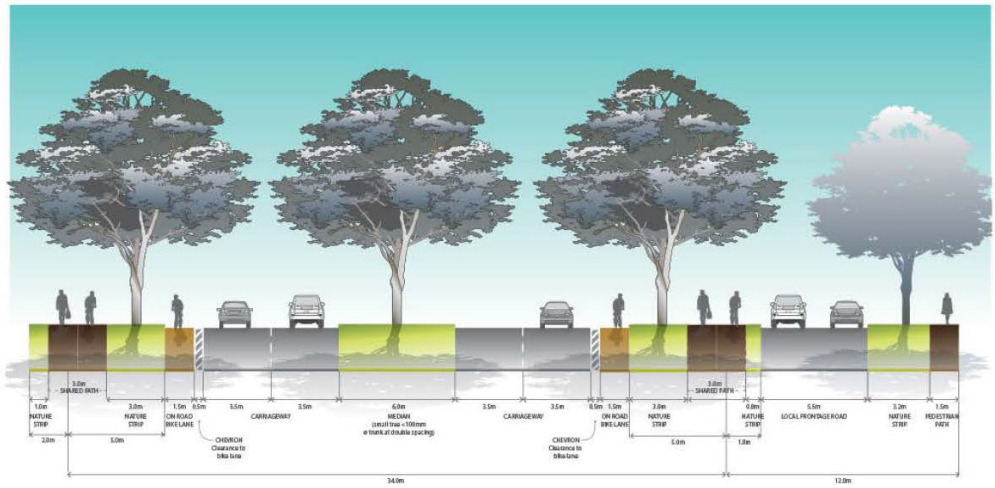
The Council and submitters 1 and 2 collectively have a different view than the VPA on the construction (interim) configuration of Koukoura Drive and Patterson Drive that the ICP should deliver.

The VPA considers that the ICP should fund the “basic and essential” delivery of this road, being an undivided two-lane carriageway with a cross section of 14 m (interim treatment) which sits within a 34 m ultimate cross section. This is consistent with the benchmark designs and the principle of “land and first carriageway” underpinning DCPs and historically accepted by Panels. It is also identified in the PSP as the preferred cross section for secondary arterials. VPA also notes that Koukoura Drive is identified as a primary arterial in the PSP and as such, the “interim option 2” methodology identified in the PSP as an alternative for secondary arterials does not refer to Koukoura Drive.

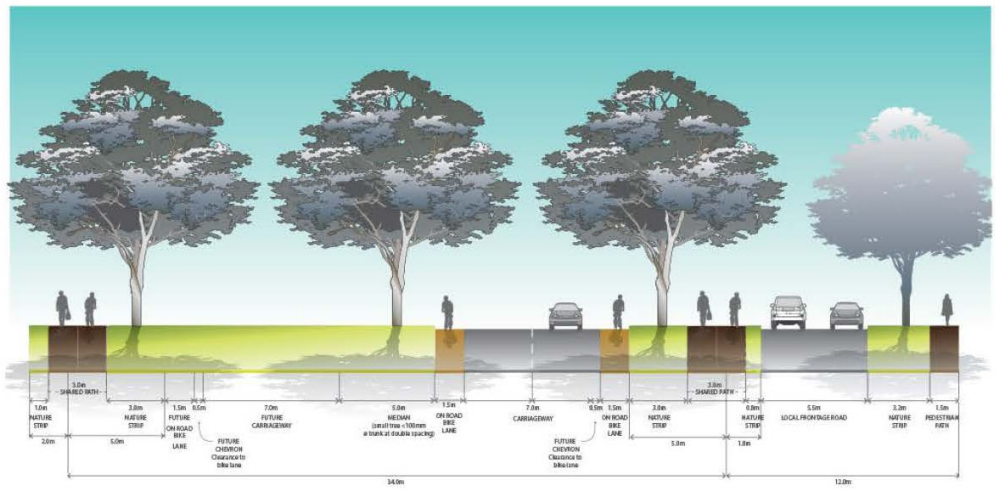
Council and submitters consider the ICP should fund the more expensive “interim option 2” identified in the PSP, being a divided two-lane carriageway with a central median, within a 34 m cross section.

It should be noted that Patterson Drive will be a divided secondary arterial road cross section (34 metres wide) in its ultimate configuration while Koukoura Drive is considered a primary arterial road despite the same cross section width due to having different functional requirements, albeit similar projected traffic volumes. The PSP identifies two options for interim cross sections, for secondary arterial roads, as shown in Figure 24 below.

Secondary Arterial Road 4 lane (34.0m) - Ultimate



Secondary Arterial Road 4 lane (34.0m) - Interim Option 1



Secondary Arterial Road 4 lane (34.0m) - Interim Option 2

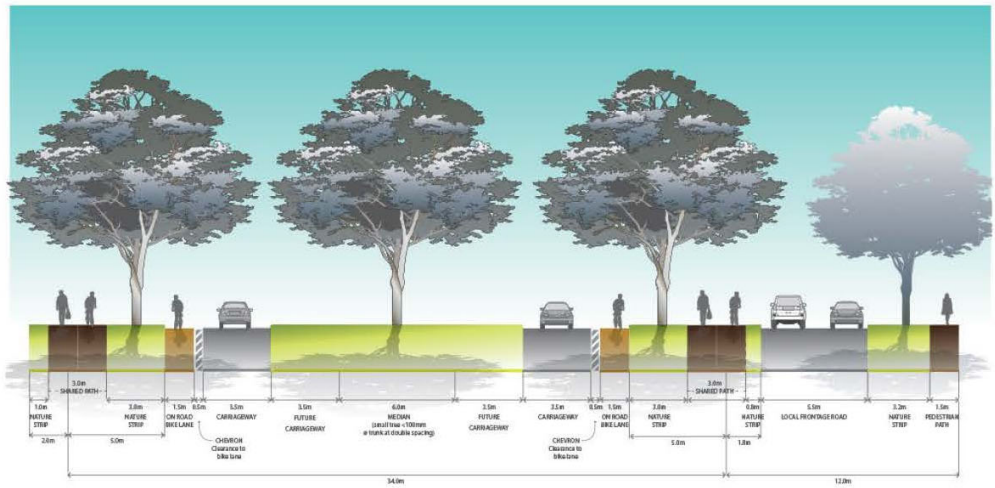


Figure 24 PSP cross sections

This matter remained unresolved following the conclaves, with the configuration of Koukoura Drive a point of disagreement in both FLP conclave statements. The configuration of Patterson Drive was a point of disagreement in the second FLP conclave statement only. For reference, no submitted evidence referred to the configuration of Patterson Drive.

The VPA's primary consideration on this matter is what constitutes as basic and essential, as this definition is used in the ICP Guidelines to define what infrastructure an ICP should fund.

In addition to this are the considerations that influence a balanced planning outcome for the road being

- More expensive costs associated with development of the interim split carriageway option
- consideration of the differences of the ways a divided road is used compared with an undivided road
- additional, more expensive and more disruptive works to construct the ultimate configuration when the interim is a divided versus undivided, and
- urban design and presentation of the two road configurations.

Basic and Essential "Interim Treatment"

It has been standard practice for many years that interim treatment of arterial roads consists of ultimate land and construction of an undivided two-lane carriageway and by precedence this has informed the baseline of what constitutes basic and essential.

The interim option that will actually be constructed can depend on the negotiations between Council, as the collecting agency, and the permit applicant. The VPA does not consider it necessary to determine which option should be applied to a planning permit area at the PSP/ICP stage. Rather, the VPA considers it appropriate that the ICP funds the basic and essential configuration, and that any other design that is negotiated between the Council and planning permit applicant be determined during the permit application stage. Whilst the staggered ICP legislation rollout has meant that the subject Donnybrook-Woodstock ICP is being prepared during the planning permit application stage, the VPA does not consider it necessary to provide any ICP-specific exceptions in this regard.

In relation to basic and essential, the ICP Guidelines note the following:

> *Principles of the ICP System: Infrastructure is basic and essential*
>
> *The provision of community, recreation, transport and drainage infrastructure and associated public purpose land is necessary for creating liveable, sustainable and affordable new communities. Just as residents need access to water, gas and electricity, they also need access to roads, parks, kindergartens, sporting fields and other essential infrastructure.*
>
> *Infrastructure contributions should fund infrastructure that is basic and essential to the health, well-being and safety of the community, and secure public purpose land required for construction of that infrastructure.*
>
> > *Infrastructure should be planned and designed to be fit for purpose ('basic') to ensure it does not result in unnecessary additional costs ('gold plating') that could impact the provision of other essential infrastructure.*

In short:

- Basic is generally defined as meaning fit for purpose and
- Essential is generally defined as meaning no unnecessary additional costs, that is, no gold plating.

The ICP, as informed by the Benchmark Costings report for RD-04 and RD-05, funds the land for the ultimate configuration and construction of the interim configuration. These principles are consistent with the "land and first carriageway" principles established through the DCP.

The undivided road, or first carriageway:

- is fit for purpose in that it provides two lanes of traffic, and a two-way bike path. For reference, the footpath will be provided by the service road.
- The test of this configuration being essential is that it does not provide any unnecessary additional costs as it constructs the basic form of the necessary functional components of the interim road.

In relation to any perceived in principle support for a divided carriageway in the ICP, the VPA does not consider that:

- A resolution of Council to support Koukoura Drive being delivered as an interim on ultimate, i.e. divided carriageway, as a mandatory requirement for the ICP to fund divided cross section should result in changes to the ICP. The VPA notes that there is nothing to stop Council providing additional funding in accordance with its resolution
- Listing of infrastructure items in the PSP does not automatically necessitate that all required items should be funded by the ICP. On the contrary, the purpose of the PSP is to identify all infrastructure required to service the precinct – state, regional, PSP-level and developer-level infrastructure. Only the items that are consistent with the Ministerial Direction will be funded by the ICP.

The other balanced planning outcome considerations for providing the undivided road cross section are discussed below.

Road user behaviour (speed)

Another reason why the undivided road is the VPA's preferred outcome is that providing a divided road in the interim naturally lends road users to speed in comparison to when travelling along an undivided road. This is because the additional road "space" required by the divided configuration provides a perception of safety afforded by the median. A road user travelling along a divided road is flanked by 13 metre median strip providing a clear visual separation from oncoming traffic to one side, and a 5-metre shoulder providing a distinct separation from the bike and footpaths to the other side. Compare this to a road user travelling along an undivided road which has no additional space between its lane and the lane of oncoming traffic and two metres to the shared path or kerb on the other side (depending on which direction the road user is travelling). The comparative closeness of objects in the undivided lanes naturally encourages road users to adhere to sign-posted speeds than usually occurs in the divided road configuration.

Reducing driving speeds in the interim is also considered important in establishing positive road behaviours for the long term.

In terms of restricting the ability to complete U-turns as noted in expert evidence, the VPA considers that signalised intersections, roundabouts and intersecting local streets provide suitable alternatives to allow road users to safely change their direction of travel.

Additional disruption during duplication

A divided road will also cause more disruption (longer time and more costs) to the community when duplicated than an undivided road. When duplicating an undivided interim road, the existing two lanes of traffic can continue during the works with minimal disruption. When duplicating an interim divided road, construction will occupy part of each lane resulting in very narrow traffic lanes and complex construction access arrangements or potentially, complete closure of the road in both directions.

Urban Design and Presentation

A preferred urban design outcome is not criteria listed for determining what infrastructure configuration the ICP will fund. The VPA also does not consider that delivering an undivided carriageway will mean the unconstructed section of the land will be viewed as "no man's land", as opined in the evidence submitted on behalf of Council. On the contrary, the VPA considers that the kerbs and channels will appropriately delineate the components of the road cross section rather making sections of the road appear ambiguous.

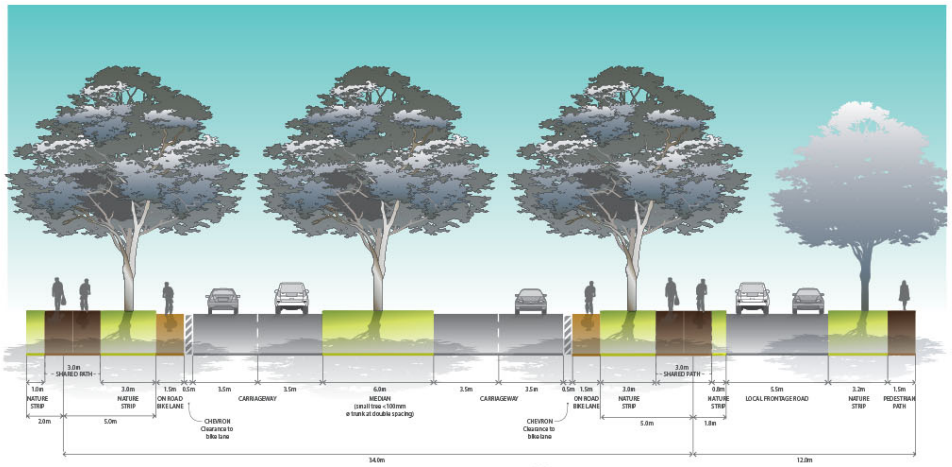
The VPA considers the undivided carriageway as an appropriate and pragmatic interim solution that is being successfully implemented as a standard approach throughout the growth areas and accepted by Panels in the past. Figure 25 provides an existing example of an interim construction of a secondary arterial being Sayers Road, Tarneit. The current road constructed is the interim of a secondary arterial. The VPA considers that the streetscape provided by this road is acceptable, notwithstanding that the road reservation of Sayers Roads is wider than a usual secondary arterial to accommodate the powerline easement.

The ICP benchmark costs allow for some landscaping, grassed areas and trees equivalent to one per ten metres. An example of an undivided secondary arterial interim road configuration is provided below. The unconstructed section of the road reservation is grassed and kerbed in its interim configuration, providing a vegetated and delineated visual separation between the road and service road. Whilst no trees are provided in the example below, these could be provided.

The VPA considers an undivided "land and first carriageway" is the appropriate basic and essential configuration of Koukoura Drive and an undivided road configuration is an appropriate interim delivery of a secondary (and primary) arterial.

Figure 25 Interim construction of a secondary arterial (Sayers Road, Tarneit)

Secondary Arterial Road 4 lane (34.0m) - Ultimate



Example of constructed benchmark design

Street View of example of constructed design

9.3.2 Intersection - IN-03 - design (and thereby cost)

(Submissions 1, 2, 4, 6 and 8, FLP and costings conclave statements)

Submissions 1, 2, 4, 6 and 8 all include various comments regarding the designs (and thereby costs) of the five intersections along Donnybrook Road, being IN-01, IN-02, IN-03, IN-04 and IN-05. All five intersections were discussed in conclaves and the FLP conclave statement 2 resolved the designs for four of the five intersections. Intersection IN-03 remains in contention. The experts representing the two submitting landowners within the Donnybrook-Woodstock ICP agree on the IN-03 design in the RC April ICP and the expert representing the submitting landowner within the Shenstone Park ICP disagrees.

The Donnybrook-Woodstock Panel recommended the use of consistent intersection layouts along Donnybrook Road and that they be contained within the existing road reservation. The VPA considers that the design of all five intersections, as identified in the RC April ICP, and agreed with the Department of Transport, and agreed with the Donnybrook-Woodstock ICP landowners, are appropriate. Notwithstanding, IN-04 and IN-05 require some minor revisions to respond to agreements in the FLP conclave 2 statement.

The sequence for preparation and revision of the five intersection designs was:

- The **exhibited ICP** included bespoke designs for the five intersections, being the same designs that informed the PSP (but were not placed on formal exhibition with the PSP). The general submitted concerns with these designs were:
  - Many subdivision permits had already been issued within the ICP area and the lots within these required road access from Donnybrook Road, that is, via IN-03 and IN-04. The permit holders had prepared designs under the planning permits, but Council considered these designs to be “pre-interim” meaning developers would not receive the ICP credits.
  - As well, the planning permit designs were prepared for speeds that, at the request of DoT (then VicRoads), differed from the ICP designs
  - The ICP designs sat across land within the Donnybrook-Woodstock ICP area and the Shenstone Park ICP area, with the latter PSP being in pre-exhibition phase. This meant that the availability of this land was uncertain (for reference, the exhibition period for the Shenstone Park PSP has commenced and will conclude on 15 November 2019).
- These intersection designs were the subject of the **FLP conclave statement 1** and the resultant points of agreement across the five intersections were in part inconsistent and in part uncertain. These were:
  - (a) Interim FLPs for intersections on all roads (except Donnybrook Road and certain sections of Cameron Street and Merriang Street and connector roads generally, where 50 km/h would apply) need to be designed based on 60kmh. Design speed for Donnybrook Road at all intersections to be 80km/hr and for Cameron Street and Merriang Street to be less.
  - (c) [For all intersections] … provision for bus infrastructure in ICP interim FLPs is not required as it is not 'basic and essential' [in this instance]
  - (f) At IN-03, there is no need to extend the verge from 7m to 8.3m if Council's advice regarding utility services is correct. This is subject to confirmation by a suitably qualified Authority expert.
  - (g) At IN-03, the relevant Cardno 'benchmark' design for the interim layout for the road hierarchy should be used in lieu of the OMG design currently exhibited in the ICP, subject to sufficient allowance for turn and through lane configurations, and the amended design speeds being adopted.
  - (i) At IN-03, the 75/25 current cost split between the 2 abutting PSPs and ICPs should be revised by VPA, and consideration given to changing this if required.
  - (j) At IN-04 (Donnybrook-Koukoura), the VPA should consider changing the ICP plans to allow for a change to the usual 'outside in' approach and reflect the actual land availability for the interim road carriageway and intersections.
- The VPA responded to these points of agreement in a manner that provided a consistent approach across all of the intersections and included the updated designs in the **RC April ICP**. The intention of this was to allow landowners in the Donnybrook-Woodstock ICP area to deliver ICP intersections via current planning permits currently being developed and without needing to rely on land within the Shenstone Park PSP area being available. A whole-of-State-Government response on these plans was documented and circulated to the parties to the Panel (Document 90 of the Amendment). The key changes were:
  - Updated design speeds as per point of agreement (a)
  - Fully functional T-intersection instead of a cross-intersection (which has the same capacity on Donnybrook Road) to respond to point of agreement (j)
  - T-intersection funded 100% from Donnybrook-Woodstock ICP in place of a cross-intersection funded 75 percent and 25 percent to the Donnybrook-Woodstock and Shenstone Park ICP respectively, to address point of agreement (i)

- Two through lanes have been provided along the Donnybrook Road legs and the secondary arterial legs, in place of one through lane identified in the exhibited ICP designs, to provide capacity that is consistent with the benchmark design, in line with point of agreement (g)
- Compact design in place of an interim-on-ultimate design to allow the ICP intersection to be constructed entirely within the existing Donnybrook Road reservation in response to point of agreement (j)

- The FLP conclave 2, scheduled to confirm the changes of the RC April ICP, as documented by **FLP conclave 2 statement,** resolved four of the five designs the RC April ICP designs:
  - IN-01, IN-02, IN-04 and IN-05 were resolved, with some minor variations to the IN-04 and IN-05.
  - IN-03 remains in dispute, with the Donnybrook-Woodstock ICP landowners in agreement on the April ICP design and the Shenstone Park ICP landowners in disagreement.

The VPA considers that the designs of IN-01, IN-02, IN-03, IN-04 and IN-05, as identified in the RC April ICP, with the minor revisions to IN-04 and IN-05 as agreed in the FLP conclave 2 statement are appropriate.

9.3.3 Culverts - BR-03 and BR-04 - the 'basic and essential' bespoke design

(Submissions 2 and 4)

Collectively, Council and submitter 2 noted that the designs for BR-03, BR-04 and BR-05 in the exhibited ICP needed to, but did not, comply with *Growling Grass Frog Crossing Design Standards (GGF Crossing Standards)*. As BR-05 already complied with the GGF Crossing Standards, only BR-03 and BR-04 were redesigned. These designs however, differ from a bebo arch design that submitter 2 has prepared. The VPA considers the box culvert design to be "basic and essential" and that the bebo arch design are "gold pated". This will be discussed further in the Part B submission.

9.3.4 Pedestrian signals - PED-01, PED-02 and PED-03 - bespoke design and cost

(Submission 4, costings statement)

Submission 4 from Whittlesea supported the costs for pedestrian signals Ped-01, Ped-02 and Ped-03 in the exhibited ICP and no changes were made to these items in the RC April ICP. The costings evidence submitted for submitter 4 sought to increase the costs of Ped-02 and Ped-03. The outcomes of the costing conclave statement will be confirmed in the Part B submission.

For reference also, the panel report for Mt Atkinson & Tarneit Plains ICP accepted the position of the VPA that pedestrian signals items are standard in nature and it was not necessary for an ICP to include a design and cost sheets for these.

9.3.5 Community facilities - CI-01, CI-02, CI-03 and CI-05 (level 2), CI-04 (level 3), CI-06 and CI-07 (level 1) – benchmark costs

(Submission 4)

Submission 4 supported the exhibited cost of the level 1 community facilities and considered the exhibited ICP for the level 2 and 3 facilities to be low. The RC April ICP document increased the exhibited ICP costs for all community facilities, mostly by indexing, but also by introducing provision for ESD and increasing the P90 rate for the "playground" line item. No submitted costings evidence referred to these items.

Submission 4 noted:

- Level 2 community facilities, being CI-01, CI-02, CI-03 and CI-05 were underfunded in the exhibited ICP which applied benchmark designs and costs for item 38 for all four items. The cost of this item was $7,647,839 in the exhibited ICP and this cost was indexed to $8,928,000 in the RC April ICP.
- Level 3 community facility, CI-04, is underfunded in the exhibited ICP which applied the benchmark design and cost for item 39. The cost of this item was $10,303,992 in the exhibited ICP and was indexed in the RC April ICP to $11,830,000.
- Support for the benchmark costs (item 37) which applied to CI-06 and CI-07 (level 1 community facilities) in the exhibited ICP. The RC April ICP updated these costs to include indexing, as the April 2019 Benchmark Costings, from the exhibited cost of $6,398,000 to the RC April ICP cost of $7,606,000.

The VPA considers that the RC April ICP costs (and designs) are appropriate to inform the capped community and recreation levy.

9.3.6 Sequencing of infrastructure items

(Submission 5)

Mitchell Council requested that the staging for items located in its municipality be listed as long term, rather than medium (as listed in the ICP). The VPA agrees to make this requested staging as it is consistent with the gazetted PSP which identifies the staging of these two items as long term and this staging is considered consistent with the expected pattern of development of the land within Mitchell municipality.

Mitchell Council is concerned that it may be pressured to consider development that accords with the staging listed in the ICP (medium term, next 10 to 15 years) rather than in accord with its own development sequencing analysis, which suggests much longer term. The section of ICP area in Shire of Mitchell is the northern section beyond the Merri Creek conservation area. This land requires access from the Patterson Drive bridge connection over Merri Creek to connect with the remaining section of the PSP area and according to Mitchell's own and endorsed Potential Development Sequencing, Northern Growth Corridor, sequencing analysis (provided as part of its submission) for this area won't be developed until 2045-55. Further north of the ICP area is the Northern Freight PSP, which is yet to commence.

The inconsistencies between the staging of these two items across the PSP, previous ICP and the current ICP are tabled below for reference.

Table 28 Summary of inconsistencies in documented staging of RD-04 and IN-17

Items	PSP Staging	Standard ICP	Exhibited and RC April ICP	Final RC October ICP
RD-04	L	L	M	L
IN-17	L	M	M	L

The VPA considers that changing the staging of RD-04 and IN-17 to long term is appropriate for Donnybrook-Woodstock ICP and will not unnecessarily prejudice development in the section of the Donnybrook-Woodstock PSP area in Whittlesea nor in the Northern Freight PSP area, particularly as there is inherent discretion provided to Council within the staging section of the ICP to adjust staging should *"network priorities require the delivery of works or provision of land to facilitate broader road network…"*

9.3.7 Sports facilities - SR-01, SR-02, SR-04, SR-06 and SR-07 (benchmark design and cost) and SR-03 and SR-05 (benchmark design and hybrid cost)

(Submissions 2 and 4)

For the sports facilities of 8 to 10 hectares, Submission 2 noted that applied benchmark cost for SR-03 and SR-05 were underfunded and submission 4 noted all of SR-01, SR-02, SR-03, SR-04, SR-05 and SR-06 were underfunded.

For the sports facility of 5 to 6 hectares (SR-07), submission 4 noted that the applied benchmark cost was overfunded. The VPA considers the cost of these items as identified in the RC April ICP, which generally introduced slight reductions to these overall costs, to be appropriate to be listed under the community and recreation (capped) levy of the Donnybrook-Woodstock ICP.

Sports facilities items were not discussed in any of the expert witness statements nor conclave statements.

All the sports facilities item costs are the sum of two benchmark items:

1 A sports facility of either 5 to 6 ha (benchmark cost item 42) or 8 to 10 ha (benchmark cost item 43), plus

2 A sports pavilion 1 (benchmark cost item 40).

And for SR-03 and SR-05, a hybrid cost of benchmark cost item 43 was applied in the RC April ICP.

The costs for all benchmark cost items 40, 42 and 43 reduced in the RC April ICP from the exhibited ICP and the hybrid costs of SR-03 and SR-05 were further reduced.

For SR-01, SR-02, SR-04, SR-06, the exhibited ICP applied the designs and costs of benchmark cost items 43 and 40 at a per hectare rate. The RC April ICP updated the cost of these items to the lump sum benchmark. The changes were:

- The exhibited ICP costs for these items ranged between $12,057,000 to $13,368,990, being 0.04% to 11% difference from the benchmark cost of $12,052,500. The exhibited ICP cost attempted to manage the slight variations in areas across the four sports facilities of between 8 and 9.1 hectares.

- The RC April ICP updated the cost for all these items to be the same lump sum and as per the indexed cost in the April 2019 Benchmark Costings to $12,011,000. The VPA considers this to be the most transparent and appropriate way to cost these items.

For SR-03 and SR-05, the exhibited ICP included benchmark design and costs and updated the cost type to a hybrid-specific one in the RC April ICP. The key updates tailored the hybrid costs for each SR-03 and SR-05 to match the descriptions in the Table 6 of the PSP (provided at Table 29 below) by:

- Replacing the number and type of listed sporting fields:
  - Benchmark cost item 43 – two football fields, two cricket pitches, two netball courts and two soccer pitches
  - SR-03 – three soccer pitches
  - SR-05 – eight netball courts, 2 lawn bowls and six tennis courts
- Making associated updates to costs:
  - SR-03 applies a cost of $9,680,000 (decreased from exhibited ICP cost of $12,057,000)
  - SR-05 applies a cost of $10,558,000 (decreased from exhibited ICP cost of $12,069,990)

The VPA considers the RC April benchmark designs and costs for sports reserve items SR-01 to SR-06 to be appropriate to inform the community and recreation (capped) levy of the Donnybrook-Woodstock ICP.

Table 29 Donnybrook-Woodstock PSP Table 6 – Open space delivery guide extract

Subtotal	44.13			
PARK ID	AREA (HECTARES)	TYPE	POTENTIAL COMPONENTS	RESPONSIBILITY
SR-01	8.10	Sports Reserve	3 x Soccer Pitches, 6x Tennis courts with pavilion	Whittlesea City Council
SR-02	9.01	Sports Reserve	2x AFL/Cricket ovals, 2x Netball courts with pavilion	Whittlesea City Council
SR-03	8.00	Sports Reserve	3x Soccer Pitches with pavilion	Whittlesea City Council
SR-04	8.03	Sports Reserve	2x AFL/Cricket ovals, 2x Netball courts with pavillion	Whittlesea City Council
SR-05	8.01	Sports Reserve	2x lawn bowls, 6x tennis courts, 1x play skate facility, 8x netball courts with pavillion, 6x court indoor recreation centre,	Whittlesea City Council
SR-06	8.00	Sports Reserve	3x rectangular sports grounds with pavilion	Whittlesea City Council
SR-07	5.65	Sports Reserve	1x Sports grounds with pavilion	Mitchell Shire Council
Subtotal	54.80			

9.3.8 ICP systemic matters

Borrowing costs for "community and recreation"

(Submission 4, Council)

Council sought to add borrowing costs to forward fund community and recreation items to manage the shortfall in the funds collected by the capped rate. As this request seeks to change the ICP in a manner that does not accord with the Ministerial Direction, the VPA does not have the ability to effect the change and considers this matter resolved. A discussion is provided below nonetheless.

The specific request from Council is as follows:

> *One of the options available for Council to fund shortfalls to manage cashflow in the provision of community and active recreation projects is from borrowing. The cost of borrowing is an allowable supplementary item for community and active recreation projects. Currently there is no allowance for this in the exhibited 'final' ICP. Given the potential shortfall for projects in this category, it is important the cost of borrowing options is available to Council as a potential means of managing cashflow or shortfalls. In order to facilitate this, it is recommended to submit that the VPA include the cost of borrowings in the exhibited 'final' ICP.*

Council seeks to include the 'cost of borrowing' within the ICP to forward finance community and recreation infrastructure. The VPA understands this to mean that, as the Council will be required to contribute its own funds to pay the shortfalls between the funds collected by the capped rate and total estimated costs of community and recreation infrastructure, Council does not wish to pay the additional costs of borrowing on that shortfall.

The VPA provides a response to the following relevant Clauses of Annexure 1 of the Ministerial Direction as listed below and discussed thereafter:

- Clause 12 that provides the ability for the Minister to increase the amount of the community and recreation cap, and
- Clause 22 that sets criteria for listing the early delivery of works, services or facilities as a supplementary allowable item

All three conditions must be met to implement Clause 12 and the Donnybrook-Woodstock ICP does not accord with (b) or (c); Clause 12 is not permitted. The reasons are that (b) a supplementary levy amount is being imposed and (c) the request seeks to increase the total standard levy rate.

There are two dependent criteria for the early delivery of works, services or facilities listed at Clause 12 are assessed as follows:

- *The early delivery of the item is essential to the orderly development of the area*

  As the need for early delivery of community infrastructure items has not been demonstrated to enable development, this Clause is not considered applicable. In general, early delivery of infrastructure is usually applicable to transport that provides for the essential provision of access to new and imminently new residents however community and recreation items are usually not required until these is sufficient demand from the emerging community. For these reasons, the financing of the early delivery of the community and recreation items are not considered necessary.

- *The financing costs are: incurred by the development agency responsible for providing the item and associated with the early delivery of the item which is listed as a standard levy allowable or a supplementary allowable item; or associated with the early acquisition of public purpose land referred to in section 46GV(8) of the Act which is required for the early delivery of the item*. (emphasis underlined)

  As the financing costs are not considered to be associated with the early delivery of works, it is not considered that these criteria are met.

9.3.9 Removal of properties from the ICP area where a planning permit has already been issued

(Submission 3)

The VPA provided a response to this in its Part A (Part 2) submission to the Melton C201 Amendment which was that it does not consider it appropriate to remove a property from the ICP plan area if a permit has already been issued for the property which imposes an infrastructure contribution for the following reasons:

- If an infrastructure contribution is not paid under the existing permit (because it is not acted on) and a new application for a permit is made, there would be no statutory mechanism in place to impose an infrastructure contribution on the new permit and proposed development. This would result in an unacceptable financial risk to the collecting agency and compromise the delivery of essential community and transport infrastructure to this new community.
- The proposed change would be inconsistent with the land contribution model introduced by the *Planning and Environment Amendment (Public Land Contributions) Act 2018* in July 2018. The land contribution model is based on the principle that all landowners under an ICP should contribute equally to the provision of land for public purposes. If a new application is made, the applicant would not be required to make an equal contribution to the provision of public purpose land that meets needs generated by the future development of the whole precinct structure plan area (including the subject land) and other developers would be required to make a disproportionate contribution.

9.3.10 Reclassification of land identified as encumbered as public purpose land

(Submission 2)

Submission 2 seeks to reallocate the encumbered land zoned Rural Conservation Zone (RCZ) of Hayes Hill Reserve to creditable open space and thereby list the land as a public purpose land allowable item in the ICP.

As the allocation of this RCZ land as uncreditable was determined through the PSP, the VPA does not consider the request to be consistent with the PSP, the Ministerial Direction nor the ICP Guidelines.

The Ministerial Direction states that: "*if an [ICP] specifies that any inner public purpose land to be provided under the plan or outer public purpose land to be funded through the plan, the public purpose land and the purposes for which it may be developed must (a) be in accordance with the relevant [PSP] … and (b) be consistent with this Direction*". At Table 7 the Ministerial Direction continues its description of public purpose land by stating that a "Public Open Space" allowable item has a range of permitted uses included local open space. The VPA does not consider that the request to list Hayes Hill Reserve meets either of (a) nor (b) as it is not consistent with the PSP which identifies this land as encumbered and it is not consistent with the Ministerial Direction as "conservation area" is not identified as a public purpose land allowable item, nor is it consistent with the PSP guidelines

The ICP Guidelines (page 24) specifically state that time to determine land for public purposes is the PSP stage:

From the precinct structure plan or strategic plan, the planning authority will:

• determine the land for public purposes required, both inside the ICP plan area and outside the ICP plan area

• identify the type, location, area (size) and use of public purpose land to be provided or funded through the ICP.

During the planning scheme amendment process for a precinct structure plan or strategic plan, affected landowners can review the plan and make submissions about the type, location, size and use and need for the identified public purpose land. If the planning authority does not accept a landowner's submission, the landowner has a right to be heard by an independent planning panel.

Further, the PSP guidelines state anyway that encumbered land is:

Land that is constrained for development purposes. Includes easements for power/transmission lines, sewers, gas, waterways/drainage; retarding basins/wetlands; landfill; conservation and heritage areas. This land may be used for a range of activities (e.g. walking trails, sports fields). This is not provided as a credit against public open space requirements. However, regard is taken to the availability of encumbered land when determining the open space requirement.

The VPA does not consider the request to reclassify Hayes Hill Boulevard as public purpose land in the ICP is strategically justified or appropriate.

10 FINAL SET OF RECOMMENDED CHANGES (OCTOBER) TO EXHIBITED ICP

A summary of the final set of recommended changes to the exhibited ICP and the two ICO1 is provided below and a consolidated list is provided thereafter. The final set of changes are in response to:

- Submissions to the Amendment
- Recommendations and discussions from the Mt Atkinson & Tarneit Plains ICP Panel Report (referred to as Melton C201 Panel Report below)
- Expert witness statements
- The three conclaves statements

The overall set of changes are provided below and following this are the changes made in response to particular submissions and points of agreement in the conclave statements.

10.1 Final Set of Recommended Changes to the Exhibited ICP

Table 30 Final Set of Recommended Changes to the Exhibited ICP

Section of ICP	Recommended Change from Exhibited	Reason for Change
Section 1 Monetary component ICP levy summary – Table 1	Update the supplementary levy amount to $34,777 per net developable hectare (to be confirmed in Part B) and make consequential changes to total collected funds	Response to submissions Updates as per April 2019 Benchmark Costings Updates in response to three conclave statements
Section 3 ICP land contribution percentage – Table 2 and Table 3	Change the ICP land contribution percentage to 13.09% make consequential changes to land credit and land equalisation amounts	Response to request from the Minister for Planning
Section 3.2 Monetary component – standard levy Table 5	Increase cost of all items as per changes listed to Appendix 5 of the ICP Remove IN-02, IN-03, BR-01, BR-02, BR-03, BR-04, BR-05 from standard levy	Response to submissions and updates as per April 2019 Benchmark Costings
	Change staging of RD-04 and IN-17 to "L"	Response to submissions
	Change the descriptions of all items to provide consistency within the ICP document and consistency with the Ministerial Direction	Response to Melton C201 Panel Report
	Change the description of IN-01 to IN-05 to "T-intersections"	Response to submissions
Section 3.2 Monetary component – supplementary levy Table 6	Increase cost of all items as per changes listed to Appendix 5 of the ICP	Response to submissions Updates as per April 2019 Benchmark Costings Updates in response to three conclave statements
	Include IN-02 and IN-03 under the supplementary levy	Response to submissions and items comply with the MD and items cannot be wholly or partially funded from the standard levy
	Include BR-01, BR-02, BR-03, BR-04 and BR-05 to supplementary levy	Response to submissions and items comply with the MD and items cannot be wholly or partially funded from the standard levy
	Keep Ped-01, Ped-02 and Ped-03 in the standard levy (listed for reference as these were standard items in the exhibited ICP)	Response to planning evidence submitted on behalf of the VPA
	Change the description of IN-02 and IN-03 to "T-intersections"	Response to submissions
Section 3.3 Monetary component – community and recreation levy Table 7	Increase costs for community facilities items as per changes to Appendix 5 of the ICP Decrease cost for sports reserves items as per changes to Appendix 5 of the ICP	Response to submissions and updates as per April 2019 Benchmark Costings
	Include an external apportionment (expressed as a percentage) to a nominated sports reserve, based on a DCP indexation of $1.6m in 2015.	Response to planning evidence submitted on behalf of the VPA
	Include an external apportionment (expressed as a percentage) to a nominated community	Response to planning evidence submitted on behalf of the VPA

Section of ICP	Recommended Change from Exhibited	Reason for Change
	facility, based on the English Street DCP indexed cost of "*construction of additional space for 0.8 of a kindergarten room*"	
Section 4 Public purpose land – Inner public purpose land Table 8	Add the following text as the last paragraph of the introduction section of section 4 (pertains to SR-05): The Minister has exempted the Mt Atkinson & Tarneit Plains Infrastructure Contributions Plan from complying with Table 7 of Annexure 1 of the *Ministerial Direction on the Preparation and Content of Infrastructure Contributions Plan* dated 1 July 2018 in respect of the land required for project CI-01 (Indoor Recreation Facility (Mt Atkinson Town Centre)). This exemption has been granted on the basis the 'land for indoor sports facilities was unintentionally excluded from the Ministerial Direction when it was revised as a result of the commencement of the *Planning and Environment Amendment (Public Land Contributions) Act 2018*.	Response to Melton C201 Panel Report
	Update public purpose land for IN-03, IN-04 and RD-05 and make consequential changes to the land credit and land equalisation amounts for the affected properties	Response to submissions for design changes
Section 4.2 Public purpose land – summary Table 9	Update the ICP land contribution percentage to 13.09% and make consequential changes to the parcel land credit and land equalisation amounts	Response to request from the Minister for Planning
Sections 5.10 and 5.11 Works in kind reimbursement	Delete the following text: *If the agreed value of the works in kind exceeds the monetary component the infrastructure contribution, the applicant will be reimbursed the difference between the two amounts at a time negotiated between [the] applicant and the Collecting and Development Agencies.*	Melton C201 panel report
Appendix 3 – Infrastructure Schedule	Updated the design (drawing number) and cost references for all ICP items	Response to submissions
	RD-01 to RD-05 design updates	Update as per April 2019 Benchmark Costings
	IN-01, to IN-05 design updates (April and October 2019)	Response to submissions FLP conclave 1 and 2 statements
	IN-06 to IN-17 (except IN-16) design updates	Response to submissions FLP conclave 1 statement
	IN-16 design update	Update as per April 2019 Benchmark Costings
	BR-03 and BR-04 (October 2019) design updates	Response to submissions and to accord with GGF Design Guidelines
	CI-01 to CI-07 design updates	Update as per April 2019 Benchmark Costings
	SR-01 to SR-07 design updates	Update as per April 2019 Benchmark Costings
Appendix 5 – Detailed cost sheets	RD-01 to RD-05 cost updates	Response to submissions and remeasuring road lengths and refining rock excavation costs
	IN-01, to IN-05 cost updates (April and October 2019)	Response to submissions FLP conclave 1 and 2 statements and updates to April 2019 Benchmark Costings rates
	IN-06 to IN-17 (except IN-16) design updates	Response to submissions FLP conclave 1 statement and updates to April 2019 Benchmark Costings
	IN-16 cost update	Update as per April 2019 Benchmark Costings and costings evidence
	BR-03 and BR-04 (October 2019) cost updates	Response to submissions and to accord with GGF Design Guidelines
	CI-01 to CI-07 cost updates	Update as per April 2019 Benchmark Costings
	SR-01 to SR-07 cost updates	Update as per April 2019 Benchmark Costings

10.2 Changes to the Exhibited Documents in Response to Amendment Submissions

The recommended changes to the Amendment in response to submissions is summarised in the table below, excluding the costing conclave statement resolution which will be confirmed in the Part B submission, and further detail is provided at Appendices 1 and 2.

These changes are only those made in response to submissions relating to specific ICP infrastructure items, or documentation issues. Changes arising from changes to benchmark designs and / or cost estimates are detailed in section 0.

Table 31 Summary of key changes in response to submitters

SUBMITTER	PROPOSED CHANGE
Submitter 1	• IN-03 and IN-10 design and costs updated to allow for site-specific conditions
Submitter 2	• RD-05 cost has been updated and road lengths confirmed • RD-02 cost has been updated and road lengths confirmed • IN-04 designs have been amended to be compact, T-intersections located completely within the existing Donnybrook Road reserve, fully funded by the Donnybrook Woodstock ICP • IN-05 has been updated to be consistent with PSP, with Cameron Street as a Boulevard Connector Street west of Koukoura and a Connector Street east of Koukoura. The cost estimate has been updated to reflect this design change. • IN-04 and IN-12 updated costs both include service relocation costs • IN-04 cost apportionments to the Donnybrook-Woodstock ICP (100% of a T-intersection) • IN-04, IN-07, IN-11, IN-12 and IN-15 designs updated and resolved in response to FLP conclave 1 and 2 statements • BR-03 and BR-04 have been updated to meet GGF Design Standards • SR-03 and S-05 has hybrid costs that the sports reserve designs match PSP identified features
Submitter 3	• No changes proposed
Submitter 4	• The ICP document will be updated to correct typographical errors, etc. • BR-03 and BR-04 redesigned (first in April and finally in October) to meet GGF Design Standards, as per in principle agreement from DELWP • All intersection costs updated • CI-01, CI-02, CI-03, CI-04, CI-05 costs updated and increased to include indexing • SR-07 costs updated and decreased
Submitter 5	• IN-17 and RD-04 staging changed to “L”, or long term
Submitter 6	• IN-03 design has been amended to be compact, T-intersections located completely within the existing Donnybrook Road reserve, fully funded by the Donnybrook Woodstock ICP
Submitter 7	• No changes proposed
Submitter 8	• IN-03 design has been updated to show a compact, three-legged intersection, which has received in support from the Department of Transport • IN-03 description in Table 5 and depiction in Plan 2 will be updated to reflect a T-intersection design

10.3 Potential for Final set of Recommended Changes to Affect Other Landowners

The final set of recommended changes will result in changes from the previously notified RC April ICP and associated ICO1 schedule. The VPA does not expect that the extent of change from the RC April ICP will significantly affect other landowners. The key changes and the potential impacts are listed and addressed below:

- Change the total levy amount and supplementary levy amount of the RC April ICP document:

- The degree of change is not expected to be substantial, and will be discussed further in the Part B submission.

- Change the land equalisation and land credit amounts for parcel 8 will be affected by the 0.31 ha change to the public purpose land for IN-16. These will be relatively minor and will not affect the average per hectare rate for individual parcels meaning formal notification under 46GO of the Act will not be required as explained in section 6.2.2, though the landowners will be notified of the proposed change.
- Changes to the external contributions from the English Street DCP will not change the community and recreation capped levy amount

10.4 Changes to Designs and Costs of the ICP Items in Response to Conclave Statements

Only the items that were subject to points of agreement in the conclave statements are included.

Table 32 Infrastructure items subject to conclave points of agreement

Item	FLP Conclave 1 and 2 statements	Costings
RD-01 to RD-05	RD-03 and RD-05 unresolved RD-01, RD-02 and RD-04 not subject to conclave	To be confirmed in Part B
IN-01 to IN-05	Redesigned and all resolved except IN-03	To be confirmed in Part B
IN-06 to IN-17 (except IN-16)	Redesigned and IN-07, IN-11 and IN-15 resolved	To be confirmed in Part B
BR-01, BR-02, BR-03, BR-04, BR-05	Not subject to FLP conclave	To be confirmed in Part B
CI-01 to CI-07	Not subject to FLP conclave	To be confirmed in Part B
SR-01 to SR-07	Not subject to FLP conclave	To be confirmed in Part B

11 LIST OF APPENDICES

Appendix 1 – Submission Summary

Appendix 2 – Design and Cost Changes to the ICP Items

Appendix 3 – Whole of State Government Response to Points of Agreement in FLP Conclave 1 Statement and RC April ICP

Appendix 4 – Benchmark Infrastructure Costings Guide, VPA

Appendix 5 – Donnybrook Road Intersections Redesigns

Appendix 6 – Changes in cost between the July 2018 and April 2019

Appendix 1 – Submission Summary

Submission 1: Mirvac

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
1.01	Benchmark Costings (costs)	**Benchmark costings need to be reviewed** Benchmark Costings costs are significantly lower than actual construction costs. Review costs as outlined, particularly in relation to intersections, roads and active open space.	Yes	Benchmark costings should be increased to reflect actual construction costs.	The revised *Benchmark Infrastructure Report* (Cardno, 2019) has been updated to more accurately reflect actual, current day costs. Updates were made to standard infrastructure template designs to reflect the VicRoads *Guidance for Planning Road Networks in Growth Areas,* which had consequential effects on the standard infrastructure cost estimate and line item rates in the verified set of rates and all input rates were also indexed as per relevant ABS data. Nonetheless, benchmark cost estimates are not intended to reflect actual construction costs but provide baseline cost data and therefore standardise the cost estimates for ICP infrastructure projects to determine whether standard or supplementary ICP levies may apply and provide the basis for supplementary levy ICP project cost estimates.	Resolved
1.02 **IN-03**	Benchmark Costings (designs) and IN-03	**Intersection footprints** Benchmark Costings standard template intersection designs smaller than expected following discussions with VicRoads and Council, particularly IN-03 for which the functional layout plan for the ultimate intersection has been approved by VicRoads. Key differences from the Benchmark plans include: • Narrower nature strip not allowing for 2 right turn lanes • No provision for bus jump lanes • Narrower footprint, lanes don't align with PSP cross sections • Benchmark turning lane lengths are generally shorter than what is anticipated will be required based on Sidra analysis	Yes	Benchmark Costing standard template infrastructure designs to be updated so as to be consistent with VicRoads requirements.	See response to 1.01. In particular, the benchmark costing standard template infrastructure designs have been updated to include: • Primary arterial approaches to primary or secondary arterial intersections have been updated to include two right turn lanes in the ultimate layout • Turning lane lengths have been updated to reflect the *VicRoads Guidance for Planning Road Networks in Growth Areas* and are also consistent with revised design speeds were required. It was agreed at the FLP conclave that bus jump lanes are not required due to expected interim traffic volumes. This is supported by DoT. These changes apply to all ICP intersection projects, including IN-03.	IN-03 design unresolved by FLP conclave 2 statement
1.03 **IN-03**	Benchmark Costings (designs)	**Intersection designs do not meet VicRoads requirements** Requirements include: • Primary arterial approaches to primary or secondary arterial intersections - VicRoads generally require 2 right turn lane in ultimate. VPA Benchmark provides for only one 1 right turn lane in ultimate. • Turn lane length – all Benchmark designs show “baseline” provisions, while VicRoads standard for “High Volume intersections” require turn lane length to cater for traffic queueing. • It appears that no vehicle turning templates have been applied to the benchmark intersections. • It appears that the intersection flaring tapers on the interim benchmark designs are inadequate. • At connector road intersections, the benchmark designs do not allow for a dedicated left turn lane from the arterial road approaches. • The benchmark design does not allow for shared path on both side of the mid-block.	Yes	Benchmark Costing standard template infrastructure designs to be updated so as to be consistent with VicRoads requirements.	The benchmark costing standard template infrastructure designs are based have been updated to reflect the VicRoads *Guidance for Planning Road Networks in Growth Areas,* which have in turn been reflected in the bespoke intersection designs in the Donnybrook-Woodstock ICP • Primary arterial approaches to primary or secondary arterial intersections have been updated to include two right turn lanes in the ultimate layout • Turn lane lengths are based on “baseline” provisions are considered "basic and essential" whilst “high volume intersections” are not. • Turning space is considered appropriate and unlikely to be detrimental to through traffic volumes at peak hour given the expected volume of left-turning large vehicles • At arterial/ connector intersections the arterial roads should have a dedicated left turn lane in to the connector leg in the ultimate layout • The benchmark design does not allow for shared paths on both sides of the mid-block in in order to facilitate delivery of interim road projects by avoiding widening both sides of the mid-line where the ultimate alignment straddles property boundaries. Secondly, shared paths are not considered necessary on both sides of the mid-block in the interim (i.e. one lane in each direction), which does not typically present the same barrier to cyclists and pedestrians that the ultimate arrangement does. Nonetheless, shared paths can be included on both sides of the mid-block on a case-by-case basis at marginal additional cost if desired, and in any case will be delivered by VicRoads in the ultimate arrangement.	Resolved
1.04	Benchmark Costings (designs)	**Intersection designs does not consider the landscape context** Benchmark costs do not distinguish differences in constructing intersections on existing roads to "open paddock" situations. Key differences are: • Traffic management costs • Lower productivity on existing roads as typically intersections would be constructed in 2 sections to maintain traffic flow • Often temporary works will be required to maintain traffic flow. • General alterations/relocation of services when working on existing roads. • Costs associated with removal of redundant infrastructure and tying into existing conditions.	Yes	Benchmark costings should include provision for additional costs of constructing intersections on existing roads.	The Benchmark Costings report, including cost estimates have been updated. In particular: • Traffic management costs have been included as a line item (5% of costs excluding delivery) • The cost of lower productivity on existing roads is extremely difficult to estimate and represents a wider social cost with limited, if any, nexus to the ICP. • Temporary works are included in the traffic management line item (1% of costs excluding delivery) • Service relocation costs can be included as a line item for infrastructure items and has been included for IN-03. • The revised *Benchmark Infrastructure Report* (Cardno, 2019) has been updated to include a line item for existing pavement removal for projects that involve upgrades to existing road/intersection infrastructure. When brownfield projects include greater demolition costs, proving of existing services and asphalt overlays, total project costs are generally lower due to an overall reduction in scope of works (reduced area where full depth pavements are required) Hybrid cost will be prepared to respond to particular site conditions where appropriate.	Unresolved
1.05	Benchmark Costings (cost)	**Low construction rates** Rates used in Benchmark costs are generally lower than rates currently obtaining for works at Olivine Estate which are generally comparable to industry rates. Using IN-06 project as an example SMEC have found the following: • 50% confidence level Benchmark costs are 82% of current rates • 90% confidence level Benchmark costs are 90% of current rates	Yes	Benchmark costs should be increased to reflect actual construction costs.	See response to 1.01. Additionally, in response to submissions received during the stakeholder feedback process, cost estimates were calibrated by including construction rates from a variety of relevant infrastructure projects submitted by stakeholders.	Resolved
1.06	Benchmark Costings (costs)	**Need of indexation of benchmark costs** There needs to be planned indexation or updating costs from the time they are prepared to the time they are inserted into planning scheme. There may be some 18-24 months from the time the costs are prepared to when they come into the planning scheme meaning that 1-2 cycles of indexation are missed.	Yes	Benchmark costs need to be indexed to reflect cost increases between the time of cost estimation and construction.	The revised *Benchmark Infrastructure Report* (Cardno, 2019) has been updated to index all input rates as per relevant ABS data. Of note also, the ICO rates will be indexed as set out in the ICO schedule and *Ministerial Direction on the Preparation of Infrastructure Contribution Plans*.	Resolved
1.07	Benchmark Costings (costs)	**Missing infrastructure line items** There are some obvious gaps in the benchmark costs including: • In several projects quantity and rates are not extended through to total. • Traffic Signal operational and maintenance costs don’t appear to be included, these can be in the order of $140,000. • Earthworks quantities appear to only allow for pavement boxing and make no allowance for any earthworks between existing surface and design surface.	Yes	Ensure benchmark costs include all relevant line items.	The Benchmark Costings costs, comprising cost estimates have been updated. In particular the following have been reviewed: • To ensure all line item quantities and rates are carried through to the total cost of each project • To update line items for traffic signals, which are is all inclusive of operation and maintenance costs • Include/revise rates and quantities against the line item for subgrade preparation and adjust rates for pavements for relevant projects	Unresolved

Submission 1: Mirvac

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
1.08 **IN-03** **IN-10**	ICP infrastructure item cost estimate	**No allowance for site specific issues** Costs do not consider or have allowance for site specific issues. In the case of the Olivine intersection projects this includes: • IN-10 (Cameron / Patterson) has significant rocky knoll within footprint which will need to be removed to construct works. • IN-03 (Donnybrook / Patterson) for example will have significant services that will need to be worked around and/or altered. There needs to be some allowance made (beyond the contingency) to recognize these variations.	Yes	Update ICP infrastructure item cost estimates to reflect site-specific conditions.	The ICP infrastructure item cost estimates have been updated. In particular: • IN-10 cost estimate includes a line item for rock excavation. • IN-03 cost estimate includes line items for services relocation. IN-03 was identified as a standard levy item in the exhibited ICP and is identified as a supplementary levy item in the VPA recommended changes to the Panel to reflect the physical constraint that these services place on the construction of IN-03.	Unresolved – to be confirmed by costings conclave

Submission 8: Mirvac (Further Notification Update)

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
1.09	Supplementary levy rate	The supplementary levy has been significantly lifted from the exhibited amount of approx. $412 per hectare to approx. $34,777 per hectare, primarily as a result of bridge and culvert projects being entirely funded using the supplementary levy. Mirvac does not object, in principle, to the increase to the supplementary levy. In our previous submission, we indicated that the exhibited supplementary levy was too low and did not reflect the real costs of delivering the road and intersection projects. Notwithstanding, there are a number of matters which, in our view, require consideration.	No	N/A	N/A	N/A
1.10 **IN-01, IN-02, IN-03, IN-05**	ICP infrastructure item designs	Mirvac has concerns as to whether 3-legged intersections will receive support and subsequent approval from the Roads Authority and service authorities responsible for existing infrastructure.	No	N/A	The ICP has been updated with revised FLP (for IN-03 and other Donnybrook Road intersections IN-01, IN-02, IN-04 and IN-05) which provide fully functional T-intersections that are funded 100% from Donnybrook-Woodstock ICP in place of cross-intersections funded 75/25% between Donnybrook-Woodstock and Shenstone Park ICP. This is made possible by the adoption of a traditional compact design in place of an interim-on-ultimate design. These changes were made in response to points of agreement reached at the FLP conclave held on 21 March 2019 and have been agreed to by VicRoads at a meeting with the VPA held 16 August 2019.	N/A
1.11 **IN-01, IN-02, IN-03, IN-04, IN-05**	Apportionment of project costs	Mirvac support in principle the full funding of three-legged intersections by the Donnybrook-Woodstock ICP, with the fourth leg to be delivered by the future Shenstone Park ICP to the south, subject to confirming that: a) The three-legged intersections fit entirely within the Donnybrook-Woodstock PSP area or the existing road reserve to ensure that the intersection can be readily delivered. This needs to be checked using accurate survey data b) VicRoads support and will approve the three-legged compact design for construction and development of parcels 20 and 10. Any alterations to the scope of the intersection at the detailed design stage which result in land outside of the PSP/road reserve being required to deliver it would be an unacceptable outcome. There must be a reasonable degree of certainty that VicRoads will approve the compact design without material change to land take or cost. Mirvac has reservations in relation to levels and batter / earthwork extents; shared path location; existing services and relocation; and guard rail requirements. It is likely that a further FLP conclave will be required to address the revised designs.	No	N/A	VPA can confirm that: a) Due to the adoption of the traditional, compact three-legged intersection design the Donnybrook Road intersections have been designed to fit within the existing road reserve. During delivery of the intersections the service corridor to the north may need to be used to obtain additional space or may require minor amendments to the design depending on the condition of the existing road surface b) The adoption of the compact, T-intersection design was agreed by VicRoads at a meeting with the VPA on 16 August 2019. The compact design is supported in this instance as it delivers positive road network outcomes within the interim timeframe This outcome was also agreed at the second functional layout conclave held 18 September 2019.	N/A
1.12 **IN-03**	ICP infrastructure item cost estimate	Intersections (specifically IN-03) are underfunded. The update of the intersection designs following the conclave has resulted in an improved design and costing for transport projects with the ICP. However, further time is required for Mirvac to undertake a detailed assessment of the updated benchmark costings. Until then, Mirvac considers the intersection costs to be unresolved.	No	N/A	Noted. Note, cost estimate for IN-03 has increased from $5,823,000 to $7,213,000, including additional allowances to increase the depth of the gas and water mains.	N/A
1.13 **IN-03**	ICP public purpose land provision	There are inconsistencies between the plans and project descriptions for IN-03 within the ICP (Plan 2 – Transport Construction Projects shows IN-03 as a four-legged intersection and Plan 4 does not show the forth leg to the south).	Yes	ICP to be updated to reflect the three-legged intersection design and associated land take in all the relevant plans and tables.	The ICP has been updated to show a compact, three-legged intersection at IN-03 that can be constructed entirely within the existing Donnybrook Road reserve and required land take reflected in relevant ICP tables.	This submission has been addressed however IN-03 design remains unresolved by FLP conclave 2 statement

Submission 2. DFC (Peppercorn Hill)

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
2.01 **RD-05**	ICP and PSP design inconsistency	**ICP infrastructure item RD-05 inconsistency with the PSP RD-05 cross section** The concept drawing and cost sheet for RD-05 is inconsistent with the Donnybrook-Woodstock Precinct Structure Plan (PSP). Based on designs by Traffix Group and the PSP, inconsistencies includes: • The ICP cross-section has a 2.0m wide shared path on both sides, whereas the PSP has two 3.0m wide shared paths • The ICP cross-section has a 9.0m carriageway with 7.0m traffic lanes, whereas the PSP has two 3.5m wide carriageways with a central median • The ICP cross-section has 1.0m wide shoulders, whereas the PSP has 2.0m wide	Yes	Update the design for RD-05 included in the ICP to be consistent with the PSP RD-05 cross section.	The purpose of an ICP is to fund 'basic and essential infrastructure', which in the case of a secondary arterial road, is a 34 m cross section, as identified at Item 2 in the schedule of drawings of the Benchmark Costings report (April 2019). The Precinct Infrastructure Plan (PIP) in the PSP identifies the scope of the project to be funded through the ICP (i.e. in the case of RD-05, construction of the interim treatment, consisting of a 2-lane carriageway, excluding intersections). By contrast, The PSP cross section provides an indicative illustrative cross section for which 'top-up' works above "basic and essential' would be paid by funds outside the ICP. Therefore, the sections in the PSP and ICP are not intended to be identical.	Unresolved
2.02 **RD-05**	ICP and PSP design inconsistency	**ICP road design does match with the design specified in permit granted by Council** Condition 4 v) of Planning Permit 717349 requires the interim RD-05 to consist of the outer two lanes only (as per the PSP and proposed design). This requirement does not reflect the design costed within the ICP.	Yes	Update the design for RD-05 included in the ICP to be consistent with the PSP RD-05 cross section.	See response to 2.01	Unresolved
2.03 **RD-05**	ICP item design	**RD-05 extent of works** Intersection plans by One Mile Grid do not specify a definitive limit of works. It is therefore unclear if works to transition back to a single carriageway are included as works-in-kind credit. The enclosed design eliminates the need for transition works and potential throw-away costs.	Yes	Update the ICP so that the extent of works for RD-05 is clearly identified.	The Recommended Changes ICP document has been updated to clearly identify the limit of works for intersections projects and therefore defines the lengths of roads.	Resolved
2.04 **RD-05**	ICP item cost	**RD-05 cost is insufficient** Due to the issues mentioned above, RD-05 is expected to cost $7,678,309, which is $3,839,765 more than what is exhibited in the ICP.	Yes	Increase the cost estimate for RD-05 in the ICP to reflect expected construction costs.	The Recommended Changes ICP document identifies the cost of RD-05 as $4,970,000. The key difference in this cost estimate and the submission cost estimate is that the latter is based on a divided carriageway design. A discussion of the 'basic and essential' criteria for ICP infrastructure items is provided above.	Unresolved
2.05 **RD-02**	ICP item design	**RD-02 adjacent to a site extending from the APA Gas Easement to the E6/OMR reservation** 1,028 linear metres of RD-02 is within the proximity to the site. As a result, this portion of RD-02 will cost $5,278,050. However, the ICP allows $8,538,250 for the entirety of RD-02.	Yes	Reduce the cost estimate for RD-02 to reflect the expected construction costs.	The submitter's cost estimate for RD-02 Gunns Gully Road was 62% of the ICP estimate despite utilising a much higher rate per metre of road. Further review of the documents showed that the submitter used an extent of 1028 m to cost this item while the VPA used an extent of 2400 m. Based on the available information Cardno has approximated the road extents to be 2010m.	Unresolved
2.06 **RD-02**	ICP item design	**RD-02 extent of works** The ICP does not define the extent of works for this item. It was also noted that ICP provides a project item cost per hectare (NDHA) of $8,267, which does not appear to correlate with the expected length of RD-02	Yes	Reduce the cost estimate for RD-02 to reflect the expected construction costs.	See response to 2.05.	Unresolved
2.07 **IN-04, IN-07, IN-11, IN-12 & IN-15**	ICP item design	**IN-04, IN-07, IN-11, IN-12 & IN-15 extent of works** The interim intersection plans within the ICP (as prepared by One Mile Grid) do not identify a definitive limit of works. As a result, this has led to the uncertainty to the costings and extent of works of the relevant road projects.	Yes	Update the ICP so that the extent of works for intersection projects are clearly identified.	The Recommended Changes ICP document has been updated to clearly identify the limit of works for intersection projects.	Resolved
2.08 **IN-04, IN-07, IN-11, IN-12 & IN-15**	ICP item design	**IN-04, IN-07, IN-11, IN-12 & IN-15 design inconsistency with PSP** Inconsistencies includes: • All ICP plans appear to show shared paths only, whilst the requirements of the PSP differ between a combination of shared paths, footpaths and bike lanes. • Many of the interim intersection plans within the ICP (i.e. IN-04, IN-12 and IN-15) have been designed based on a 60 km/h speed limit, rather than the 80 km/h limit requested of DFC by VicRoads.	Yes	Update the ICP so that shared path / footpath / bike lane requirements are consistent with those shown in the PSP. Update ICP intersection designs for Koukoura Drive and Merriang Road based on 80 km/hr speed limit.	The Recommended Changes ICP document identifies: • See response to 1.03 in relation to the provision of shared paths • As per the conclave points of agreement, the intersection legs have been designed at speeds of: 80 km/hr for Donnybrook Road, 60 km/hr for arterial roads and 50 km/hr for connector roads.	Unresolved
2.09 **IN-04 & IN-12**	ICP item cost	**Relocation of services on IN-04 & IN-12** The intersections do not allow for the potential relocation of services, as is expected to be required along Donnybrook Road and Merriang Road (i.e. IN-04 & IN-012). The ICP costings should be updated to provide an additional line item, as appropriate.	Yes	Update infrastructure costs to allow for the relocation of services along Donnybrook and Merriang Roads.	The Recommended Changes ICP document includes the following updates to ICP infrastructure item cost estimates • IN-04 includes $674,877 for 'telecom relocation' compared to $177,388 for 'service relocation' in the exhibited ICP. This reflects the change from benchmark to a bespoke cost estimate, with service relocation costing based on information provided by the 'Dial Before You Dig' service • IN-12 (and also IN-08) incorrectly excludes the allowance for service relocation (included in the exhibited ICP); the cost estimate for IN-12 will be amended in the costings conclave statement to include service relocation. NB The recommended changes ICP also excludes service relocation for IN-08; the requirement for service relocation will also be confirmed via the 'Dial Before You Dig' service and the cost estimate also updated via the conclave statement if required.	Unresolved
2.10 **IN-04**	ICP item design	**IN-04 land acquisition and extent of works** IN-04 allows for the land acquisition on the south side of Donnybrook Road and construction of a signalised four-way intersection (costs 25% apportioned to the Shenstone Park PSP). It is unlikely that land acquisition will take place in the foreseeable future and the proposed concept plans (refer Dwg. No. G18040D-12/22) make no allowance for the extent of works which are shown in the ICP.	Yes	Update the ICP so that delivery of IN-04 is not reliant on development outside the Donnybrook-Woodstock PSP area.	The Recommended Changes ICP document includes an updated design for IN-04, being a compact design, cross-intersection with the Donnybrook Road legs wholly located within the existing road reserve. This means a fully functional T-intersection can be constructed within the PSP boundary in the interim. Of note also, the Recommended Changes ICP document updates the cost apportionment of this intersection to 100% of a T-intersection allocated the Donnybrook-Woodstock ICP given that this PSP area is developing first. When the Shenstone PSP is approved, the associated ICP will fund 100% of the fourth leg. DoT supports the funding split of 100% for a functional T-intersection as it appropriately resolved future implementation issues.	Resolved
2.11 **IN-04**	ICP item design	**IN-04 line work** The interim ICP line work shows a shoulder rather than a permanent kerb and channel on the outer sides of Koukoura Drive, north of all intersections (due to the ICP's inclusion of a single carriageway).	Yes	Update ICP so that linework is consistent with DFC plans, assessed by council and VicRoads.	See response to 2.10.	Resolved
2.12 **IN-04**	ICP item design	**IN-04 kerb** The proposed plans do not propose kerb along the entire length of Donnybrook Road, only left-hand turning lanes.	Yes	Update ICP so that linework is consistent with DFC plans, assessed by council and VicRoads.	See response to 2.10.	Resolved

Submission 2. DFC (Peppercorn Hill)

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
2.13 **IN-07**	ICP item design	**IN-07 is consistent with DFC's proposal** The ICP interim plan and the benchmark example is generally consistent with the proposal, noting that Koukoura Drive is proposed to include a dual carriageway (refer to Traffix Group Dwg. No. G18040D-24).	No		Noted	N/A
2.14 **IN-11**	ICP item design	**IN-11 incorrect road category** • The ICP (and interim plans) designated Cameron Street as an arterial road, whilst the PSP nominates this road as a Boulevard Connector Street west of Koukoura and a Connector Street east of Koukoura. This is an error which requires correction. • Given the above, the ICP cost sheet and cross section attributable to IN-11 (and Cameron Street more generally) is inconsistent with the PSP and the proposed concept drawings (refer Dwg. No. G18040D-06). • The ICP does not include a benchmark example for an arterial/connector intersection (i.e. east leg of Cameron Street & Koukoura Drive intersection).	Yes	Update ICP so that designs and costs for Cameron Street road and intersections projects are consistent with the PSP.	• The Recommended Changes ICP has been updated to be consistent with PSP, with Cameron Street as a Boulevard Connector Street west of Koukoura and a Connector Street east of Koukoura • The cost estimate in the Recommended Changes ICP has been updated to reflect the above • There is no benchmark cost estimate relevant to this intersection as a bespoke cost estimate has been prepared to reflect the above	Resolved
2.15 **IN-12**	ICP item design	**IN-12 design is inconsistent with proposal** The ICP interim plan is inconsistent with the proposal due to disparities between the adopted design speed (refer Dwg. No. G18040-K-02). It was noted that the ICP does not include any benchmark examples considered comparable to this intersection type.	Yes	Update the ICP plan for IN-12 to be consistent with DFC plans, assessed by council and VicRoads.	The Recommended Changes ICP document identifies IN-12 with design speed of 50 km/hr for the Cameron Street/connector road leg as agreed during the FLP conclave. The applicable Benchmark Costings standard infrastructure design is a connector to secondary T-intersection (item 15)	Unresolved
2.16 **IN-15**	ICP item design	**IN-15 design is inconsistent with proposal** The ICP interim plan is inconsistent with the proposal due to disparities between the adopted design speed and chosen design detail (refer Dwg. No. G18040D-02). It is noted that the northern leg is an arterial/connector intersection with no comparable benchmark example.	Yes	Update the ICP plan for IN-15 to be consistent with DFC plans, assessed by council and VicRoads.	The Recommended Changes ICP document identifies IN-15 will design speed of 60 km/hr for both Gunns Gully Drive legs and the southern Koukoura Drive leg and 50 km/hr for the northern Koukoura Drive leg (connector road) as agreed during the FLP conclave.	Unresolved
2.17 **BR-03 & BR-04**	ICP item design	**BR-03 & BR-04 do not meet Growling Grass Frog design standards** These culvert bridge crossings are to be constructed across Darebin Creek and are subject to the approval of Council, DELWP and Melbourne Water. The box culvert drawing used in the ICP for these bridge culverts are highly inconsistent with the requirements of the PSP and expectations by the stakeholders. The ICP has grossly underestimated the cost to deliver a GGF suitable culvert/bridge. It is estimated that BR-03 and BR-04 will cost $2,498,609 and $2,336,748 respectively.	Yes	Update designs for BR-03 and BR-04 to be consistent with Growling Grass Frog design standards.	The Recommended Changes ICP document has been updated to include the following specifications for BR-03 and BR-04 as required by DELWP to account for Growling Grass Frog habitat requirements (summarised below): • Dimensions of waterway culverts: An opening that is at least the width of the three-month ARI flow plus a minimum of 2 metres (horizontally) each side of the waterway. • Light and moisture: Install microclimate vents that: 1. Have a footprint of at least 1 metre x 1 metre and preferably much larger. 2. Are placed adjacent the kerb and channel on either side of a two-lane road. 3. Have an additional vent in the central median for larger roads so that there is no more than 10 metres between the cents 4. Consist of a "grated lid" with a 500mm concrete surround the falls towards the grate.	Unresolved
2.18 **SR-03**	ICP item cost	**SR-03 is underfunded** Cost estimate assessments by Spire have found that the sports reserve is under estimated due to omission of a number of items and adoption of rates lower than industry standards.	Yes	Update ICP cost estimate for SR-03 to reflect expected construction costs.	The Recommended Changes ICP document identifies an updated cost estimate for SR-03 that includes additional line items of service connections, site works and ESD provisions. Additionally, some components in the PSP were not included in the costings, which were therefore adjusted to include all ICP allowable items. Additional items consisted of: • 3 x soccer pitches • community garden • pavilion with 6 change rooms and 60m2 community meeting space. The following items were also identified in the PSP, but are not ICP allowable items include: • community gardens • skate parks • indoor sporting stadiums.	Unresolved
2.19 **SR-05**	ICP item cost	**SR-05 is underfunded** There is a substantial discrepancy between the ICP allowance and expected delivery costs, indicating that the full requirements of the PSP will not be able to be delivered as intended.	Yes	Update ICP cost estimate for SR-05 to reflect expected construction costs.	The Recommended Changes ICP document identifies an updated cost estimate for SR-03 that includes additional line items of service connections, site works and ESD provisions. Additionally, some components in the PSP were not included in the costings, which were therefore adjusted to include all ICP allowable items. Additional items consisted of: • 8 x netball courts • 6 x tennis courts • 2 x lawn bowls • 1 x skate park • community garden • shared pavilion • 1 x indoor 6 court stadium. The following items were also identified in the PSP, but are not ICP allowable items include: • community gardens • skate parks • indoor sporting stadiums.	Unresolved
2.20	ICP public purpose land	**Hayes Hill Reserve should be included in the ICP** DFC reiterated that the 'Hayes Hill Reserve' land should be included within the public land provision of the final ICP	Yes	Update ICP to include land for Hayes Hill Reserve.	Parcel 31 is currently zoned rural conservation and is affected by Environmental Significance Overlay Schedules 4 (Rural Conservation Area) and 7 due to biodiversity values. Areas of biodiversity value within PSP are considered uncredited open space which do not classify as public purpose land. Confirm DFC no longer pursuing this item – EM to follow up?	Unresolved ?

Submission 3. DFC (Donnybrae)

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
3.01	ICP administration – permit issued under interim ICP	**Apply 2017 ICP on land** Planning Permit 717126 was issued on 10 May 2018 under the *'Donnybrook-Woodstock Metropolitan Greenfield Growth Area Standard Levy Infrastructure Contributions Plan, August 2017'.* Dennis Family Corporation wishes to continue to operate under the old ICP system and provides the suggestions below to accommodate this approach.	Yes	Remove subject site from current ICP.	The VPA does not support removing the subject land from the ICP plan area for the following reasons: • If an infrastructure contribution is not paid under the existing permit and a new application is made, there would be no statutory mechanism in place to impose an infrastructure contribution on the new proposed development. This would result in an unacceptable financial risk to the collecting agency and compromise the delivery of essential community and transport infrastructure to this new community. • The proposed change would be inconsistent with the land contribution model introduced by the Planning and Environment Amendment (Public Land Contributions) Act 2018 in July 2018. The land contribution model is based on the principle that all landowners under an ICP should contribute equally to the provision of land for public purposes. If a new application is made, the applicant would not be required to make an equal contribution to the provision of public purpose land that meets needs generated by the future development of the whole precinct structure plan area (including the subject land) and other developers would be required to make a disproportionate contribution.	Unresolved
3.02 **LP-02, LP-04, IN-02**	ICP administration – permit issued under interim ICP	**Remove 875 Donnybrook Road, Parcel ID-16 from the ICP** Consequently, the following modifications to the exhibited ICP are suggested: A) The subject land should be removed from the public purpose land total, with the public purpose land credits and equalisation amounts specified at Tables 3 & 11 updated accordingly. B) LP02 and LP04 should be removed from Table 8, with the public land total updated accordingly. C) The area value of IN-02 within Table 8 modified to exclude the portion of land found within the subject land (i.e. reduction of 0.0125 Ha).	Yes	Remove subject site from public purpose land total.	See the response to 3.01 above.	Unresolved
3.03 **IN-02**	ICP administration – permit issued under interim ICP	**Passive open space to be levied through Clause 52.1** All passive public open space found onsite (total of 0.75 Ha) could continue to be levied through Clause 52.01 of the Planning Scheme. It is intended that all remaining 'public land' (total of 0.0125 Ha associated with IN-02) will be set aside in favour of the acquiring authority. It is understood that this outcome may be facilitated by Condition 14 of Planning Permit 717126.	Yes	Levy public open space obligations through Clause 52.01 of the Whittlesea Planning Scheme, rather than ICP.	See the response to 3.01 above.	Unresolved
3.04	ICP administration – permit issued under interim ICP	**Alternate Monetary Levy** Consistent with the provisions at Section 4.4 of the August 2017 ICP, a monetary levy of $334,300 per NDHA (subject to indexation) is proposed to be adopted for the purposes of this development and no land equalisation payment is liable.	Yes	Adopt alternate monetary levy for subject site, rather than ICP.	See the response to 3.01 above.	Unresolved

Submission 4. City of Whittlesea

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
4.01a	ICP item cost	**ICP Transport Projects under-costed** Independent peer review (WTP Consultants) cost estimate of road projects exceeds exhibited ICP by $14.6 million. The exhibited ICP has shown standard design drawings of 34m wide road reserves for both primary and secondary arterial roads. However, only half (14m) of the road reserve is costed. This leads to significant cost shortfalls in pavement, shared user path and landscaping for road projects. Further, allowances for site preparation, subgrade preparation and landscape maintenance have not been allocated to the ICP.	Yes	Revise primary arterial road cost estimate in ICP to reflect actual cost of construction	See 4.01b below	Unresolved
4.01b	Benchmark Costings (costs)	**Primary arterial road construction rate shortfall** Council submits that the construction rate used within the ICP is much lower than the actual cost of construction. The difference being: • Council's cost analysis rate at $5,122 per linear metre • ICP rate at $3,485 per linear metre • Difference of $1,637	Yes	Revise primary arterial road cost estimate in ICP to reflect actual cost of construction	The Benchmark Costings costs, comprising the cost estimates have been updated. Most significantly, this included revisions to: • Cost estimates - quantities added to site preparation line item • Cost estimates - rates have been indexed for pavement line item • Cost estimates - quantities have been added to subgrade preparation line item	Unresolved
4.02	Benchmark Costings (costs)	**Secondary arterial road construction rate shortfall** Council submits that the construction rate used within the ICP is much lower than the actual cost of construction. The difference being: • Council's cost analysis rate at $4,987 per linear metre • ICP rate at $3,719 per linear metre • Difference of $1,268 Council notes that the Wollert DCP has an average rate of $6,376 per linear metre for secondary arterial roads, which is $2,657 higher per linear metre.	Yes	Revise secondary arterial road cost estimate in ICP to reflect actual cost of construction and be consistent with other contributions plans within the municipality.	The Benchmark Costings costs, comprising the cost estimates have been updated. Most significantly, this included revisions to: • Cost estimates - quantities added to site preparation line item • Cost estimates - rates have been indexed for pavement line item • Cost estimates - quantities have been added to subgrade preparation line item	Unresolved
4.03a	ICP item cost	**Site specific factors – Northern Growth Corridor** The ICP does not take into account the considerable cost of rock excavation for both road and intersection projects, which is highly relevant to the northern growth corridor.			See 4.3b below	Unresolved
4.03b	Benchmark Costings (cost)	**Benchmark costs do not consider site specific issues** The costings do not consider contextual information relevant to the northern growth corridor, such as significant extent of rocks, service relocation, and roads running through gas easements, all of which will drive construction costs higher than other parts of Melbourne.	Yes	Revise benchmark costings to accommodate additional construction costs incurred in the northern growth corridor.	The Recommended Changes ICP document includes additional site-specific line items for selected infrastructure items. This includes: • Rock excavation • Service relocation • Gas protection slab within the APA high pressure gas pipeline easement. Feedback from WTP indicated that 35% of the excavation volume was assumed to be rock and that this was verbally agreed with council. Cardno geotechnical engineers provided geotechnical information from boreholes drilled in immediately adjacent parcels of land. These documents were used to obtain an impression about the underlying geology and depth to basalt rock. The information showed that the depth to rock varied between 0.3m to several meters below surface level. Interpolation of these details showed that when excavating to the pavement depth, rock could be encountered across 10% of the excavation volume. To accommodate uncertainty around site specific conditions this allowance was increased to 10% of the excavation volume. Suitable rates for this item were provided by Cardno construction engineers based on recent tender information available to them.	Unresolved
4.0a	ICP item cost	**ICP Intersection Projects under-costed** Independent peer review (WTP Consultants) cost estimate of intersection projects exceeds the exhibited ICP by $36.2 million, primarily due to variances in road pavement, shared user path and landscaping areas. In addition, the rates for pavement and landscaping maintenance are considered low, and site preparation, subgrade preparation and street lighting have not been accounted for in the ICP for all intersection projects.	See 4.0b below	See 4.0b below	See 4.0b below	Unresolved
4.0b **IN-01, IN-02, IN-05, IN-14 & IN-15**	ICP item cost	**Higher order signalised intersections are underfunded** IN-01, IN-02. IN-05, IN-14 and IN-15 are underfunded. A comparison of average construction cost for higher order intersections between the Wollert DCP and the ICP is as followed: Primary/connector 4-way interim signalised intersection • Wollert DCP - $6 million • ICP - $4.5 million Primary/secondary 4-way interim signalised intersection • Wollert DCP - $6 million • ICP - $5.57 million	Yes	Revise ICP cost estimates for higher order signalised intersections to reflect actual costs of construction.	The Recommended Changes ICP document updates the cost of all intersections as informed by updates to the Benchmark Costings (cost estimates) and standard infrastructure cost estimates. Comparison costs to submission are: Primary/connector 4-way interim signalised intersection • Benchmark Costings report - $4.67 million • ICP - $4.3 million (IN-09) Primary/secondary 4-way interim signalised intersection • Benchmark Costings report - $6.9 million • ICP - $8.3 million (IN-14)	Unresolved
4.05 **PED-03**	No objection	**Support of pedestrian crossing costings** The construction costs for PED-01, PED-02 and PED-03 are generally in-line with the comparable projects in Council's cost analysis. In principle, support is provided to these costings subject to additional findings from Council's quantity surveying consultant.	No	N/A	Noted.	N/A
4.06 **BR-01, BR-02**	No objection	**Support of BR-01 and BR-02 costings** In principle, support is provided to these costings subject to additional findings from Council's quantity surveying consultant.	No	N/A	Noted. The Recommended Changes ICP document identifies slight reductions in the comparison to exhibited costs for these two items: • BR-01 was exhibited at $23,117,000 and is recommended at $22,885,000 • BR-02 was exhibited at $795,000 and is recommended at $794,217	N/A

Submission 4. City of Whittlesea

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
4.07 **BR-03, BR-04 & BR-05**	ICP item design	**BR-03, BR-04 & BR-05 do not meet Growling Grass Frog design standards** The project cost for these items are $795,000 each in the exhibited ICP. Cost estimates submitted by developers of the PSP area show that the culverts would cost approximately $2 million each. The significant cost difference is due to the presence of Growling Grass Frog habitat in the PSP area. This requires bespoke culvert design to accommodate the requirements of the Growling Grass Frogs.	Yes	Update designs for BR-03, BR-04 and BR-05 to be consistent with Growling Grass Frog design standards.	The Recommended Changes ICP includes updated cost estimates for BR-03 and BR-05 to meet Growling Grass Frog (GGF) design requirements, based on the following specifications as required by DELWP: • Dimensions of waterway culverts: An opening that is at least the width of the three-month ARI flow plus a minimum of 2 metres (horizontally) each side of the waterway. • Light and moisture: Install microclimate vents that: 1. Have a footprint of at least 1 metre x 1 metre and preferably much larger. 2. Are placed adjacent the kerb and channel on either side of a two-land road. 3. Have an additional vent in the central median for larger roads so that there is no more than 10 metres between the cents 4. Consist of a "grated lid" with a 500mm concrete surround the falls towards the grate. This resulted in a substantial increase in the cost estimate for each bridge from $795,000 to in excess of $3 million. DELWP has confirmed that the bridge design shown in drawings 140638-C006-2 and 140638-C007-2 for BR-05 of the Donnybrook-Woodstock ICP meets the Growling Grass Frog Crossing Design Standards. However, final approval of the bridge design will be subject to a Works in Conservation Area application. The process may require changes to the ultimate design of the bridge such as bank structure and floodplain engagement, as you have suggested below. Also, whilst the design meet the GGF crossing standards (as confirmed by DELWP), the current alignment of the bridge (BR-05) as shown in the Future Urban Structure impacts on areas mapped as containing Natural Temperate Grassland and so Commonwealth Approval will be required. Achieving this approval immediately prior to construction may require additional revisions to the design.	Unresolved
4.08 **CI-06, CI-07**	No objection	**Support of Level 1 Community Activity Centres (CAC)** In principle, support is provided to Level 1 CAC as there are in-line with similar projects in the Wollert DCP.	No	N/A	Noted	N/A
4.09a	ICP regulation	**Shortfall of Community and Recreation Standard Levy** Council is only able to collect $83.6 million of contributions from the community and active recreation standard levy (capped at $86,627 per hectare) to fund $137.4 million worth of projects in the Donnybrook-Woodstock area, based on the community infrastructure benchmark used. This is an inherent shortfall of $53.8 million that Council needs to source alternative funding sources.		No change requested	The community and recreation is a capped standard levy. VPA acknowledges panel discussion from Mt Atkinson Tarneit Plains for VPA to continue to work with DELWP and the growth area councils to review the apparent shortfall in the cost of delivering community infrastructure.	Unresolved
4.09b **CI-01, CI-02, CI-03, CI-05**	Benchmark Costings (costs)	**Level 2 CACs are underfunded** The benchmark cost applied to the Level 2 CACs (CI-01, CI-02, CI-03 and CI-05) is approximately $3 million less than the Wollert DCP (averaged at $10.6 million).	Yes	Increase benchmark costings for Level 2 CACs to reflect actual costs of construction.	The Benchmark Costings standard infrastructure cost estimates for community centres have been updated to include service connections, site works, car park / site access, kitchen fit out and ESD provisions. Cost estimates for CI-01, CI-02, CI-03 and CI-05 in the recommended changes ICP have been increased by $1.28 million, from $7,648,000 to $8,928,000.	Unresolved
4.10 **CI-04**	Benchmark Costings (costs)	**Level 3 CAC are underfunded** The benchmark cost for the Level 3 CAC in the exhibited 'final' ICP (CI-04) is $10.3 million, and consists of a library and a family resource centre. There are no similar projects in the recently approved DCPs or Council's capital works program, however, the construction of a library alone in the Wollert DCP is costed at $9.3 million.	Yes	Increase benchmark costings for Level 3 CACs to reflect actual costs of construction.	The Benchmark Costings standard infrastructure cost estimates for community centres have been updated to include service connections, site works, car park / site access, kitchen fit out and ESD provisions. The cost estimate for CI-04 in the recommended changes ICP has been increased by $1.56 million from $10,304,000 to $11,830,000.	Unresolved
4.11	Benchmark Costings (costs)	**Community and recreation infrastructure project costs should be updated** Despite the capped the levy rate on Community and Recreation, community infrastructure projects should be updated to assist Council in understanding the likely extent of New Works funding to be allocated towards the community and recreation projects that are unable to be fully funded by the standard levies. This will also assist Council officers in determining the likely works in-kind credit if the developer wishes to construct the community or active recreation facility as works in-kind.	Yes	Increase benchmark costs for community infrastructure projects to reflect actual costs of construction.	The Benchmark Costings standard infrastructure cost estimates for community centres have been updated to include service connections, site works, car park / site access, kitchen fit out and ESD provisions.	Unresolved
4.12 **SR-01, SR-02, SR-03, SR-04, SR-05, SR-06**	Benchmark Costings (costs)	**Large sport reserves are underfunded** SR-01, SR-02, SR-03, SR-04, SR-05 and SR-06 have a project cost of $12.3 million within the ICP. The average construction cost is $14.2 million for a comparable 8 – 10 hectare sports reserve with pavilion ($2.1 million more than the benchmark costs).	Yes	Increase benchmark costs for large sports reserves to reflect actual costs of construction.	The Benchmark Costings standard infrastructure cost estimates for large sports reserves have been updated to include service connections, site works and ESD provisions – follow up with Cardno re reduced cost estimates.	Unresolved
4.13 **SR-07**	Benchmark Costings (costs)	**Small sport reserves are overfunded** SR-07 have a project cost of $9.8 million. The average construction cost is $9.1 million for a comparable 5-6 hectare sports reserve with pavilion ($700,000 less than the benchmark costs).	Yes	Reduce benchmark costs for small sports reserves to reflect actual costs of construction.	Benchmark cost estimates are based on indexed data collected from infrastructure projects across metropolitan growth area councils, and therefore may differ slightly from projects specific to Whittlesea City Council. However, the cost estimate for SR-07 in the recommended changes ICP has been reduced from $9,840,550 to $9,667,000.	Unresolved
4.14	ICP regulation	**Add borrowing costs in the supplementary levy for community and active recreation projects** Council seeks to include the 'cost of borrowing' option within the ICP to forward finance and manage the cash flows or shortfalls from funding of community and recreation infrastructure.	Yes		The Ministerial Direction allows for financing costs incurred by the development agency to be included as a supplementary item where it is required for the early delivery of infrastructure. As early delivery of community infrastructure projects is not required to enable development, and subsequent collection of the ICP levy, it is not standard practice to include financing costs for this category.	Unresolved
4.15	Administrative errors	**Administrative Errors** Council submits that there are several typographical errors and issues with table structures and column headings within the ICP document that should be updated and clarified prior to a 'final' ICP being approved.	Yes	Review ICP document to correct errors	VPA will work with council to correct errors.	Resolved

Submission 5: Mitchell Shire Council

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
5.01 **BR-02, BR-05**	ICP item cost	The exhibited 'final' ICP provides for a supplementary levy of $412 per hectare is intended to fund the construction of a major bridge culvert, as the standard levy for transport projects is capped and cannot fully fund this project. The supplementary items are: • BR-02 Culvert: Patterson Drive – estimated cost of $795,000 (100% internal apportionment) • BR-05 Bridge: Patterson Drive – estimated cost of $6,415,000 (93% internal apportionment) The peer review undertaken by WT Partnership estimates the costs of the bridge crossing to be $13,798,090. Council acknowledges that ICPs are not intended to be the sole funding for development within a PSP but 'contribute' to the cost of development. However, the variation between the cost estimates for this bridge represents a significant shortfall for council and raises concerns regarding the accuracy of the estimated cost within the exhibited 'final' ICP.	Yes	Increase the supplementary levy to reflect the more likely true costs of the Patterson Drive bridge.	The supplementary levy has increased significantly from $412 per net developable hectare to $34,777 per net developable hectare, following updates to both benchmark infrastructure cost estimates and bespoke cost estimates for some Donnybrook-Woodstock infrastructure items. Inputs to the benchmark infrastructure cost estimates were indexed according to relevant ABS data to ensure consistency. Cardno's assessment of WTP's estimate concluded that the cost differential was largely due to differences in scope (resulting in, for example, higher quantities for some line items). The Recommended Changes ICP document includes and increased cost estimate for BR-05 from $6,415,000 with 93% internal apportionment (or $5,989,686) to $7,738,000 with 100% apportionment to the Donnybrook-Woodstock ICP. BR-05 was costed as the benchmark layout deck area previously adopted for the exhibited ICP differed slightly to the proposed ICP design by Adams Engineering. Noteworthy items costed include: • Occupation costs – occupation costs are based on previous PSP/DCP (indexed) information. Cardno structural engineers have advised that occupation would likely take place over five weekends. • Rail impact barriers – barriers have been costed based on the Adams Engineering design. As this is a niche item, rates have been derived from Rawlinsons Australian Construction Handbook (2018 edition 37) • Bridge anti-throw barrier – costs for bridge anti throw barriers have been updated.	Unresolved – subject to FLP costings conclave
5.02	ICP project sequencing	Council have endorsed the *Potential Development Sequencing, Northern Growth Corridor, Mitchell Shire Council*, which shows a development sequence for the corridor (including adjoining municipalities) over the next 50 years. The purpose of the analysis was to gain an understanding of how and where further growth patterns are likely to occur and to assist council make informed decisions about infrastructure delivery and planning. It is noted that the analysis was based on then current development trends and population data and included consultation with key developers within the corridor. It is not expected that the portion of the Donnybrook-Woodstock PSP within Mitchell Shire Council will not be developed until 2045-55. While the actual development timeframes may differ, it is unlikely that this area will be developed in the short-medium term given the reliance on the delivery of the Patterson Drive crossing of Merri Creek. The ICP identifies projects within Mitchell as having a medium or medium-long term priority of approximately 5-10 years. This may impose unnecessary pressure to consider proposals that could be out of sequence and have flow on effects for council in its role as a collecting agency under the ICP.	Yes	All ICP infrastructure projects within Mitchell be nominated as long-term projects (10 years and beyond)	VPA agrees to change the staging of RD-04 and IN-17 to "L" long term	Unresolved – VPA agrees with this change as discussed in Part A (Part 2) submission
5.03	Benchmark Costings (costs)	**Primary arterial road construction rate shortfall (Note: collaboration with Whittlesea)** Council submits that the construction rate used within the ICP is much lower than the actual cost of construction. The difference being: • ICP rate at $3,485 per linear metre • Council's cost analysis rate at $5,122 per linear metre• • Difference of $1,637		Revise primary arterial road cost estimate in ICP to reflect actual cost of construction	The Benchmark Costings costs, comprising the cost estimates have been updated. Most significantly, this included revisions to: • Cost estimates - quantities added to site preparation line item • Cost estimates - rates have been indexed for pavement line item • Cost estimates - quantities have been added to subgrade preparation line item	Unresolved
5.04	Benchmark Costings (costs)	**Secondary arterial road construction rate shortfall (Note: collaboration with Whittlesea)** Council submits that the construction rate used within the ICP is much lower than the actual cost of construction. The difference being: • ICP rate at $3,719 per linear metre • Council's cost analysis rate at $4,987 per linear metre• • Difference of $1,268	Yes	Revise secondary arterial road cost estimate in ICP to reflect actual cost of construction	The Benchmark Costings costs, comprising the cost estimates have been updated. Most significantly, this included revisions to: • Cost estimates - quantities added to site preparation line item • Cost estimates - rates have been indexed for pavement line item • Cost estimates - quantities have been added to subgrade preparation line item	Unresolved
5.05	Benchmark Costings (costs)	**Primary/ Connector 4- way interim intersection** • ICP rate at $4,500,000 • Council's cost analysis rate at 6,000,000 • Difference of $1,500,000	Yes	Revise ICP cost estimates for higher order signalised intersections to reflect actual costs of construction.	The Recommended Changes ICP document updates the cost of all intersections as informed by updates to the Benchmark Costings (cost estimates) and standard infrastructure cost estimates.	Unresolved

Submission 6: Megan Schutz on behalf of Donnybrook JV Pty Ltd and 960 Blueways Development Pty Ltd

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
6.01 **IN-03**	ICP item design	The infrastructure scope and costings for Donnybrook Road intersections included in the Donnybrook-Woodstock ICP are intended to be funded in part by development within the Shenstone Park PSP area. The current scope of one of the intersections (IN-03) in the Donnybrook-Woodstock ICP impacts on our client's land holdings and does not provide sufficient capacity for the future development of our client's land.	Yes	Revised the design of IN-03 to provide sufficient capacity to cater to the Shenstone Park PSP.	The ICP has been updated with a revised FLP for IN-03 which provides a fully functional T-intersection that is funded 100% from the Donnybrook-Woodstock ICP in place of cross-intersections funded 75/25% between Donnybrook-Woodstock and Shenstone Park ICP. The revised design takes into account anticipated traffic volumes generated from within and outside the Donnybrook-Woodstock PSP area and therefore will not limit development within the Shenstone Park PSP. The interim T-intersection included in the Donnybrook-Woodstock ICP caters to total traffic volumes expected in 2026, prior to complete build-out of the Donnybrook-Woodstock PSP. The completion of the full, cross-intersection will be required to be completed at the time of development of the Shenstone Park PSP and will cater to traffic in the short-medium term until the ultimate capacity is required, at which time the intersection upgrade will be the responsibility of VicRoads.	IN-03 design unresolved by FLP conclave 2 statement

Submission 7: Satterley (Further Notification)

Item No.	Issue	Submission	Requests change to the amendment?	Requested change	VPA response	Status
7.01	ICP supplementary levy	The supplementary levy appears to have been determined based on benchmark costings that have not yet been formally approved by the VPA Board or DELWP. It is not appropriate for a 'final' ICP to be based on 'interim' benchmarks.	No	N/A	The BIC Guide has been approved by the VPA Board in October 2019	Unresolved
7.02	Benchmark Costings (cost)	Submissions made by others (councils and landowners) to date show that there is concern over the accuracy of these benchmarks and how they can be applied in a greenfield context.	No	N/A	N/A	Unresolved
7.03	ICP supplementary levy	We do not support any further increase in the supplementary levy as exhibited until the benchmarks are finalised and approved.	No	N/A	N/A	Unresolved

Appendix 2 – Design and Cost Changes to the ICP Items

Donnybrook-Woodstock ICP Items – Summary of Changes

BM = benchmark design and cost, H1 = benchmark design and hybrid cost, H2 = bespoke design and hybrid cost, BSPK = bespoke design and bespoke cost

Final ICP	GC61 Standard ICP (Nov 2017)	-	-	GC102 Exhibited Final Supplementary ICP (August 2018)			GC102 Recommended Changes Final Supplementary ICP (April 2019)			Recommended Changes Final Supplementary ICP (October 2019)		
Interim ICP	-	GC101 Interim 1 Supplementary ICP (July 2018)	GC108 Interim 2 Supplementary ICP (Nov 2018)	NC			GC134 Interim 3 Supplementary ICP (Jul 2019)			NC		
Benchmark Costings Report	-	Draft BC (Pre-July 2018 BC)	NC	July 2018 BC			April 2019 BC			NC		
ICP item reference / ICP item designs and costs	No designs or costs (standard ICP)	Costs (A)	No designs and no change in costs	Project type (see table notes for definitions)	Costs (B) Cost difference (B-A)	Comment	Project type (see table notes for definitions)	Costs (C) Cost difference (C-B)	Comment	Relevant submission	Design resolved (Y, N, N/A)	Cost resolved (Y, N, N/A)
ROADS												
RD-01 Cameron Street	N/A	$3,656,934	NC	**H1** 843 m	$3,418,196 -$238,738	Benchmark design and costs applied. For RD-01, RD-02 and RD-05, hybrid cost includes additional line items for service relocation and local site conditions. As well, RD-01, RD-03 and RD-04 included an extra 20%, 10% and 10% of costs respectively, to account for rock excavation	**BM** (Item 2) 965 m	$4,425,750 +$1,007,554	Benchmark design and cost updated (item 1 and 2) and included: subgrade preparation and indexation	-	N/A	TBC
RD-02 Gunns Gully Road		$8,700,563		**BM** (Item 1) 2,450 m	$8,538,250 -$162,313		**BM** (Item 1) 2,094 m	$11,821,250 +$3,283,000		2 (DFC)	N/A	TBC
RD-03 Patterson Drive		$7,404,243		**H1** 1,862 m	$6,920,868 -$483,375		**BM** (Item 2) 2,078 m	$8,960,875 +$2,040,007		-	N/A	TBC
RD-04 Patterson Drive		$3,088,757		**H1** 778 m	$2,899,995 -$188,762		**BM** (Item 2) 785 m	$3,779,135 +$879,140		-	No	TBC
RD-05 Koukoura Drive		$4,106,640		**BM** (Item 2) 1,136 m	$3,838,544 -$268,096		**BM** (Item 2) 1,057 m	$4,970,000 +$1,131,456		2 (DFC)	No	TBC
SIGNALISED PEDESTRIAN CROSSINGS												
PED-01 Patterson Drive	N/A	$276,614	NC	**BSPK**	$276,614	No design and cost required for pedestrian signals	**BSPK**	$276,614	N/A	4 (CoW)	N/A	
PED-02 Gunns Gully Road		$276,614		**BSPK**	$276,614		**BSPK**	$276,614				
PED-03 Donnybrook Road		$276,614		**BSPK**	$276,614		**BSPK**	$276,614				
INTERSECTIONS												
IN-01 Donnybrook Road & Hayes Hill Boulevard	N/A	$4,845,000	NC	**H2**	$4,822,000 -$23,000	PSP bespoke design plus benchmark cost applied IN-01, IN-02, IN-03, IN-04, IN-05, IN-8 and IN-12 hybrid cost includes additional line items for service relocation For IN-16 benchmark design and cost applied	**H2**[1]	$6,120,000 +$1,298,000	Bespoke design updated as per FLP conclave #1: • Reduce design speed to 60 km/hr on arterials (except Donnybrook Road), and 50 km/hr on connectors • Replace cross-intersections with fully functional T-intersections • Provide two through lanes, in place of one, along the Donnybrook Road legs • Convert interim-on-ultimate to compact design to allow the construction ICP intersection entirely within the PSP area	1, 8 (Mirvac) 4 (CoW)	Yes	TBC
IN-02 Donnybrook Road & Connector Street		$4,845,000		**H2**	$4,822,000 -$23,000		**H2**[1]	$6,154,000 +$1,332,000		1, 8 (Mirvac) 4 (CoW)	Yes	TBC
IN-03 Donnybrook Road & Patterson Drive		$6,029,000		**H2**	$5,823,000 -$206,000		**H2**[1]	$7,213,000 +$1,390,000		1 (Mirvac), 2 (Mirvac), 6 (Schultz)	No	TBC

Donnybrook-Woodstock ICP Items – Summary of Changes

BM = benchmark design and cost, H1 = benchmark design and hybrid cost, H2 = bespoke design and hybrid cost, BSPK = bespoke design and bespoke cost

Final ICP	GC61 Standard ICP (Nov 2017)	-	-	GC102 Exhibited Final Supplementary ICP (August 2018)			GC102 Recommended Changes Final Supplementary ICP (April 2019)			Recommended Changes Final Supplementary ICP (October 2019)		
Interim ICP	-	GC101 Interim 1 Supplementary ICP (July 2018)	GC108 Interim 2 Supplementary ICP (Nov 2018)	NC			GC134 Interim 3 Supplementary ICP (Jul 2019)			NC		
Benchmark Costings Report	-	Draft BC (Pre-July 2018 BC)	NC	July 2018 BC			April 2019 BC			NC		
ICP item reference / ICP item designs and costs	No designs or costs (standard ICP)	Costs (A)	No designs and no change in costs	Project type (see table notes for definitions)	Costs (B) Cost difference (B-A)	Comment	Project type (see table notes for definitions)	Costs (C) Cost difference (C-B)	Comment	Relevant submission	Design resolved (Y, N, N/A)	Cost resolved (Y, N, N/A)
IN-04 Donnybrook Road & Koukoura Drive		$6,029,000		**H2**	$5,823,000 -$206,000		**H2[1]**	$7,719,000 +$1,896,000	and the existing Donnybrook Road reservation	8 (Mirvac) 2 (DFC)	Yes with revisions	TBC
IN-05 Donnybrook Road & Connector Street		$3,844,000		**H2**	$3,825,000 -$19,000		**H2[1]**	$6,066,000 +$2,241,000		8 (Mirvac) 4 (CoW)	Yes	TBC
IN-06 Hayes Hill Boulevard & Patterson Drive		$4,445,000		**BSPK / BM** (Item 9)	$4,384,260 -$60,740		**H2[1]**	$4,249,000 -$135,260	Bespoke design and hybrid cost updated in response to FLP#1 to reduce design speed on arterial legs from 80 km/hr to 60 km/hr (except Donnybrook Road), and connector street legs from 60 km/hr to 50 km/hr. For IN-06 and IN-07, bespoke design also updated as per FLP conclave #1 to reduce width of: • Hayes Hill Boulevard from 31 m to 28 m For IN-11, bespoke design also updated as per FLP conclave #1 to reduce width of: • Cameron Street legs from 34 m to 31 m • Koukoura Road legs from 44.5 m to 34 m • Hayes Hill Boulevard to 31 m For IN-12, bespoke design also updated in response to FLP conclave #1 to reduce width of: • Cameron Street legs from 25.5 m to 25 m	None		TBC
IN-07 Hayes Hill Boulevard & Koukoura Drive		$4,445,000		**BSPK / BM** (Item 9)	$4,384,260 -$60,740		**H2[1]**	$4,837,000 +$452,740		2 (DFC)	Yes	TBC
IN-08 Hayes Hill Boulevard & Merriang Road		$3,479,000		**H2**	$3,463,000 -$16,000		**H2[1]**	$2,326,000 -$1,137,000		None		TBC
IN-09 Cameron Street / Connector Street		$4,445,000		**BSPK / BM** (Item 9)	$4,384,260 -$60,740		**H2[1]**	$4,327,000 -$57,260		None		TBC
IN-10 Cameron Street & Patterson Drive		$5,181,000		**BSPK / BM** (Item 8)	$5,146,000 -$35,000		**H2[1]**	$5,969,000 +$823,000		1 (Mirvac)		TBC
IN-11 Cameron Street & Koukoura Drive		$5,181,000		**BSPK / BM** (Item 8)	$5,146,000 -$35,000		**H2[1]**	$6,271,000 +$1,125,000		2 (DFC)	Yes	TBC
IN-12 Cameron Street / Merriang Road		$3,479,000		**H2**	$3,463,000 -$16,000		**H2[1]**	$2,392,000 -$1,071,000		2 (DFC)		TBC
IN-13 Gunns Gully Road & Connector St		$3,644,000		**BSPK / BM** (Item 13)	$3,625,000 -$19,000		**H2[1]**	$5,106,000 +$1,481,000		None		TBC

Donnybrook-Woodstock ICP Items – Summary of Changes

BM = benchmark design and cost, H1 = benchmark design and hybrid cost, H2 = bespoke design and hybrid cost, BSPK = bespoke design and bespoke cost

Final ICP	GC61 Standard ICP (Nov 2017)	-	-	GC102 Exhibited Final Supplementary ICP (August 2018)			GC102 Recommended Changes Final Supplementary ICP (April 2019)			Recommended Changes Final Supplementary ICP (October 2019)		
Interim ICP	-	GC101 Interim 1 Supplementary ICP (July 2018)	GC108 Interim 2 Supplementary ICP (Nov 2018)	NC			GC134 Interim 3 Supplementary ICP (Jul 2019)			NC		
Benchmark Costings Report	-	Draft BC (Pre-July 2018 BC)	NC	July 2018 BC			April 2019 BC			NC		
ICP item reference / ICP item designs and costs	No designs or costs (standard ICP)	Costs (A)	No designs and no change in costs	Project type (see table notes for definitions)	Costs (B) Cost difference (B-A)	Comment	Project type (see table notes for definitions)	Costs (C) Cost difference (C-B)	Comment	Relevant submission	Design resolved (Y, N, N/A)	Cost resolved (Y, N, N/A)
IN-14 Gunns Gully Road & Patterson Drive		$5,779,000		**BSPK / BM** (Item 6)	$5,573,000 -$206,000		**H2**[1]	$8,337,000 +$2,764,000		4 (CoW)		TBC
IN-15 Gunns Gully Road & Koukoura Drive		$5,779,000		**BSPK / BM** (Item 6)	$5,573,000 -$206,000		**H2**[1]	$7,562,000 +$1,989,000		2 (DFC) 4 (CoW)	Yes	TBC
IN-16 Patterson Drive / Connector St		$3,329,000		**BM**[2] (Item 15)	$3,313,000 -$16,000		**H1**	$4,027,000 +$714,000	Benchmark design (item 15) update and hybrid cost prepared to include rock excavation	None		TBC
IN-17 Patterson Drive / Connector St		$3,329,000		**BSPK / BM** (Item 15)	$3,313,000 -$16,000		**H2**[1]	$3,628,000 +$315,000	Bespoke design and hybrid cost updated in response to FLP#1 to reduce design speed on arterial legs from 80 km/hr to 60 km/hr (except Donnybrook Road), and connector street legs from 60 km/hr to 50 km/hr.	None		TBC
BRIDGES												
BR-01 Bridge: Cameron Street	N/A	$23,117,000	NC	**H2**	$23,117,000	PSP bespoke design and hybrid cost applied	**H2**	$22,885,000 -$232,000	Bespoke plan for bridge cross section included in ICP document (erroneously omitted in exhibited ICP). Hybrid cost updated to include: rail impact barrier and bridge anti-throw barrier, but overall cost decreased	4 (CoW)	N/A	TBC
BR-02 Culvert: Patterson Drive		$334,000		**BM**[2] (Item 27)	$795,000 +$461,000	Benchmark design and cost applied	**BM**	$794,217 -$783	Benchmark designs and costs updated (item 27). Note this cost should be $913,561 as per the April 2019 Benchmark Costings Report (reference in ICP document was incorrect)	4 (CoW) 5 (MSC)		TBC
BR-03 Culvert/bridge: Cameron Street		$334,000		**BM**[2] (Item 27)	$795,000 +$461,000		**BSPK**	$3,438,000 +$2,643,000	Bespoke design updated to meet Growling Grass Frog habitat requirements and include terrestrial culverts	3 (DFC) 4 (CoW)		TBC
BR-04 Culvert/bridge: Cameron Street		$334,000		**BM**[2] (Item 27)	$795,000 +$461,000		**BSPK**	$3,336,000 +$2,541,000		3 (DFC) 4 (CoW)		TBC

Donnybrook-Woodstock ICP Items – Summary of Changes

BM = benchmark design and cost, H1 = benchmark design and hybrid cost, H2 = bespoke design and hybrid cost, BSPK = bespoke design and bespoke cost

Final ICP	GC61 Standard ICP (Nov 2017)	-	-	GC102 Exhibited Final Supplementary ICP (August 2018)			GC102 Recommended Changes Final Supplementary ICP (April 2019)			Recommended Changes Final Supplementary ICP (October 2019)		
Interim ICP	-	GC101 Interim 1 Supplementary ICP (July 2018)	GC108 Interim 2 Supplementary ICP (Nov 2018)	NC			GC134 Interim 3 Supplementary ICP (Jul 2019)			NC		
Benchmark Costings Report	-	Draft BC (Pre-July 2018 BC)	NC	July 2018 BC			April 2019 BC			NC		
ICP item reference / ICP item designs and costs	No designs or costs (standard ICP)	Costs (A)	No designs and no change in costs	Project type (see table notes for definitions)	Costs (B) Cost difference (B-A)	Comment	Project type (see table notes for definitions)	Costs (C) Cost difference (C-B)	Comment	Relevant submission	Design resolved (Y, N, N/A)	Cost resolved (Y, N, N/A)
BR-05 Bridge: Patterson Drive		$5,759,000		**BSPK / BM** (item 19)	$6,415,000 +$656,000	PSP bespoke design plus benchmark cost applied	**H2**[1]	$7,738,000 +$1,323,000	Bespoke cost updated and includes: occupation costs, rail impact barrier and bridge anti-throw barrier cost estimates.	4 (CoW) 5 (MSC)		TBC
COMMUNITY BUILDINGS (CC – community centres)												
CI-01 Donnybrook Farmhouse CC	N/A	$7,871,000	NC	**BM** (Item 38)	$7,648,000 -$223,000	Benchmark design and cost applied	**BM** (Item 38)	$8,928,000 +$1,280,000	Benchmark design and cost updated (items 37, 38, 39) and includes the following additional line items: service connections; site works; car park and site access; kitchen fit out; and ESD provisions.	4 (CoW)	N/A	N/A
CI-02 Patterson Drive CC		$7,871,000		**BM** (Item 38)	$7,648,000 -$223,000		**BM** (Item 38)	$8,928,000 +$1,280,000		4 (CoW)		
CI-03 Darebin Creek CC		$7,871,000		**BM** (Item 38)	$7,648,000 -$223,000		**BM** (Item 38)	$8,928,000 +$1,280,000		4 (CoW)		
CI-04 Koukoura Drive CC (with library)		$11,054,000		**BM** (Item 38)	$10,304,000 -$750,000		**BM** (Item 39)	$11,830,000 +$1,562,000		4 (CoW)		
CI-05 Lockerbie East CC		$7,871,000		**BM** (Item 38)	$7,648,000 -$223,000		**BM** (Item 38)	$8,928,000 +$1,280,000		4 (CoW)		
CI-06 Woodlands CC		$6,594,000		**BM** (Item 37)	$6,398,000 -$196,000		**BM** (Item 37)	$7,606,000 +$1,208,000		4 (CoW)		
CI-07 Merristock CC		$6,594,000		**BM** (Item 37)	$6,398,000 -$196,000		**BM** (Item 37)	$7,606,000 +$1,208,000		4 (CoW)		
OPEN SPACE (SR – sports reserves)												
SR-01 Donnybrook Farmhouse SR	N/A	$8,027,300	NC	**BM** (Items 40 & 43)	$12,186,900 +$4,159,600	Benchmark design and cost applied (items 40, 42 and 43)	**BM** (Items 40 & 43)	$12,011,000 -$175,900	Benchmark design and cost updated (items 40, 42 and 43) and includes allowances for the following additional line items: service connections; site works; and ESD provisions for pavilions.	4 (CoW)	N/A	N/A
SR-02 Patterson Drive SR		$10,004,273		**BM** (Items 40 & 43)	$13,368,990 +$3,364,717		**BM** (Items 40 & 43)	$12,011,000 -$1,357,990		4 (CoW)		

Donnybrook-Woodstock ICP Items – Summary of Changes

BM = benchmark design and cost, H1 = benchmark design and hybrid cost, H2 = bespoke design and hybrid cost, BSPK = bespoke design and bespoke cost

Final ICP	GC61 Standard ICP (Nov 2017)	-	-	GC102 Exhibited Final Supplementary ICP (August 2018)			GC102 Recommended Changes Final Supplementary ICP (April 2019)			Recommended Changes Final Supplementary ICP (October 2019)		
Interim ICP	-	GC101 Interim 1 Supplementary ICP (July 2018)	GC108 Interim 2 Supplementary ICP (Nov 2018)	NC			GC134 Interim 3 Supplementary ICP (Jul 2019)			NC		
Benchmark Costings Report	-	Draft BC (Pre-July 2018 BC)	NC	July 2018 BC			April 2019 BC			NC		
ICP item reference / ICP item designs and costs	No designs or costs (standard ICP)	Costs (A)	No designs and no change in costs	Project type (see table notes for definitions)	Costs (B) Cost difference (B-A)	Comment	Project type (see table notes for definitions)	Costs (C) Cost difference (C-B)	Comment	Relevant submission	Design resolved (Y, N, N/A)	Cost resolved (Y, N, N/A)
SR-03 Darebin Creek SR		$9,067,667		**BM** (Items 40 & 43)	$12,057,000 +$2,989,333		**H1** (Items 40 & 43)	$9,680,000 -$2,377,000	Hybrid cost of SR-03 changes the following line items from the benchmark cost (item 42): • 1 x Football field (removed) • 1 x Cricket pitch (removed) • 1 x soccer field (removed) • 2 x netball court (removed) • 3 x soccer pitches (added)	2 (DFC) 4 (CoW)		
SR-04 Lockerbie East SR		$9,095,487		**BM** (Items 40 & 43)	$12,095,970 +$3,000,483		**BM** (Items 40 & 43)	$12,011,000 -$84,970		4 (CoW)		
SR-05 Koukoura Drive SR		$9,076,940		**BM** (Items 40 & 43)	$12,069,990 +$2,993,050		**H1** (Items 40 & 43)	$10,558,000 -$1,511,990	Hybrid cost of SR-05 changes the following line items from the benchmark cost (item 43): • 2 x Football field (removed) • 2 x Cricket pitch (removed) • 8 x netball courts (increased from 2) • 6 x tennis courts (increased from 2) • 2 x lawn bowls (added)	2 (DFC) 4 (CoW)		
SR-06 Woodlands SR		$9,069,667		**BM** (Items 40 & 43)	$12,057,000 +$2,987,333		**BM** (Items 40 & 43)	$12,011,000 -$46,000		4 (CoW)		
SR-07 Merristock SR		$6,888,433		**BM** (Items 40 & 43)	$9,840,550 +$2,952,117		**BM** (Items 40 & 43)	$9,667,000 -$173,550		4 (CoW)		

Recommended Changes (April) ICP Note:

1 Cost type changed from benchmark to hybrid to accord with bespoke designs (ie, bespoke quantities measured and verified set of benchmark rates applied to calculate costs)

Abbreviations

FLP conclave #1 – refers to the functional layout plan conclave statement dated 26 March 2019
BC – refers to Benchmark Costings Report (dated as either the July 2018 and April 2019 versions)
NC – means no changes from previous ICP

Appendix 3 – Whole of State Government Response to Points of Agreement in FLP Conclave 1 Statement and RC April ICP

Attachment 1: DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

NUMBER	POINTS OF AGREEMENT FROM CONCLAVE STATEMENT DATED 26 MARCH 2019	RELEVANT ICP INFRA-STURCTURE ITEM	UPDATES IN RESPONSE TO POINT OF AGREEMENT INCLUDED IN THE RECOMMENDED CHANGES ICP	VPA RESPONSE	DOT RESPONSE (INCLUDING THE ROADS CORPORATION)
Points of agreement					
a)	Interim FLPs for intersections on all roads (except Donnybrook Road and certain sections of Cameron Street and Merriang Street and connector roads generally, where 50 km/h would apply) need to be designed based on 60kmh. Design speed for Donnybrook Road at all intersections to be 80km/hr and for Cameron Street and Merriang Street to be less.	All intersections	Recommended Changes ICP FLP updated as follows: • Donnybrook Road (primary arterial) legs (IN-01 to IN-05) to remain at 80 km/hr (Merriang Roads remains at 60 km/hr) • Primary and secondary arterial legs at remaining intersections (IN-06 to IN-17) reduced from 80 km/hr to 60 km/hr • Connector street legs (including Cameron Street as applicable) reduced form 60 km/hr to 50 km/hr	N/A	N/A
b)	If the exhibited ICP interim FLPs for intersections are based on interim design speeds different to that discussed in the conclave, they should be updated to reflect the appropriate design speeds (so that they are neither inadequate nor excessive), noting the proviso that the land take for the ultimate speeds and FLP should not be compromised.	All intersections	Recommended Changes ICP FLP updated as follows: • All intersections, except IN-16, were updated to reflect the design speeds identified in point (a) (NB: IN-16 is a Benchmark Costings report design and has design speeds of 60 km/hr for the secondary legs and 50 km/hr for the connector legs)	N/A	N/A
c)	Based on the technical information and input provided by VicRoads and the VPA, provision for bus infrastructure in ICP interim FLPs is not required as it is not 'basic and essential'	All roads and intersections	No updates to the recommended changes ICP. This point of agreement sought to include matters relating to the planning permit into the ICP document. During the VPA-DoT (then VicRoads) meeting on 4 March 2019, it was agreed that no bus queue jump lanes are required for the Donnybrook-Woodstock ICP due to predicted traffic volumes in the interim period.	To clarify, the exclusion of bus queue jump lanes is not for “basic and essential” reasons but rather based on expected interim traffic volumes not warranting the lanes.	N/A
d)	Where more detailed design work (for specific developments) inclusive of outcomes from	All roads and intersections	No updates to the recommended changes ICP.	N/A - Not an ICP issue	N/A

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

	discussions with VicRoads and Councils creates minor differences in interim FLPs but no impact on ultimate layout land requirements, it is appropriate to use the exhibited ICP FLPs for GC102 for ICP purposes		This refers to the usual ICP/planning permit process whereby the ICP identifies concept FLP and planning permits require detailed design FLP.		
e)	Where updated SIDRA modelling for specific intersections can demonstrate that the land requirement for the ultimate layout will be greater for a given intersection within the Donnybrook-Woodstock ICP update, the final version of the PSP (and ICP update implemented under GC102) should reflect this, provided it is available in time to do so.	All intersections	No updates to the recommended changes ICP.	The VPA notes the following: • It is not intended that ICP are based on SIDRA analysis. The premise of the new ICP system is to reduce time and cost associated with preparing detailed designs and costs (as per the previous DCP system) and instead ICP are informed by benchmark designs and costs.	N/A
f)	At IN-03, there is no need to extend the verge from 7m to 8.3m if Council's advice regarding utility services is correct. This is subject to confirmation by a suitably qualified Authority expert.	IN-03 Donnybrook Road & Patterson Drive	No updates to the recommended changes ICP required.	N/A	N/A
g)	At IN-03, the relevant Cardno 'benchmark' design for the interim layout for the road hierarchy should be used in lieu of the OMG design currently exhibited in the ICP, subject to sufficient allowance for turn and through lane configurations, and the amended design speeds being adopted.	IN-03 Donnybrook Road & Patterson Drive	Recommended changes ICP updated with revised FLP (for IN-03 and other Donnybrook Road intersections being IN-01, IN-02, IN-04 and IN-05) which provide: • Updated design speeds as per point of agreement (a) • Fully functional T-intersection in place of a cross-intersection (which has the same capacity) to respond to point of agreement (j) • T-intersection funded 100% from Donnybrook-Woodstock ICP in place of a cross-intersection funded 75/25% between Donnybrook-Woodstock and Shenstone Park ICP to address point of agreement (i) • Two through lanes have been provided along the Donnybrook Road legs and the secondary	As per the listed changes, the VPA confirms: • The speeds are consistent with point of agreement (a) • The fully functional T-intersection responds to point of agreement (j) • A fully functional T-intersection 100% funded from Donnybrook-Woodstock ICP responds to point of agreement (i) • The compact design is consistent with point of agreement (j) and was agreed during the VPA-DoT (then	DoT provides the following responses: • DoT supports the funding split of 100% for a functional T-intersection as it appropriately resolves future implementation issues in this instance • DoT supports the compact design in this instance as it delivers positive road network outcomes within the interim timeframe • DoT also supports the consistent intersection approach of two through lanes in each direction along Donnybrook Road and two through lanes in each direction for the secondary arterial legs.

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

			arterial legs, in place of one through lane identified in the exhibited ICP designs, to provide capacity that is consistent with the benchmark design, in line with point of agreement (g) • Compact design in place of an interim-on-ultimate design to allow the ICP intersection to be constructed entirely within the existing Donnybrook Road reservation in response to point of agreement (j) These principles have been applied consistently for all Donnybrook Road intersections, in response to point of agreement (i) and (j) which requested that the VPA review the split of these intersection costs with the adjoining Shenstone Park PSP and consider a change from the usual outside in approach to reflect land availability to deliver ICP intersection, as well as point of agreement (g) which sought to increase the capacity of the Donnybrook Road intersections. This allows the landowners in Donnybrook-Woodstock to deliver ICP intersections through the planning permits currently being developed and without needing to rely on land within the Shenstone PSP are being available (the PSP is in pre-exhibition phase).	VicRoads) meeting on 4 March 2019 • The increase from one to two through lanes on the primary and secondary arterial legs is consistent with the benchmark design and considered sufficient to accommodate traffic volumes in the interim period • The intersection has been designed to allow easy conversion to a cross-intersection at the time of development of the Shenstone Park PSP, with the costs of this conversion to be included in the Shenstone Park ICP. VPA has reviewed the methodology used to determine the scope of works and apportionment of costs. The reasons for updating the FLP intersection designs from interim-on-ultimate to compact are as follows: • The Benchmark Costings report was prepared to inform the preparation of ICP. The primary arterial road intersections in the Benchmark Costings report adopt the following net community benefit outcome: – Design speeds of 60 km/hr – Interim-on-ultimate design • Whereby the “negative” community aspects:	• DoT considers the number of through lanes sufficient to accommodate predicted volumes in the interim period. • DoT also notes that bus queue jump lanes as identified in the Traffix Group plan G18040D-1**2** for IN-04 are not required within the interim period (and are not required for any of the intersections in the ICP area)

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

				– Higher construction costs (to the benefit of the authority) – Higher maintenance costs for the ~ 20 year life of the intersection • Are sufficiently outweighed by the positive community aspects being: – Safer environment – Less construction disruption when the ultimate intersection is built • For the Donnybrook Woodstock ICP, the positive aspects are no longer available to the Donnybrook Road intersections as: – The FLP conclave set the design speeds at 80 km/hr – Planning permits have already been issued for land along Donnybrook Road and intersections that sit wholly within the road reserve will soon be built. The less disruptive construction option in this instance would be for the interim ICP intersection to adopt a compact design that sits wholly within the ICP area and road reserve. – As well, the Panel report for the Donnybrook Woodstock PSP recommended the Donnybrook Road intersections be compact	

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019)
WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

				design unless otherwise justified	
h)	Cardno-Mirvac plans for IN-03 and IN-06 interim FLPs show additional departure side through lanes which may now be considered unnecessary given revised speed assumptions. However as these were not in the OMG plans used for the ICP, there is no impact on the ICP process from this issue.	IN-03 Donnybrook Road & Patterson Drive and IN-06 Hayes Hill Boulevard & Patterson Drive	No updates to the recommended changes ICP required.	N/A	N/A
i)	At IN-03, the 75/25 current cost split between the 2 abutting PSPs and ICPs should be revised by VPA, and consideration given to changing this if required.	IN-03 Donnybrook Road & Patterson Drive	Recommended Changes ICP updated with revised FLP at IN-03 as follows: • Replace a cross-intersection with costs apportioned 75% to the Donnybrook-Woodstock ICP and 25% to the Shenstone Park ICP with a fully functional T-intersection funded 100% by the Donnybrook-Woodstock ICP	As per the response at (g) above, the VPA confirms the following updates, which have been made consistently to all the intersections along Donnybrook Road: • The speeds are consistent with point of agreement (a) • The fully functional T-intersection responds to point of agreement (j) • A fully functional T-intersection 100% funded from Donnybrook-Woodstock ICP responds to point of agreement (i) • The compact design responds to point of agreement (j) and was agreed during the VPA-DoT (then VicRoads) meeting on 4 March 2019 • The increase from one to two through lanes on the primary and secondary arterial legs is consistent with the benchmark design and considered sufficient	As per the response at (g) above, the DoT agrees with the updates, which have been made consistently to all the intersections along Donnybrook Road: • DoT supports the funding split of 100% for a functional T-intersection as it appropriately resolves future implementation issues in this instance • DoT supports the compact design in this instance as it delivers positive road network outcomes within the interim timeframe • DoT also supports the consistent intersection approach of two through lanes in each direction along Donnybrook Road and two through lanes in each direction for the secondary arterial legs. • DoT considers the number of through lanes sufficient to accommodate predicted volumes in the interim period.

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019)
WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

				to accommodate traffic volumes in the interim period	
j)	At IN-04 (Donnybrook-Koukoura), the VPA should consider changing the ICP plans to allow for a change to the usual 'outside in' approach and reflect the actual land availability for the interim road carriageway and intersections.	IN-04 Donnybrook Road & Koukoura Drive	Recommended changes ICP updated at the FLP for IN-04 as follows: • Replace cross-intersection 'interim on ultimate' FLP layout with a T-intersection FLP layout using traditional compact intersection design to allow intersection to be contained entirely within the existing Donnybrook Road reservation.	As per the response at (g) above, the VPA confirms the following updates, which have been made consistently to all the intersections along Donnybrook Road: • The speeds are consistent with point of agreement (a) • The fully functional T-intersection responds to point of agreement (j) • A fully functional T-intersection 100% funded from Donnybrook-Woodstock ICP responds to point of agreement (i) • The compact design responds to point of agreement (j) and was agreed during the VPA-DoT (then VicRoads) meeting on 4 March 2019 • The increase from one to two through lanes on the primary and secondary arterial legs is consistent with the benchmark design and considered sufficient to accommodate traffic volumes in the interim period	As per the response at (g) above, the DoT agrees with the updates, which have been made consistently to all the intersections along Donnybrook Road: • DoT supports the funding split of 100% for a functional T-intersection as it appropriately resolves future implementation issues in this instance • DoT supports the compact design in this instance as it delivers positive road network outcomes within the interim timeframe • DoT also supports the consistent intersection approach of two through lanes in each direction along Donnybrook Road and two through lanes in each direction for the secondary arterial legs. • DoT considers the number of through lanes sufficient to accommodate predicted volumes in the interim period.
k)	Hayes Hill road width could be reduced from 31m to 28m in revised ICP layout plans.	Hayes Hill Road (mid-block connector road – non-ICP project)	No change in the recommended changes ICP. The mid-block section of Hayes Hill Boulevard (a connector boulevard) is developer works, not an ICP item. This agreement refers to planning permit functional layout plans.	The VPA provides the following guidance: • Hayes Hill Road could be reduced to 28 m by using a 3 m median in place of a 6 m median. This would require	N/A

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

				regularly spaced roundabouts at median breaks to allow facilitate movement as a 3 m median does not allow enough space for vehicles from connecting roads. This is a design detail to be determined at subdivision permit stage.	
l)	At IN-11 (Koukoura/Cameron), Cameron Street to be reduced to 31m in ICP layouts; and Western leg left slip lane removed, and Koukoura Road width to be reduced to meet revised speed and hierarchy requirements.	IN-11 Koukoura Road and Cameron Street	Recommended changes ICP updated at IN-11 as follows: • Reduce Cameron Street legs from 34 m to 31 m to reflect its status as a boulevard connector, and the western leg slip lanes have been removed • Reduce the Koukoura Road width from 44.5 m to 34 m	VPA understands that the reduced road widths are a result of the revised speeds, and that reduced design speed requirements are not relevant to road widths and are referenced in this point of agreement in error.	N/A
m)	At IN-12 (Cameron/Merriang), it was agreed that:	See below	See below		
(i)	The width of Merriang Road does not need to exceed the current extents of the road reserve	IN-12 Cameron Street & Merriang Road	Recommended changes ICP updated to: • Contain Merriang Road legs within existing road reserve.	N/A	N/A
(ii)	Widening to both sides of the Cameron Road as advised by council is not a matter for the ICP, and can be resolved with council	IN-12 Cameron Street & Merriang Road	No change in the recommended changes ICP. Of note, the Cameron Street leg of IN-12 is 25 m	N/A	N/A
(iii)	Ultimate land take should account for SIDRA analysis if available	IN-12 Cameron Street & Merriang Road	No change to recommended changes ICP made.	As per (e) above, the VPA notes the following: • It is not intended that ICP are based on SIDRA analysis. The premise of the new ICP system is to reduce time and cost associated with preparing detailed designs and costs (as per the previous DCP system)	N/A

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

				and instead ICP are informed by benchmark designs and costs.	
(iv)	Land take component should include land that is currently owned by a private developer	IN-12 Cameron Street & Merriang Road	Land take should be updated to ensure full land requirement is included.	This it a matter for the VPA to address at the conclusion of the second FLP conclave when the designs have been settled.	N/A
n)	Experts agreed that the intersection doesn't need to be 25.5m wide. VPA mentioned that plans will not be amended. However, experts agreed that the land take requirements will need to be assessed.	IN-12 Cameron Street & Merriang Road	Cameron Street legs reduced from 25.5 m to 25 m in recommended changes ICP.	As per (n) above, this is a matter for the VPA to address at the conclusion of the second FLP conclave when the designs have been settled.	
o)	At IN-15 (Gunns Gully/Koukoura), it was agreed that VicRoads would revisit previous advice regarding the need for 2 right hand turning lanes from Koukoura into Gunns Gully (as Koukoura was a secondary arterial road) and this would potentially mean a lesser road reserve width was needed. Also, it was agreed that the bus queue jump lanes were not needed and so would not lead to wider road reserve, and thus should not affect interim ICP.	IN-15 Gunns Gully Road & Koukoura Drive	No change to recommended changes ICP required.	The VPA notes that: • The VPA and DoT agreed that bus queue jump lanes are not required for the interim intersections due to expected traffic volumes, as noted at (g) above. • The VPA considers that two right hand turning lanes from Koukoura Drive into Gunns Gully Road is not required in the interim. The Outer Metropolitan Ring Road is not expected to be constructed in the short term and until then, traffic volumes moving east from Koukoura Drive into Gunns Gully Road are not expected to warrant two right hand turn lanes.	DoT confirms that: • DoT agrees that bus queue jump lanes are not warranted for the predicted volumes in the interim period • In the interim period, DoT agrees that two right hand turns lanes from Koukoura Drive into Gunns Gully Road are not needed
Points of Disagreement					
a)	The issue of divided vs undivided interim midblock carriageways was not resolved, excepted as noted for IN-04 (Donnybrook-Koukoura)	All roads	No changes made to the recommended changes ICP (apart from IN-04 where the compact design is considered appropriate in place of the outside-in approach, as detailed at (g) and (j) above.	The VPA considers: • An undivided carriageway to be consistent with the 'basic and essential' premise of the ICP	DoT notes that: • As the future land owner and operator, DoT do not support the divided interim carriageway in this location. The

DONNYBROOK-WOODSTOCK ICP – FLP CONCLAVE STATEMENT (26 MARCH 2019) WHOLE-OF-GOVERNMENT VPA AND DOT RESPONSE (9 SEPTEMBER 2019)

				system. This is also consistent with the common practice of DCP to pay for the "land and first carriageway" of primary and secondary arterials. • VPA supports retention of undivided midblock carriageways in order to reduce cost of construction of ultimate road alignment and reduce the level of disruption to the community when the ultimate is constructed.	proposed approach would create a**dditional** costs and disruption when duplication occurs. Urban design treatments need to be planned to take into account and not prejudice ultimate construction however, DoT notes that the divided road doesn't impact on road function and capacity.

Appendix 4 – Benchmark Infrastructure Costings Guide, VPA

VICTORIA
State Government

Benchmark Infrastructure and Costs Guide

Victorian Planning Authority

October 2019

V2019.1

Version Control

The VPA's *Benchmark and Infrastructure Costs Guide* will be managed as a living document. The VPA will update the document annually or as appropriate.

Note that the actual benchmark cost estimates will only be indexed annually, and any major updates will occur only when clearly justified.

Where appropriate, it may be necessary to clarify issues immediately between updates. Any such clarifications will be issued as addenda via the VPA website: www.vpa.vic.gov.au.

To ensure the most up-to-date version is used, including being aware of any addenda that may be issued from time to time, it is strongly recommended that the latest version of this document be obtained via the above website before use.

Version	Issued	Comment
2019.1	15 October 2019	Initial release (VPA Board approved, 9 October 2019)

Foreword

When land is developed for urban purposes new or upgraded infrastructure is needed to support the new development and its future communities. Infrastructure contributions levied from developers help fund basic and essential infrastructure for new and growing communities, such as first carriageways of and intersections with arterial roads, community centres, kindergartens, maternal and child health facilities, local parks and sporting facilities.

In 2016 a new contributions regime, the Infrastructure Contributions Plan (ICP), was introduced to streamline the preparation of funding plans for greenfields development. An ICP is a statutory document incorporated in a planning scheme for the purposes of imposing infrastructure contributions to fund the provision of infrastructure and secure land for public purposes.

Agreeing the scope and cost of infrastructure items included in an ICP, or previously a Development Contributions Plan (DCP), often entailed lengthy disputes over what constituted basic and essential infrastructure and significant variation or irreconcilable differences between cost estimates prepared by different stakeholders. The purpose of the use of benchmark infrastructure scopes and cost estimates is therefore to better inform the ICP production process.

By calculating benchmark costs for a range of basic and essential infrastructure items, the Benchmark Costings will systematically, consistently and transparently guide the preparation of ICP designs and cost estimates. This approach is consistent with the premise of the new ICP system as outlined in the *Infrastructure Contributions Plan Guidelines*.

The VPA commissioned the Benchmark Costings Project *(Benchmark Costings Report,* Cardno, April 2019) to be used to inform and further simplify and standardise preparation of ICPs. From its first draft, this technical work was refined and improved through consultation with outer growth Councils, industry and consultants. Additional feedback was also received during recent Planning Scheme Amendments regarding how the technical information within the Benchmark Costs Report should be utilised, and this Guide is a result. The use of the Benchmark Costs was endorsed by the VPA Board on 9 October 2019.

This *Benchmark Infrastructure and Costs Guide* describes how the VPA will use the benchmark costs in preparing ICPs to assist all stakeholders to productively participate. It is intended to be a live document and will be regularly reviewed, updated and improved.

Table of Contents

1. Introduction

With Victoria expected to grow to 11 million people by 2056, the Victorian Planning Authority (VPA) has been tasked to prepare land use plans in Melbourne's greenfield growth areas, as well as in specific urban renewal sites and regional areas across Victoria.

These land use plans, known as Precinct Structure Plans (PSP) in Melbourne's greenfield growth areas, are intended to ensure new development provides access to affordable housing, employment and public spaces, while creating great places to live. PSPs also defines the infrastructure needed to support this future development.

A PSP is typically accompanied by an Infrastructure Contributions Plan or ICP (previously a Development Contributions Plan or DCP) that lists the necessary infrastructure identified by the PSP that is the responsibility of the Council and can attract a funding contribution from developers.

Often, resolving the scope and cost of planned infrastructure has been a contentious, expensive and time-consuming process. Benchmark infrastructure scopes and cost estimates were prepared to simplify and reduce the costs of developing an ICP. The background technical work undertaken is presented in the *Benchmark Infrastructure Report* (Cardno, 11 April 2019).

This Benchmark Infrastructure and Costs (BIC) guide is intended to resolve issues of varying opinion being presented by different stakeholders, Councils and consultants regarding the need for and scope of infrastructure and the approach to costing it. It is also intended assist moving beyond the approach to the cost rates used by consultants and expert witnesses based on proprietary cost information. The methodology adopted of collating work across multiple precincts and Councils, from cost estimates prepared by different consultants and by doing this in a consistent way in consultation with the key stakeholders is intended to more robustly and transparently inform the preparation of ICPs.

In addition, this guide is intended to assist in the identification of appropriate infrastructure to include in the ICP and to provide an appropriate approach to estimating the cost of this infrastructure. It should be read in conjunctions with the *Planning & Environment Act 1987* (the Act), *Ministerial Direction on the Preparation and Content of Infrastructure Contributions Plans* (the Direction) and the *Infrastructure Contributions Plan Guidelines* (the Guidelines).

2. Precinct Structure Plans and Infrastructure Contributions Plans

In Melbourne's greenfield growth areas, PSPs are the key tool for planning land use and infrastructure provision. They set the framework for large scale, fully serviced urban development and investment that will occur over many years. PSPs are developed taking into account the particular characteristics and requirements of each location.

Identifying the Infrastructure needed to support a new community, including transport, community and recreation facilities, forms an essential component of PSPs. This infrastructure is provided by various parties, including the developer, the State government departments and agencies as well as Councils. Importantly, some local infrastructure is critical to the early development of new communities. This critical local infrastructure that is the responsibility of the Council is known as "basic and essential" local infrastructure. The aim is to ensure that this is delivered in a timely manner during the growth of the community and it is therefore largely funded through developer contributions.

ICPs set out how developers will contribute to the funding of this basic and essential local infrastructure. The infrastructure contribution levy is made up of the standard levy, a supplementary levy, or a combination of both. The standard levy is a fixed per net developable hectare monetary levy and is used to fund basic and essential infrastructure. The amount of levy paid is dependent on the class of development and is set by the *Ministerial Direction on the Preparation and Content of Infrastructure Contributions Plans* (Ministerial Direction).

The overall standard levy must not exceed the amount identified in the Ministerial Direction. In addition to this, the amount of the total standard levy rate for residential development that may be used for community and recreation construction must not normally exceed the capped amount set in the Ministerial Direction. Any of the standard capped levy that is not used for the community and recreation construction may be applied to transport infrastructure construction.

In accordance with specific criteria set out in the Ministerial Direction, a supplementary levy, over and above the standard levy, may also be charged to provide extra funding for specific transport infrastructure projects that cannot be funded through a standard levy.

While the Ministerial Direction contemplates cost estimates for each allowable item in order to inform a whether or not a standard levy ICP will apply, it requires cost estimates for allowable items in a supplementary ICP. The cost estimates are used to determine whether special infrastructure can be accommodated within the standard levy or if a supplementary levy is justified. Figure 1 shows how the various regulatory and guidance documents relate.

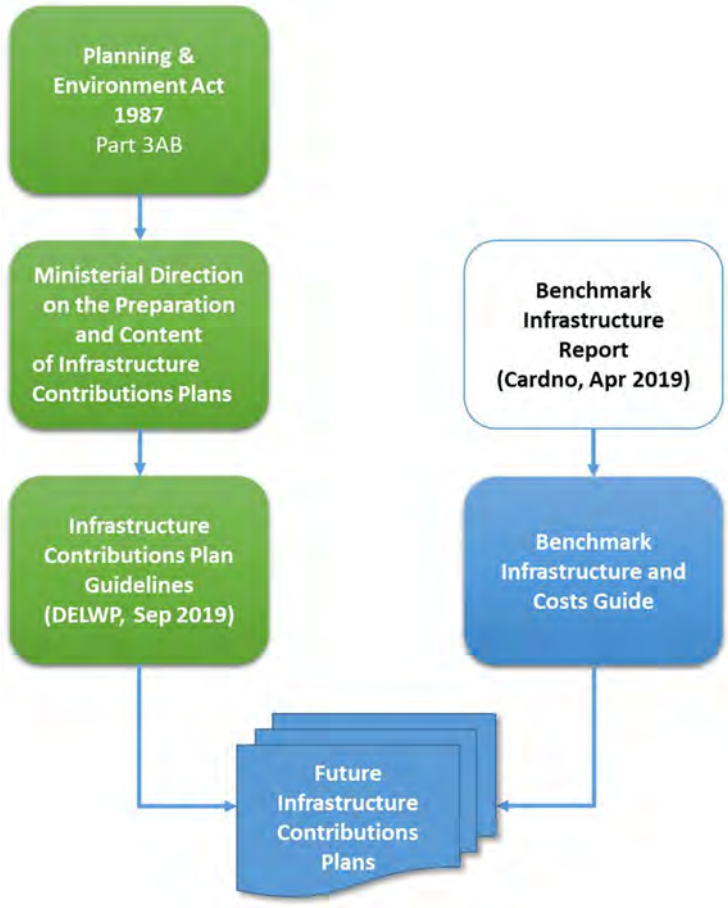


Figure 1: ICP Regulation & Guidance

Note that any infrastructure cost estimates prepared for an ICP will always be based on preliminary functional designs and estimates of cost for various component items at the time the ICP is prepared. The final designs and actual costs will not be known until the works are finally constructed, often many years after the estimates are prepared. In the intervening period other nearby infrastructure may have been provided, detailed designs will have been prepared (possibly using changed standards) and the final cost influenced by changes in material and labour costs and market conditions. It is not possible to address these potential changes at the time the ICP is prepared, although the inclusion of review, contingency and indexation provisions will allow reasonable adjustments to be made over time if required.

3. The Role of Scope and Cost Estimates in ICPs

The approach to funding infrastructure through past Development Contributions Plans (DCP) has required quite detailed and individual scope descriptions and bespoke estimates to be developed for each infrastructure item in each PSP/DCP area. This:

- added significant time, cost and uncertainty (avoiding this was a key reason to move to the ICP model)
- often involved lengthy disputes regarding the appropriate infrastructure scope and costs
- often still resulted in similar functionality, scope and costs estimates across different DCPs.

Key areas of dispute in developing scope and cost estimates are typically:

- the differing views held by stakeholders on the appropriate quality of infrastructure considered ”basic and essential”; and
- differing, often irreconcilable, advice provided by expert consultants on appropriate cost rates that should be used to prepare estimates, typically based on proprietary and non-transparent cost data.

Difficulty in resolving what is “basic and essential” infrastructure and agreeing the costs has often led to uncertainty for all parties and significant disputation through the PSP & DCP review process. A key objective of the Benchmark Cost Project was to avoid these disputes wherever possible.

By calculating benchmark costs for a range of ‘basic and essential’ infrastructure items, the BIC aims to systematically, consistently and transparently guide ICP cost estimation. This is intended to reduce the administrative burden of preparing an ICP and increase consistency and transparency of the ICP process for all stakeholders involved.

In recognition of the similar outcomes achieved through individual scope and estimate development across DCPs, BIC has been developed so that in most cases the effort, time and cost required to develop an ICP would be reduced and better reflect the intent of the ICP system to simplify the contributions process. Thus, BIC seeks to document consistent basic and essential infrastructure scopes and to use previous cost data provided by a range of consultants to provide a more transparent set of benchmark estimates and cost rates for common use.

There will still be circumstances where a benchmark scope and/or cost is not appropriate, requiring a bespoke solution. The approach in these circumstances is discussed later.

4. Development of BIC

BIC builds on the Benchmark Costs Project. The experienced engineering consultants Cardno were engaged to undertake the technical work.

The Benchmark Costs Project collaboratively developed:

- template functional layout plans for a range of benchmark basic and essential infrastructure items providing the interim and ultimate layout as appropriate (noting that the ICP is generally intended to fund interim infrastructure)
- an itemised cost estimate for each of the functional layout plans
- verified rates for use in bespoke costing of non-benchmark infrastructure elements.

As noted earlier, the consultative approach taken to do this aimed to bring together different views to provide more robust and equitable guidance on infrastructure scoping and costs instead of developing bespoke solutions for each ICP based on organisational preferences and inconsistent and proprietary costing advice provided by various consultants.

The infrastructure categories investigated were:

- Roads and intersections
- Bridges and Culverts
- Community Facilities
- Sport & Rec Facilities
- Sports Pavilions

Fundamentally, the project involved the following tasks:

1. Review past DCP cost estimates to develop a robust view on construction rates
2. Review past infrastructure scopes and develop up-to-date, basic and essential project scopes
3. Combine the rates and scopes to develop benchmark cost estimates.
4. Develop benchmark rates for costing non-benchmark infrastructure
5. Exploring geographic variances and limitations to the benchmarks

These are fully described in *Benchmark Infrastructure Report* and summarised below:

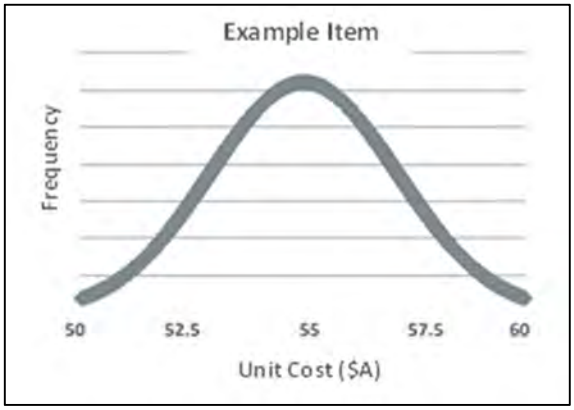
Review past DCP cost estimates to develop robust unit rates

A key element of Cardno's work was to review cost estimates developed for 21 past DCPs. These had mostly been tested through the exhibition and review process as part of finalising each DCP.

By analysing cost estimates from a wide range of sources, Cardno were able to bring together rates provided by a range of consultants, over a number of years (indexed to a common 1 July 2018 cost base) and across the various growth areas to deliver a robust view of the range of costs that might be expected.

The approach of working with DCP cost estimates was adopted due to the difficulty in obtaining consistent and relevant as-built rates, principally because cost rates provided through tender processes are commercially confidential. Where actual costs were available, in many cases the breakdown of items did not allow direct comparison with the rates used in DCP estimates or the scope was unclear or fundamentally different (e.g. a multi-storey community centre). Some actual cost rates provided by stakeholders were compatible with the adopted approach, and these were included in the rate database. For a detailed review of the consultation feedback, please see *Stakeholder Comments Review - Benchmark Infrastructure Costings Project* (Cardno, 2018).

This process provided a database of unit rates for the various infrastructure components that could then be analysed to provide a probabilistic view of unit rates (e.g. most likely, spread) for use in developing benchmark infrastructure cost estimates.



These rates assume normal contractor provision. Delivery items such as supervision fees, traffic control, design and environmental management are estimated separately.

Land is not included. Other non-benchmark items are also not included, such as significant utility relocation, significant rock excavations and drilling, flora/fauna permits and contamination. Nor do the rates take account of savings that may be achievable should the infrastructure eventually be delivered through developer works in kind using contractors already on-site.

Review past infrastructure scopes and develop up-to-date, basic and essential project scopes

Through over sixty metropolitan greenfield PSPs prepared by the GAA / MPA / VPA, the evolution of infrastructure scopes that are considered "basic and essential" have been refined and often tested through Planning Panels.

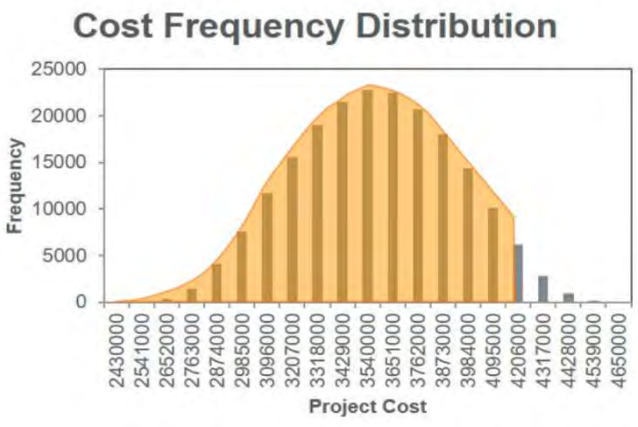
These past scopes were reviewed and refined and a suite of 43 benchmark infrastructure scope descriptions covering typical roads and intersections, bridges and culverts, community facilities, sport fields and pavilions have been developed. Where appropriate these addressed design standards and guidelines (e.g. Austroads or Australian Children's Education & Care Quality Authority guidance) and were adjusted to address feedback from the consultation. Again, *Stakeholder Comments Review - Benchmark Infrastructure Costings Project* outlines the feedback received through consultation and the changes included in the final scopes.

Issues related to the development of the benchmark scopes for each infrastructure category are discussed in more detail in the Appendices, which also provide the detailed scopes and estimates as follows:

- Appendix 1: Roads and Intersections
- Appendix 2: Bridges and Culverts
- Appendix 3: Community Infrastructure
- Appendix 4: Sports Pavilions
- Appendix 5: Sport and Recreation Facilities

Combining the rates and scopes to develop benchmark cost estimates.

The unit rates database and the benchmark scope quantities were then combined using a Monte-Carlo Analysis. This approach samples the possible rates multiple times to test the range of possible values to be used in developing a total project estimate. For each simulation, each item cost rate is randomly sampled based on the probability curve, multiplied by the quantity for that item and then totalled with the other component items to give one possible total cost estimate. This was repeated 200,000 times, resulting in a distribution of total costs, with most likely in the middle and less likely on the extremes (high or low).



This provides a cost curve such as the one at right, from which a cost estimate and the probability of that estimate being higher or lower than the most likely cost can be estimated.

While the most likely cost could be adopted, this would result in the estimated cost being exceeded 50% of the time (hence it is known as the P50 cost) and could readily lead to an under-funded ICP. To address this, a P90 estimate has been adopted as the benchmark local infrastructure cost estimate. Adopting the P90 value should see an estimate exceeded only 10% of the time, providing a robust basis for determining the ICP levy needed to reliably fund basic and essential infrastructure.

Developing benchmark rates for costing non-benchmark infrastructure

In some cases, there may be a need to develop an estimate for a slightly modified infrastructure scope (see Section 7). For instance, it may be appropriate to include an allowance for additional earthworks in rolling countryside. If the quantity of extra earthworks can be estimated, a simple adjustment to the estimated cost using the earthworks rate can be calculated. However, to do this an estimate of the unit rates appropriate for a P90 estimate is required. Cardno “reverse engineered” the cost estimates to develop estimates of suitable rates for each item to deliver a P90 cost estimate.

Geographic variances

The issue of potential cost differences related to geographic, topographical or other forms of variances from the source data has been raised. The review found that consultants had estimated elements across all growth areas using company specific rates with no apparent identification of site-specific challenges and features. Therefore, variances were only observed in the form of “company variances” and not based on geography.

This is also consistent with the Standard ICP transport and community infrastructure levies being identical across all greenfield growth areas.

Limitations to the benchmark costs

BIC have been prepared for use in developing new infrastructure in Melbourne’s greenfields. The use in other settings is not supported.

In addition, while the estimates prepared for the benchmark scope infrastructure are considered robust, there are situations where these will not be appropriate or will require adjustment. These include:

- where the benchmark scopes will be inappropriate and bespoke design and cost estimates will be required for special projects (e.g. long bridges, multi-storey buildings, significant earthworks)
- where the benchmark estimates will require adjustment to cope with changed quantities (e.g. an extra kindergarten room, more pavement) or specific costs for non-benchmark items within otherwise benchmark scopes (e.g. major services relocation, treating contaminated land)

The particular approaches that are appropriate in these situations are discussed later.

5. Consultation

Together with the analysis work undertaken by Cardno, the VPA engaged in stakeholder consultation to which the development industry, interface councils and the consulting industry were invited to test and refine the outcomes of the Cardno work.

Draft information was provided directly and via the VPA website to stakeholders and four workshops were held that:

- Presented the methodology
- Reviewed the findings for transport and community infrastructure (two separate workshops)
- Considered additional feedback, evidence and suggestions made

In particular, stakeholders were asked to review the benchmark scopes, the calculated rates and, if possible, to provide cost data from completed projects. The process and outcomes are reported in *Stakeholder Comments Review - Benchmark Infrastructure Costings Project* (Cardno, 2018).

Other groups such as State agencies and Planning Panels Victoria were separately briefed on the approach and draft findings and comments considered in finalising Cardno report.

The consultation led to a range of adjustments being included in the final project results, including:

- Scope adjustments (e.g. disabled car parks moved, approach earthworks included)
- Rates were reviewed for items (e.g. subgrade improvement)
- Additional line items/allowances were included (e.g. landscape maintenance, signage, car park lighting, building ESD).

Some construction cost information was provided, however much of it was not directly comparable to the greenfields examples being considered. Where the rates were comparable in scope, these were included in the cost database. Where total project scopes were considered reasonably comparable, the actual costs were mainly less than the estimates derived in this project, however many of the examples (e.g. brownfields projects) were not strictly comparable.

6. Ongoing Maintenance of BIC

BIC has been prepared to reflect current infrastructure expectations and contemporary costs. However, this BIC Guide is considered a “living” document, requiring monitoring & review. Over time it is possible that there will be significant changes in infrastructure standards or the cost environment that will require BIC to be completely updated. In the absence of such a significant change as a catalyst, the appropriateness of the current BIC will be reviewed after 5 years.

BIC will also need managing in the intervening years to account of minor adjustments in benchmark scopes and cost inflation/deflation to allow estimates used to develop an ICP to be up to date.

Should accepted standards for particular infrastructure change (for instance through policy or regulatory changes), the associated benchmark infrastructure and associated cost will be updated to reflect the revised infrastructure standard, and an addendum issued.

Infrastructure costs change continually reflecting the changing costs of materials, labour or construction methods, market conditions and competitive tension or regulation (e.g. OH&S requirements). These actual changes in real delivery costs are tracked by the Australian Bureau of Statistics, which releases quarterly Producer Price updates for Victoria. These are to be used adjust the benchmark costs to reflect changes in Producer Prices since July 2018, the common date to which the current BIC was indexed. The approach for determining the adjusted cost is outlined in Figure 2 below.

Indexation of Standard Costs

For the purposes of adjusting the Standard Local Infrastructure Cost Estimate for a calendar year other than 2018/19, the following formula should be used:

CYACE = RYSCE x A/B

Where:

CYACE is the Current Year Adjusted Cost Estimate

RYSCE is the Reference Year Standard Cost Estimate (being for 2018/19)

A is the average of the index numbers specified for the relevant infrastructure category for the latest full year available:

a) each of the September, December and March quarters occurring immediately before the beginning of the financial year in respect of which the rate is being indexed; and
b) the last June quarter in the financial year one year earlier than the financial year in respect of which the standard levy rate is being indexed.

B is the average of the producer price index numbers for the relevant infrastructure category for the 2018/19 year (i.e. as at July 2018):

a) each of the September, December and March quarters in the 2017/18 year; and
b) the last June quarter in the 2016/17 year.

Example

In the case that the reference periods are the quarterly periods of a financial year, the variables "A" and "B" for the indexation of the standard levy rate for the financial year beginning on 1 July 2019 are as follows:

A is the average of the relevant index numbers for the June quarter in the financial year beginning on 1 July 2018 and the September, December and March quarters in the financial year beginning on 1 July 2017;

B is the average of the relevant index numbers for the June quarter in the financial year beginning on 1 July 2017 and the September, December and March quarters in the financial year beginning on 1 July 2016.

From *ABS 6427.0 - Producer Price Indexes, Australia, Jun 2019 (Series A2333706A) Road and Bridge Construction in Victoria*, the following indexes apply for adjusting the costs for roads and intersections to 2019/20.

2016				2017				2018				2019
FY 16/17				FY 17/18				FY 18/19				
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Sep	Dec	Mar	June	Sep	Dec	Mar	June	Sep	Dec	Mar	June	
104.2	103.9	104.4	105.9	109.0	109.6	113.7	117.1	119.0	121.0	120.6	120.7	
					B=	109.6			A=	119.4		

Thus, for a $4.0m Reference Year Standard Cost Estimate for an intersection, the Current Year Adjusted Cost Estimate for 2019/20 would be:

CYACE = $4,000,000 x 119.4/109.6 = $4,357,664

Figure 2: Indexation of Benchmark Costs

This approach is intended to be consistent with the Ministerial Direction, which sets out the approach to use the ABS Producer Price Index relevant to the infrastructure category to adjust the Standard and Supplementary levies for each financial year.

7. Role of BIC

ICP Development

The *Infrastructure Contributions Plan Guidelines* set out the operational approach to developing the monetary component of Infrastructure Contributions Plans and must be read in conjunction with the Act and Direction.

Broadly, the key requirements are:

Strategic Justification:	Identification and strategic justification for infrastructure to be included in the ICP is done through preparation of the relevant PSP. An ICP is a funding mechanism for infrastructure, it does not justify the infrastructure on its own.
Allowable Items:	All infrastructure included in an ICP must be consistent with the relevant allowable items list in the Ministerial Direction. Any items not on the list must not be included in the ICP.
Basic & Essential:	The PSP process should demonstrate that infrastructure included in an ICP is necessary to create a liveable, sustainable and affordable community (essential) and fit for purpose, but not result in any unnecessary costs or overly impact affordability (basic). This is usually done through the PSP.
Apportionment:	Apportionment calculates what proportion of an infrastructure item should be funded by an ICP. In most cases it will be 100%, however in some cases the demand for new infrastructure is not wholly attributable to development in the ICP area and funding should be shared between the ICP and other sources such as an adjoining ICP.
Supplementary:	For a supplementary levy to be included in an ICP requires the infrastructure to be listed as eligible in the Direction and that there is insufficient capacity within the standard levy to fund all or part of any supplementary allowable items.
Costing:	For the identified infrastructure, estimates of cost are required to test whether potential supplementary levy items (if any) can be contained within the standard levy or whether a supplementary levy is justified.

Broadly, BIC is intended to assist in:

- Ensuring the scope of standard infrastructure is basic & essential
- Assessing overall whether a supplementary levy is justified
- Assessing the cost of standard and supplementary items, and the Supplementary ICP Levy should one be justified.

Basic and essential Infrastructure

It is expected that in most cases the infrastructure strategically justified though negotiations with relevant stakeholders and Council as part of the PSP process will broadly conform with the benchmark

infrastructure designs. However, agreeing to modifications to the scope to deal with particular local needs or conditions may be required, while special bespoke infrastructure may occasionally be justified.

The adoption of a non-benchmark scope requires a clear justification based on some atypical circumstance. Examples might include:

- a benchmark item with greater or reduced scope (e.g. a benchmark intersection with extra pavement area due to an extra right turn lane)
- a benchmark item with extra special works (e.g. benchmark intersection with additional services protection works)
- a non-benchmark design variation or a completely non-benchmark item (e.g. a non-benchmark grade-separated intersection).

Note that BIC includes contingencies (15 or 20% depending on the infrastructure type) in accordance with the Ministerial Direction. It is not appropriate to automatically seek agreement to a special scope just because of minor variations from the benchmark. The contingencies are available to cope with minor changes in scope that may only marginally affect the cost estimates and the BIC should be considered adequate in these circumstances. Significant deviations from the BIC, in terms of scope of works or cost, would require a higher level of justification by the proponent.

Where a scope is agreed to be non-benchmark, the proposed change needs to be clearly documented as background material for the ICP, either through adjustments to the benchmark Scope Diagrams (e.g. adding a left turn slip lane, earthworks adjusted for crossfall) or through annotation (e.g. “relocate gas main”, “synthetic turf”).

In some circumstances, new bespoke drawings for infrastructure may be required if the infrastructure is clearly non-benchmark. An obvious example is long-span bridges. This non-benchmark infrastructure is often likely to be a supplementary item. While bespoke designs may be considered for community and recreation infrastructure, the cap and the inability to seek a supplementary levy for community and recreation infrastructure may make this an unproductive effort.

In all cases the adjusted/new Scope Diagrams must be developed and socialised through the appropriate stakeholders and Council to obtain agreement before new or adjusted cost estimates are prepared.

Refining Costs

It is anticipated that BIC, within its benchmark form or through making use of the unit rates to adjust the benchmark cost estimates, will allow most estimates to be prepared consistently, quickly and at low cost.

As noted above, in some cases an adjusted or non-benchmark scope may be agreed, such that the benchmark cost estimate is no longer appropriate and requires adjustment or replacement. The basis for estimating in most cases will either be the benchmark cost estimate itself, with appropriate adjustments where required, or a new or adjusted estimate based on the benchmark rates. Occasionally, a new detailed scope and bespoke cost estimate will be required.

To assist in describing the options, the following definitions have been adopted:

Benchmark Item: The infrastructure item relies on the benchmark design and therefore the benchmark cost can be directly utilised without adjustment. Benchmark is considered 'off the shelf' or 'usual practice'.

Hybrid Item: The design is based on or similar to the benchmark infrastructure, but some variations are required through either:

- benchmark rates can be used with adjusted quantities to account for minor scope differences (e.g. extra earthworks)
- additional line items are added for non-benchmark components (e.g. a major services relocation)
- a more significant design change but using benchmark materials, and benchmark unit rates can reasonably be applied to develop an estimate (e.g. a new intersection design)

Bespoke Item: The infrastructure item is significantly different from benchmark design and used non-benchmark materials or construction processes. The P90 unit rates can be used where available for costing line items, but bespoke items will typically may require bespoke design and cost estimate to be prepared (e.g. grade separation of a road).

More fulsome examples are provided in Appendix 6.

In all cases, the estimate should be documented based on the VPA's standard costing template used for the benchmark cost estimates with additional breakdown or line items where required.

The level of extra costing effort should have regard to the purpose. For example, for a supplementary item a new or adjusted cost estimate should be prepared in some detail to allow stakeholders to understand the assumptions involved, and any changes from the benchmark scope and cost that may be required. Alternatively, for a straightforward test to see whether the standard levy will be sufficient to cover an additional supplementary item, it may be sufficient to test a reasonable percentage increase estimate in the first instance, and only if such a test is marginal to proceed to a more detailed assessment. Similarly, if a community centre with increased scope is strategically justified but developing a full bespoke / hybrid costing will make no difference to the capped community infrastructure levy, the effort to prepare a new design and estimate may not be of value.

In all cases the assumptions and the source of a cost estimate should be documented to support decision making and the exhibition process if a supplementary item is required. Examples are provided in Table 1.

ITEM	DESCRIPTION	SCOPE	Quantity	Rate	2018/19 Cost	Indexed to 2019/20	COST SOURCE	FUNDING	Comment
RD01	Arterial Road 1	Std Item 2	1,200m	$3,500,000 / 800m	$5,250,000	$5,719,434	Std Item 2	Std	
RD02	Connector Road 2	Std Item 4	650m	$3,793,000 / 800m	$3,081,813	$3,357,376	Std Item 4	Std	
IT01	Intersection Arterial Road 1/ Connector Road 2	Std Item 9	1	$4,310,000	$4,310,000	$4,695,383	Std Item 9	Std	Prim Artl/Connector
IT02	Intersection Arterial Road 3/ Connector Road 2	Std Item 13	1	$3,962,000	$3,962,000	$4,316,266	Std Item 13	Std	Sec Artl/Connector
REC01	Sports & Rec Facility (5 Ha)	Std Item 42 + Contamination removal	1	$8,021,000 plus $345,000 quoted remove/disposal cost	$8,366,000	$9,114,055	Std Item 42 + Estimate A34234	Std	Estimate provided by XYZ contractors
PAV01	Sports Pavilion (2 playing areas)	Std Item 40	1	$1,656,000	$1,656,000	$1,804,073	Std Item 40	Std	
COM01	Level 1 Community Facility	Std Item 37	1	$7,606,000	$7,606,000	$8,286,099	Std Item 37	Std	
TOTAL						$37,292,686			
Preliminary Assessment for testing purposes									
RD01	Arterial Road 3	Std Item 1	400m	$3,860,000 / 800m + 5% for extra e'works	$2,026,500	$2,207,702	Std Item 1 + allowance for extra e'works	Std	5% allowance for testing Std Levy Capacity
Detailed Assessment (if Supplementary Levy justified)									
RD02	Arterial Road 3	Std Item 1 adjusted to allow for extra e'works	1	$2,066,000	$2,066,000	$2,250,734	Cost Sheet 3Av3	Std	Eworks quantity estd using InfraWorks, std eworks rates used
Supplementary Item									
BR01	Arterial Road 1 over wide Creek	Dwg V34349CD date 12/5/2019	1	$7,435,230	N/A	$7,435,230	Cost Sheet CD17A	Sup	Costed in $2019/20, so no adjustment needed

Table 1: Example summary source documentation

Indexing Costs

As demonstrated in Table , any costings base on BIC will need to be indexed to the appropriate year based on the indexing method described above.

New bespoke costings will likely be prepared by cost consultants using then current rates and therefore will not need indexing.

Works in Kind

The scopes and cost estimates included in DCPs have often been used in the past as the basis for developing works in kind agreements between developers and council for the delivery of infrastructure, especially roads, intersections and sports reserves. The actual approach adopted in developing each works in kind agreement varies between councils.

Given the process to resolve the ICP scopes and costs outlined above, there is no reason that BIC, or the agreed adjusted scopes and costs cannot be used to develop ICP works in kind agreements in exactly the same way as DCP scopes and costs have been used in the past.

8. Feedback and Comments

The VPA is open to receiving feedback or comments on the basis or application of BIC at any time. Comments can be made via email to infrastructure@vpa.vic.gov.au.

9. Appendices

Appendix 1: **Roads and Intersections**

Appendix 2: **Bridges and Culverts**

Appendix 3: **Community Infrastructure**

Appendix 4: **Sports Pavilions**

Appendix 5: **Sport and Recreation Facilities**

Appendix 6: **Application to Non-Benchmark Infrastructure**

Appendix 1: Roads and Intersections

For roads and intersections, ultimate and interim designs have been prepared where appropriate. The primary principles that have traditionally been applied when incorporating roads in DCPs and ICPs are based on the draft *Arterial Road Planning Protocol for Growth Areas* (Protocol) and:

- provide for the ultimate land required (including the full road cross-section and any flaring required at intersections – hence the ultimate designs);
- provide for the interim cross section for arterial roads, generally comprising the first carriageway;
- where justified under the Direction, ultimate cross section for connector roads; and
- for arterial intersections, the interim cross section based on an "outside in" approach (see below).

The basic assumptions underpinning the benchmark scopes and cost estimates are outlined in the Cardno *Benchmark Costings Report* (3.4 Baseline assumptions).

Note that under the *Planning and Environment Act 1987* (s46GH), improvement works on State roads, other than that required to provide access for development, may not be included in an ICP in greenfields areas that are subject to the Growth Areas Infrastructure Contribution. Therefore, while intersections providing access to new development areas may be included, works to upgrade an existing State arterial may not (although arterials under the control of Councils may be included).

Land and First Carriageway

In 2008 VicRoads and growth areas Councils developed the draft Protocol to set out the principles of design and construction of arterial road in metropolitan greenfields. The protocol has been the basis for road design and costing since then and has been endorsed at Planning Panels several times over the years.

One key aspect of the protocol is:

> *For future duplicated arterial roads, Council will take the necessary steps to secure the reservation required for ultimate development, build at least one carriageway and ensure that the initial carriageway is constructed to suit ultimate duplication.*

This Land and First Carriageway approach is a practical balance between development contributing commensurate with its impacts on the wider road network and the reality of the contribution being provided via land and works being delivered through local scale development.

In practice, except for existing declared State arterials as noted above, this has meant that the PSP identifies suitable land required for the arterial road based on benchmark cross section widths while the ICP delivers this land through the public land provisions and includes construction of the initial carriageway is as an infrastructure item, typically funded through the standard levy.

In areas where an existing road already exists, construction of the first carriageway normally involves conversion of a rural road (shallow pavement, no drainage or paths, etc) to urban conditions (more robust pavement, kerb & channel, drainage, lighting, paths, etc.).

This approach allows road construction/upgrading to occur in advance of the full road reserve being available for duplication. Also, future duplication can occur largely clear of through traffic, reducing the cost of construction and impacts on future road users.

Benchmark Items 1-4 have been developed based on this assumption.

Outside-in intersection Design

For arterial to arterial or connector road intersections, the basis of the designs has been VicRoads' *Guidance for Planning Road Networks in Growth Areas* (2015). These designs reflect a balance between transport capacity, pedestrian and cyclist safety and convenience, urban amenity, land take and cost.

The "outside in" intersection design approach involves constructing the arterial road outside lanes through an intersection and retaining a wide median to accommodate future additional lanes. This approach provides net community benefit outcomes for the fair and orderly development of land by balancing a small increase in initial cost with less redundant works and less costly and disruptive works when a capacity increase is required in the longer term.

The benchmark intersection scopes do not provide for uncertain long-term aspirations (such as bus queue jump lanes).

The benchmark intersection scopes may not be appropriate in locations where the required land is unlikely to be available in a reasonable timeframe (for instance the proposed widening is not on development land) or speed limits cannot be lowered to 60 km/h to more safely align with the planned abutting urban development. In these circumstances a compact design alternative could be considered that can be constructed within the existing road reserve. While the initial cost of such a treatment may be lower or easier to provide, some works will be redundant in the ultimate and future construction will be more disruptive and expensive.

Other Issues

- The design of shared user paths is outlined in the benchmark scopes, however the actual treatment at the time of interim construction may require tailoring to then current local conditions (e.g. connections to existing paths or destinations, temporary construction, etc).
- Most intersection construction, even for a clearly non-benchmark design, is expected to be able to be costed using the benchmark rates (see Appendix 6)
- The cost of land for roads and intersections is not included as the land is provided through the public land provisions in the ICP.

Roads and Intersection BIC

The detailed road and intersection benchmark scopes and cost sheets listed below in Table 1.

Item	Category	Description	Standard	Cost Application	Estimate P50	Estimate P90
1	Road	Primary Arterial	Interim – first carriageway	Per 800m of road	$3,395,000	$3,860,000
2	Road	Secondary Arterial	Interim – first carriageway	Per 800m of road	$3,145,000	$3,500,000
3	Road	Connector – Boulevard	Ultimate	Per 800m of road	$3,657,000	$4,140,000
4	Road	Connector Street	Ultimate	Per 800m of road	$3,360,000	$3,793,000
5	Intersection	Primary/Primary	Cross – Signalised (Interim)	Per intersection	$6,156,000	$7,007,000
6	Intersection	Primary/Secondary	Cross – Signalised (Interim)	Per intersection	$6,154,000	$6,939,000
7	Intersection	Primary/Conn. Blvd.	Cross – Signalised (Interim)	Per Intersection	$4,104,000	$4,674,000
8	Intersection	Secondary/Secondary	Cross – Signalised (Interim)	Per intersection	$5,485,000	$6,134,000
9	Intersection	Secondary/Conn. Blvd	Cross – Signalised (Interim)	Per intersection	$3,824,000	$4,310,000
10	Intersection	Conn. Blvd/Conn. Blvd	Cross– Roundabout (Ultimate)	Per intersection	$1,732,000	$1,976,000
11	Intersection	Primary/Primary	T – Signalised (Interim)	Per intersection	$4,879,000	$5,546,000
12	Intersection	Primary/Secondary	T – Signalised (Interim)	Per intersection	$4,375,000	$4,964,000
13	Intersection	Primary/Conn. Blvd.	T – Signalised (Interim)	Per intersection	$3,460,000	$3,962,000
14	Intersection	Secondary/Secondary	T – Signalised (Interim)	Per intersection	$3,936,000	$4,417,000
15	Intersection	Secondary/Conn. Blvd	T – Signalised)interim)	Per intersection	$3,150,000	$3,549,000
16	Intersection	Conn. Blvd/Conn. Blvd	T – Roundabout (Ultimate)	Per intersection	$1,354,000	$1,548,000

Table 1: Road and intersection Infrastructure Costings (Indexed to July 2018)

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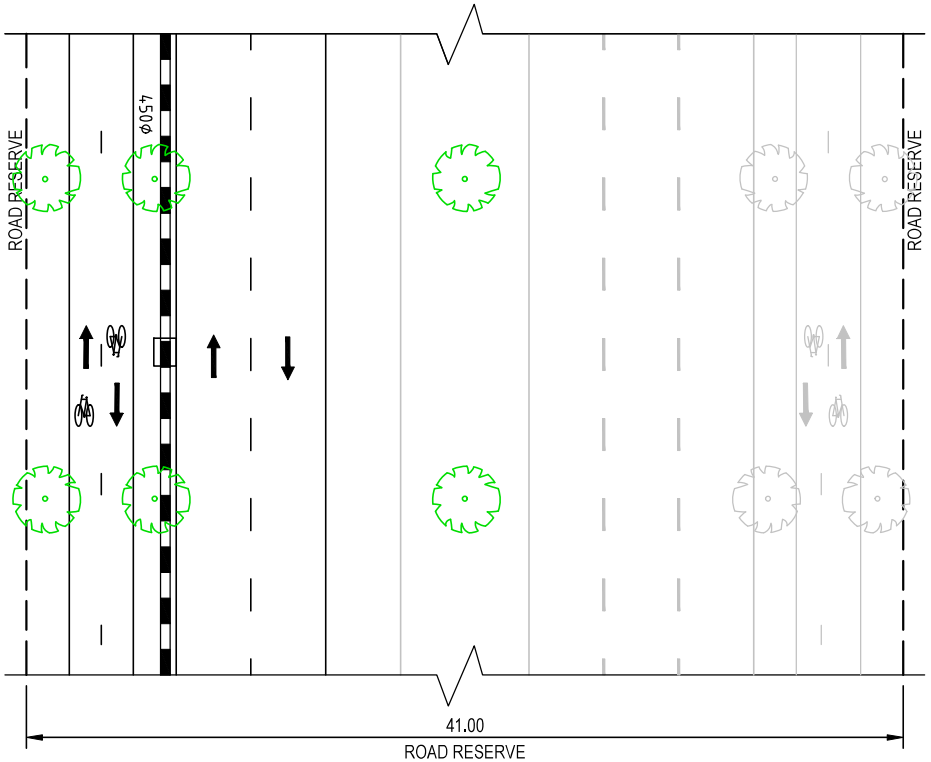

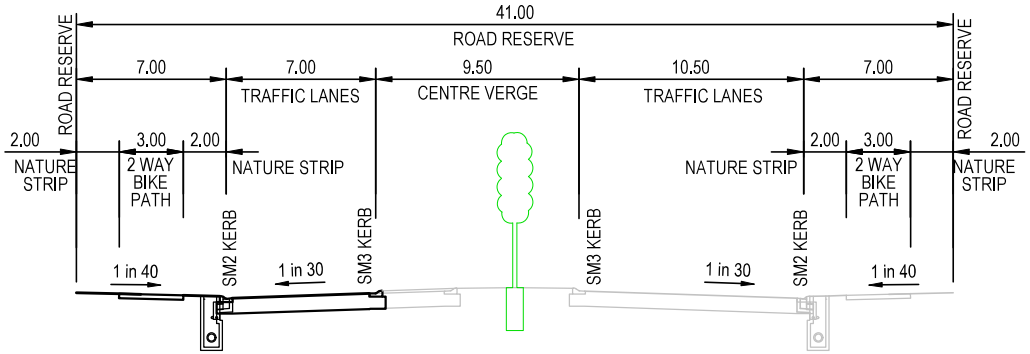

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Rev	Date	Description	Des.	Verif.	Appd.
6	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
5	23/07/2018	ADDRESS VPA COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	RVR	Date 27/09/2017
Checked	MEA	Date 28/09/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 1
PRIMARY ARTERIAL ROAD
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:250

Size: A3

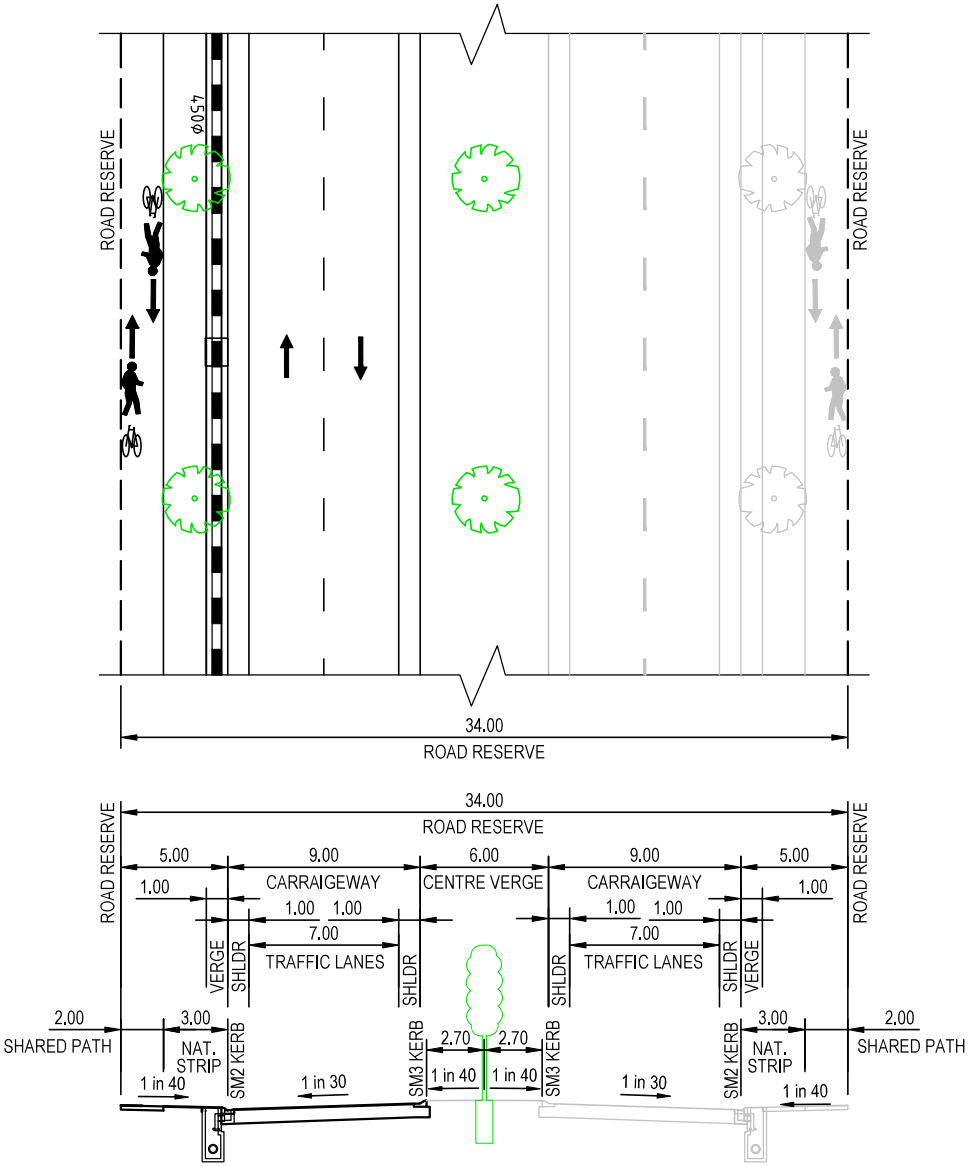
Drawing Number: V181544-CI-DG-2001

Revision: 6

XREFs:
CAD File: M:\2018\181544_UPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2001-2002.dwg

Appendix C	
Description:	Road - Primary - 800m
Civil Component Number:	Item 1

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	32800	m2	3.68	120704.00	4.96	162688.00
	Earthworks	4004	m3	34.07	136416.28	40.52	162242.08
Road Pavement	Primary Arterial Pavement	5600	m2	169.62	949872.00	186.26	1043056.00
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	1120	m2	14.22	15926.40	16.16	18099.20
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1600	m	54.81	87696.00	60.90	97440.00
	Cycle Path	2400	m2	76.59	183816.00	91.94	220656.00
	SUP/ Footpath	0	m2	63.51	0.00	73.63	0.00
	Traffic Island	0	m2	77.60	0.00	84.07	0.00
Drainage	Drainage Pipe 300mm CR Bfilled	100	m	179.85	17985.00	197.96	19796.00
	Drainage Pipe 375mm CR Bfilled	350	m	259.10	90685.00	282.96	99036.00
	Drainage Pipe 450mm CR Bfilled	350	m	299.43	104800.50	334.33	117015.50
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	16	No.	2565.39	41046.24	2806.10	44897.60
	Drainage – Sub-soil drainage	1600	m	33.88	54208.00	43.40	69440.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28	0.00	128786.34	0.00
Landscape	Tree Planting	160	No.	303.34	48534.40	363.01	58081.60
	Landscaping	11200	m2	21.61	242032.00	25.16	281792.00
	Topsoil Seeding	11200	m2	7.21	80752.00	8.44	94528.00
Street Lighting	Street Lighting - Road	800	m	216.34	173072.00	225.67	180536.00
	Street Lighting - Intersections	0	Item/ Per Leg	48468.93	0.00	55617.74	0.00
Misc	Regulatory Signage	18	Item	338.43	6091.74	380.39	6847.02
	Linemarking	5600	m2 of Pavement	3.11	17416.00	4.09	22904.00
	Landscape maintenance (intersection)	0	Item	71344.66	0.00	88131.43	0.00
	Landscape maintenance (road)	11200	m2	2.90	32480.00	2.96	33152.00
	Tactile Pavers (Hazard only)	0	Item	292.43	0.00	319.78	0.00
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	78114.84	3.25	88796.73
	VicRoads Fees	1	%	1.00	24035.34	1.00	27322.07
	Traffic Management	1	%	5.00	120176.68	5.00	136610.35
	Environmental Management	1	%	0.50	12017.67	0.50	13661.04
	Surveying and Design	1	%	5.00	120176.68	5.00	136610.35
	Supervision and Project management	1	%	9.00	216318.02	9.00	245898.63
	Site Establishment	1	%	2.50	60088.34	2.50	68305.18
	Contingency	1	%	15.00	360530.03	15.00	409831.05
Total	Excluding Delivery				**2,403,534**		**2,732,207**
	Including Delivery				**3,394,991**		**3,859,242**



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Drawn	RVR	Date 27/09/2017
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Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 2
SECONDARY ARTERIAL ROAD
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:250

Size: A3

Drawing Number: V181544-CI-DG-2002

Revision: 6

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XREFs:
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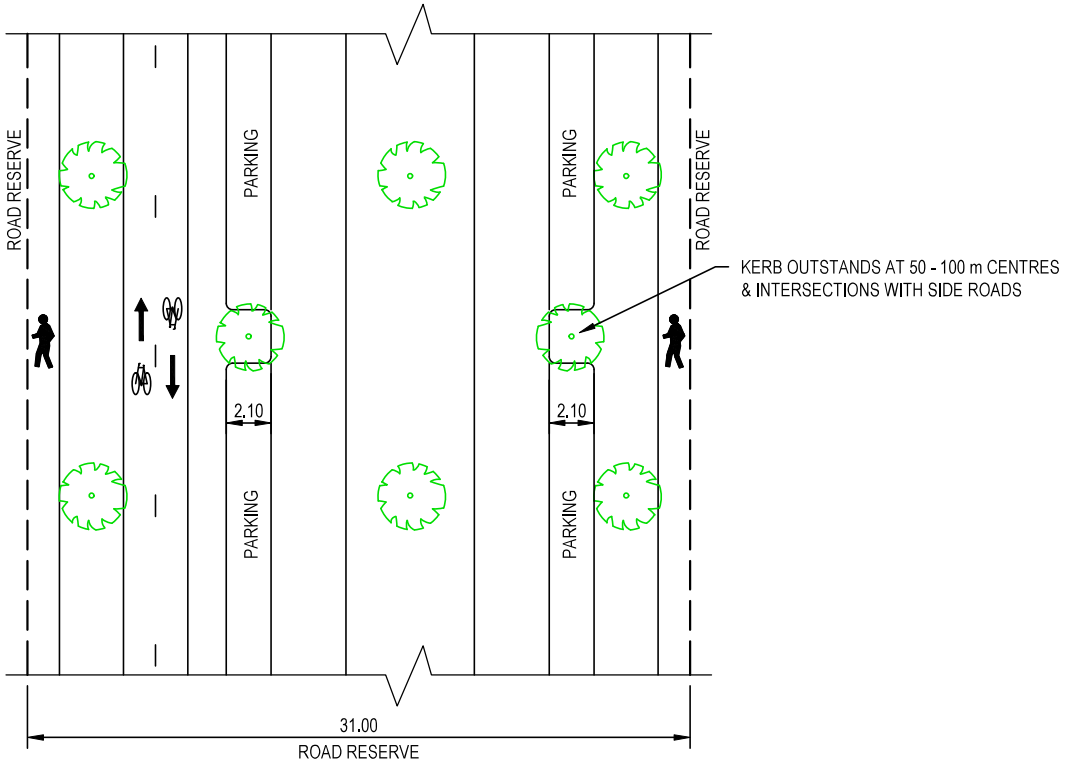
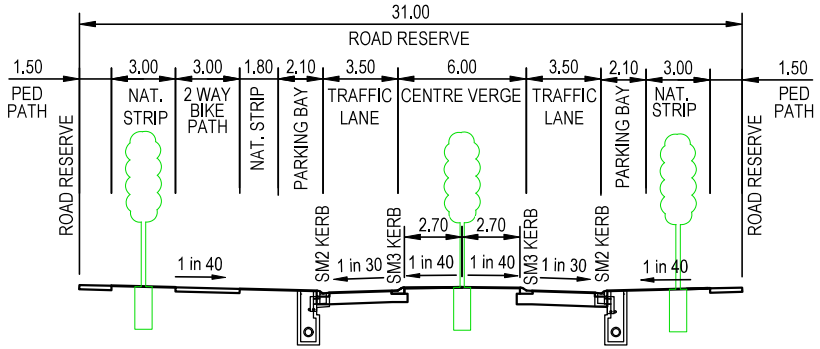
Appendix C	
Description:	Road - Secondary - 800m
Civil Component Number:	Item 2

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	27200	m2	3.68	100096.00	4.96	134912.00
	Earthworks	4572	m3	34.07	155768.04	40.52	185257.44
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	7200	m2	127.01	914472.00	133.78	963216.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	1440	m2	14.22	20476.80	16.16	23270.40
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1600	m	54.81	87696.00	60.90	97440.00
	Cycle Path	0	m2	76.59	0.00	91.94	0.00
	SUP/ Footpath	1600	m2	63.51	101616.00	73.63	117808.00
	Traffic Island	0	m2	77.60	0.00	84.07	0.00
Drainage	Drainage Pipe 300mm CR Bfilled	100	m	179.85	17985.00	197.96	19796.00
	Drainage Pipe 375mm CR Bfilled	350	m	259.10	90685.00	282.96	99036.00
	Drainage Pipe 450mm CR Bfilled	350	m	299.43	104800.50	334.33	117015.50
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	16	No.	2565.39	41046.24	2806.10	44897.60
	Drainage – Sub-soil drainage	1600	m	33.88	54208.00	43.40	69440.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28	0.00	128786.34	0.00
Landscape	Tree Planting	108	No.	303.34	32760.72	363.01	39205.08
	Landscaping	9600	m2	21.61	207456.00	25.16	241536.00
	Topsoil Seeding	9600	m2	7.21	69216.00	8.44	81024.00
Street Lighting	Street Lighting - Road	800	m	216.34	173072.00	225.67	180536.00
	Street Lighting - Intersections	0	Item/ Per Leg	48468.93	0.00	55617.74	0.00
Misc	Regulatory Signage	14	Item	338.43	4738.02	380.39	5325.46
	Linemarking	7200	m2 of Pavement	3.11	22392.00	4.09	29448.00
	Landscape maintenance (intersections)	0	Item	71344.66	0.00	88131.43	0.00
	Landscape maintenance (roads)	9600	m2	2.90	27840.00	2.96	28416.00
	Tactile Pavers (Hazard only)	0	Item	292.43	0.00	319.78	0.00
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	72355.54	3.25	80521.33
	VicRoads Fees	1	%	1.00	22263.24	1.00	24775.79
	Traffic Management	1	%	5.00	111316.22	5.00	123878.97
	Environmental Management	1	%	0.50	11131.62	0.50	12387.90
	Surveying and Design	1	%	5.00	111316.22	5.00	123878.97
	Supervision and Project management	1	%	9.00	200369.19	9.00	222982.15
	Site Establishment	1	%	2.50	55658.11	2.50	61939.49
	Contingency	1	%	15.00	333948.65	15.00	371636.92
Total	Excluding Delivery				**2,226,324**		**2,477,579**
	Including Delivery				**3,144,683**		**3,499,581**

DATE PLOTTED: 17 September 2019 10:16 AM BY: NEIL BATRA





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SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	RVR	Date 27/09/2017
Checked	MEA	Date 28/09/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 3
CONNECTOR BOULEVARD
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:250

Size: A3

Drawing Number: V181544-CI-DG-2003

Revision: 5

XREFs:
CAD File: M:\2018\181544_J\200\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2003-2009.dwg

Appendix C	
Description:	Road - Connector Boulevard - 800m
Civil Component Number:	Item 3

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	24800	m2	3.68	91264.00	4.96	123008.00
	Earthworks	2996	m3	34.07	102073.72	40.52	121397.92
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	5600	m2	105.15	588840.00	112.44	629664.00
	Subgrade Preparation	1120	m2	14.22	15926.40	16.16	18099.20
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	3200	m	54.81	175392.00	60.90	194880.00
	Cycle Path	2400	m2	76.59	183816.00	91.94	220656.00
	SUP/ Footpath	2400	m2	63.51	152424.00	73.63	176712.00
	Traffic Island	0	m2	77.60	0.00	84.07	0.00
Drainage	Drainage Pipe 300mm CR Bfilled	200	m	179.85	35970.00	197.96	39592.00
	Drainage Pipe 375mm CR Bfilled	908	m	259.10	235262.80	282.96	256927.68
	Drainage Pipe 450mm CR Bfilled	700	m	299.43	209601.00	334.33	234031.00
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	32	No.	2565.39	82092.48	2806.10	89795.20
	Drainage – Sub-soil drainage	3200	m	33.88	108416.00	43.40	138880.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28	0.00	128786.34	0.00
Landscape	Tree Planting	192	No.	303.34	58241.28	363.01	69697.92
	Landscaping	11208	m2	21.61	242204.88	25.16	281993.28
	Topsoil Seeding	11208	m2	7.21	80809.68	8.44	94595.52
Street Lighting	Street Lighting - Road	800	m	216.34	173072.00	225.67	180536.00
	Street Lighting - Intersections	0	Item/ Per Leg	48468.93	0.00	55617.74	0.00
Misc	Regulatory Signage	10	Item	338.43	3384.30	380.39	3803.90
	Linemarking	5600	m2 of Pavement	3.11	17416.00	4.09	22904.00
	Landscape maintenance (intersection)	0	Item	71344.66	0.00	88131.43	0.00
	Landscape maintenance (road)	11208	m2	2.90	32503.20	2.96	33175.68
	Tactile Pavers (Hazard only)	0	Item	292.43	0.00	319.78	0.00
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	84133.07	3.25	95236.35
	VicRoads Fees	1	%	1.00	25887.10	1.00	29303.49
	Traffic Management	1	%	5.00	129435.49	5.00	146517.47
	Environmental Management	1	%	0.50	12943.55	0.50	14651.75
	Surveying and Design	1	%	5.00	129435.49	5.00	146517.47
	Supervision and Project management	1	%	9.00	232983.88	9.00	263731.44
	Site Establishment	1	%	2.50	64717.74	2.50	73258.73
	Contingency	1	%	15.00	388306.46	15.00	439552.40
Total	Excluding Delivery				**2,588,710**		**2,930,349**
	Including Delivery				**3,656,553**		**4,139,118**

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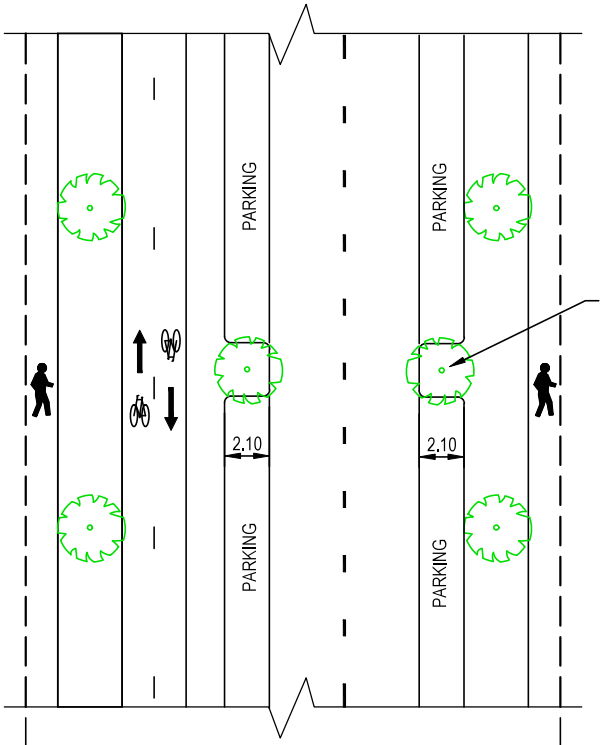

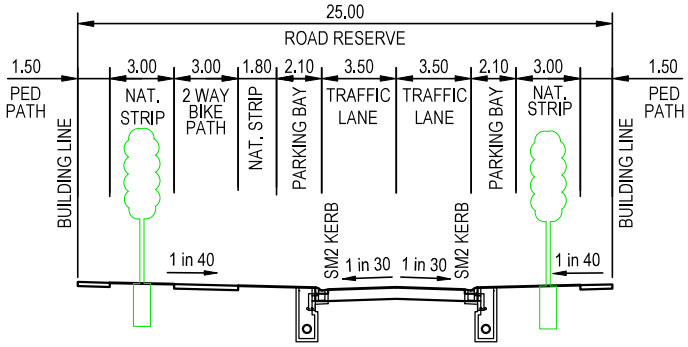

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SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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		Date
Drawn	RVR	27/09/2017
Checked	MEA	28/09/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 4
CONNECTOR STREET
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:250

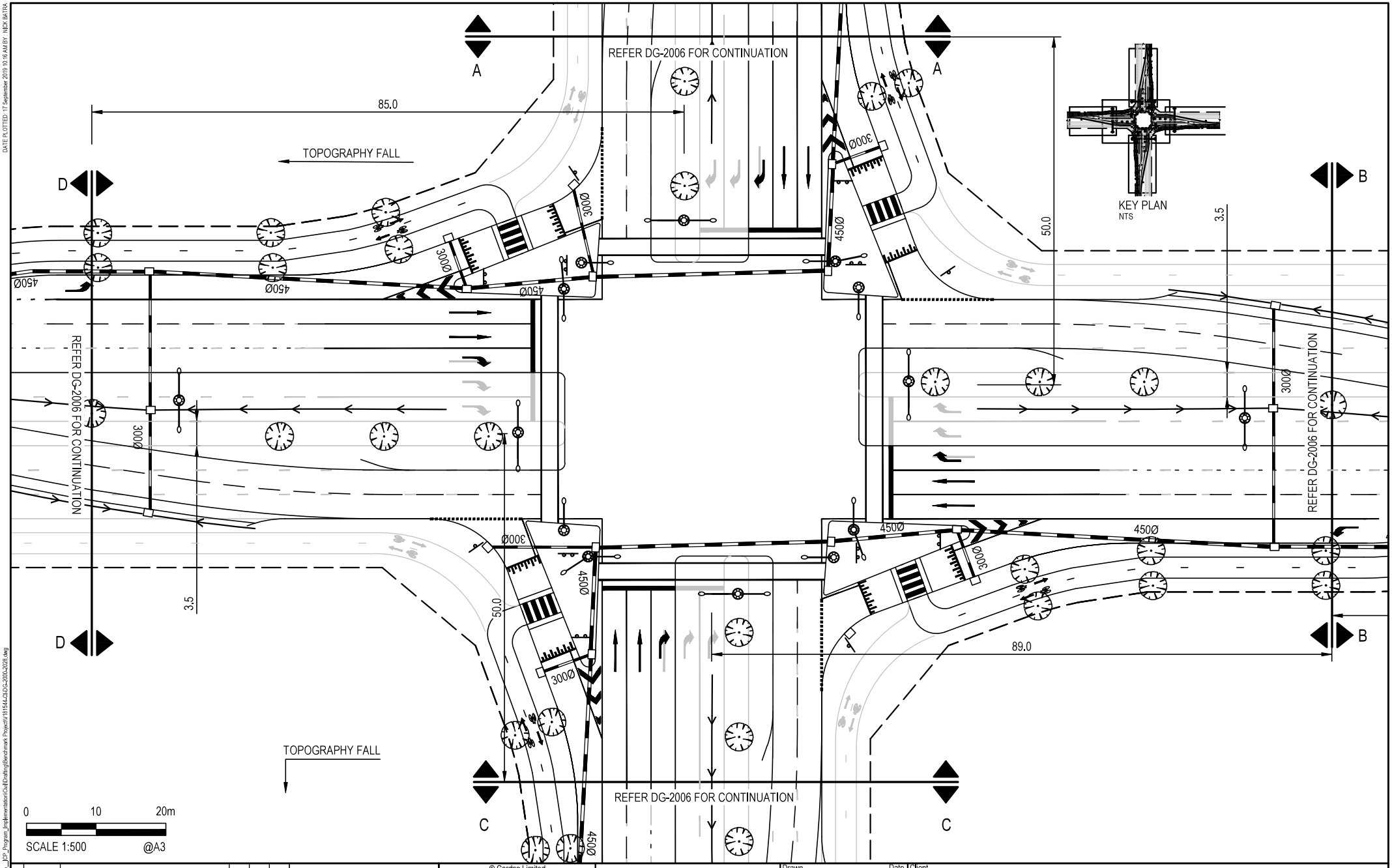
Size: A3

Drawing Number: V181544-CI-DG-2004

Revision: 5

Appendix C	
Description:	Road - Connector Street - 800m
Civil Component Number:	Item 4

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	20000	m2	3.68	73600.00	4.96	99200.00
	Earthworks	2996	m3	34.07	102073.72	40.52	121397.92
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	5600	m2	105.15	588840.00	112.44	629664.00
	Subgrade Preparation	1120	m2	14.22	15926.40	16.16	18099.20
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	3200	m	54.81	175392.00	60.90	194880.00
	Cycle Path	2400	m2	76.59	183816.00	91.94	220656.00
	SUP/ Footpath	2400	m2	63.51	152424.00	73.63	176712.00
	Traffic Island	0	m2	77.60	0.00	84.07	0.00
Drainage	Drainage Pipe 300mm CR Bfilled	200	m	179.85	35970.00	197.96	39592.00
	Drainage Pipe 375mm CR Bfilled	812	m	259.10	210389.20	282.96	229763.52
	Drainage Pipe 450mm CR Bfilled	700	m	299.43	209601.00	334.33	234031.00
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	32	No.	2565.39	82092.48	2806.10	89795.20
	Drainage – Sub-soil drainage	3200	m	33.88	108416.00	43.40	138880.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28	0.00	128786.34	0.00
Landscape	Tree Planting	140	No.	303.34	42467.60	363.01	50821.40
	Landscaping	6408	m2	21.61	138476.88	25.16	161225.28
	Topsoil Seeding	6408	m2	7.21	46201.68	8.44	54083.52
Street Lighting	Street Lighting - Road	800	m	216.34	173072.00	225.67	180536.00
	Street Lighting - Intersections	0	Item/ Per Leg	48468.93	0.00	55617.74	0.00
Misc	Regulatory Signage	10	Item	338.43	3384.30	380.39	3803.90
	Linemarking	5600	m2 of Pavement	3.11	17416.00	4.09	22904.00
	Landscape maintenance (intersection)	0	Item	71344.66	0.00	88131.43	0.00
	Landscape maintenance (road)	6408	m2	2.90	18583.20	2.96	18967.68
	Tactile Pavers (Hazard only)	0	Item	292.43	0.00	319.78	0.00
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	77289.63	3.25	87262.91
	VicRoads Fees	1	%	1.00	23781.42	1.00	26850.13
	Traffic Management	1	%	5.00	118907.12	5.00	134250.63
	Environmental Management	1	%	0.50	11890.71	0.50	13425.06
	Surveying and Design	1	%	5.00	118907.12	5.00	134250.63
	Supervision and Project management	1	%	9.00	214032.82	9.00	241651.14
	Site Establishment	1	%	2.50	59453.56	2.50	67125.32
	Contingency	1	%	15.00	356721.37	15.00	402751.89
Total	Excluding Delivery				**2,378,142**		**2,685,013**
	Including Delivery				**3,359,126**		**3,792,580**



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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 5
PRIMARY TO PRIMARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2005
Revision: 6

DATE PLOTTED: 17 September 2019 10:16 AM BY: NEN BATRA
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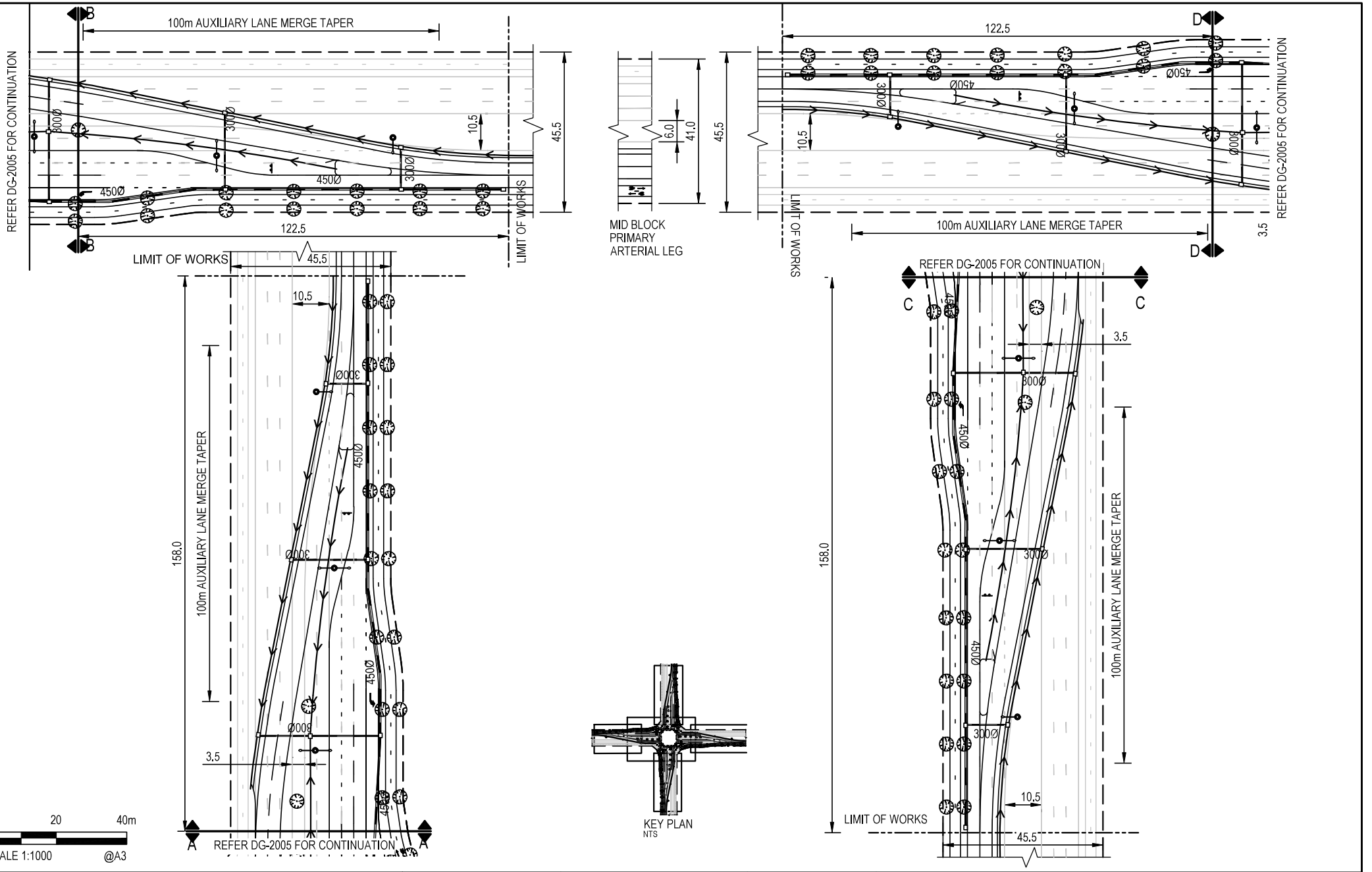

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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 5
PRIMARY TO PRIMARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

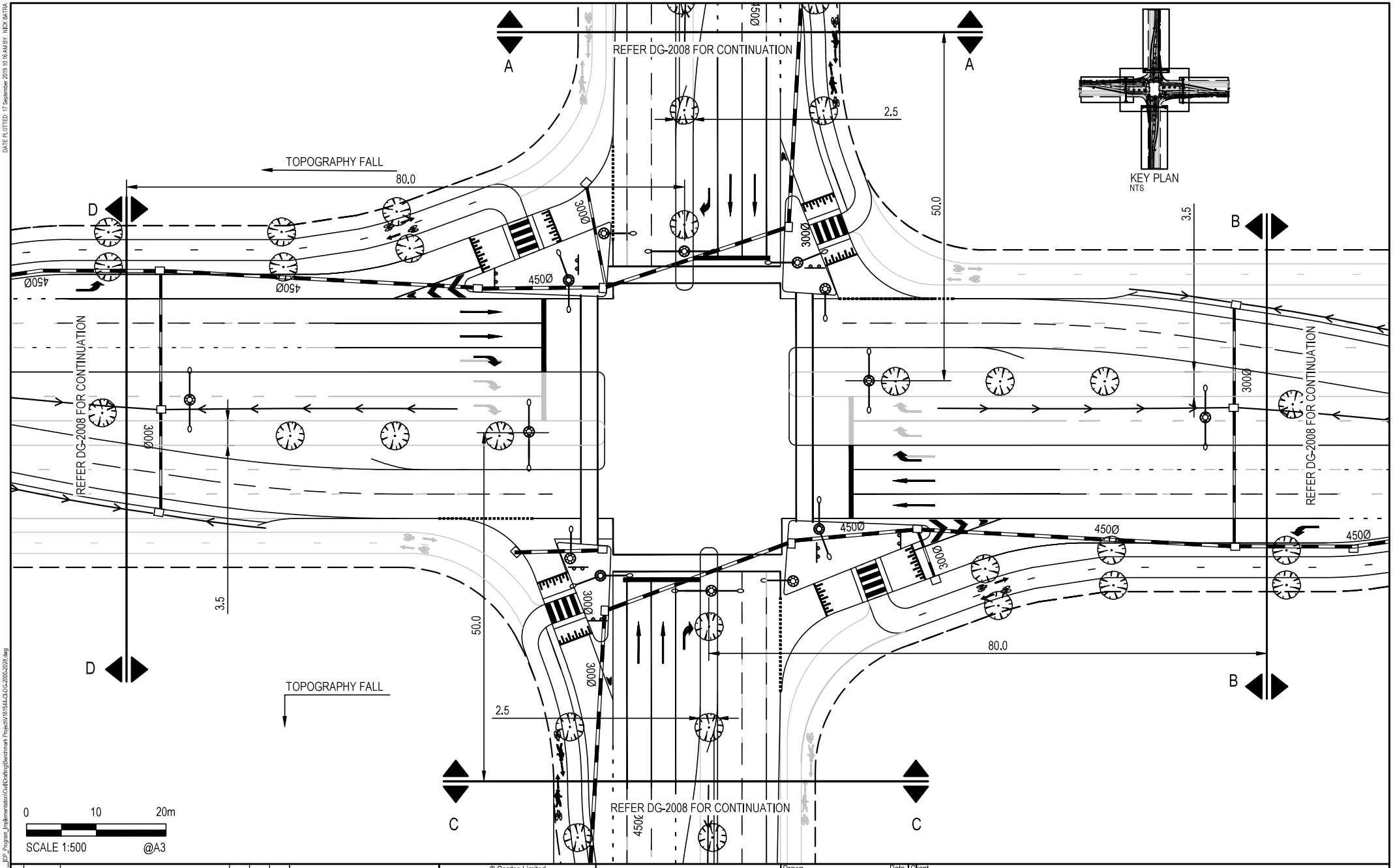
Scale: 1:1000
Size: A3

Drawing Number: V181544-CI-DG-2006
Revision: 6

DATE PLOTTED: 17 September 2019 10:16 AM BY: WEN BATRA
XREFs:
CAD File: W:\2018\181544_J\200\181544_VPA_IP\2_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2006-2008.dwg

Appendix C	
Description:	INTERSECTION - Primary - Primary Intersection
Civil Component Number:	Item 5

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	38603	m2	3.68	142059.04	4.96	191470.88
	Earthworks	8803	m3	34.07	299918.21	40.52	356697.56
Road Pavement	Primary Arterial Pavement	12312	m2	169.62	2088361.44	186.26	2293233.12
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	2462	m2	14.22	35009.64	16.16	39785.92
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	3053	m	54.81	167334.93	60.90	185927.70
	Cycle Path	2383	m2	76.59	182513.97	91.94	219093.02
	SUP/ Footpath	0	m2	63.51	0.00	73.63	0.00
	Traffic Island	1220	m2	77.60	94672.00	84.07	102565.40
Drainage	Drainage Pipe 300mm CR Bfilled	392	m	179.85	70501.20	197.96	77600.32
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	760	m	299.43	227566.80	334.33	254090.80
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	39	No.	2565.39	100050.21	2806.10	109437.90
	Drainage – Sub-soil drainage	3295	m	33.88	111634.60	43.40	143003.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
Landscape	Tree Planting	80	No.	303.34	24267.20	363.01	29040.80
	Landscaping	1996	m2	21.61	43133.56	25.16	50219.36
	Topsoil Seeding	1996	m2	7.21	14391.16	8.44	16846.24
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc.	Regulatory Signage	20	Item	338.43	6768.60	380.39	7607.80
	Line marking	12312	m2 of Pavement	3.11	38290.32	4.09	50356.08
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	24	Item	292.43	7018.32	319.78	7674.72
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	141623.06	3.25	161212.95
	VicRoads Fees	1	%	1.00	43576.33	1.00	49603.98
	Traffic Management	1	%	5.00	217881.64	5.00	248019.92
	Environmental Management	1	%	0.50	21788.16	0.50	24801.99
	Surveying and Design	1	%	5.00	217881.64	5.00	248019.92
	Supervision and Project management	1	%	9.00	392186.94	9.00	446435.85
	Site Establishment	1	%	2.50	108940.82	2.50	124009.96
	Contingency	1	%	15.00	653644.91	15.00	744059.76
Total	Excluding Delivery				**4,357,633**		**4,960,398**
	Including Delivery				**6,155,156**		**7,006,563**



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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 6
PRIMARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2007
Revision: 6

DATE PLOTTED: 17 September 2019 10:16 AM BY: NEN BATRA
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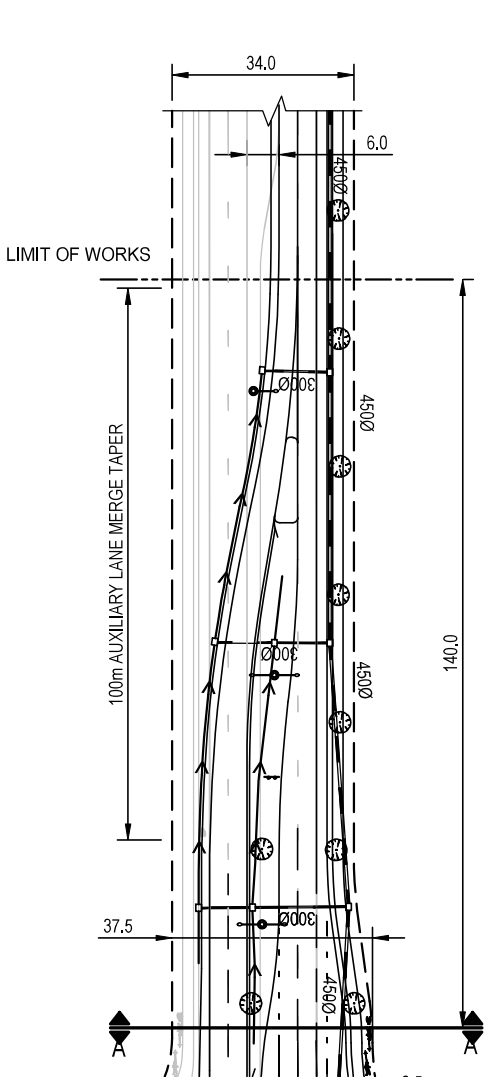

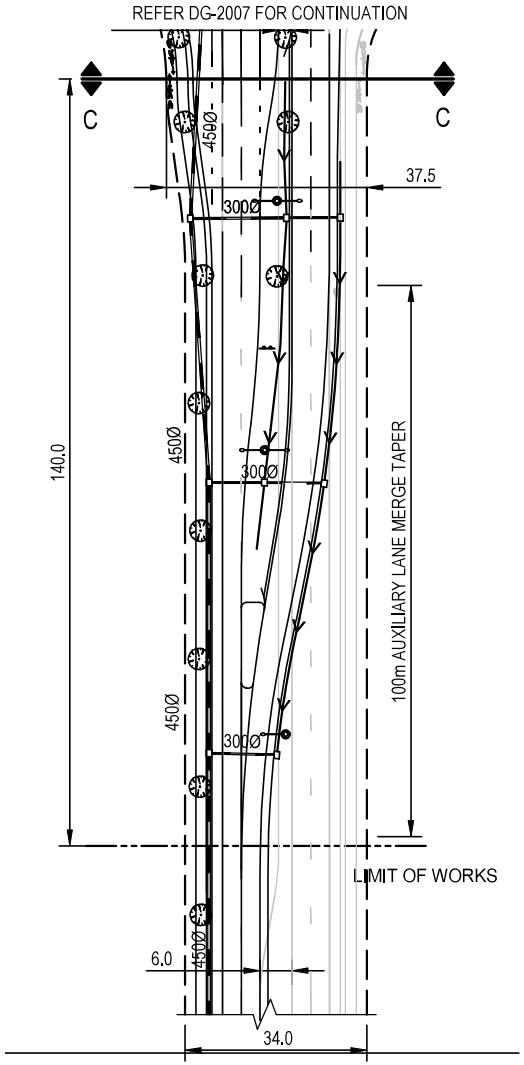

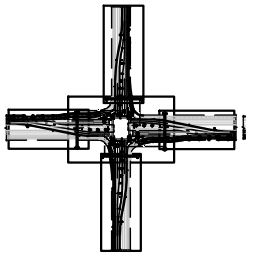

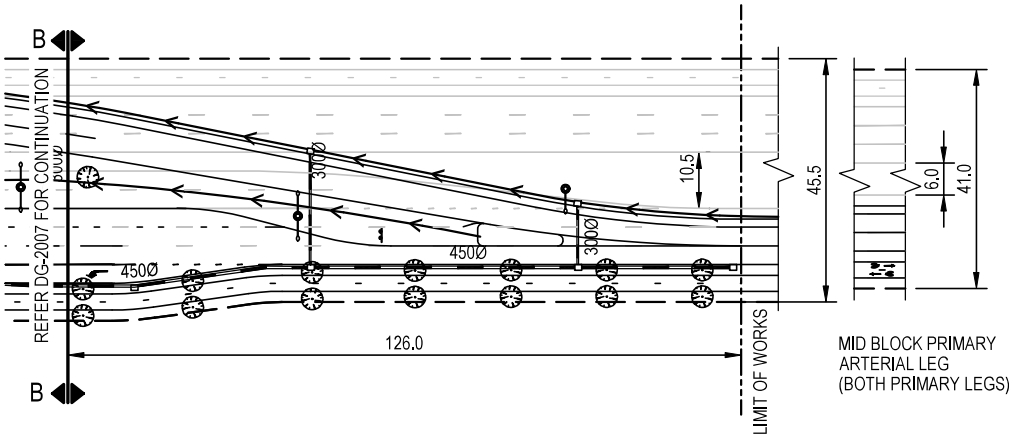

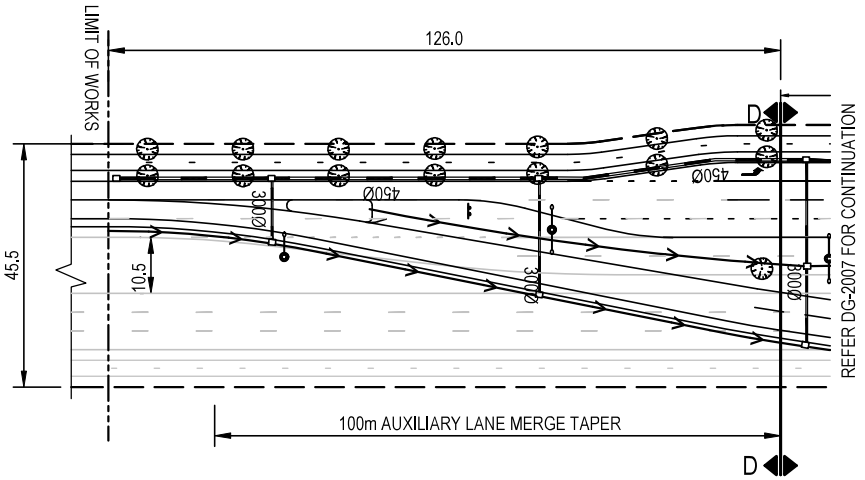

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Rev	Date	Description	Des.	Verif.	Appd.
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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 6
PRIMARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000 | Size: A3

Drawing Number: V181544-CI-DG-2008 | Revision: 6

DATE PLOTTED: 17 September 2019 10:17 AM BY: NIEN BATRA
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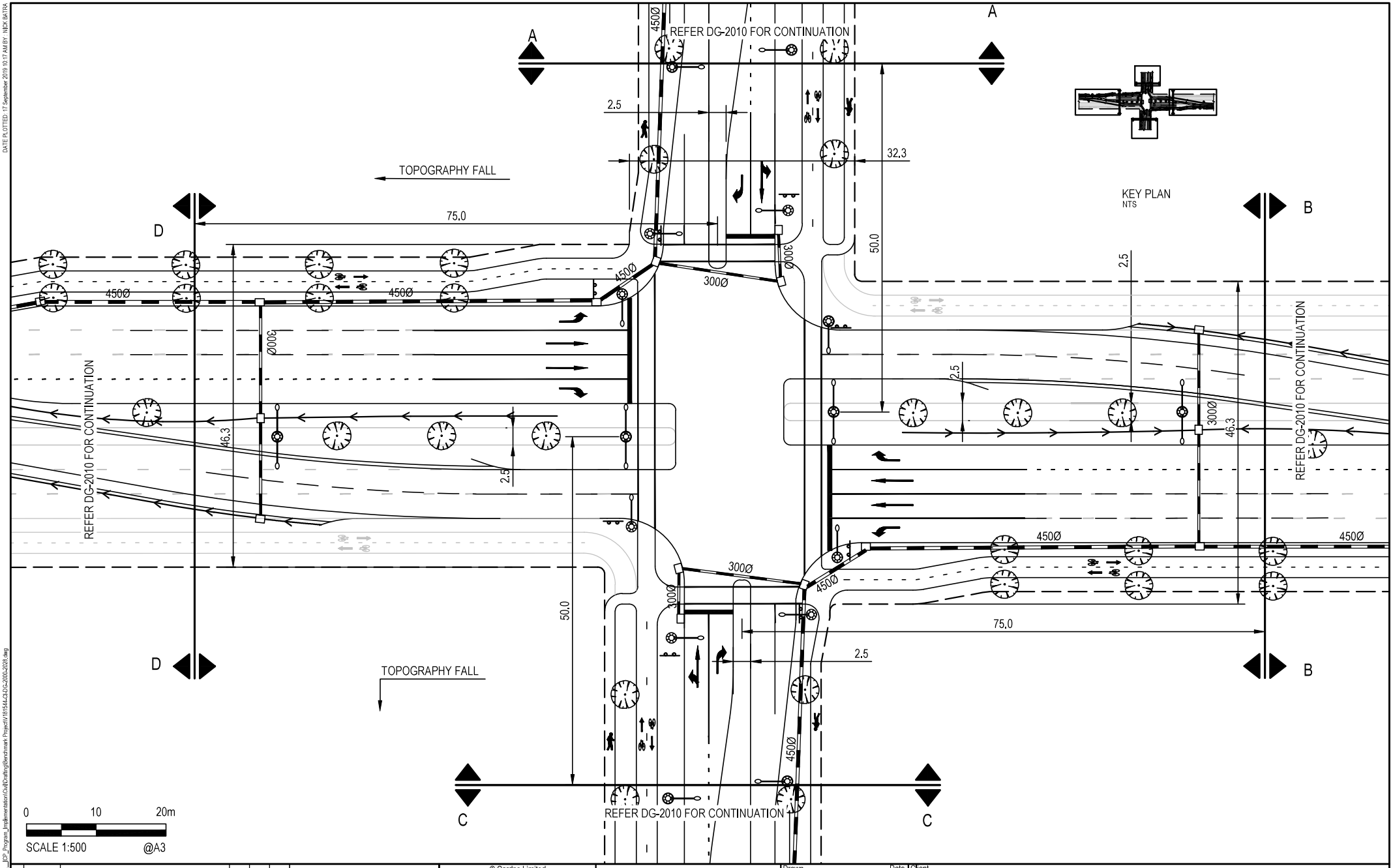
Appendix C	
Description:	INTERSECTION - Primary - Secondary Intersection
Civil Component Number:	Item 6

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	32503	m2	3.68	119611.04	4.96	161214.88
	Earthworks	10122	m3	34.07	344840.87	40.52	410124.80
Road Pavement	Primary Arterial Pavement	7006	m2	169.62	1188357.72	186.26	1304937.56
	Secondary Arterial Pavement	7150	m2	127.01	908121.50	133.78	956527.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	2831	m2	14.22	40256.82	16.16	45748.96
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	2960	m	54.81	162237.60	60.90	180264.00
	Cycle Path	1216	m2	76.59	93133.44	91.94	111799.04
	SUP/ Footpath	735	m2	63.51	46679.85	73.63	54118.05
	Traffic Island	1090	m2	77.60	84584.00	84.07	91636.30
Drainage	Drainage Pipe 300mm CR Bfilled	260	m	179.85	46761.00	197.96	51469.60
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	870	m	299.43	260504.10	334.33	290867.10
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	39	No.	2565.39	100050.21	2806.10	109437.90
	Drainage – Sub-soil drainage	3064	m	33.88	103808.32	43.40	132977.60
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
Landscape	Tree Planting	62	No.	303.34	18807.08	363.01	22506.62
	Landscaping	2728	m2	21.61	58952.08	25.16	68636.48
	Topsoil Seeding	2728	m2	7.21	19668.88	8.44	23024.32
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc.	Regulatory Signage	16	Item	338.43	5414.88	380.39	6086.24
	Line marking	14156	m2 of Pavement	3.11	44025.16	4.09	57898.04
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	24	Item	292.43	7018.32	319.78	7674.72
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	141601.67	3.25	159662.65
	VicRoads Fees	1	%	1.00	43569.74	1.00	49126.97
	Traffic Management	1	%	5.00	217848.72	5.00	245634.85
	Environmental Management	1	%	0.50	21784.87	0.50	24563.48
	Surveying and Design	1	%	5.00	217848.72	5.00	245634.85
	Supervision and Project management	1	%	9.00	392127.69	9.00	442142.73
	Site Establishment	1	%	2.50	108924.36	2.50	122817.42
	Contingency	1	%	15.00	653546.16	15.00	736904.54
Total	Excluding Delivery				**4,356,974**		**4,912,697**
	Including Delivery				**6,154,226**		**6,939,184**



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6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
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Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 7
PRIMARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2009
Revision: 7

DATE PLOTTED: 17 September 2019 10:17 AM BY: NIEN BATRA
XREFs:
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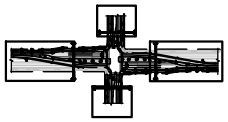
DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA



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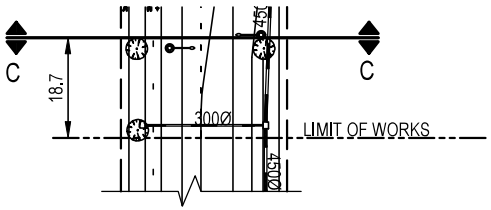
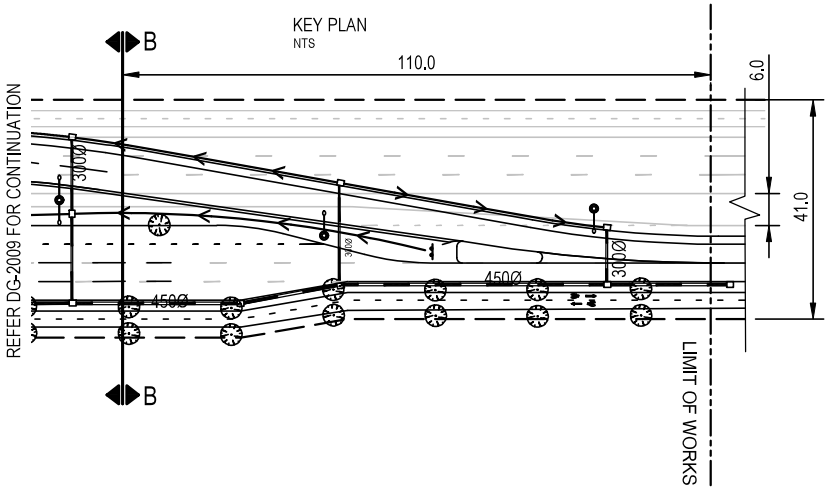
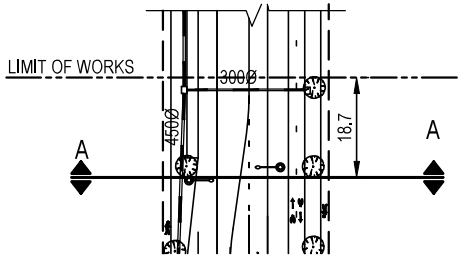


KEY PLAN
NTS





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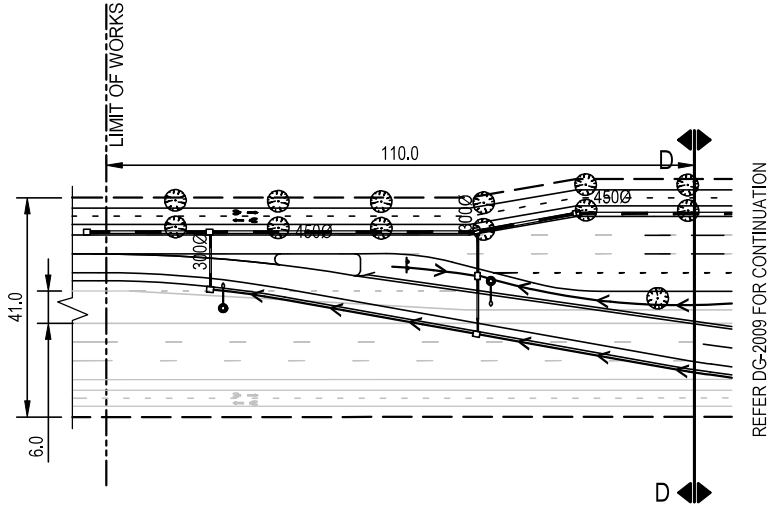

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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 7
PRIMARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000 Size: A3

Drawing Number: V181544-CI-DG-2010 Revision: 7

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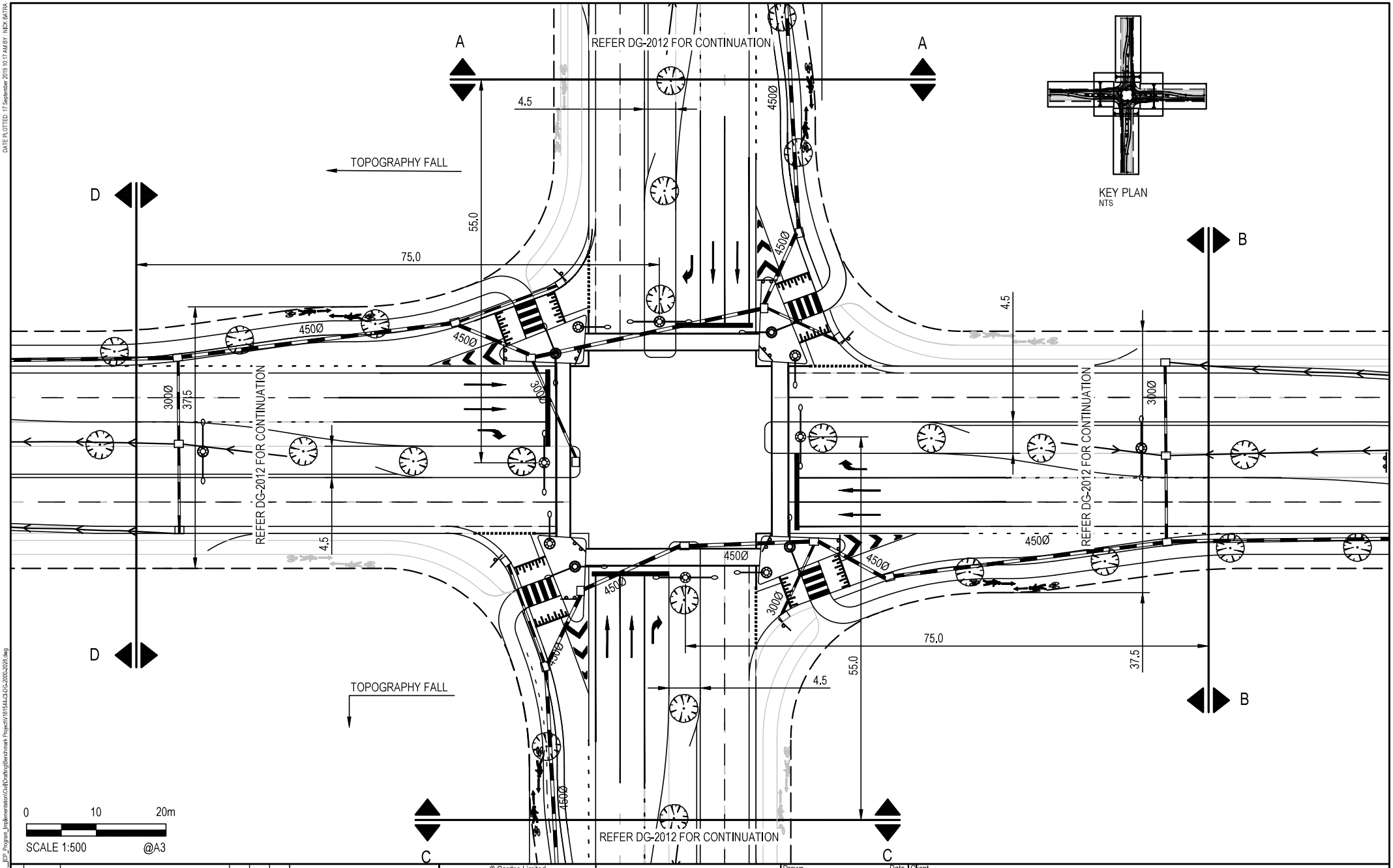
Appendix C	
Description:	INTERSECTION - Primary - Connector Intersection
Civil Component Number:	Item 7

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	18260	m2	3.68	67196.80	4.96	90569.60
	Earthworks	4754	m3	34.07	161968.78	40.52	192632.08
Road Pavement	Primary Arterial Pavement	5915	m2	169.62	1003302.30	186.26	1101727.90
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	963	m2	105.15	101259.45	112.44	108279.72
	Subgrade Preparation	1376	m2	14.22	19566.72	16.16	22236.16
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1492	m	54.81	81776.52	60.90	90862.80
	Cycle Path	1547	m2	76.59	118484.73	91.94	142231.18
	SUP/ Footpath	297	m2	63.51	18862.47	73.63	21868.11
	Traffic Island	2890	m2	77.60	224264.00	84.07	242962.30
Drainage	Drainage Pipe 300mm CR Bfilled	220	m	179.85	39567.00	197.96	43551.20
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	455	m	299.43	136240.65	334.33	152120.15
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	25	No.	2565.39	64134.75	2806.10	70152.50
	Drainage – Sub-soil drainage	2342	m	33.88	79346.96	43.40	101642.80
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
Landscape	Tree Planting	51	No.	303.34	15470.34	363.01	18513.51
	Landscaping	1232	m2	21.61	26623.52	25.16	30997.12
	Topsoil Seeding	1232	m2	7.21	8882.72	8.44	10398.08
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc	Regulatory Signage	16	Item	338.43	5414.88	380.39	6086.24
	Line marking	6878	m2 of Pavement	3.11	21390.58	4.09	28131.02
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	24	Item	292.43	7018.32	319.78	7674.72
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	94409.67	3.25	107522.51
	VicRoads Fees	1	%	1.00	29049.13	1.00	33083.85
	Traffic Management	1	%	5.00	145245.65	5.00	165419.25
	Environmental Management	1	%	0.50	14524.56	0.50	16541.92
	Surveying and Design	1	%	5.00	145245.65	5.00	165419.25
	Supervision and Project management	1	%	9.00	261442.17	9.00	297754.64
	Site Establishment	1	%	2.50	72622.82	2.50	82709.62
	Contingency	1	%	15.00	435736.95	15.00	496257.74
Total	Excluding Delivery				**2,904,913**		**3,308,385**
	Including Delivery				**4,103,190**		**4,673,094**



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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
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Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 8
SECONDARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2011
Revision: 5

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA
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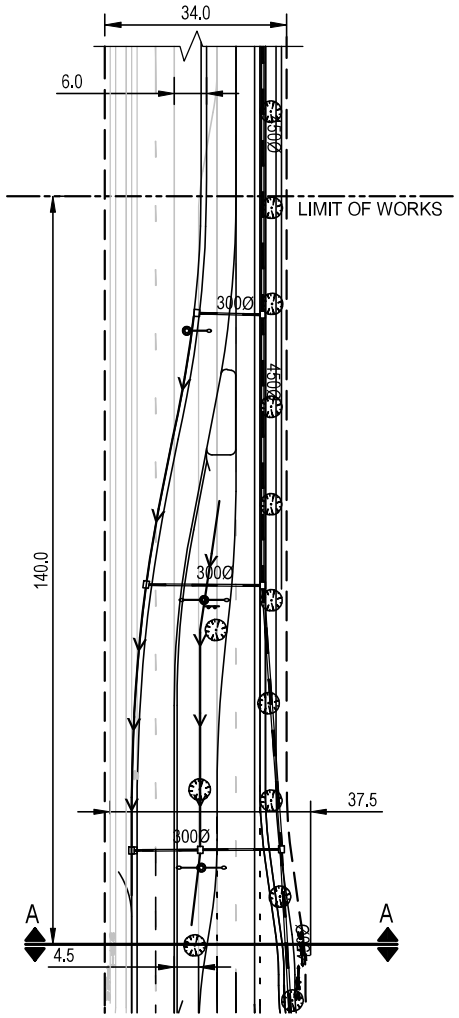

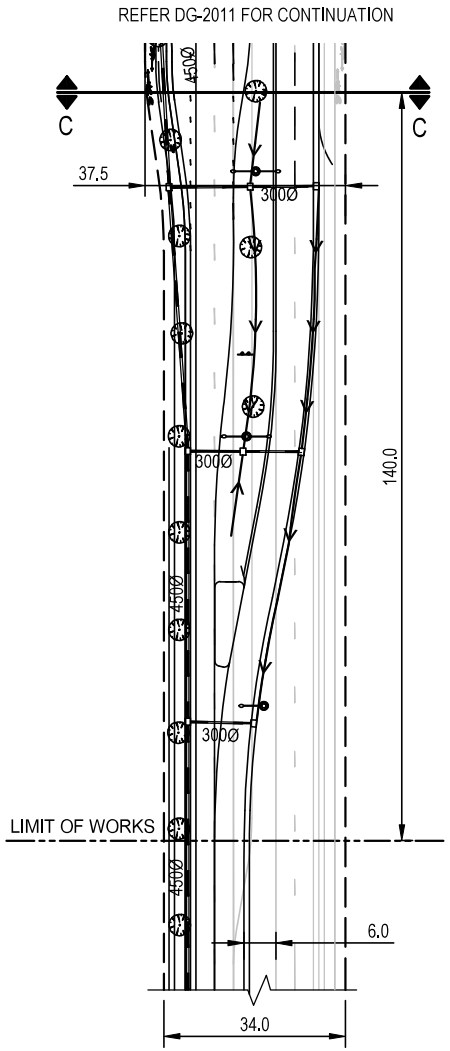

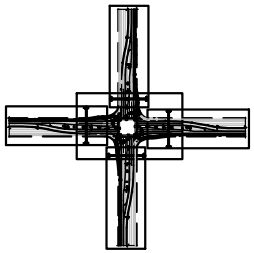

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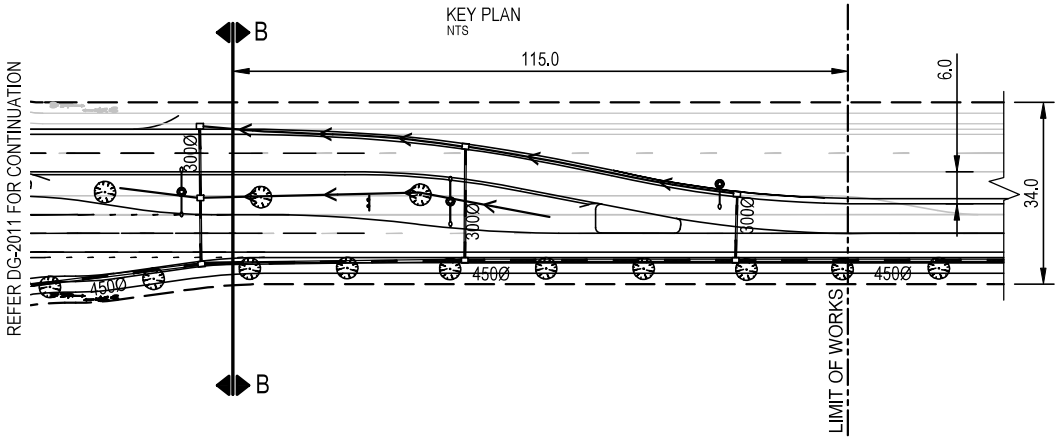

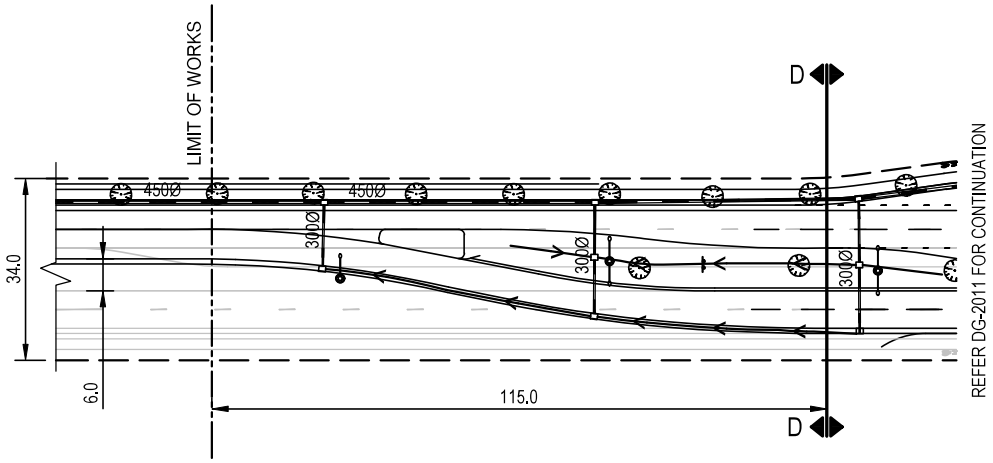

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3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 8
SECONDARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

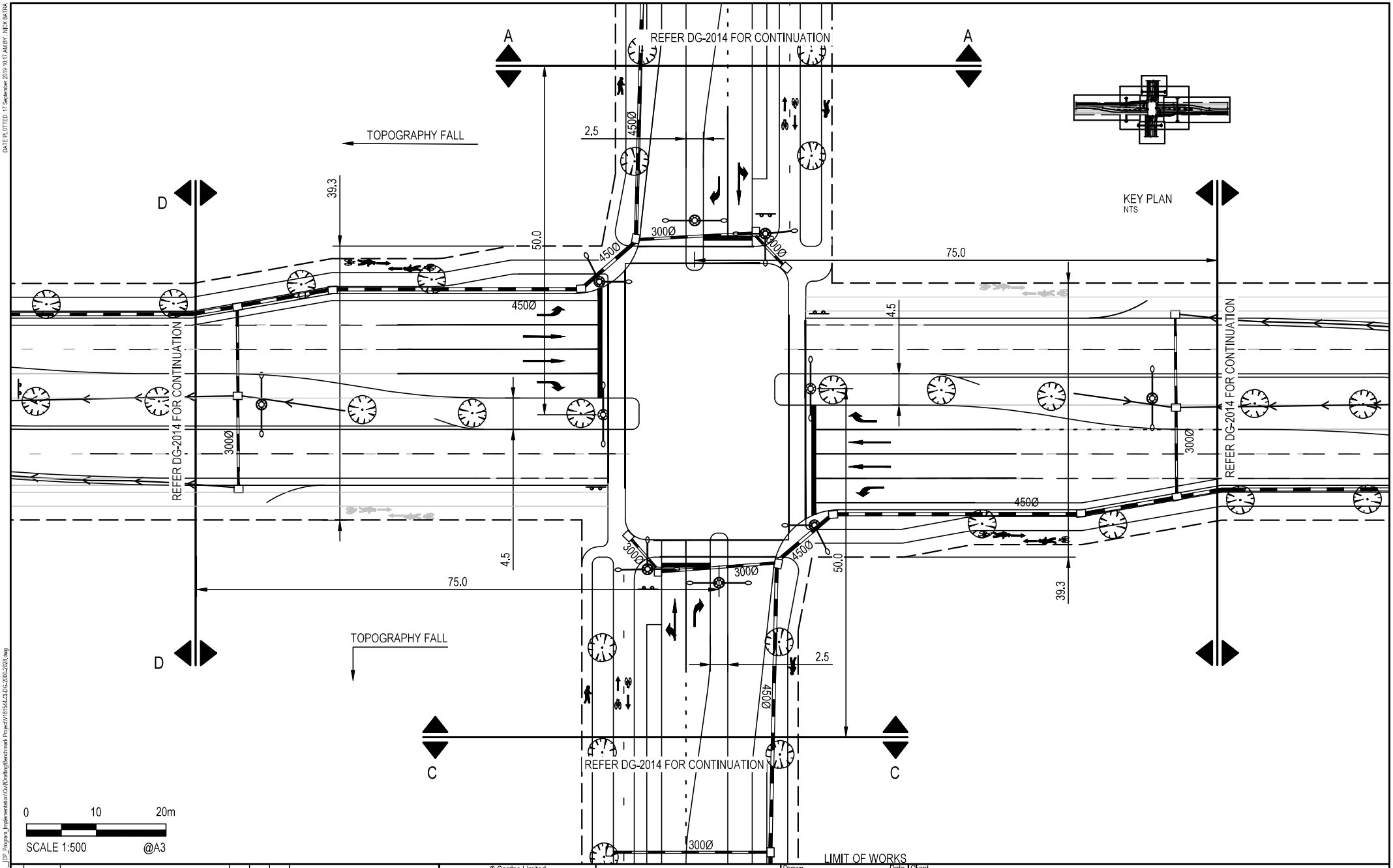
Scale: 1:1000
Size: A3

Drawing Number: V181544-CI-DG-2012
Revision: 5

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA
XREFs:
CAD File: M:\2018\181544_J\200\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-DG-2000-2009.dwg

Appendix C	
Description:	INTERSECTION - Secondary - Secondary Intersection
Civil Component Number:	Item 8

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	26125	m2	3.68	96140.00	4.96	129580.00
	Earthworks	9867	m3	34.07	336168.69	40.52	399810.84
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	13800	m2	127.01	1752738.00	133.78	1846164.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	2760	m2	14.22	39247.20	16.16	44601.60
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	2000	m	54.81	109620.00	60.90	121800.00
	Cycle Path	0	m2	76.59	0.00	91.94	0.00
	SUP/ Footpath	1700	m2	63.51	107967.00	73.63	125171.00
	Traffic Island	680	m2	77.60	52768.00	84.07	57167.60
Drainage	Drainage Pipe 300mm CR Bfilled	260	m	179.85	46761.00	197.96	51469.60
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	900	m	299.43	269487.00	334.33	300897.00
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	40	No.	2565.39	102615.60	2806.10	112244.00
	Drainage – Sub-soil drainage	3100	m	33.88	105028.00	43.40	134540.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
Landscape	Tree Planting	60	No.	303.34	18200.40	363.01	21780.60
	Landscaping	3000	m2	21.61	64830.00	25.16	75480.00
	Topsoil Seeding	3000	m2	7.21	21630.00	8.44	25320.00
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc	Regulatory Signage	16	Item	338.43	5414.88	380.39	6086.24
	Line marking	13800	m2 of Pavement	3.11	42918.00	4.09	56442.00
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	24	Item	292.43	7018.32	319.78	7674.72
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	126187.54	3.25	141114.25
	VicRoads Fees	1	%	1.00	38826.94	1.00	43419.77
	Traffic Management	1	%	5.00	194134.68	5.00	217098.85
	Environmental Management	1	%	0.50	19413.47	0.50	21709.88
	Surveying and Design	1	%	5.00	194134.68	5.00	217098.85
	Supervision and Project management	1	%	9.00	349442.42	9.00	390777.93
	Site Establishment	1	%	2.50	97067.34	2.50	108549.42
	Contingency	1	%	15.00	582404.04	15.00	651296.54
Total	Excluding Delivery				**3,882,694**		**4,341,977**
	Including Delivery				**5,484,305**		**6,133,042**



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6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 9
SECONDARY TO CONNECTOR BLVD INTERSECTION
INTERIM

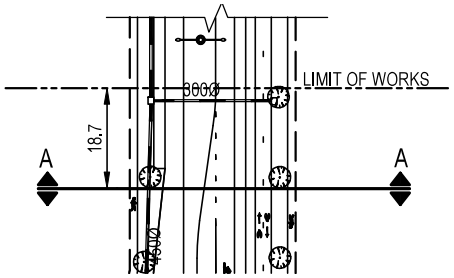
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:500
Size: A3

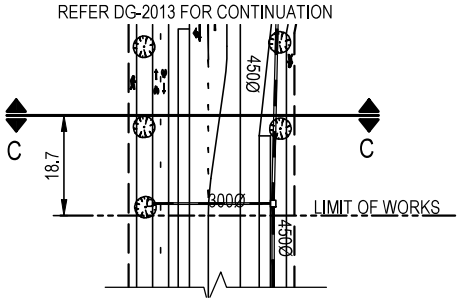
Drawing Number: V181544-CI-DG-2013
Revision: 7

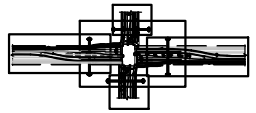
DATE PLOTTED: 17 September 2019 10:17 AM BY: NIEN BATRA
XREFs
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2013.dwg

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEIN BATRA

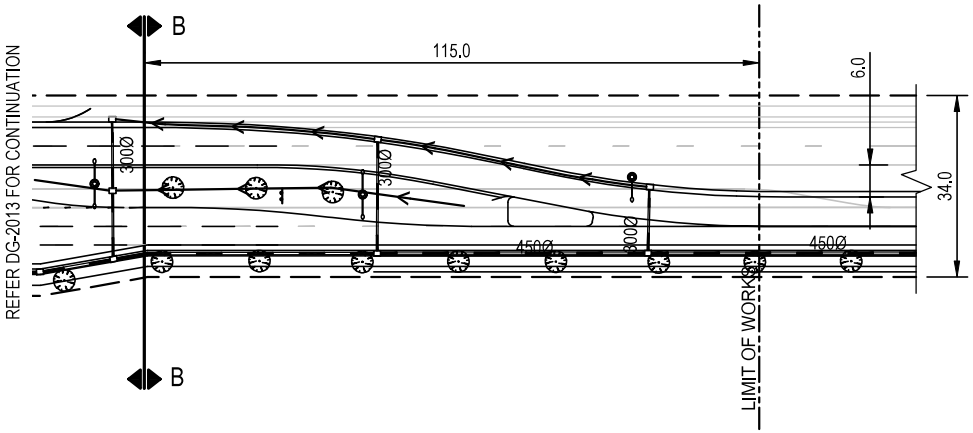


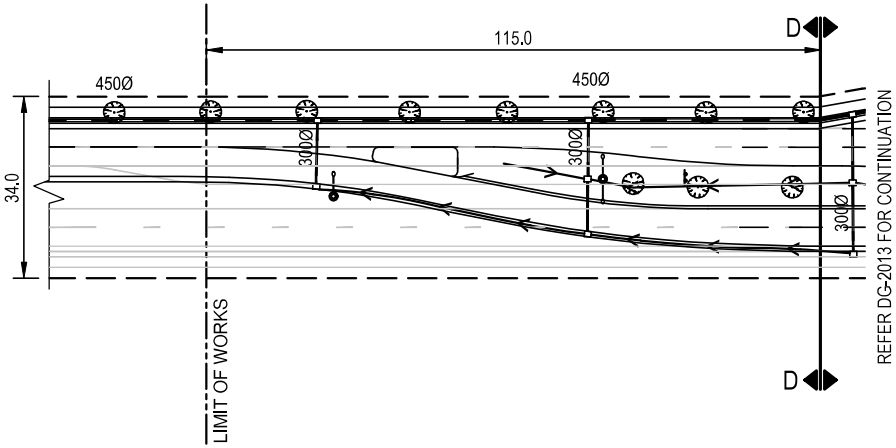
REFER DG-2013 FOR CONTINUATION





KEY PLAN
NTS





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SCALE 1:1000 @A3

Rev	Date	Description	Des.	Verif.	Appd.
7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 9
SECONDARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

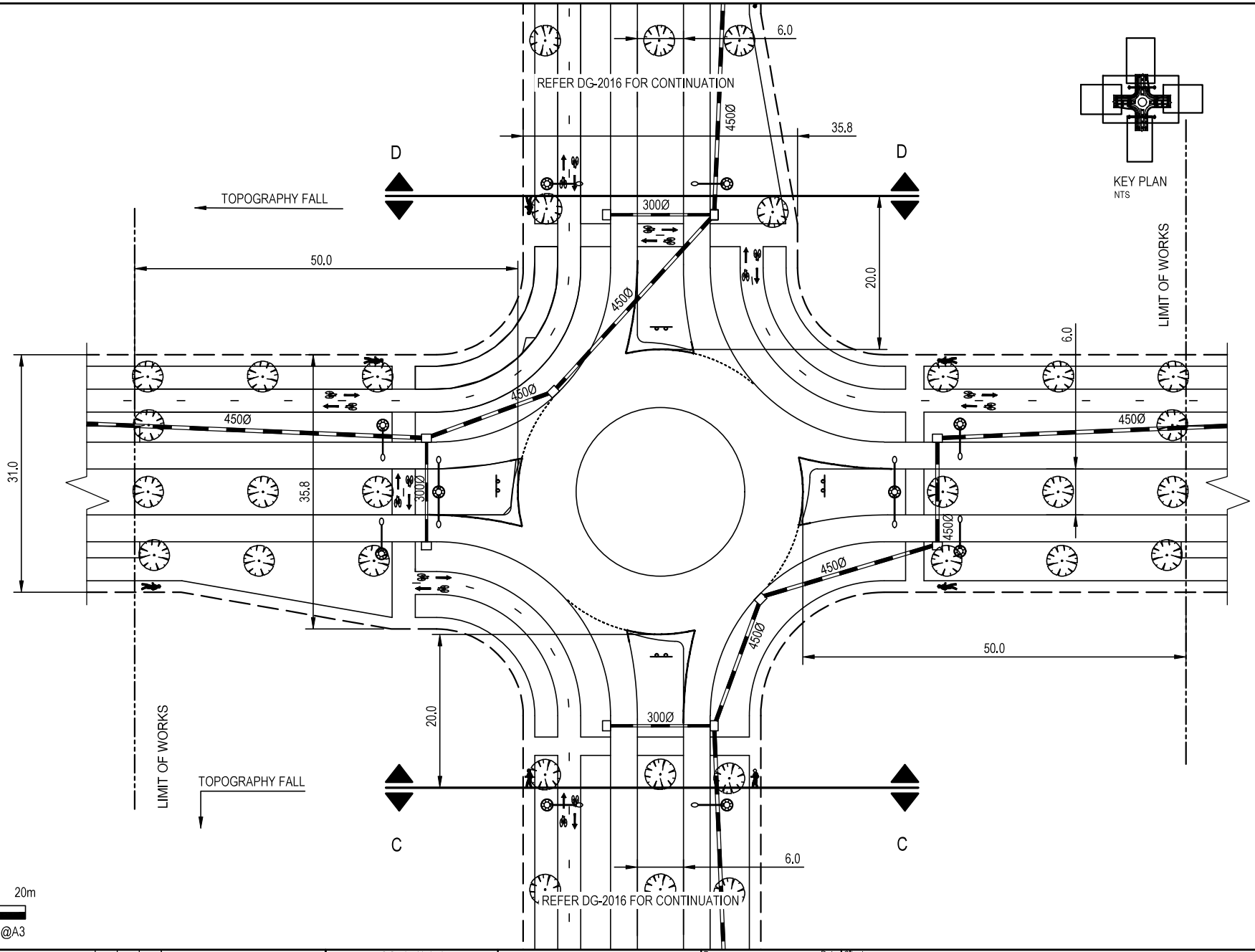
Scale: 1:1000 Size: A3

Drawing Number: V181544-CI-DG-2014 Revision: 7

XREFs:
CAD File: M:\2018\181544_V2000\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2009.dwg

Appendix C	
Description:	INTERSECTION - Secondary - Connector Intersection
Civil Component Number:	Item 9

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	16350	m2	3.68	60168.00	4.96	81096.00
	Earthworks	5345	m3	34.07	182104.15	40.52	216579.40
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	7470	m2	127.01	948764.70	133.78	999336.60
	Collector Arterial Pavement	962	m2	105.15	101154.30	112.44	108167.28
	Subgrade Preparation	1686.4	m2	14.22	23980.61	16.16	27252.22
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	2008	m	54.81	110058.48	60.90	122287.20
	Cycle Path	346	m2	76.59	26500.14	91.94	31811.24
	SUP/ Footpath	1166	m2	63.51	74052.66	73.63	85852.58
	Traffic Island	105	m2	77.60	8148.00	84.07	8827.35
Drainage	Drainage Pipe 300mm CR Bfilled	210	m	179.85	37768.50	197.96	41571.60
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	540	m	299.43	161692.20	334.33	180538.20
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	24	No.	2565.39	61569.36	2806.10	67346.40
	Drainage – Sub-soil drainage	2548	m	33.88	86326.24	43.40	110583.20
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
Landscape	Tree Planting	41	No.	303.34	12436.94	363.01	14883.41
	Landscaping	2468	m2	21.61	53333.48	25.16	62094.88
	Topsoil Seeding	2468	m2	7.21	17794.28	8.44	20829.92
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc.	Regulatory Signage	10	Item	338.43	3384.30	380.39	3803.90
	Line marking	8432	m2 of Pavement	3.11	26223.52	4.09	34486.88
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	24	Item	292.43	7018.32	319.78	7674.72
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	87965.14	3.25	99150.05
	VicRoads Fees	1	%	1.00	27066.20	1.00	30507.71
	Traffic Management	1	%	5.00	135330.98	5.00	152538.54
	Environmental Management	1	%	0.50	13533.10	0.50	15253.85
	Surveying and Design	1	%	5.00	135330.98	5.00	152538.54
	Supervision and Project management	1	%	9.00	243595.77	9.00	274569.37
	Site Establishment	1	%	2.50	67665.49	2.50	76269.27
	Contingency	1	%	15.00	405992.95	15.00	457615.61
Total	Excluding Delivery				**2,706,620**		**3,050,771**
	Including Delivery				**3,823,100**		**4,309,214**



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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	25/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 10
CONNECTOR BLVD TO CONNECTOR BLVD ROUNDABOUT
ULTIMATE

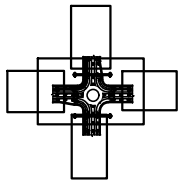
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:500
Size: A3

Drawing Number: V181544-CI-DG-2015
Revision: 6

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA
XREFs:
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\CAD\Drafting\Benchmark Project\V181544-CI-DG-2015-2019R.dwg

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA



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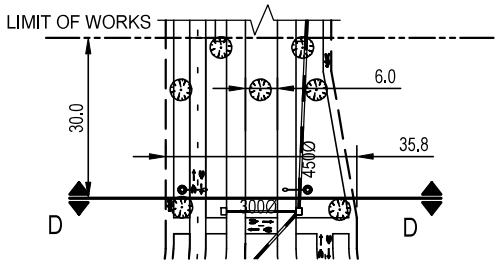

REFER DG-2015 FOR CONTINUATION

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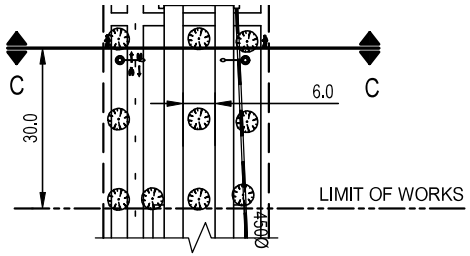

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Rev	Date	Description	Des.	Verif.	Appd.
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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 10
CONNECTOR BLVD TO CONNECTOR BLVD ROUNDABOUT
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000

Size: A3

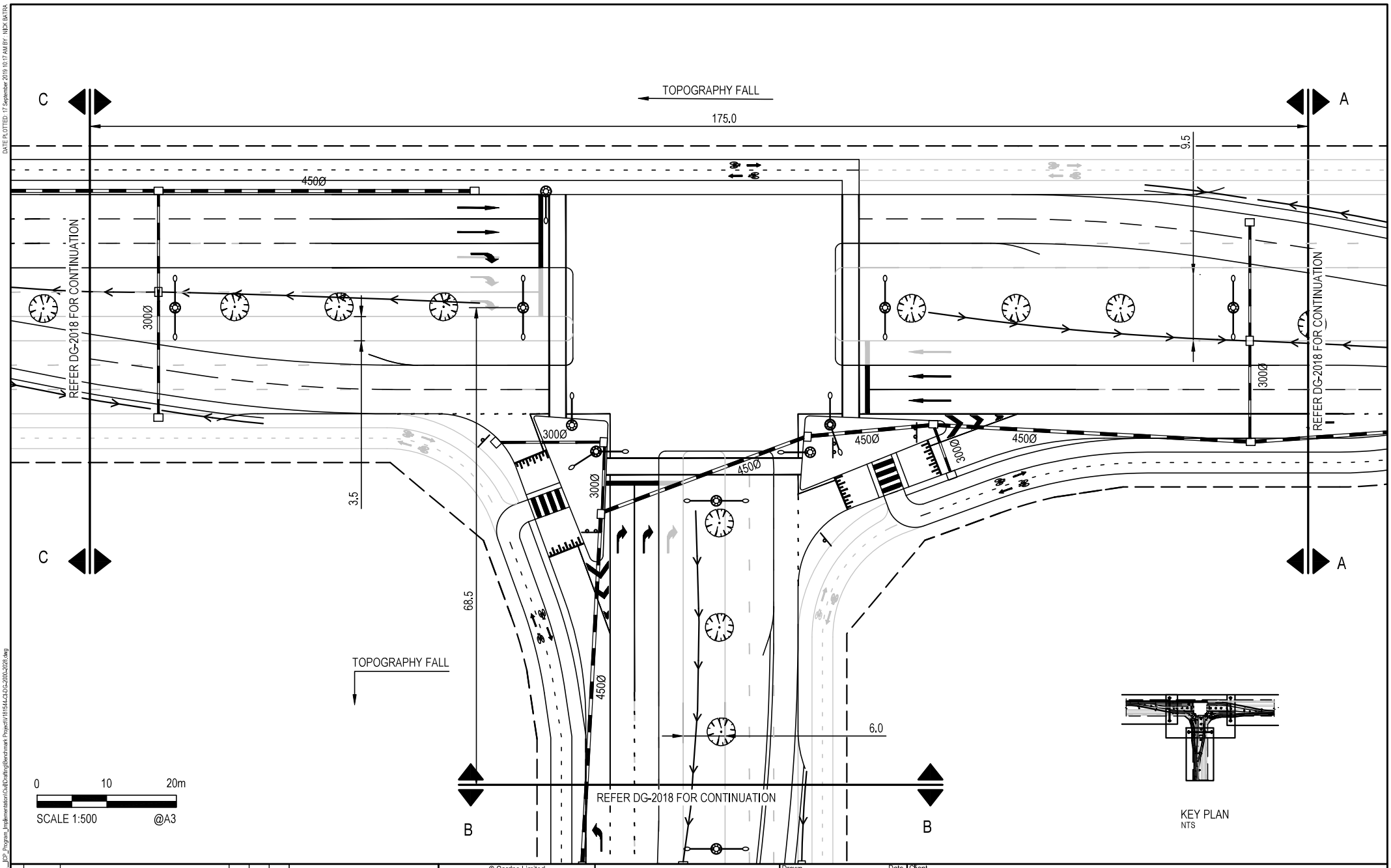
Drawing Number: V181544-CI-DG-2016

Revision: 6

XREFs:
CAD File: M:\2018\181544_J\200\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2009.dwg

Appendix C	
Description:	INTERSECTION - Connector - Connector Intersection
Civil Component Number:	Item 10

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	7992	m2	3.68	29410.56	4.96	39640.32
	Earthworks	1930	m3	34.07	65755.10	40.52	78203.60
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	3604	m2	105.15	378960.60	112.44	405233.76
	Subgrade Preparation	721	m2	14.22	10252.62	16.16	11651.36
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	952	m	54.81	52179.12	60.90	57976.80
	Cycle Path	913	m2	76.59	69926.67	91.94	83941.22
	SUP/ Footpath	810	m2	63.51	51443.10	73.63	59640.30
	Traffic Island	0	m2	77.60	0.00	84.07	0.00
Drainage	Drainage Pipe 300mm CR Bfilled	39	m	179.85	7014.15	197.96	7720.44
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	245	m	299.43	73360.35	334.33	81910.85
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	10	No.	2565.39	25653.90	2806.10	28061.00
	Drainage – Sub-soil drainage	952	m	33.88	32253.76	43.40	41316.80
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28	0.00	128786.34	0.00
Landscape	Tree Planting	38	No.	303.34	11526.92	363.01	13794.38
	Landscaping	4198	m2	21.61	90718.78	25.16	105621.68
	Topsoil Seeding	4198	m2	7.21	30267.58	8.44	35431.12
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc.	Regulatory Signage	20	Item	338.43	6768.60	380.39	7607.80
	Line marking	3604	m2 of Pavement	3.11	11208.44	4.09	14740.36
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	48	Item	292.43	14036.64	319.78	15349.44
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	39843.61	3.25	45449.42
	VicRoads Fees	1	%	1.00	12259.57	1.00	13984.44
	Traffic Management	1	%	5.00	61297.86	5.00	69922.18
	Environmental Management	1	%	0.50	6129.79	0.50	6992.22
	Surveying and Design	1	%	5.00	61297.86	5.00	69922.18
	Supervision and Project management	1	%	9.00	110336.15	9.00	125859.93
	Site Establishment	1	%	2.50	30648.93	2.50	34961.09
	Contingency	1	%	15.00	183893.59	15.00	209766.54
Total	Excluding Delivery				**1,225,957**		**1,398,444**
	Including Delivery				**1,731,665**		**1,975,302**



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NTS

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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 11
PRIMARY TO PRIMARY T INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2017
Revision: 6

DATE PLOTTED: 17 September 2019 10:17 AM BY: NIEK BATRA
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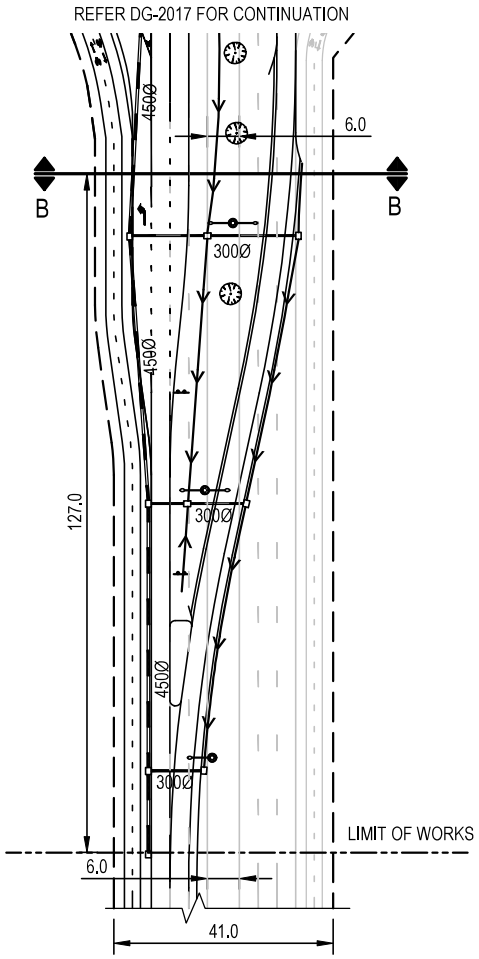

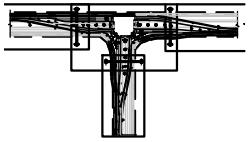

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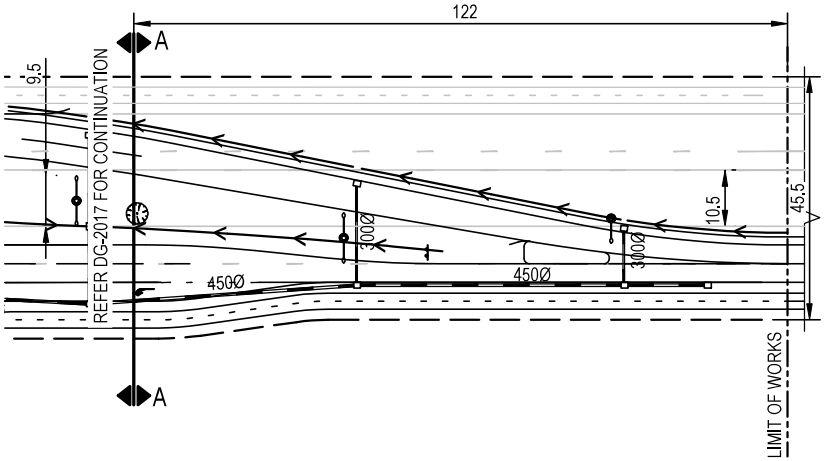

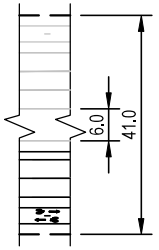

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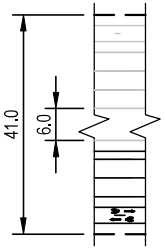
PRIMARY
ARTERIAL LEG



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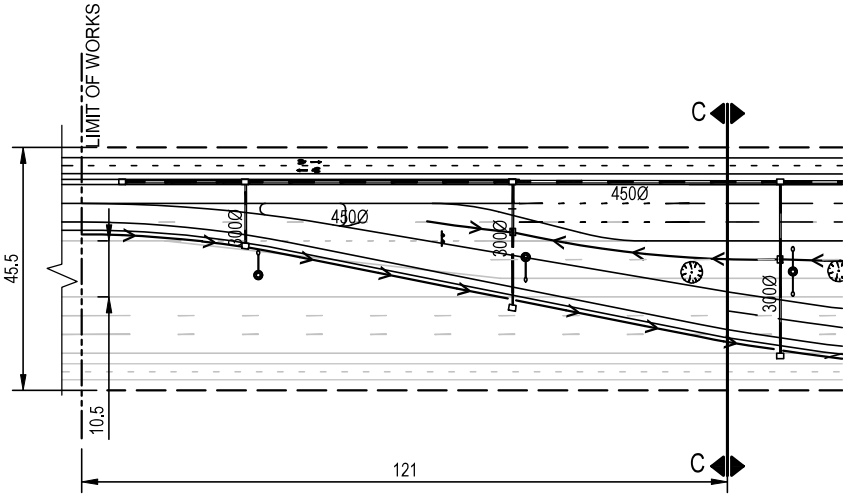

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Rev	Date	Description	Des.	Verif.	Appd.
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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
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Checked	MEA	14/12/2017
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Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 11
PRIMARY TO PRIMARY T INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:1000
Size: A3
Drawing Number: V181544-CI-DG-2018
Revision: 6

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA
XREFs:
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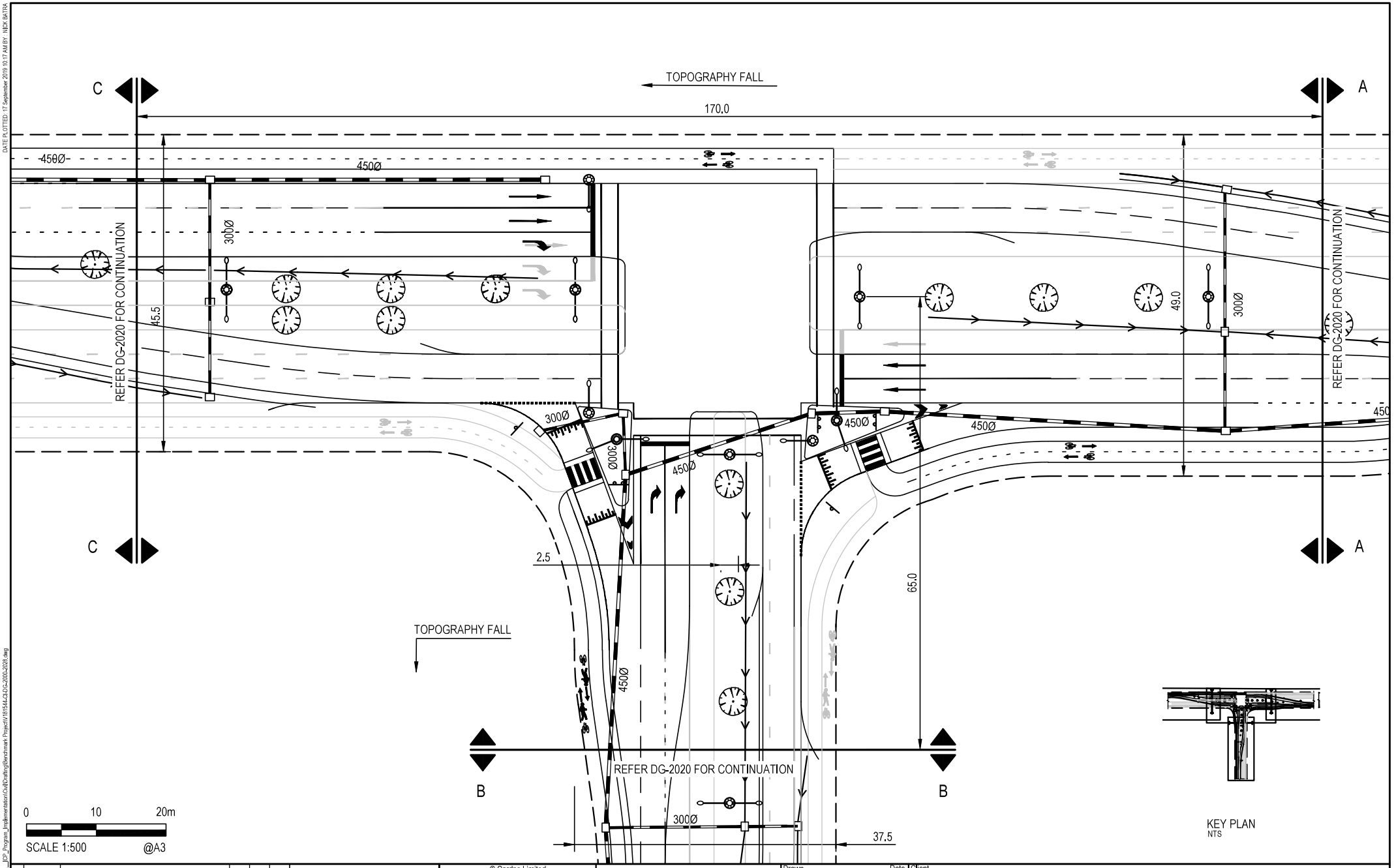
Appendix C	
Description:	INTERSECTION - Primary - Primary T Intersection
Civil Component Number:	Item 11

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	25975	m2	3.68	95588.00	4.96	128836.00
	Earthworks	6553	m3	34.07	223260.71	40.52	265527.56
Road Pavement	Primary Arterial Pavement	9164	m2	169.62	1554397.68	186.26	1706886.64
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	1833	m2	14.22	26065.26	16.16	29621.28
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	2225	m	54.81	121952.25	60.90	135502.50
	Cycle Path	1849	m2	76.59	141614.91	91.94	169997.06
	SUP/ Footpath	0	m2	63.51	0.00	73.63	0.00
	Traffic Island	2972	m2	77.60	230627.20	84.07	249856.04
Drainage	Drainage Pipe 300mm CR Bfilled	200	m	179.85	35970.00	197.96	39592.00
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	550	m	299.43	164686.50	334.33	183881.50
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	27	No.	2565.39	69265.53	2806.10	75764.70
	Drainage – Sub-soil drainage	2490	m	33.88	84361.20	43.40	108066.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	3	Item/ Per Leg	109730.28	329190.84	128786.34	386359.02
Landscape	Tree Planting	83	No.	303.34	25177.22	363.01	30129.83
	Landscaping	3452	m2	21.61	74597.72	25.16	86852.32
	Topsoil Seeding	3452	m2	7.21	24888.92	8.44	29134.88
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	3	Item/ Per Leg	48468.93	145406.79	55617.74	166853.22
Misc.	Regulatory Signage	9	Item	338.43	3045.87	380.39	3423.51
	Line marking	8697	m2 of Pavement	3.11	27047.67	4.09	35570.73
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	18	Item	292.43	5263.74	319.78	5756.04
Other	Sub-standard site conditions	1	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	112246.96	3.25	127586.62
	VicRoads Fees	1	%	1.00	34537.53	1.00	39257.42
	Traffic Management	1	%	5.00	172687.63	5.00	196287.11
	Environmental Management	1	%	0.50	17268.76	0.50	19628.71
	Surveying and Design	1	%	5.00	172687.63	5.00	196287.11
	Supervision and Project management	1	%	9.00	310837.74	9.00	353316.80
	Site Establishment	1	%	2.50	86343.82	2.50	98143.56
	Contingency	1	%	15.00	518062.90	15.00	588861.34
Total	Excluding Delivery				**3,453,753**		**3,925,742**
	Including Delivery				**4,878,426**		**5,545,111**



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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 12
PRIMARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2019
Revision: 6

DATE PLOTTED: 17 September 2019 10:17 AM BY: NEN BATRA
XREFs:
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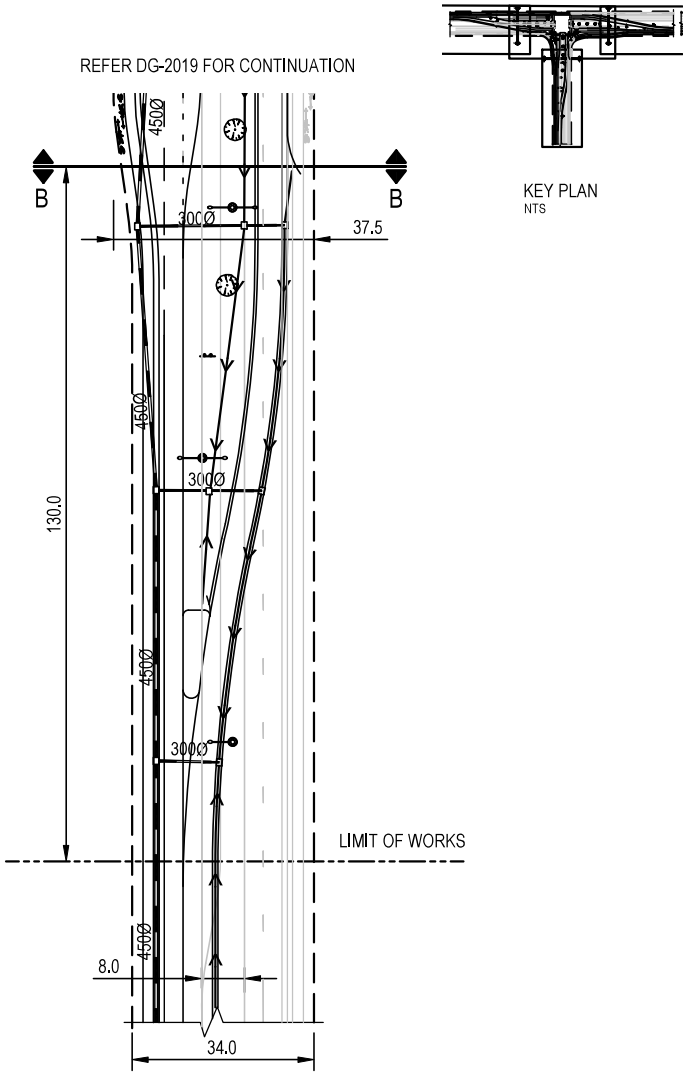

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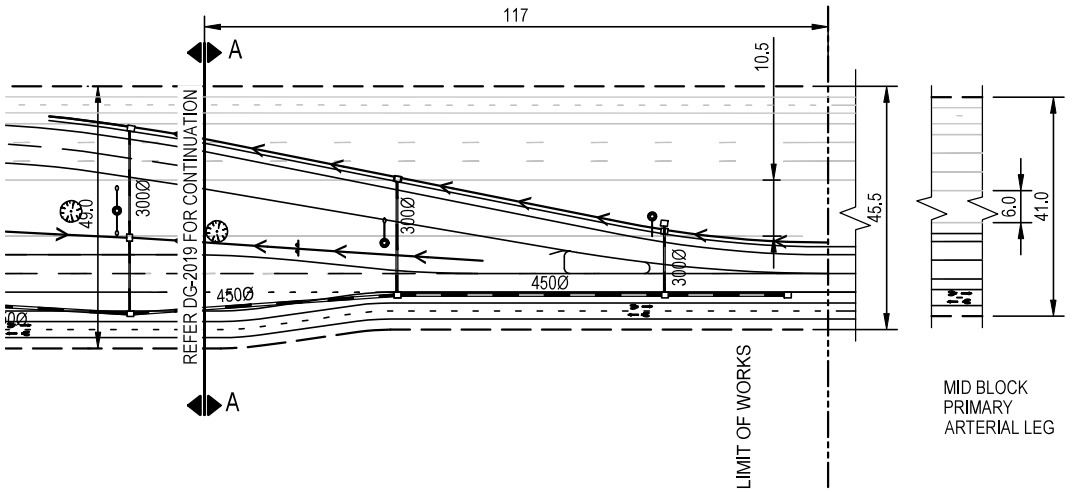

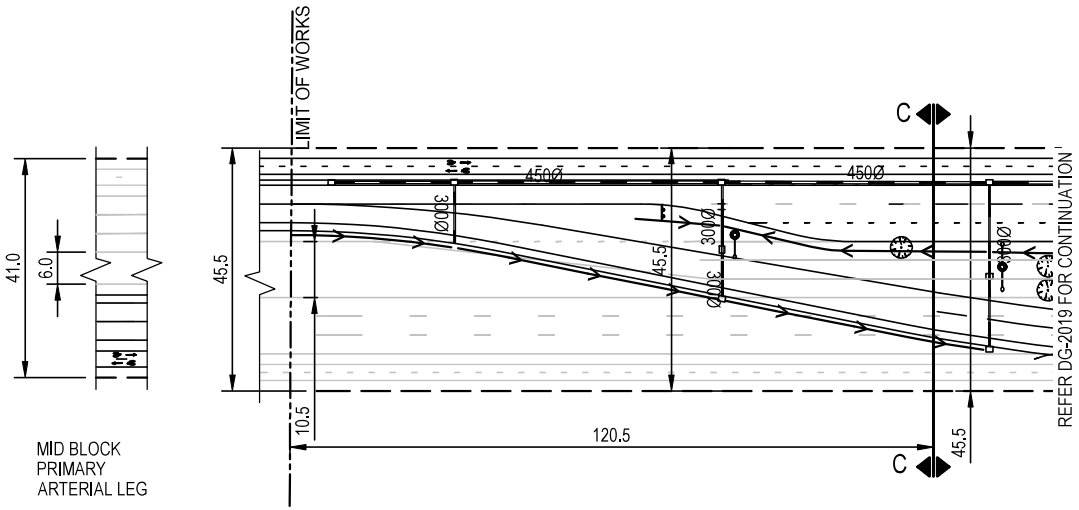

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Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
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Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 12
PRIMARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:1000
Size: A3
Drawing Number: V181544-CI-DG-2020
Revision: 6

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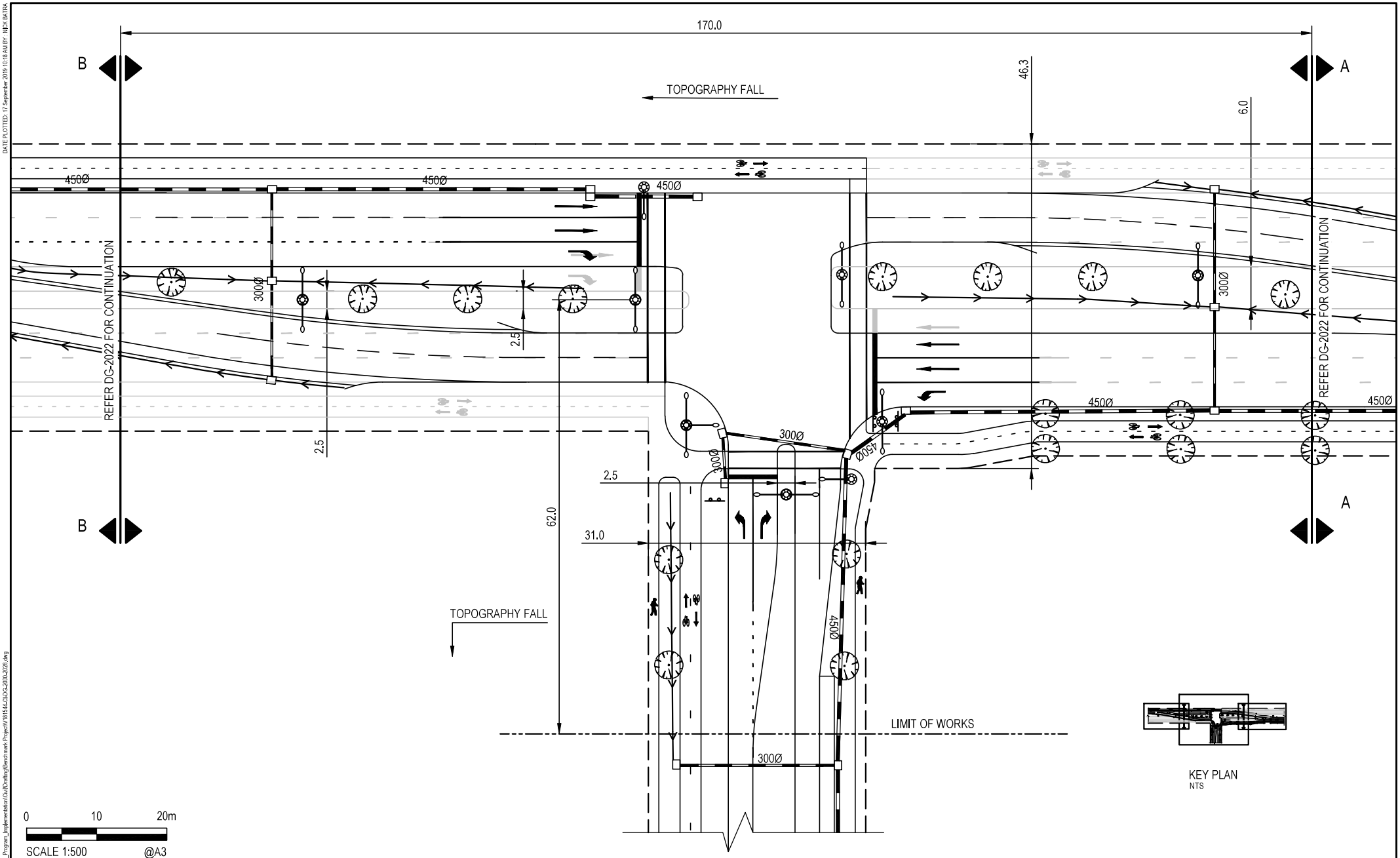
Appendix C	
Description:	INTERSECTION - Primary - Secondary T Intersection
Civil Component Number:	Item 12

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	22182	m2	3.68	81629.76	4.96	110022.72
	Earthworks	6064	m3	34.07	206600.48	40.52	245713.28
Road Pavement	Primary Arterial Pavement	6319	m2	169.62	1071828.78	186.26	1176976.94
	Secondary Arterial Pavement	2433	m2	127.01	309015.33	133.78	325486.74
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	1750	m2	14.22	24885.00	16.16	28280.00
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	2164	m	54.81	118608.84	60.90	131787.60
	Cycle Path	1280	m2	76.59	98035.20	91.94	117683.20
	SUP/ Footpath	410	m2	63.51	26039.10	73.63	30188.30
	Traffic Island	1105	m2	77.60	85748.00	84.07	92897.35
Drainage	Drainage Pipe 300mm CR Bfilled	195	m	179.85	35070.75	197.96	38602.20
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	580	m	299.43	173669.40	334.33	193911.40
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	31	No.	2565.39	79527.09	2806.10	86989.10
	Drainage – Sub-soil drainage	2410	m	33.88	81650.80	43.40	104594.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	3	Item/ Per Leg	109730.28	329190.84	128786.34	386359.02
Landscape	Tree Planting	72	No.	303.34	21840.48	363.01	26136.72
	Landscaping	3560	m2	21.61	76931.60	25.16	89569.60
	Topsoil Seeding	3560	m2	7.21	25667.60	8.44	30046.40
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	3	Item/ Per Leg	48468.93	145406.79	55617.74	166853.22
Misc.	Regulatory Signage	9	Item	338.43	3045.87	380.39	3423.51
	Line marking	8440	m2 of Pavement	3.11	26248.40	4.09	34519.60
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	18	Item	292.43	5263.74	319.78	5756.04
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	100660.58	3.25	114202.67
	VicRoads Fees	1	%	1.00	30972.49	1.00	35139.28
	Traffic Management	1	%	5.00	154862.43	5.00	175696.42
	Environmental Management	1	%	0.50	15486.24	0.50	17569.64
	Surveying and Design	1	%	5.00	154862.43	5.00	175696.42
	Supervision and Project management	1	%	9.00	278752.37	9.00	316253.55
	Site Establishment	1	%	2.50	77431.21	2.50	87848.21
	Contingency	1	%	15.00	464587.28	15.00	527089.26
Total	Excluding Delivery				**3,097,249**		**3,513,928**
	Including Delivery				**4,374,864**		**4,963,424**



KEY PLAN
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Rev	Date	Description	Des.	Verif.	Appd.
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6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 13
PRIMARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2021
Revision: 7

DATE PLOTTED: 17 September 2019 10:18 AM BY: NEN BATRA
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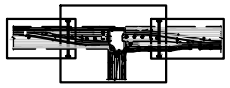

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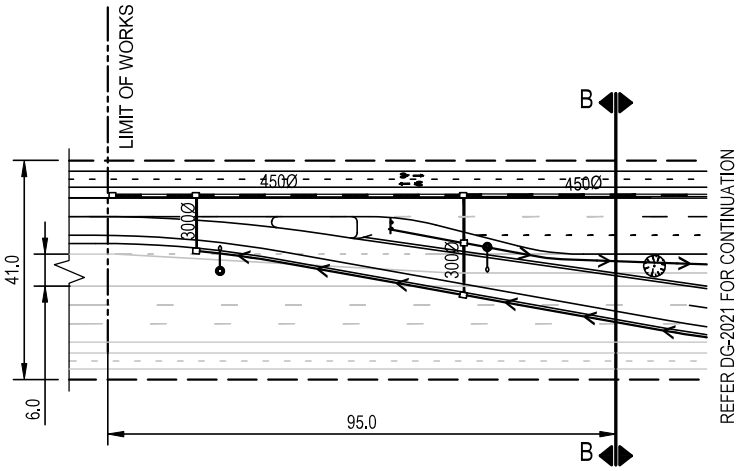

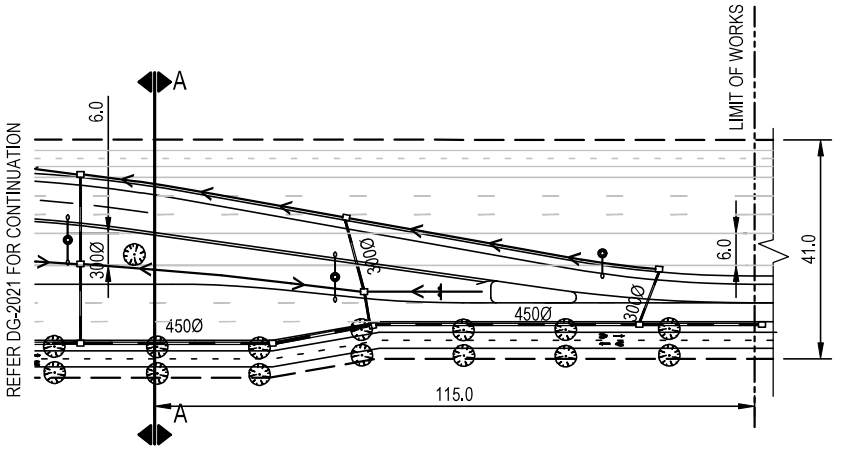

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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 13
PRIMARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000

Size: A3

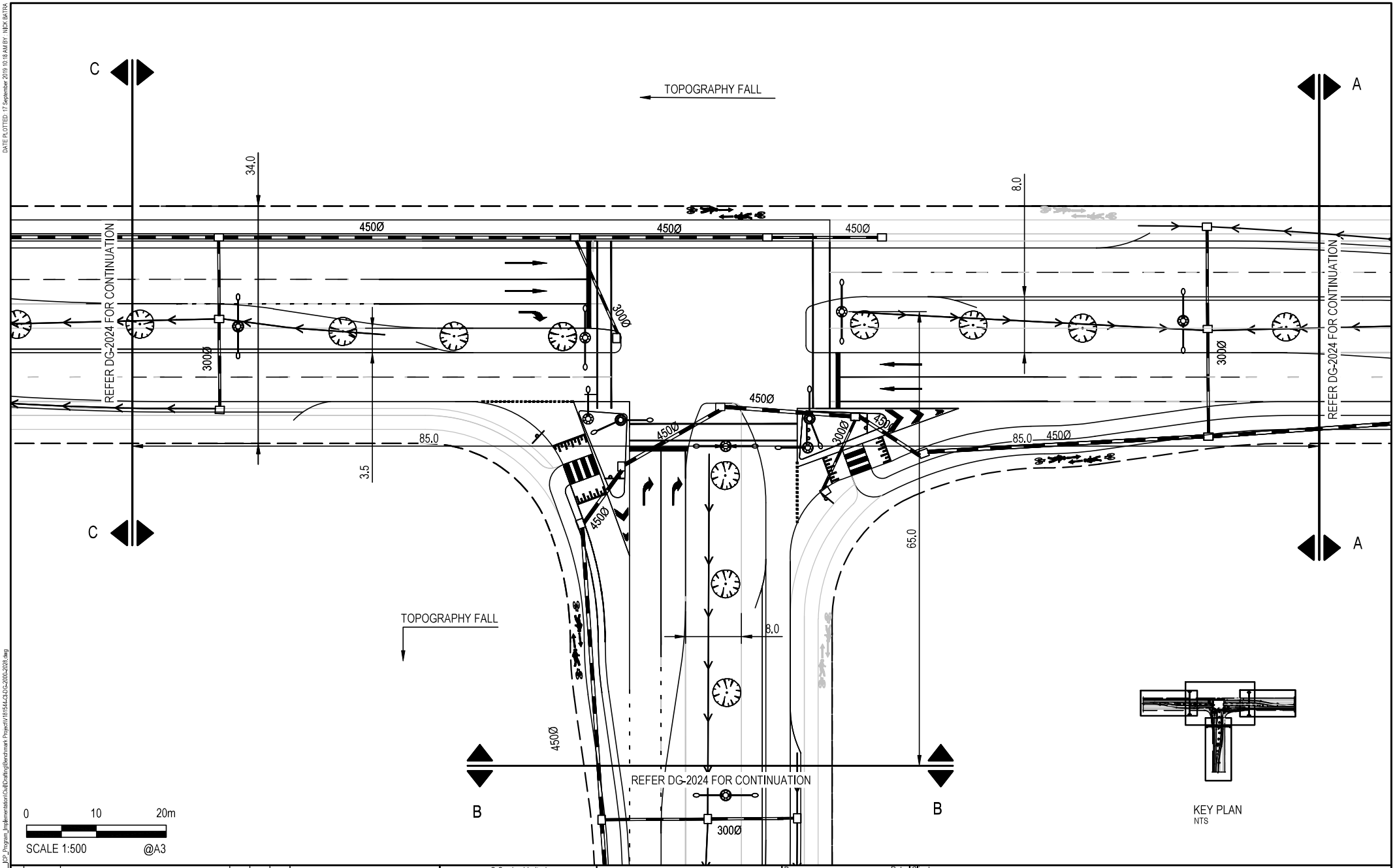
Drawing Number: V181544-CI-DG-2022

Revision: 7

XREFs:
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2002-2009.dwg

Appendix C	
Description:	INTERSECTION - Primary - Connector T Intersection
Civil Component Number:	Item 13

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	25975	m2	3.68	95588.00	4.96	128836.00
	Earthworks	4620	m3	34.07	157403.40	40.52	187202.40
Road Pavement	Primary Arterial Pavement	5627	m2	169.62	954451.74	186.26	1048085.02
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	482	m2	105.15	50682.30	112.44	54196.08
	Subgrade Preparation	1222	m2	14.22	17376.84	16.16	19747.52
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1607	m	54.81	88079.67	60.90	97866.30
	Cycle Path	1225	m2	76.59	93822.75	91.94	112626.50
	SUP/ Footpath	120	m2	63.51	7621.20	73.63	8835.60
	Traffic Island	675	m2	77.60	52380.00	84.07	56747.25
Drainage	Drainage Pipe 300mm CR Bfilled	165	m	179.85	29675.25	197.96	32663.40
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	410	m	299.43	122766.30	334.33	137075.30
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	19	No.	2565.39	48742.41	2806.10	53315.90
	Drainage – Sub-soil drainage	2107	m	33.88	71385.16	43.40	91443.80
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	3	Item/ Per Leg	109730.28	329190.84	128786.34	386359.02
Landscape	Tree Planting	53	No.	303.34	16077.02	363.01	19239.53
	Landscaping	2456	m2	21.61	53074.16	25.16	61792.96
	Topsoil Seeding	2456	m2	7.21	17707.76	8.44	20728.64
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	3	Item/ Per Leg	48468.93	145406.79	55617.74	166853.22
Misc.	Regulatory Signage	6	Item	338.43	2030.58	380.39	2282.34
	Line marking	6109	m2 of Pavement	3.11	18998.99	4.09	24985.81
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	18	Item	292.43	5263.74	319.78	5756.04
Other	Sub-standard site conditions	1	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	79594.76	3.25	91155.03
	VicRoads Fees	1	%	1.00	24490.70	1.00	28047.70
	Traffic Management	1	%	5.00	122453.48	5.00	140238.50
	Environmental Management	1	%	0.50	12245.35	0.50	14023.85
	Surveying and Design	1	%	5.00	122453.48	5.00	140238.50
	Supervision and Project management	1	%	9.00	220416.26	9.00	252429.31
	Site Establishment	1	%	2.50	61226.74	2.50	70119.25
	Contingency	1	%	15.00	367360.43	15.00	420715.51
Total	Excluding Delivery				**2,449,070**		**2,804,770**
	Including Delivery				**3,459,311**		**3,961,738**



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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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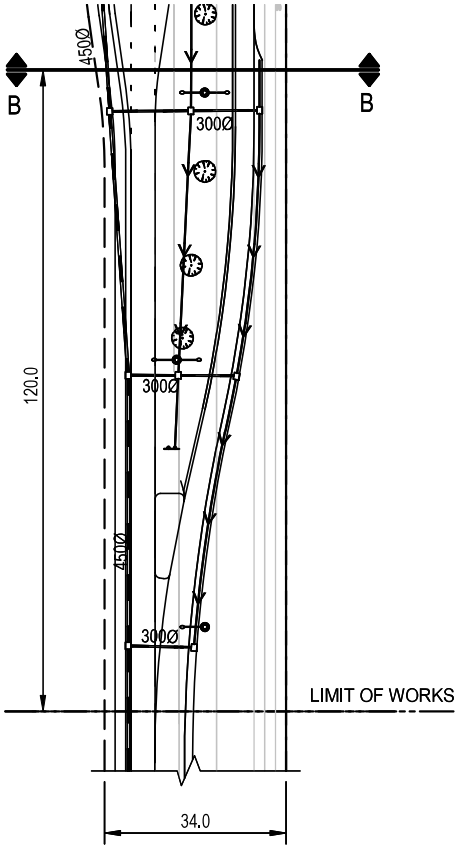
		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

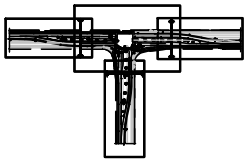
Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 14
SECONDARY TO SECONDARY INTERSECTION
INTERIM

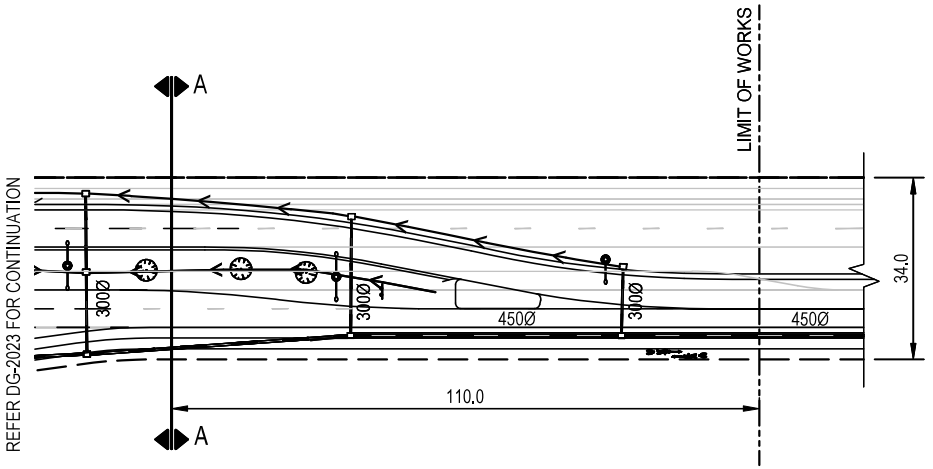
Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:500
Size: A3
Drawing Number: V181544-CI-DG-2023
Revision: 5

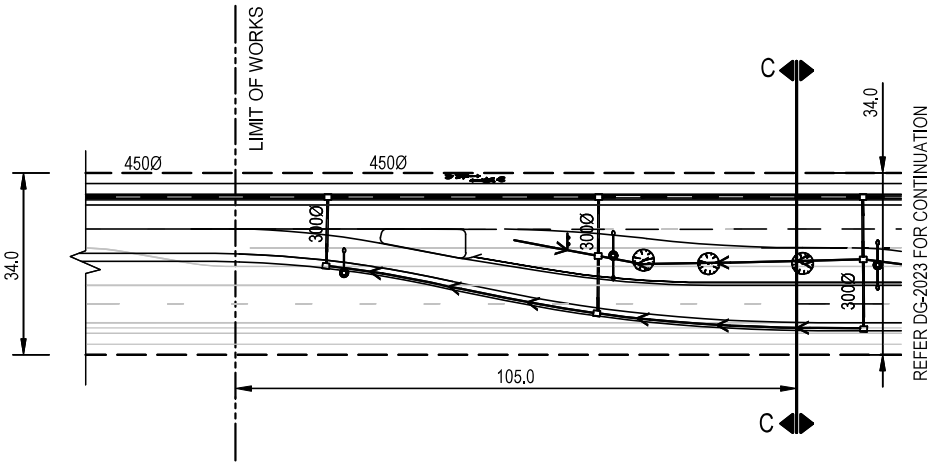
DATE PLOTTED: 17 September 2019 10:18 AM BY: NEN BATRA
XREFs:
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\CAD\Drafting\Benchmark Project\V181544-CI-DG-2000-2029.dwg

DATE PLOTTED: 17 September 2019 10:18 AM BY: NEW BATRA









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SCALE 1:1000 @A3

Rev	Date	Description	Des.	Verif.	Appd.
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4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 14
SECONDARY TO SECONDARY INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000

Size: A3

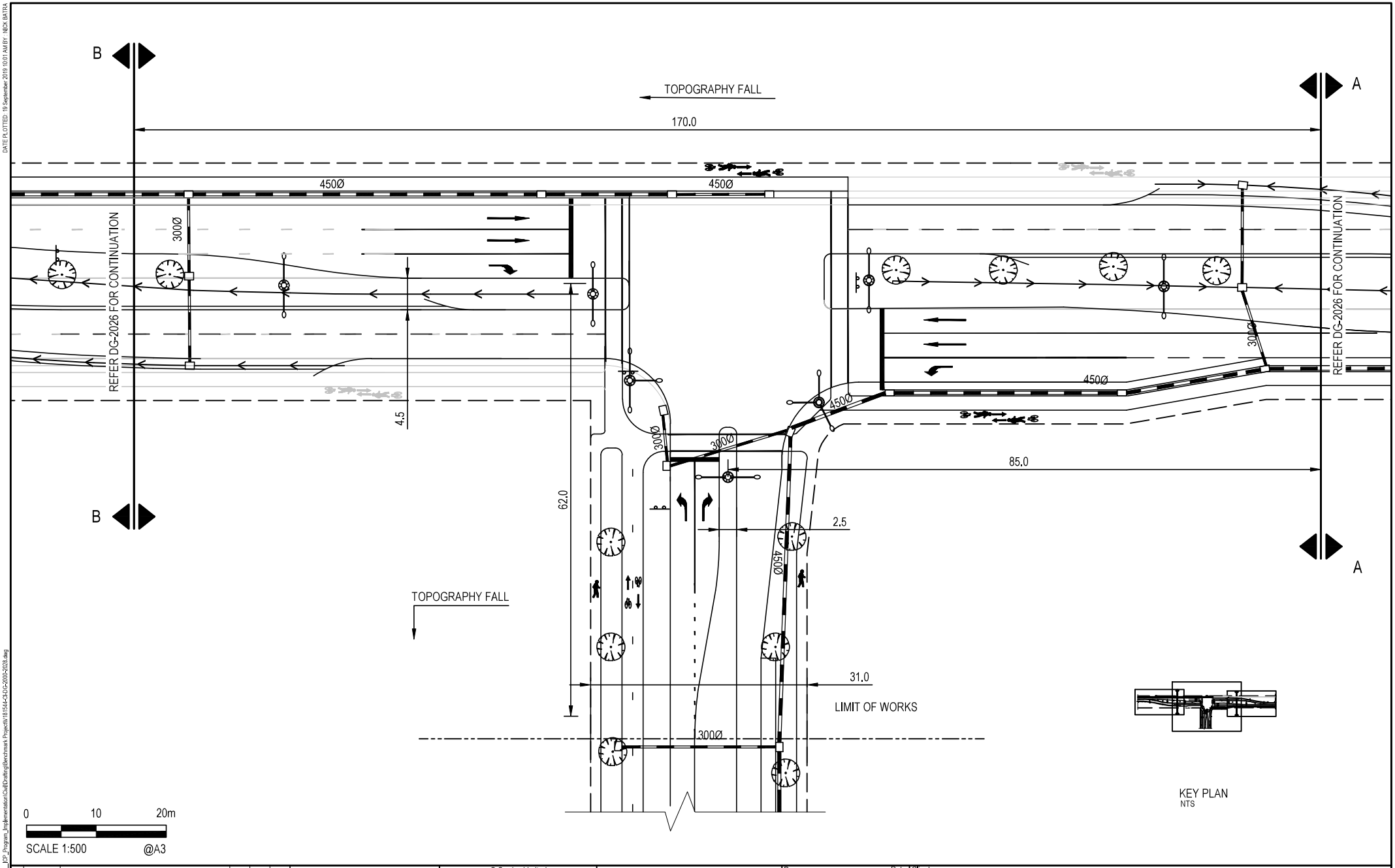
Drawing Number: V181544-CI-DG-2024

Revision: 5

XREFs:
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2004-2028.dwg

Appendix C	
Description:	INTERSECTION - Secondary Arterial - Secondary Arterial T Intersection
Civil Component Number:	Item 14

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	22164	m2	3.68	81563.52	4.96	109933.44
	Earthworks	6544	m3	34.07	222954.08	40.52	265162.88
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	9153	m2	127.01	1162522.53	133.78	1224488.34
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	1831	m2	14.22	26036.82	16.16	29588.96
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1650	m	54.81	90436.50	60.90	100485.00
	Cycle Path	0	m2	76.59	0.00	91.94	0.00
	SUP/ Footpath	1100	m2	63.51	69861.00	73.63	80993.00
	Traffic Island	688	m2	77.60	53388.80	84.07	57840.16
Drainage	Drainage Pipe 300mm CR Bfilled	220	m	179.85	39567.00	197.96	43551.20
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	660	m	299.43	197623.80	334.33	220657.80
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	33	No.	2565.39	84657.87	2806.10	92601.30
	Drainage – Sub-soil drainage	2430	m	33.88	82328.40	43.40	105462.00
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	3	Item/ Per Leg	109730.28	329190.84	128786.34	386359.02
Landscape	Tree Planting	54	No.	303.34	16380.36	363.01	19602.54
	Landscaping	2640	m2	21.61	57050.40	25.16	66422.40
	Topsoil Seeding	2640	m2	7.21	19034.40	8.44	22281.60
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	3	Item/ Per Leg	48468.93	145406.79	55617.74	166853.22
Misc.	Regulatory Signage	9	Item	338.43	3045.87	380.39	3423.51
	Line marking	9153	m2 of Pavement	3.11	28465.83	4.09	37435.77
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	18	Item	292.43	5263.74	319.78	5756.04
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	90549.00	3.25	101628.46
	VicRoads Fees	1	%	1.00	27861.23	1.00	31270.30
	Traffic Management	1	%	5.00	139306.16	5.00	156351.48
	Environmental Management	1	%	0.50	13930.62	0.50	15635.15
	Surveying and Design	1	%	5.00	139306.16	5.00	156351.48
	Supervision and Project management	1	%	9.00	250751.09	9.00	281432.66
	Site Establishment	1	%	2.50	69653.08	2.50	78175.74
	Contingency	1	%	15.00	417918.48	15.00	469054.44
Total	Excluding Delivery				**2,786,123**		**3,127,030**
	Including Delivery				**3,935,399**		**4,416,929**



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7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 15
SECONDARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:500

Size: A3

Drawing Number: V181544-CI-DG-2025

Revision: 8

DATE PLOTTED: 19 September 2019 10:01 AM BY: NICK BATRA
XREFs:
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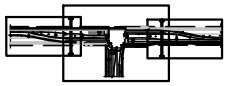
DATE PLOTTED: 17 September 2019 10:18 AM BY: NEN BATRA



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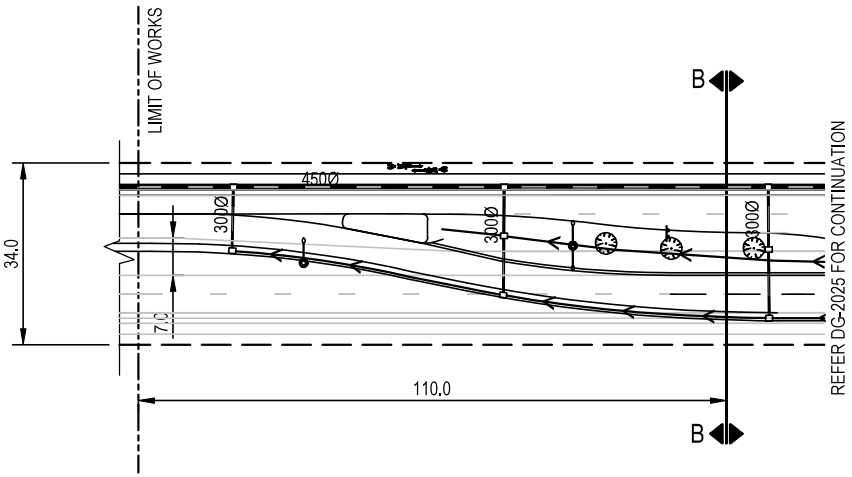

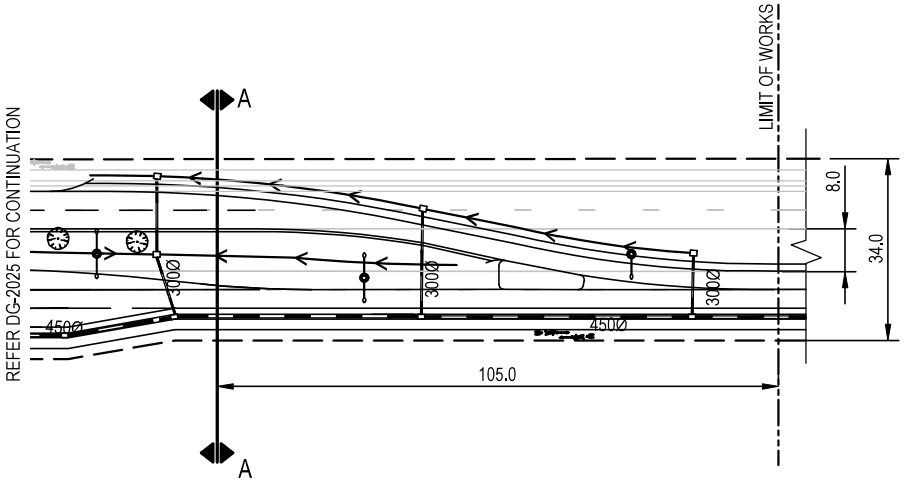

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SCALE 1:1000 @A3

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7	12/03/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
6	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 15
SECONDARY TO CONNECTOR BLVD INTERSECTION
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000

Size: A3

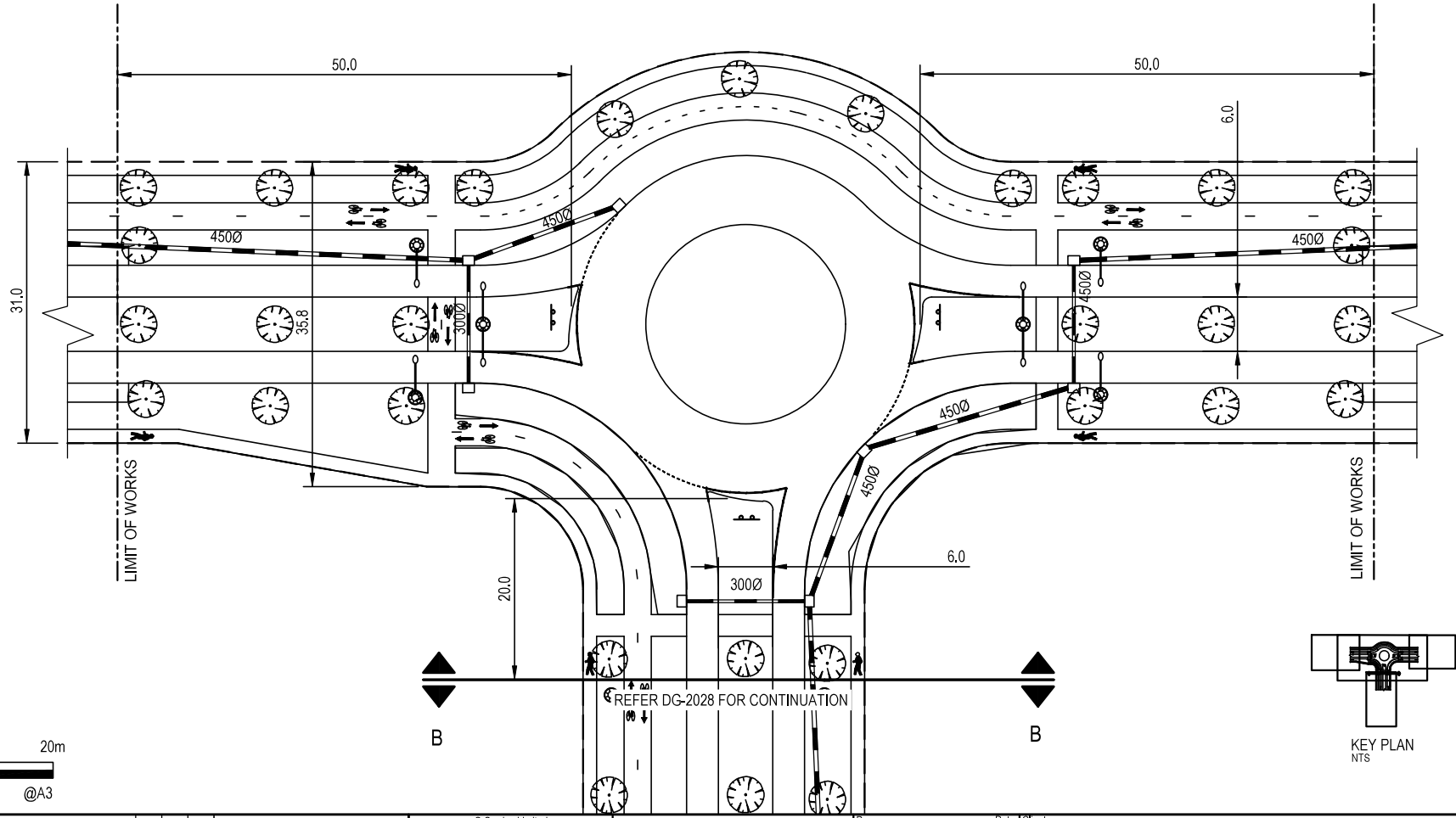
Drawing Number: V181544-CI-DG-2026

Revision: 8

XREFs:
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2026-2028.dwg

Appendix C	
Description:	INTERSECTION - Secondary - Connector T Intersection
Civil Component Number:	Item 15

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	14710	m2	3.68	54132.80	4.96	72961.60
	Earthworks	5065	m3	34.07	172564.55	40.52	205233.80
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	6454	m2	127.01	819722.54	133.78	863416.12
	Collector Arterial Pavement	482	m2	105.15	50682.30	112.44	54196.08
	Subgrade Preparation	1329	m2	14.22	18898.38	16.16	21476.64
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1458	m	54.81	79912.98	60.90	88792.20
	Cycle Path	170	m2	76.59	13020.30	91.94	15629.80
	SUP/ Footpath	940	m2	63.51	59699.40	73.63	69212.20
	Traffic Island	407	m2	77.60	31583.20	84.07	34216.49
Drainage	Drainage Pipe 300mm CR Bfilled	140	m	179.85	25179.00	197.96	27714.40
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	450	m	299.43	134743.50	334.33	150448.50
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	21	No.	2565.39	53873.19	2806.10	58928.10
	Drainage – Sub-soil drainage	1958	m	33.88	66337.04	43.40	84977.20
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	3	Item/ Per Leg	109730.28	329190.84	128786.34	386359.02
Landscape	Tree Planting	41	No.	303.34	12436.94	363.01	14883.41
	Landscaping	2175	m2	21.61	47001.75	25.16	54723.00
	Topsoil Seeding	2175	m2	7.21	15681.75	8.44	18357.00
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	3	Item/ Per Leg	48468.93	145406.79	55617.74	166853.22
Misc.	Regulatory Signage	5	Item	338.43	1692.15	380.39	1901.95
	Line marking	6936	m2 of Pavement	3.11	21570.96	4.09	28368.24
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	18	Item	292.43	5263.74	319.78	5756.04
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	72473.01	3.25	81657.43
	VicRoads Fees	1	%	1.00	22299.39	1.00	25125.36
	Traffic Management	1	%	5.00	111496.94	5.00	125626.82
	Environmental Management	1	%	0.50	11149.69	0.50	12562.68
	Surveying and Design	1	%	5.00	111496.94	5.00	125626.82
	Supervision and Project management	1	%	9.00	200694.49	9.00	226128.28
	Site Establishment	1	%	2.50	55748.47	2.50	62813.41
	Contingency	1	%	15.00	334490.81	15.00	376880.47
Total	Excluding Delivery				**2,229,939**		**2,512,536**
	Including Delivery				**3,149,788**		**3,548,958**



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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
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Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 16
CONNECTOR BLVD TO CONNECTOR BLVD ROUNDABOUT
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:500

Size: A3

Drawing Number: V181544-CI-DG-2027

Revision: 6

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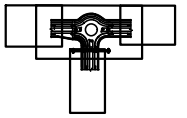

KEY PLAN
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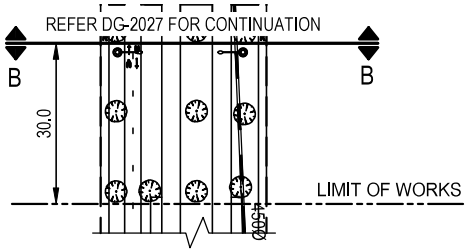

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5	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
4	05/07/2018	ADDRESS VPA COMMENTS	CM		
3	29/06/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

NORTH

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 16
CONNECTOR BLVD TO CONNECTOR BLVD ROUNDABOUT
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000
Size: A3

Drawing Number: V181544-CI-DG-2028
Revision: 6

XREFs:
CAD File: M:\2018\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2000-2029.dwg

Appendix C	
Description:	INTERSECTION -Connector - Connector T Intersection
Civil Component Number:	Item 16

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	6690	m2	3.68	24619.20	4.96	33182.40
	Earthworks	1448	m3	34.07	49333.36	40.52	58672.96
Road Pavement	Primary Arterial Pavement	0	m2	169.62	0.00	186.26	0.00
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	2706	m2	105.15	284535.90	112.44	304262.64
	Subgrade Preparation	542	m2	14.22	7707.24	16.16	8758.72
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	696	m	54.81	38147.76	60.90	42386.40
	Cycle Path	705	m2	76.59	53995.95	91.94	64817.70
	SUP/ Footpath	851	m2	63.51	54047.01	73.63	62659.13
	Traffic Island	0	m2	77.60	0.00	84.07	0.00
Drainage	Drainage Pipe 300mm CR Bfilled	26	m	179.85	4676.10	197.96	5146.96
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	184	m	299.43	55095.12	334.33	61516.72
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	8	No.	2565.39	20523.12	2806.10	22448.80
	Drainage – Sub-soil drainage	696	m	33.88	23580.48	43.40	30206.40
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28	0.00	128786.34	0.00
Landscape	Tree Planting	35	No.	303.34	10616.90	363.01	12705.35
	Landscaping	2970	m2	21.61	64181.70	25.16	74725.20
	Topsoil Seeding	2970	m2	7.21	21413.70	8.44	25066.80
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	3	Item/ Per Leg	48468.93	145406.79	55617.74	166853.22
Misc.	Regulatory Signage	20	Item	338.43	6768.60	380.39	7607.80
	Line marking	2706	m2 of Pavement	3.11	8415.66	4.09	11067.54
	Landscape maintenance (intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of l'scape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	48	Item	292.43	14036.64	319.78	15349.44
Other	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	31149.49	3.25	35605.88
	VicRoads Fees	1	%	1.00	9584.46	1.00	10955.66
	Traffic Management	1	%	5.00	47922.29	5.00	54778.28
	Environmental Management	1	%	0.50	4792.23	0.50	5477.83
	Surveying and Design	1	%	5.00	47922.29	5.00	54778.28
	Supervision and Project management	1	%	9.00	86260.13	9.00	98600.90
	Site Establishment	1	%	2.50	23961.15	2.50	27389.14
	Contingency	1	%	15.00	143766.88	15.00	164334.84
Total	Excluding Delivery				**958,446**		**1,095,566**
	Including Delivery				**1,353,805**		**1,547,486**

Appendix 2: Bridges and Culverts

For bridges and culverts there is much less standardisation as terrain and drainage flow requirements that drive the design vary greatly.

To provide a starting point, typical scope and associated cost estimates have been developed for example configurations based on most typical infrastructure provisions. This is for simple Super-T bridge construction and box units and crown units on cast in situ, reinforced slab base culverts. The basic assumptions underpinning the benchmark scopes and cost estimates are outlined in the Cardno report (3.4 Baseline assumptions).

In practice, it is likely that some additional design will be needed to more accurately scale the infrastructure required at a particular location. Once this is done, it will often be relatively straightforward to adjust the base cost sheets for the relevant quantities.

There is also more chance that the structures in question may be quite different in configuration from the benchmark scopes. For example, the bridge could be a road over rail overpass or require special foundation treatments because of unusually poor ground conditions. In these case bespoke designs and costs are likely to be required.

Other Issues

Note that the benchmark treatments are for standard beam and slab construction. No allowance has been made for architectural treatments or for “statement” structures, as these are clearly beyond “basic and essential” in nature.

Note that the cost of land is not included as bridges and culverts are usually contained within waterway corridors or road reservations provided through other mechanisms such as the public land provisions in the ICP.

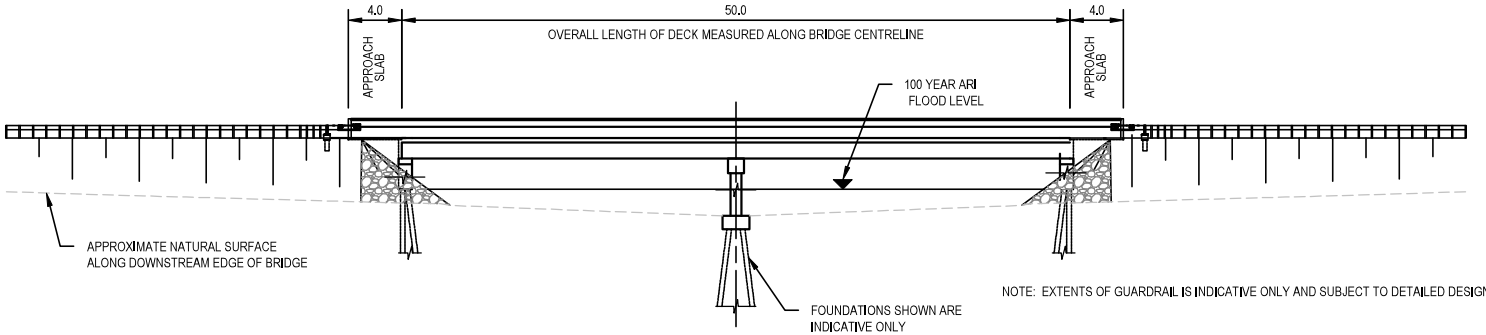
Bridges and Culverts BIC

The detailed bridge and culvert benchmark scopes and cost sheets for the items listed below in Table 2.

Item	Category	Description	Standard	Cost Application	Estimate P50	Estimate P90
17	Bridge	Interim Primary Arterial Road Bridge 50 m span	Super-T – 15.80m wide (Interim)	Per Bridge	$6,828,000	$8,021,000
18	Bridge	Interim Primary Arterial Road Bridge 100 m length	Super-T – 15.80m wide (Interim)	Per Bridge	$12,434,000	$14,646,000
19	Bridge	Interim Secondary Arterial Road Bridge 50m length	Super-T – 14.90m wide (Interim)	Per bridge	$6,270,000	$7,368,000
20	Bridge	Interim Secondary Arterial Road Bridge 100m length	Super-T – 14.90m wide (Interim)	Per bridge	$11,391,000	$13,419,000
21	Bridge	Ultimate Connector Road Bridge 50m length	Super-T – 14.30m wide (Ultimate)	Per bridge	$6,270,000	$7,368,000
22	Bridge	Ultimate Connector Road	Super-T – 14.30m wide (Ultimate)	Per bridge	$11,391,000	$13,419,000
23	Bridge	Pedestrian Bridge 20m length	Super-T – 4m wide (Ultimate)	Per bridge	$966,000	$1,131,000
24	Bridge	Pedestrian Bridge 80m length	Super-T – 4m wide (Ultimate)	Per bridge	$2,853,000	$3,364,000
25	Major Culvert	Box culverts 1200 x 2100 (4 side by side)	Secondary Arterial Interim – 17.0 m	Per structure	$393,000	$452,000
26	Major Culvert	Box culverts 1200 x 2100 (4 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$559,000	$643,000
27	Major Culvert	Box culverts 1800 x 3000 (6 side by side)	Secondary Arterial Interim – 17.0 m	Per structure	$795,000	$914,000

Item	Category	Description	Standard	Cost Application	Estimate P50	Estimate P90
28	Major Culvert	Box culverts 1800 x 3000 (6 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$1,202,000	$1,382,000
29	Major Culvert	Box culverts 2100 x 2100 (16 side by side)	Secondary Arterial Interim – 17.0 m	Per structure	$1,413,000	$1,625,000
30	Major Culvert	Box culverts 2100 x 2100 (16 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$2,142,000	$2,463,000
31	Major Culvert	Circular Pipes (RCP) 1200 dia. (2 side by side)	Secondary Arterial Interim – 17.0 m	Per structure	$250,000	$287,000
32	Major Culvert	Circular Pipes (RCP) 1200 dia. (2 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$352,000	$405,000
33	Major Culvert	Circular Pipes (RCP) 1800 dia. (3 side by side)	Secondary Arterial Interim – 17.0 m	Per structure	$474,000	$545,000
34	Major Culvert	Circular Pipes (RCP) 1800 dia. (3 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$752,000	$865,000
35	Major Culvert	Circular Pipes (RCP) 2100 dia. (4 side by side)	Secondary Arterial Interim – 17.0 m	Per structure	$709,000	$816,000
36	Major Culvert	Circular Pipes (RCP) 2100 dia. (4 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$1,145,000	$1,316,000

Table 2: Bridge and Culvert Infrastructure Costings (Indexed to July 2018)



NOTE: EXTENTS OF GUARDRAIL IS INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN

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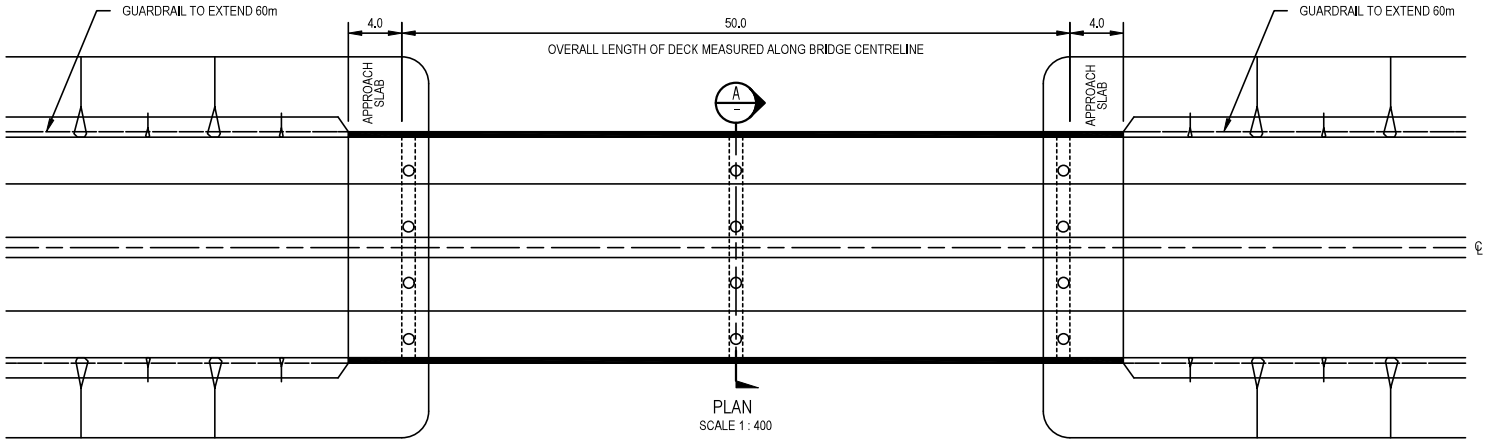

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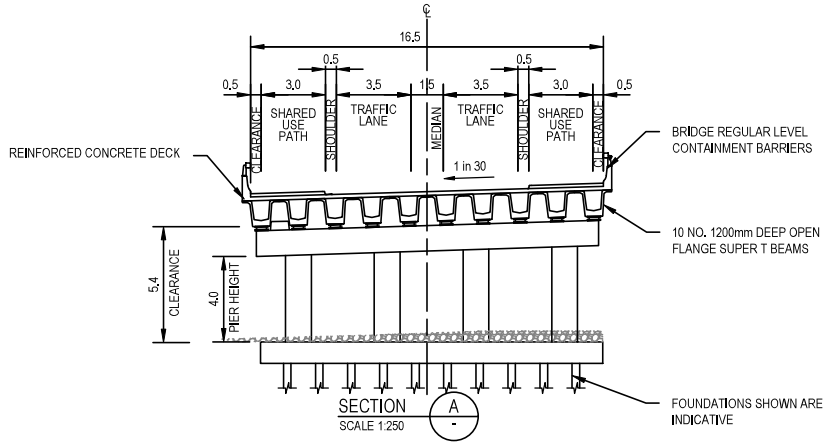

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2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Drawn NPV	Date 14/12/2017	
Checked MEA	Date 14/12/2017	
Designed RVR	Date	
Verified	Date	
Approved	Date	

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 17
PRIMARY ARTERIAL 50m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2029
Revision: 3

DATE PLOTTED: 17 September 2019 10:18 AM BY: NEN BATRA
XREFs: V170524-CI-DG-2000-2010
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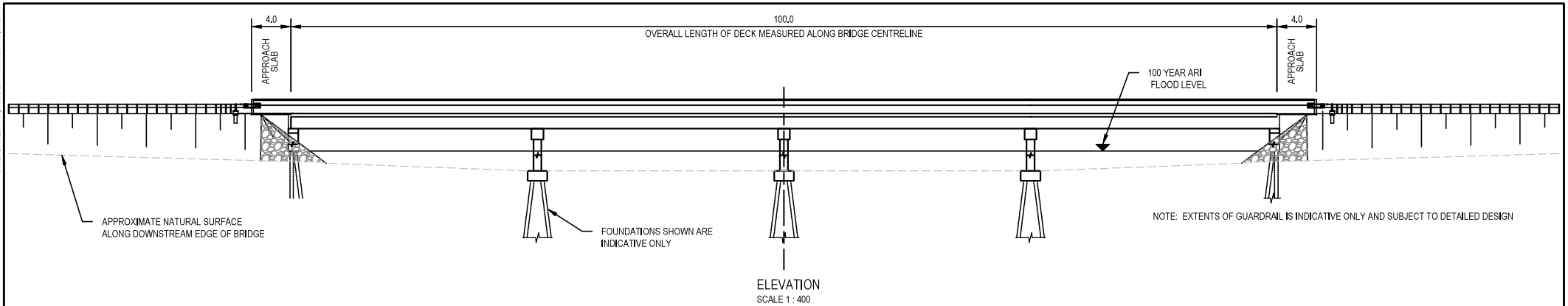

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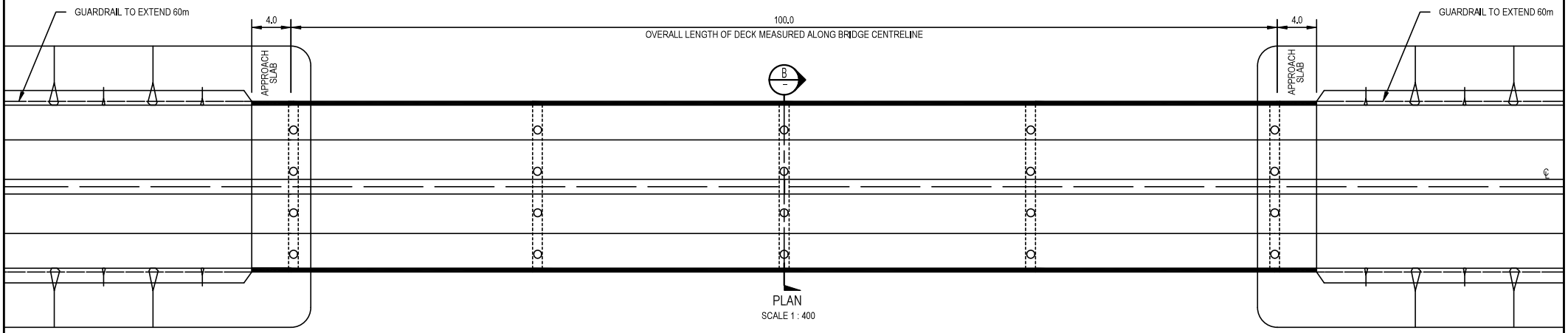

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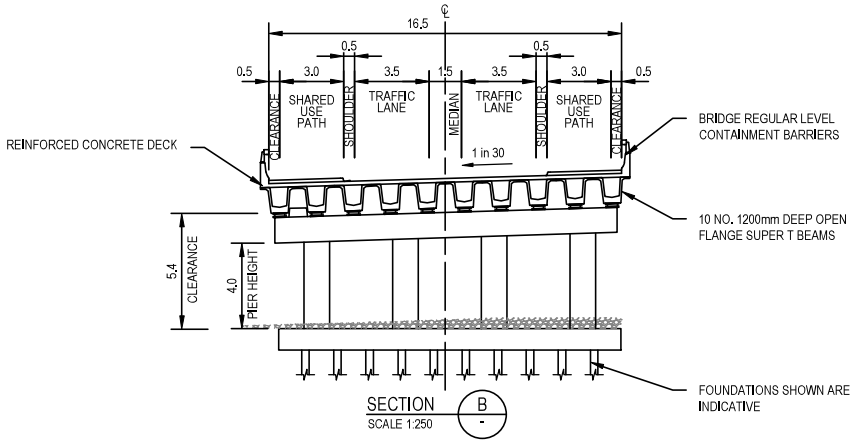

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3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 18
PRIMARY ARTERIAL 100m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2030
Revision: 3

DATE PLOTTED: 17 September 2019 10:18 AM BY: NEN BATRA
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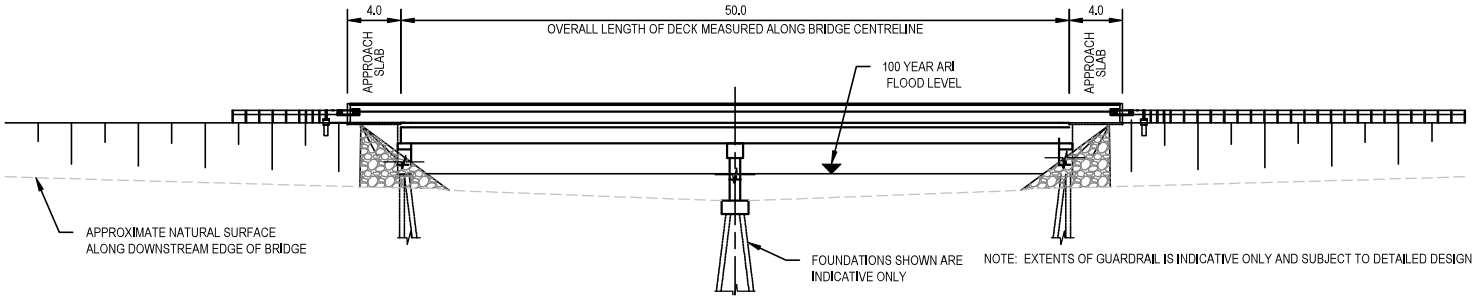
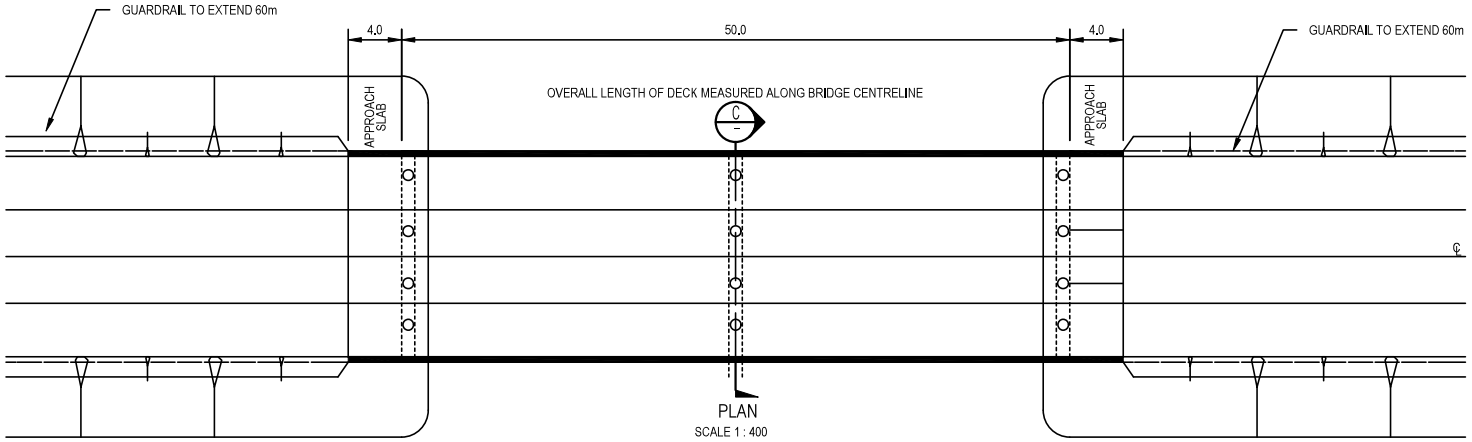
Appendix C	
Description:	BRIDGE - 50m - Primary
Civil Component Number:	Item 17

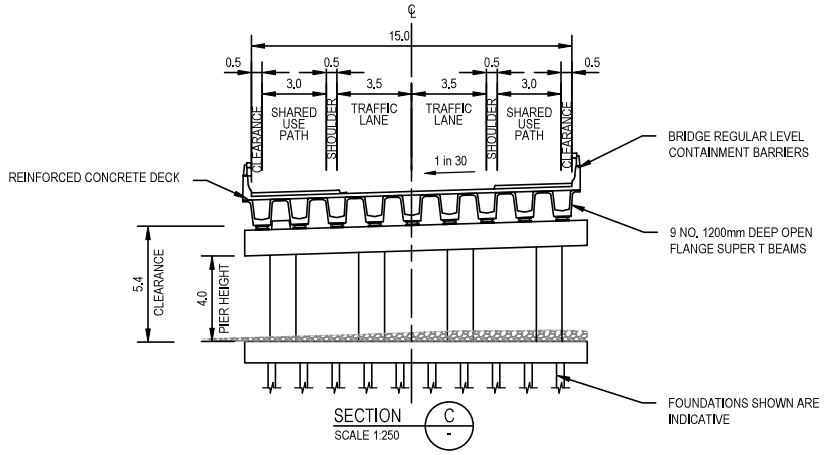
Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	7923	m2	3.68	29,156.64	6.62	52,450.26
	Earthworks	13262	m3	50.07	664,028.34	54.62	724,370.44
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	865	m2	4,425.57	3,828,118.05	5,226.40	4,520,836.00
Off Structure	Guard Rails/ Balustrade	240	m	187.10	44,904.00	224.54	53,889.60
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	150,766.55	3.25	176,523.00
	VicRoads Fees	1	%	1.00	46,389.71	1.00	54,314.77
	Traffic Management	1	%	5.00	231,948.53	5.00	271,573.85
	Environmental Management	1	%	0.50	23,194.85	0.50	27,157.38
	Surveying and Design	1	%	5.00	231,948.53	5.00	271,573.85
	Supervision and Project management	1	%	9.00	417,507.36	9.00	488,832.92
	Site Establishment	1	%	2.50	115,974.27	2.50	135,786.92
	Contingency	1	%	20.00	927,794.14	20.00	1,086,295.38
Total	Excluding Delivery				**4,668,127**		**5,483,927**
	Including Delivery				**6,827,136**		**8,020,243**

Appendix C	
Description:	BRIDGE - 100m - Primary
Civil Component Number:	Item 18

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	9348	m2	3.68	34,400.64	6.62	61,883.76
	Earthworks	13262	m3	50.07	664,028.34	54.62	724,370.44
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	1730	m2	4,425.57	7,656,236.10	5,226.40	9,041,672.00
Off Structure	Guard Rails/ Balustrade	240	m	187.10	44,904.00	224.54	53,889.60
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	275,180.38	3.25	323,450.17
	VicRoads Fees	1	%	1.00	84,670.89	1.00	99,523.13
	Traffic Management	1	%	5.00	423,354.44	5.00	497,615.65
	Environmental Management	1	%	0.50	42,335.44	0.50	49,761.56
	Surveying and Design	1	%	5.00	423,354.44	5.00	497,615.65
	Supervision and Project management	1	%	9.00	762,037.99	9.00	895,708.16
	Site Establishment	1	%	2.50	211,677.22	2.50	248,807.82
	Contingency	1	%	20.00	1,693,417.75	20.00	1,990,462.58
Total	Excluding Delivery				**8,501,489**		**10,014,197**
	Including Delivery				**12,433,428**		**14,645,763**







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3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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Checked MEA	Date 14/12/2017	
Designed RVR	Date	
Verified	Date	
Approved	Date	

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 19
SECONDARY ARTERIAL 50m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2031
Revision: 3

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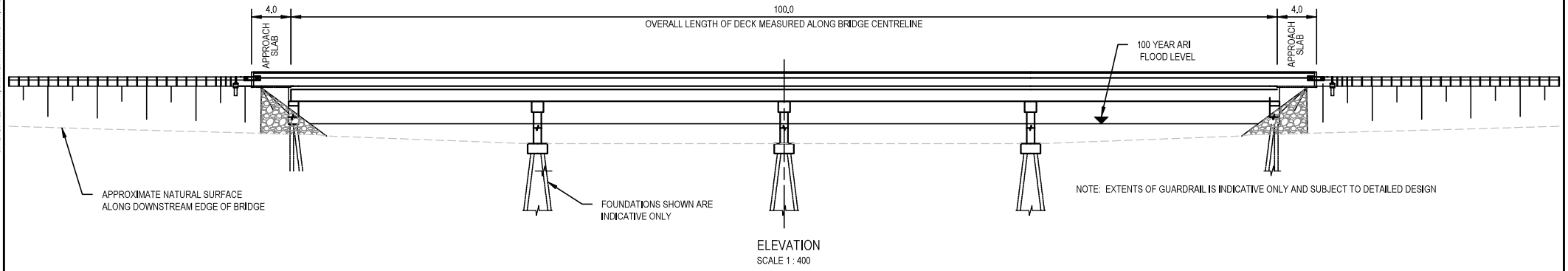

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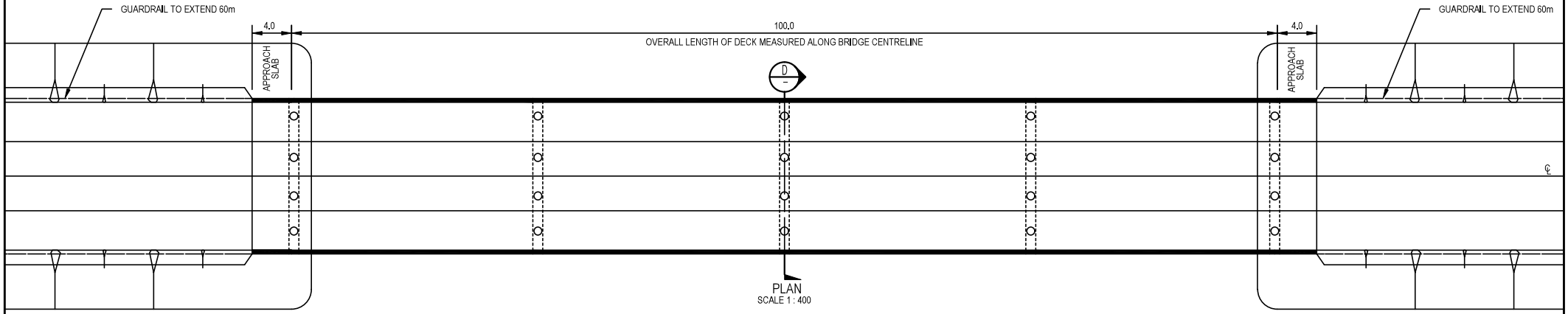

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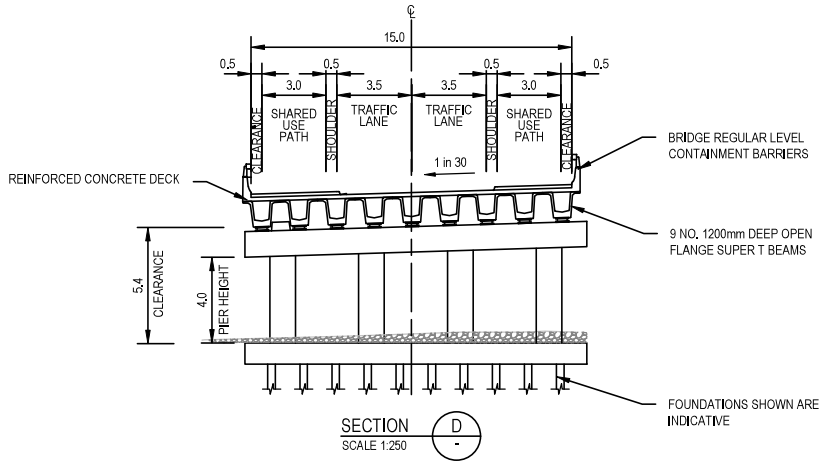

SECTION D
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SCALE 1:400 @A3

0 5 10m
SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 20
SECONDARY ARTERIAL 100m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2032
Revision: 3

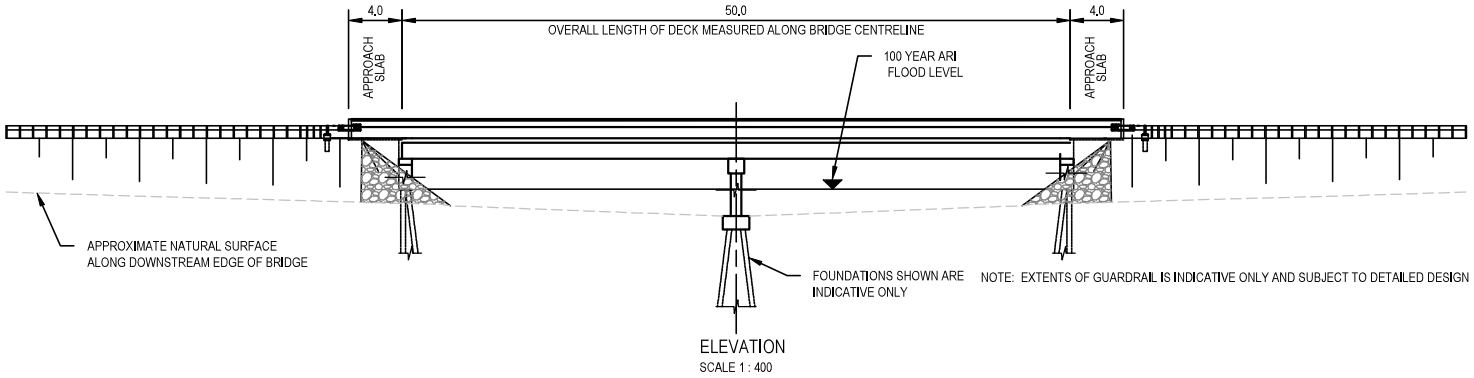
DATE PLOTTED: 17 September 2019 10:18 AM BY: NEN BATRA
XREFs: V170524-CI-DG-2000-2010
CAD File: M:\2018\150_2000\181544_VPA_IP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2029-2036.dwg

Appendix C	
Description:	BRIDGE - 50m - Secondary
Civil Component Number:	Item 19

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	7506	m2	3.68	27,622.08	6.62	49,689.72
	Earthworks	12313	m3	50.07	616,511.91	54.62	672,536.06
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	790	m2	4,425.57	3,496,200.30	5,226.40	4,128,856.00
Off Structure	Guard Rails/ Balustrade	240	m	187.10	44,904.00	224.54	53,889.60
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	138,434.94	3.25	162,099.03
	VicRoads Fees	1	%	1.00	42,595.37	1.00	49,876.63
	Traffic Management	1	%	5.00	212,976.83	5.00	249,383.13
	Environmental Management	1	%	0.50	21,297.68	0.50	24,938.31
	Surveying and Design	1	%	5.00	212,976.83	5.00	249,383.13
	Supervision and Project management	1	%	9.00	383,358.29	9.00	448,889.63
	Site Establishment	1	%	2.50	106,488.41	2.50	124,691.56
	Contingency	1	%	20.00	851,907.30	20.00	997,532.50
Total	Excluding Delivery				**4,287,159**		**5,037,352**
	Including Delivery				**6,269,969**		**7,367,128**

Appendix C	
Description:	BRIDGE - 100m - Secondary
Civil Component Number:	Item 20

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	8856	m2	3.68	32,590.08	6.62	58,626.72
	Earthworks	12313	m3	50.07	616,511.91	54.62	672,536.06
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	1580	m2	4,425.57	6,992,400.60	5,226.40	8,257,712.00
Off Structure	Guard Rails/ Balustrade	240	m	187.10	44,904.00	224.54	53,889.60
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	252,061.45	3.25	296,286.85
	VicRoads Fees	1	%	1.00	77,557.37	1.00	91,165.19
	Traffic Management	1	%	5.00	387,786.84	5.00	455,825.93
	Environmental Management	1	%	0.50	38,778.68	0.50	45,582.59
	Surveying and Design	1	%	5.00	387,786.84	5.00	455,825.93
	Supervision and Project management	1	%	9.00	698,016.31	9.00	820,486.67
	Site Establishment	1	%	2.50	193,893.42	2.50	227,912.96
	Contingency	1	%	20.00	1,551,147.36	20.00	1,823,303.70
Total	Excluding Delivery				**7,788,327**		**9,175,145**
	Including Delivery				**11,390,428**		**13,418,650**



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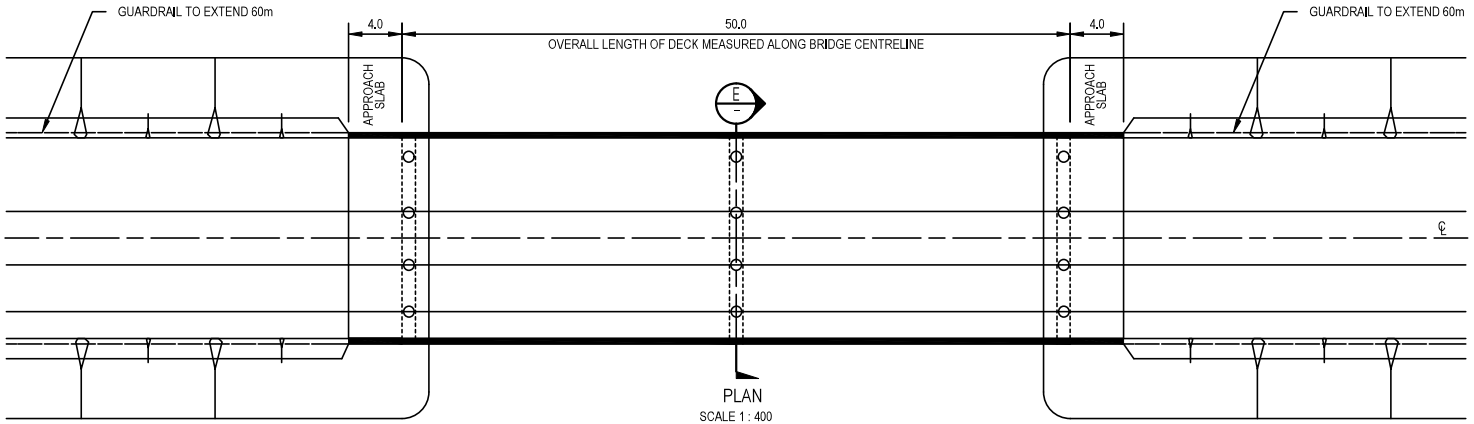

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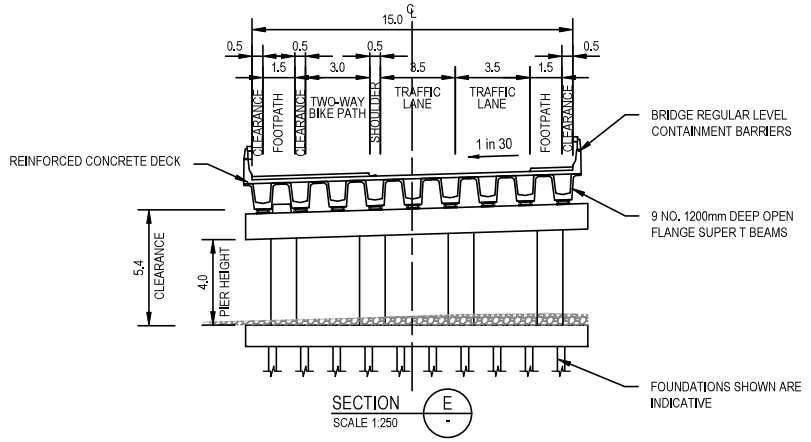

SECTION
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SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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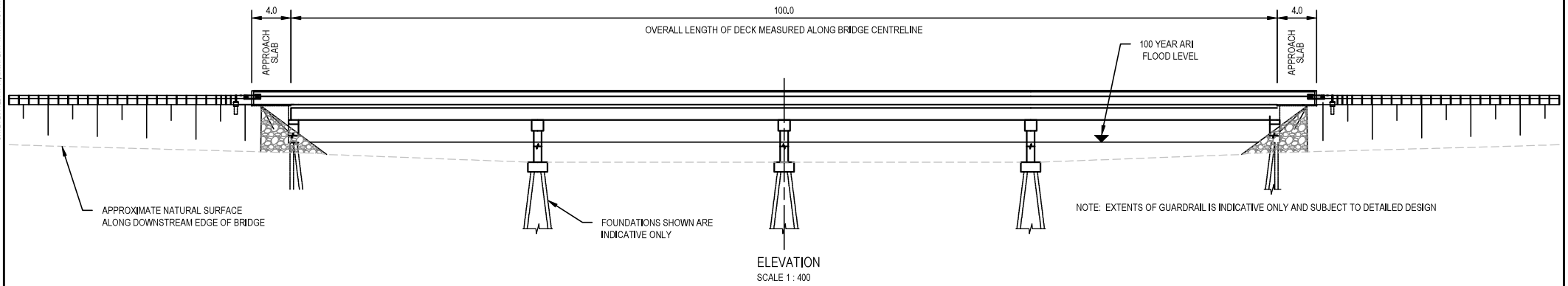
		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 21
CONNECTOR 50m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2033
Revision: 4

DATE PLOTTED: 17 September 2019 10:19 AM BY: NEN BATRA
XREFs: V170524-CI-DG-2000-2010
CAD File: W:\2016\150_2000\181544_VPA_IDP_Program_Implementation\CAD\Drafting\Benchmark Project\V181544-CI-DG-2028-2036.dwg



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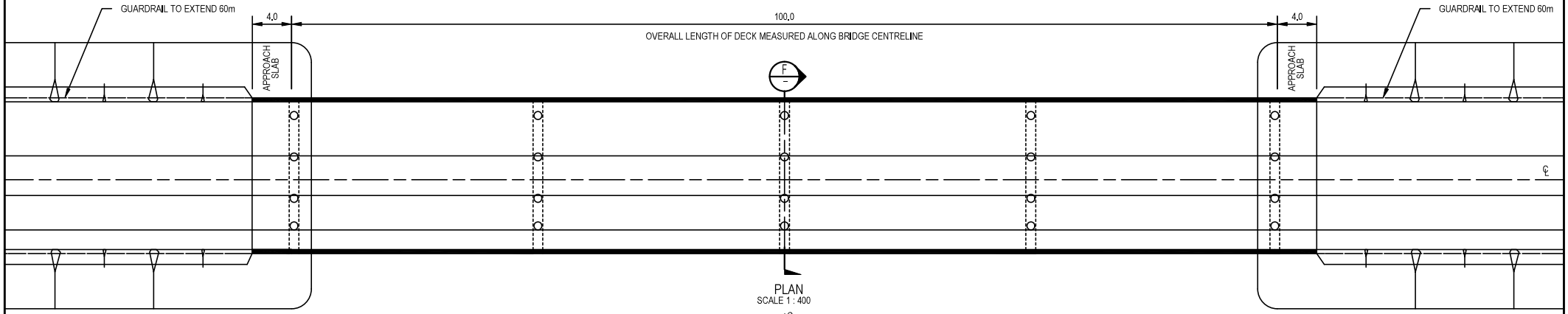

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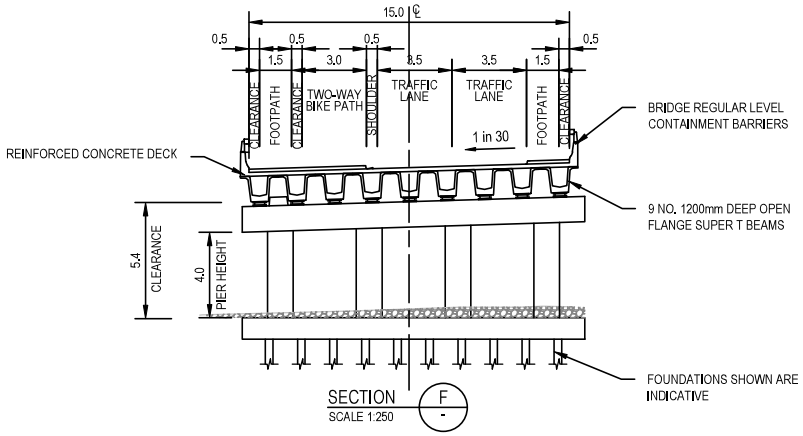

SECTION F
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SCALE 1:400 @A3

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SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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		Date
Drawn	NPV	14/12/2017
Checked	MEA	14/12/2017
Designed	RVR	
Verified		
Approved		

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 22
CONNECTOR 100m LONG SUPER T BRIDGE
INTERIM

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2034
Revision: 4

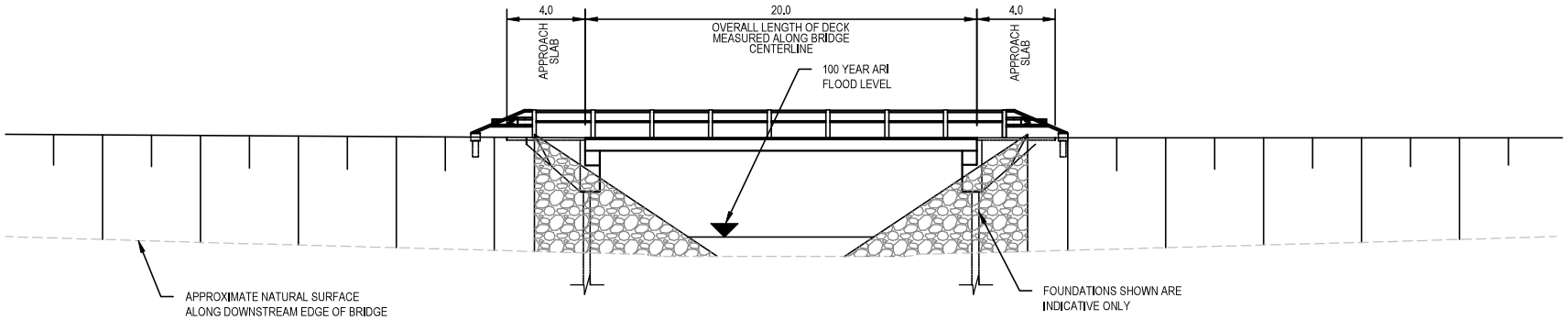
DATE PLOTTED: 17 September 2019 10:19 AM BY: NEW BATRA
XREFs: V170524-CI-DG-2000-2010
CAD File: W:\2016\150_Q\000\181544_VPA_IP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2029-2036.dwg

Appendix C	
Description:	BRIDGE - 50m - Connector
Civil Component Number:	Item 21

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	7506	m2	3.68	27,622.08	6.62	49,689.72
	Earthworks	12313	m3	50.07	616,511.91	54.62	672,536.06
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	790	m2	4,425.57	3,496,200.30	5,226.40	4,128,856.00
Off Structure	Guard Rails/ Balustrade	240	m	187.10	44,904.00	224.54	53,889.60
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	138,434.94	3.25	162,099.03
	VicRoads Fees	1	%	1.00	42,595.37	1.00	49,876.63
	Traffic Management	1	%	5.00	212,976.83	5.00	249,383.13
	Environmental Management	1	%	0.50	21,297.68	0.50	24,938.31
	Surveying and Design	1	%	5.00	212,976.83	5.00	249,383.13
	Supervision and Project management	1	%	9.00	383,358.29	9.00	448,889.63
	Site Establishment	1	%	2.50	106,488.41	2.50	124,691.56
	Contingency	1	%	20.00	851,907.30	20.00	997,532.50
Total	Excluding Delivery				**4,287,159**		**5,037,352**
	Including Delivery				**6,269,969**		**7,367,128**

Appendix C	
Description:	BRIDGE - 100m - Connector
Civil Component Number:	Item 22

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	8856	m2	3.68	32,590.08	6.62	58,626.72
	Earthworks	12313	m3	50.07	616,511.91	54.62	672,536.06
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	1580	m2	4,425.57	6,992,400.60	5,226.40	8,257,712.00
Off Structure	Guard Rails/ Balustrade	240	m	187.10	44,904.00	224.54	53,889.60
	GREAT Terminal	4	No	8,767.42	35,069.68	13,875.66	55,502.64
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	252,061.45	3.25	296,286.85
	VicRoads Fees	1	%	1.00	77,557.37	1.00	91,165.19
	Traffic Management	1	%	5.00	387,786.84	5.00	455,825.93
	Environmental Management	1	%	0.50	38,778.68	0.50	45,582.59
	Surveying and Design	1	%	5.00	387,786.84	5.00	455,825.93
	Supervision and Project management	1	%	9.00	698,016.31	9.00	820,486.67
	Site Establishment	1	%	2.50	193,893.42	2.50	227,912.96
	Contingency	1	%	20.00	1,551,147.36	20.00	1,823,303.70
Total	Excluding Delivery				**7,788,327**		**9,175,145**
	Including Delivery				**11,390,428**		**13,418,650**



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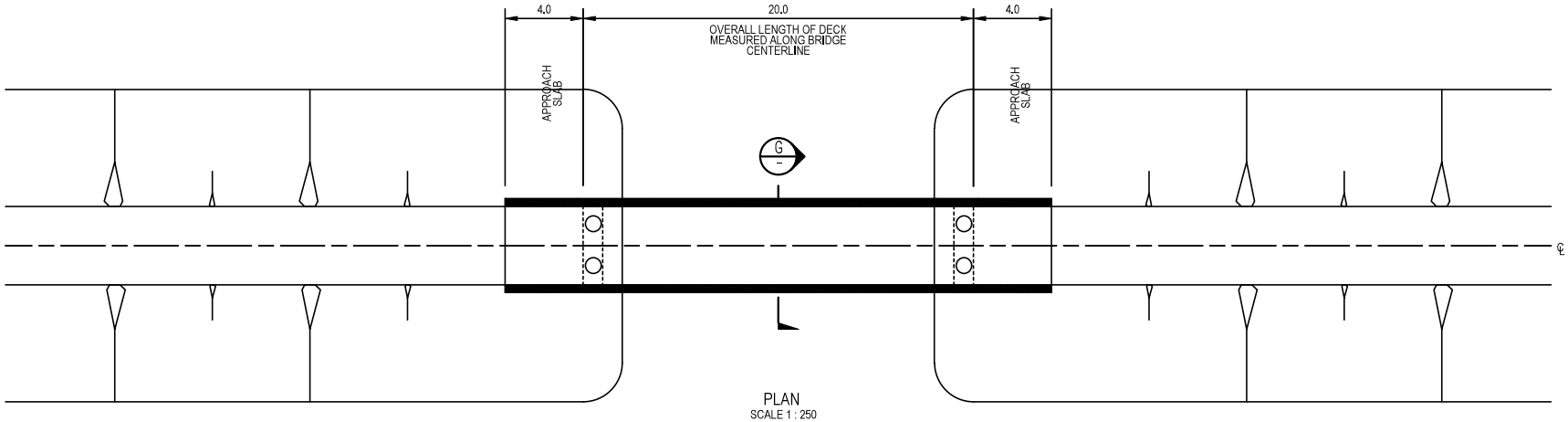

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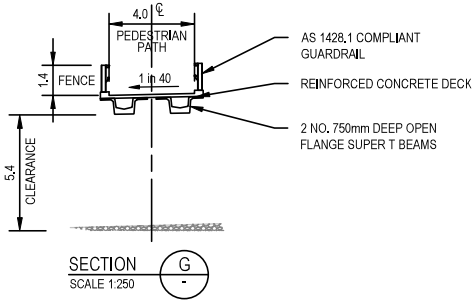

SECTION G
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Rev	Date	Description	Des.	Verif.	Appd.
3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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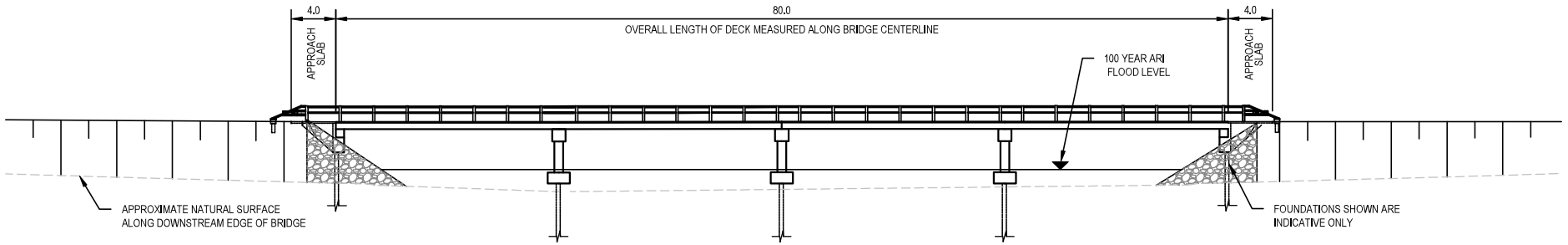
Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 23
PEDESTRIAN 20m LONG SUPER T BRIDGE
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2035
Revision: 3

DATE PLOTTED: 17 September 2019 10:19 AM BY: NEN BATRA
XREFs: V170524-CI-DG-2000-2010
CAD File: W:\2016\150_2000\181544_VPA_IICP_Program_Implementation\CAD\Drafting\Benchmark Project\V181544-CI-DG-2035-2036.dwg



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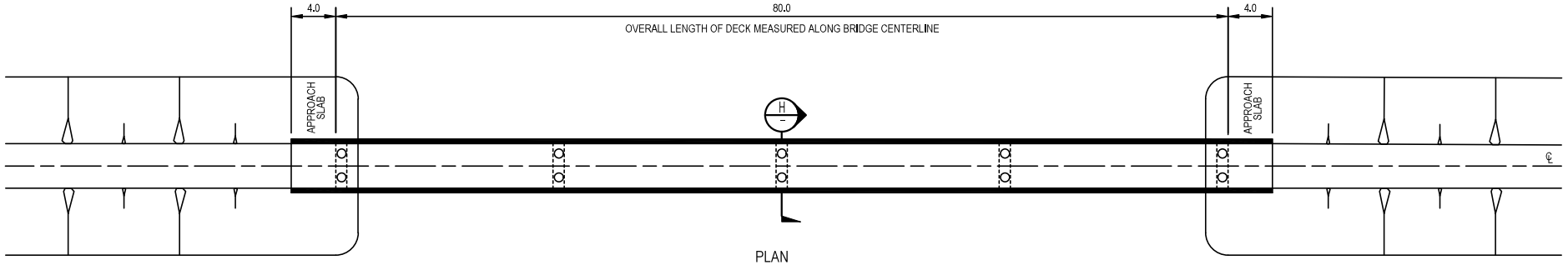

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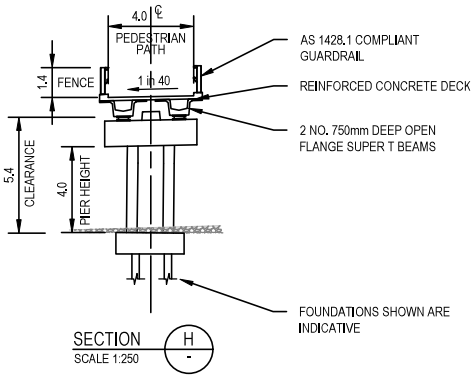

SECTION H
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0 5 10m
SCALE 1:250 @A3

Rev	Date	Description	Des.	Verif.	Appd.
3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	VA		

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Web: www.cardno.com.au

Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 24
PEDESTRIAN 80m LONG SUPER T BRIDGE
ULTIMATE

Status: CONCEPT
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: AS SHOWN
Size: A3
Drawing Number: V181544-CI-DG-2036
Revision: 3

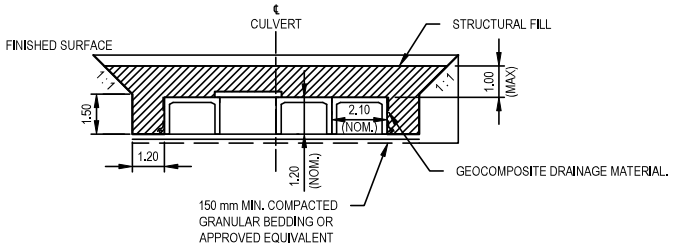
DATE PLOTTED: 17 September 2019 10:19 AM BY: NEW BATRA
XREFs: V170524-CI-DG-2000-2010
CAD File: W:\0018150_2000\181544_VPA_IICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2036.dwg

Appendix C	
Description:	BRIDGE - 20m - Pedestrian
Civil Component Number:	Item 23

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	3968	m2	3.68	14,602.24	6.62	26,268.16
	Earthworks	2994	m3	50.07	149,909.58	54.62	163,532.28
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	96	m2	4,425.57	424,854.72	5,226.40	501,734.40
Off Structure	Pedestrian Guard Rails/ Balustrade	20	m	187.10	3,742.00	224.54	4,490.80
	GREAT Terminal	0	No	8,767.42	0.00	13,875.66	0.00
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	20,974.10	3.25	24,265.66
	VicRoads Fees	1	%	1.00	6,453.57	1.00	7,466.36
	Traffic Management	1	%	5.00	32,267.85	5.00	37,331.79
	Environmental Management	1	%	0.50	3,226.78	0.50	3,733.18
	Surveying and Design	1	%	5.00	32,267.85	5.00	37,331.79
	Supervision and Project management	1	%	9.00	58,082.12	9.00	67,197.21
	Site Establishment	1	%	2.50	16,133.92	2.50	18,665.89
	Contingency	1	%	20.00	129,071.38	20.00	149,327.14
Total	Excluding Delivery				**659,959**		**772,904**
	Including Delivery				**965,190**		**1,130,372**

Appendix C	
Description:	BRIDGE - 80m - Pedestrian
Civil Component Number:	Item 24

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Earthworks	Site Preperation	5248	m2	3.68	19,312.64	6.62	34,741.76
	Earthworks	2994	m3	50.07	149,909.58	54.62	163,532.28
On-Structure Works	Retaining Walls, abutments, footings	incl	No	369,439.34	0.00	415,928.97	0.00
	Bridge Deck	incl	m2	1,258.48	0.00	2,060.14	0.00
	Guard Rails/ Balustrade	incl	m	2,355.21	0.00	3,032.46	0.00
	Transition Slab	2	No	33,425.31	66,850.62	38,439.11	76,878.22
	Overall Super T Cost	384	m2	4,425.57	1,699,418.88	5,226.40	2,006,937.60
Off Structure	Pedestrian Guard Rails/ Balustrade	80	m	187.10	14,968.00	224.54	17,963.20
	GREAT Terminal	0	No	8,767.42	0.00	13,875.66	0.00
	Off structure barrier	0	Item	1,565.45	0.00	2,311.95	0.00
Other							
Delivery	Council Fees	1	%	3.25	62,762.28	3.25	73,622.62
	VicRoads Fees	1	%	1.00	19,311.47	1.00	22,653.11
	Traffic Management	1	%	5.00	96,557.35	5.00	113,265.57
	Environmental Management	1	%	0.50	23,388.06	0.50	11,326.56
	Surveying and Design	1	%	5.00	96,557.35	5.00	113,265.57
	Supervision and Project management	1	%	9.00	173,803.24	9.00	203,878.02
	Site Establishment	1	%	2.50	48,278.68	2.50	56,632.78
	Contingency	1	%	20.00	386,229.42	20.00	453,062.26
Total	Excluding Delivery				**1,950,460**		**2,300,053**
	Including Delivery				**2,852,547**		**3,363,828**



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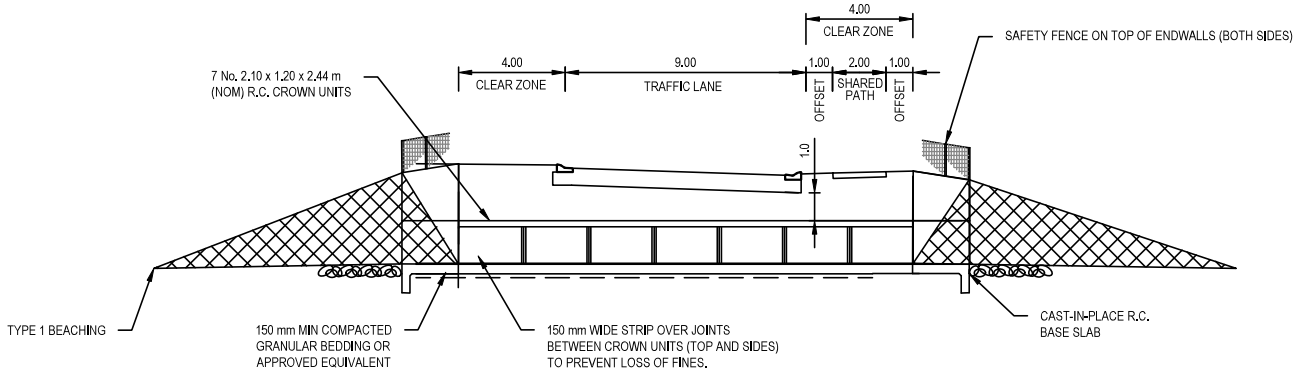

SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

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SCALE 1:200 @A3

Rev.	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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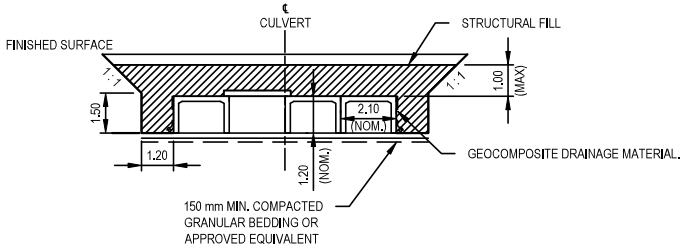
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 25
BOX CULVERT 1200X2100 SECONDARY ARTERIAL
INTERIM

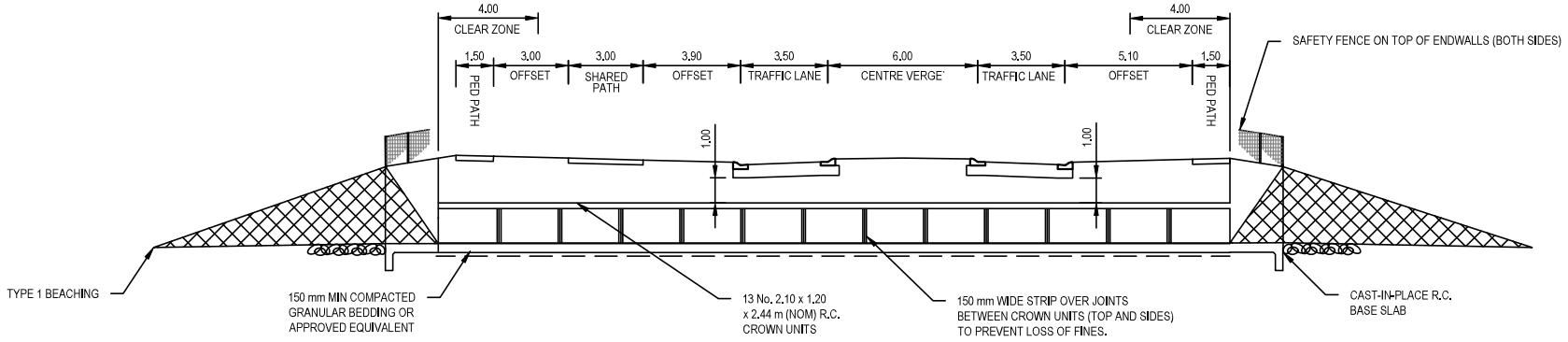
Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2037
Revision: 5

DATE PLOTTED: 28 February 2019 8:03 PM BY: SAMUEL BECKHAM
XREFs: V170524-CI-DG-2002-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2037-20148.dwg

DATE PLOTTED: 28 February 2019 2:56 PM BY: SAMUEL BECKHAM



SECTION ELEVATION
SCALE 1:200



NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

SIDE ELEVATION
SCALE 1:200

0 5 8m
SCALE 1:200 @A3

Rev.	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 26
BOX CULVERT 1200X2100 CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2038
Revision: 5

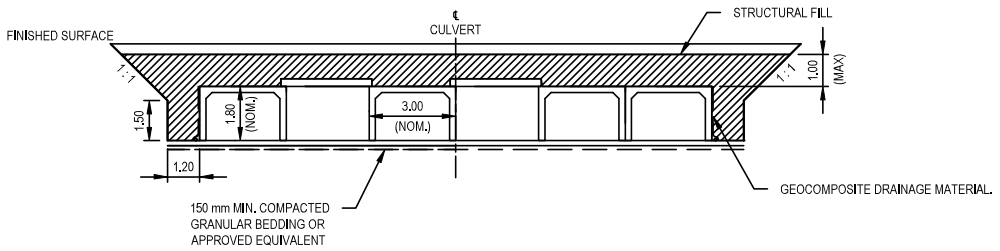
XREFs: V170524-CI-DG-2005-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2037-2048.dwg

Appendix C	
Description:	Culvert Option 1
Civil Component Number:	Item 25

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	224	m2	3.68	824.32	4.23	947.97
	Diversion works (item)	1	Item	10000.00	10000.00	11500.00	11500.00
	Waterway re-shaping	1	Item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil (m2)	462	m2	3.90	1801.80	4.49	2072.07
	Excavation (m3)	1015	m3	37.00	37555.00	42.55	43188.25
	Formation of batters (m3)	220	m3	15.00	3300.00	17.25	3795.00
Drainage Structure	Box culvert units 1200 x 2100 (No.)	24	No.	2395.00	57480.00	2754.25	66102.00
	Link slab 1200 x 2100 (No.)	8	No.	1463.00	11704.00	1682.45	13459.60
	Foundation slab 1200 x 2100 (200 mm)	340	m2	212.00	72080.00	243.80	82892.00
	Granular Bedding 150 mm thick crushed	340	m2	17.25	5865.00	19.84	6744.75
	Apron Slab (m2)	51	m2	220.25	11232.75	253.29	12917.66
	Wing wall (m2)	19	m2	700.00	13300.00	805.00	15295.00
	Endwall (m2)	19	m2	700.00	13300.00	805.00	15295.00
On Structure	Structural Fill (m3)	370	m3	75.00	27750.00	86.25	31912.50
	Vehicle Barrier	28	lm	247.50	6930.00	284.63	7969.50
	Signs (item)	1	Item	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	9032.49	3.25	10387.37
	Authority Fees	1	%	1.00	2779.23	1.00	3196.11
	Traffic Management	1	%	5.00	13896.14	5.00	15980.57
	Environmental Management	1	%	0.50	1389.61	0.50	1598.06
	Surveying and Design	1	%	5.00	13896.14	5.00	15980.57
	Supervision and Project management	1	%	9.00	25013.06	9.00	28765.02
	Site Establishment	1	%	2.50	6948.07	2.50	7990.28
	Contingency	1	%	15.00	41688.43	15.00	47941.70
Total	Excluding Delivery				**277,923**		**319,611**
	Including Delivery				**392,566**		**451,451**

Appendix C	
Description:	Culvert Option 2
Civil Component Number:	Item 26

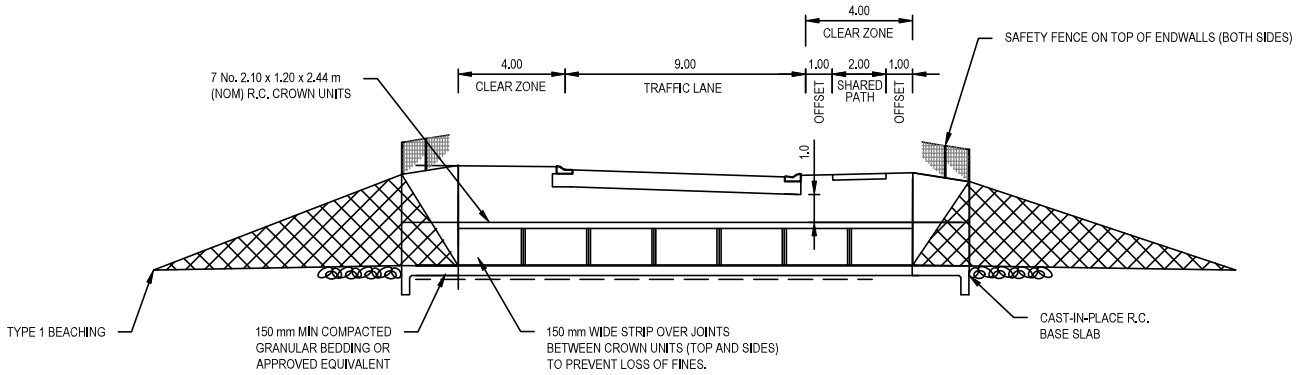
Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	335	m2	3.68	1232.80	4.23	1417.72
	Diversion works (item)	1	Item	11500.00	11500.00	13225.00	13225.00
	Waterway re-shaping	1	Item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil (m2)	675	m2	3.90	2632.50	4.49	3027.38
	Excavation (m3)	1695	m3	37.00	62715.00	42.55	72122.25
	Formation of batters (m3)	195	m3	15.00	2925.00	17.25	3363.75
Drainage Structure	Box culvert units 1200 x 2100 (No.)	39	No.	2395.50	93424.50	2754.83	107438.18
	Link slab 1200 x 2100 (No.)	13	No.	1463.00	19019.00	1682.45	21871.85
	Foundation slab 1200 x 2100 (200 mm)	450	m2	212.00	95400.00	243.80	109710.00
	Granular Bedding 150 mm thick crushed	450	m2	17.25	7762.50	19.84	8926.88
	Apron Slab (m2)	51	m2	220.25	11232.75	253.29	12917.66
	Wing wall (m2)	19	m2	700.00	13300.00	805.00	15295.00
	Endwall (m2)	19	m2	700.00	13300.00	805.00	15295.00
On Structure	Structural Fill (m3)	650	m3	75.00	48750.00	86.25	56062.50
	Vehicle Barrier	30	lm	247.50	7425.00	284.63	8538.75
	Signs (item)	1	Item	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	12851.12	3.25	14778.79
	Authority Fees	1	%	1.00	3954.19	1.00	4547.32
	Traffic Management	1	%	5.00	19770.95	5.00	22736.60
	Environmental Management	1	%	0.50	1977.10	0.50	2273.66
	Surveying and Design	1	%	5.00	19770.95	5.00	22736.60
	Supervision and Project management	1	%	9.00	35587.71	9.00	40925.87
	Site Establishment	1	%	2.50	9885.48	2.50	11368.30
	Contingency	1	%	15.00	59312.86	15.00	68209.79
Total	Excluding Delivery				**395,419**		**454,732**
	Including Delivery				**558,529**		**642,309**



SECTION ELEVATION

SCALE 1:200

SCALE 1:200



SIDE ELEVATION

SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

0 5 8m

SCALE 1:200 @A3

Rev.	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
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Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 27
BOX CULVERT 1800X3000 SECONDARY ARTERIAL
INTERIM

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

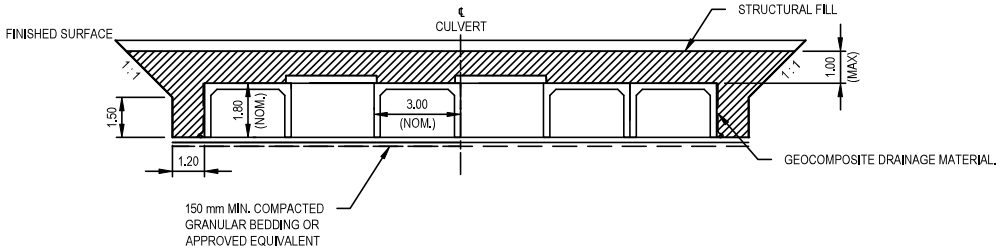
Scale: 1:200

Size: A3

Drawing Number: V181544-CI-DG-2039

Revision: 5

DATE PLOTTED: 28 February 2019 8:03 PM BY: SAMUEL BECKHAM
XREFs: V170524-CI-DG-2002-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2037-2046.dwg



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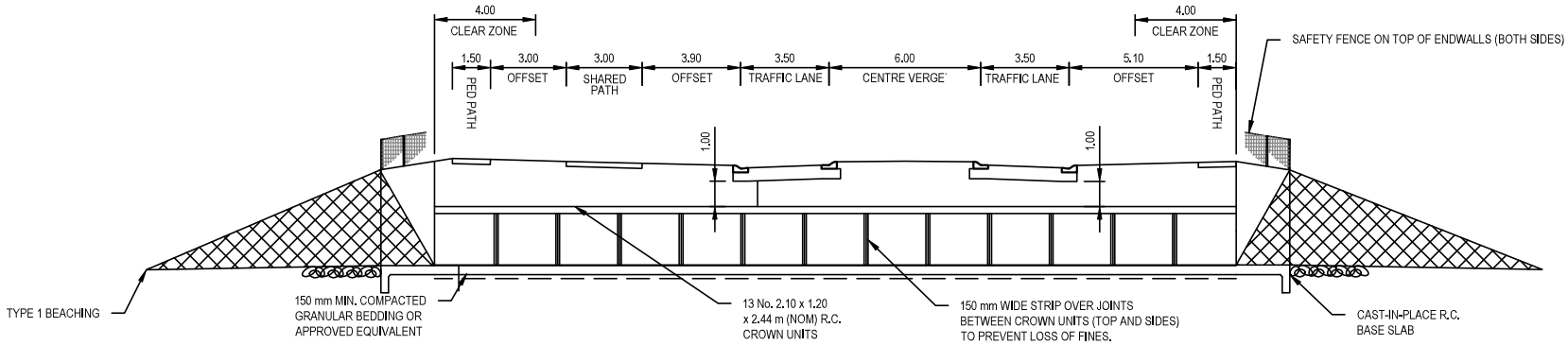

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

SIDE ELEVATION
SCALE 1:200

0 5 8m

SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
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4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
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Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 28
BOX CULVERT 1800X3000 CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2040
Revision: 5

DATE PLOTTED: 28 February 2019 2:57 PM BY: SAMUEL BECKHAM
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Appendix C	
Description:	Culvert Option 3
Civil Component Number:	Item 27

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	509	m2	3.68	1873.12	4.23	2154.09
	Diversion works (item)	1	Item	15000.00	15000.00	17250.00	17250.00
	Waterway re-shaping	1	Item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil (m2)	740	m2	3.90	2886.00	4.49	3318.90
	Excavation (m3)	2300	m3	37.00	85100.00	42.55	97865.00
	Formation of batters (m3)	320	m3	15.00	4800.00	17.25	5520.00
Drainage Structure	Box culvert units 1200 x 2100 (No.)	32	No.	4200.00	134400.00	4830.00	154560.00
	Link slab 1200 x 2100 (No.)	16	No.	2469.00	39504.00	2839.35	45429.60
	Foundation slab 1200 x 2100 (200 mm)	560	m2	212.00	118720.00	243.80	136528.00
	Granular Bedding 150 mm thick crushed	560	m2	17.25	9660.00	19.84	11109.00
	Apron Slab (m2)	153	m2	220.25	33698.25	253.29	38752.99
	Wing wall (m2)	33	m2	700.00	23100.00	805.00	26565.00
	Endwall (m2)	40	m2	700.00	28000.00	805.00	32200.00
On Structure	Structural Fill (m3)	640	m3	75.00	48000.00	86.25	55200.00
	Vehicle Barrier	52	lm	247.50	12870.00	284.63	14800.50
	Signs (item)	1	Item	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	18278.37	3.25	21020.12
	Authority Fees	1	%	1.00	5624.11	1.00	6467.73
	Traffic Management	1	%	5.00	28120.57	5.00	32338.65
	Environmental Management	1	%	0.50	2812.06	0.50	3233.87
	Surveying and Design	1	%	5.00	28120.57	5.00	32338.65
	Supervision and Project management	1	%	9.00	50617.02	9.00	58209.58
	Site Establishment	1	%	2.50	14060.28	2.50	16169.33
	Contingency	1	%	15.00	84361.71	15.00	97015.96
Total	Excluding Delivery				**562,411**		**646,773**
	Including Delivery				**794,406**		**913,567**

Appendix C	
Description:	Culvert Option 4
Civil Component Number:	Item 28

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	747	m2	3.68	2748.96	4.23	3161.30
	Diversion works (item)	1	Item	17500.00	17500.00	20125.00	20125.00
	Waterway re-shaping	1	Item	4000.00	4000.00	4600.00	4600.00
	Stripping of topsoil (m2)	1080	m2	3.90	4212.00	4.49	4843.80
	Excavation (m3)	3765	m3	37.00	139305.00	42.55	160200.75
	Formation of batters (m3)	292	m3	15.00	4380.00	17.25	5037.00
Drainage Structure	Box culvert units 1200 x 2100 (No.)	52	No.	4200.00	218400.00	4830.00	251160.00
	Link slab 1200 x 2100 (No.)	26	No.	2469.00	64194.00	2839.35	73823.10
	Foundation slab 1200 x 2100 (200 mm)	940	m2	212.00	199280.00	243.80	229172.00
	Granular Bedding 150 mm thick crushed	940	m2	17.25	16215.00	19.84	18647.25
	Apron Slab (m2)	153	m2	220.25	33698.25	253.29	38752.99
	Wing wall (m2)	33	m2	700.00	23100.00	805.00	26565.00
	Endwall (m2)	40	m2	700.00	28000.00	805.00	32200.00
On Structure	Structural Fill (m3)	1030	m3	75.00	77250.00	86.25	88837.50
	Vehicle Barrier	64	lm	247.50	15840.00	284.63	18216.00
	Signs (item)	1	Item	2300.00	2300.00	2645.00	2645.00
Delivery	Council Fees	1	%	3.25	27638.75	3.25	31784.57
	Authority Fees	1	%	1.00	8504.23	1.00	9779.87
	Traffic Management	1	%	5.00	42521.16	5.00	48899.33
	Environmental Management	1	%	0.50	4252.12	0.50	4889.93
	Surveying and Design	1	%	5.00	42521.16	5.00	48899.33
	Supervision and Project management	1	%	9.00	76538.09	9.00	88018.80
	Site Establishment	1	%	2.50	21260.58	2.50	24449.67
	Contingency	1	%	15.00	127563.48	15.00	146698.00
Total	Excluding Delivery				**850,423**		**977,987**
	Including Delivery				**1,201,223**		**1,381,406**

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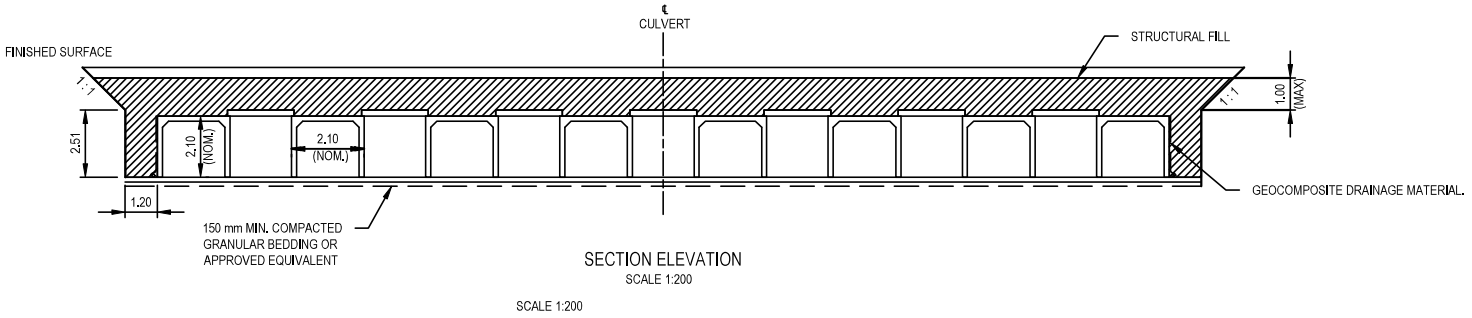

SECTION ELEVATION
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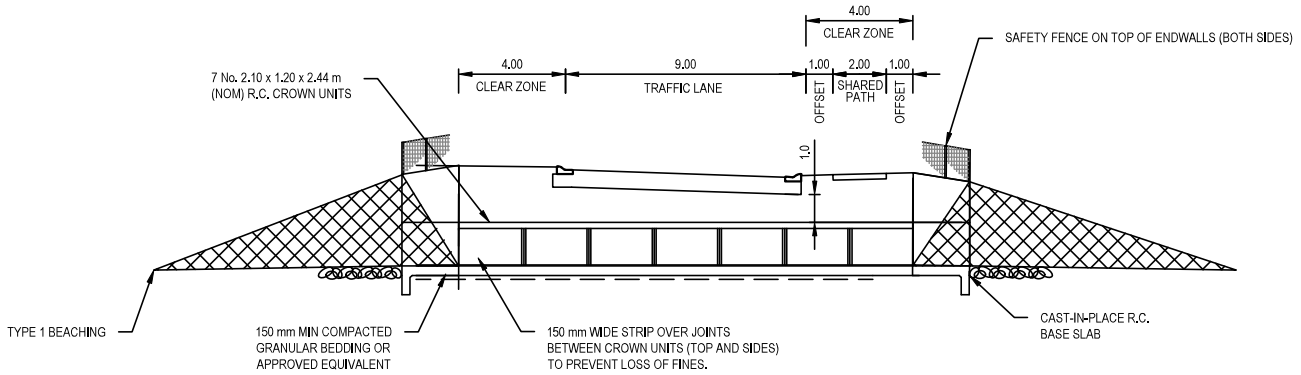
SCALE 1:200



SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

0 5 8m

SCALE 1:200 @A3

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4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Title: ITEM 29
BOX CULVERT 2100X2100 SECONDARY ARTERIAL
INTERIM

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

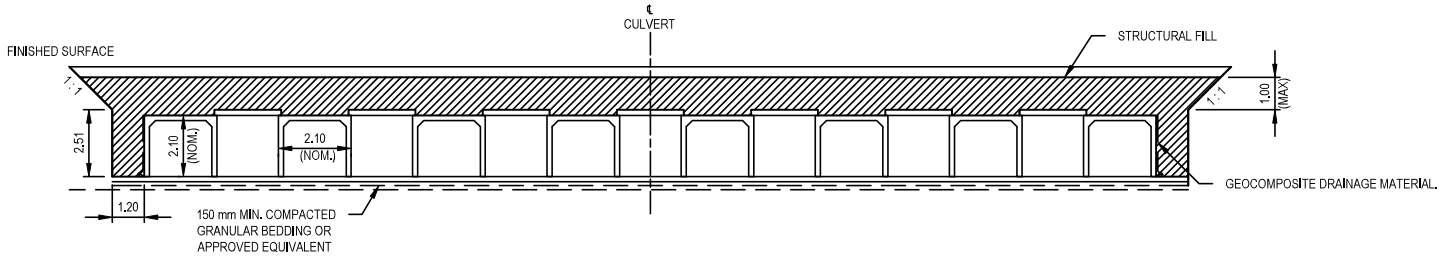
Scale: 1:200

Size: A3

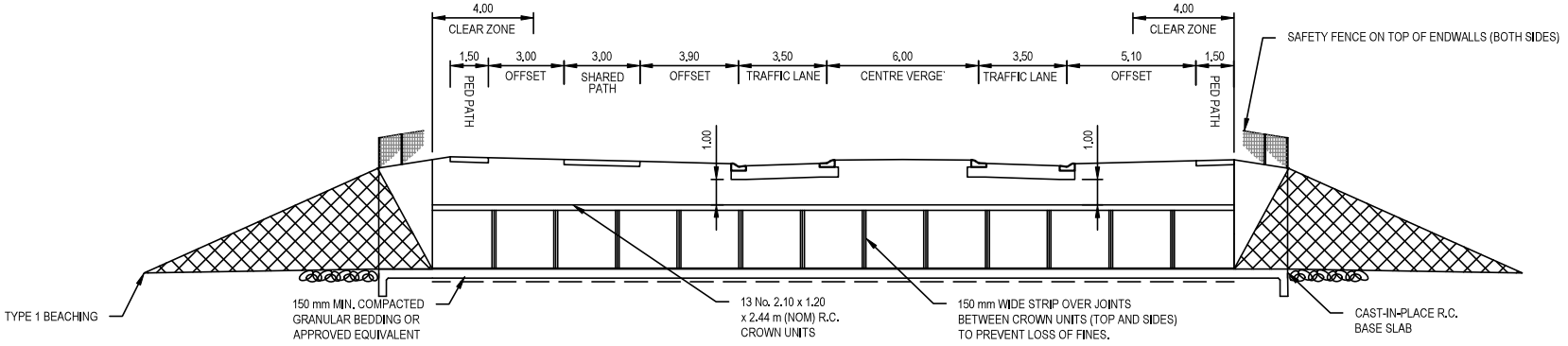
Drawing Number: V181544-CI-DG-2041

Revision: 5

XREFs: V170524-CI-DG-2002-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2002-2046.dwg



SECTION ELEVATION
SCALE 1:200



NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

SIDE ELEVATION
SCALE 1:200

0 5 8m
SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 30
BOX CULVERT 2100X2100 CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2042
Revision: 5

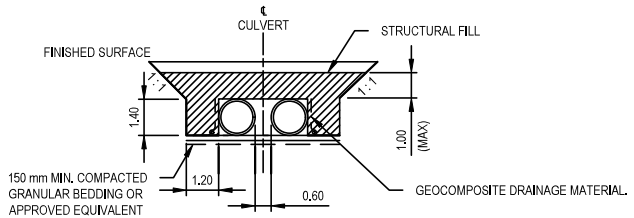
DATE PLOTTED: 28 February 2019 2:56 PM BY: SAMUEL BECKHAM
XREFs: V170524-CI-DG-2003-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2003-2042.dwg

Appendix C	
Description:	Culvert Option 5
Civil Component Number:	Item 29

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	910	m2	3.68	3348.80	4.23	3851.12
	Diversion works (item)	1	Item	20000.00	20000.00	23000.00	23000.00
	Waterway re-shaping	1	Item	4000.00	4000.00	4600.00	4600.00
	Stripping of topsoil (m2)	1116	m2	3.90	4352.40	4.49	5005.26
	Excavation (m3)	4300	m3	37.00	159100.00	42.55	182965.00
	Formation of batters (m3)	250	m3	15.00	3750.00	17.25	4312.50
Drainage Structure	Box culvert units 1200 x 2100 (No.)	64	No.	3747.00	239808.00	4309.05	275779.20
	Link slab 1200 x 2100 (No.)	56	No.	1463.00	81928.00	1682.45	94217.20
	Foundation slab 1200 x 2100 (200 mm)	1005	m2	212.00	213060.00	243.80	245019.00
	Granular Bedding 150 mm thick crushed	1005	m2	17.25	17336.25	19.84	19936.69
	Apron Slab (m2)	304	m2	220.25	66956.00	253.29	76999.40
	Wing wall (m2)	41	m2	700.00	28700.00	805.00	33005.00
	Endwall (m2)	71	m2	700.00	49700.00	805.00	57155.00
On Structure	Structural Fill (m3)	1110	m3	75.00	83250.00	86.25	95737.50
	Vehicle Barrier	90	lm	247.50	22275.00	284.63	25616.25
	Signs (item)	1	Item	2300.00	2300.00	2645.00	2645.00
Delivery	Council Fees	1	%	3.25	32495.59	3.25	37369.93
	Authority Fees	1	%	1.00	9998.64	1.00	11498.44
	Traffic Management	1	%	5.00	49993.22	5.00	57492.21
	Environmental Management	1	%	0.50	4999.32	0.50	5749.22
	Surveying and Design	1	%	5.00	49993.22	5.00	57492.21
	Supervision and Project management	1	%	9.00	89987.80	9.00	103485.97
	Site Establishment	1	%	2.50	24996.61	2.50	28746.10
	Contingency	1	%	15.00	149979.67	15.00	172476.62
Total	Excluding Delivery				**999,864**		**1,149,844**
	Including Delivery				**1,412,309**		**1,624,155**

Appendix C	
Description:	Culvert Option 6
Civil Component Number:	Item 30

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	1328	m2	3.68	4887.04	4.23	5620.10
	Diversion works (item)	1	Item	20000.00	20000.00	23000.00	23000.00
	Waterway re-shaping	1	Item	5000.00	5000.00	5750.00	5750.00
	Stripping of topsoil (m2)	1600	m2	3.90	6240.00	4.49	7176.00
	Excavation (m3)	7200	m3	37.00	266400.00	42.55	306360.00
	Formation of batters (m3)	260	m3	15.00	3900.00	17.25	4485.00
Drainage Structure	Box culvert units 1200 x 2100 (No.)	104	No.	3747.00	389688.00	4309.05	448141.20
	Link slab 1200 x 2100 (No.)	91	No.	1463.00	133133.00	1682.45	153102.95
	Foundation slab 1200 x 2100 (200 mm)	1600	m2	212.00	339200.00	243.80	390080.00
	Granular Bedding 150 mm thick crushed	1600	m2	17.25	27600.00	19.84	31740.00
	Apron Slab (m2)	304	m2	220.25	66956.00	253.29	76999.40
	Wing wall (m2)	41	m2	700.00	28700.00	805.00	33005.00
	Endwall (m2)	71	m2	700.00	49700.00	805.00	57155.00
On Structure	Structural Fill (m3)	2000	m3	75.00	150000.00	86.25	172500.00
	Vehicle Barrier	88	lm	247.50	21780.00	284.63	25047.00
	Signs (item)	1	Item	3050.00	3050.00	3507.50	3507.50
Delivery	Council Fees	1	%	3.25	49277.61	3.25	56669.25
	Authority Fees	1	%	1.00	15162.34	1.00	17436.69
	Traffic Management	1	%	5.00	75811.70	5.00	87183.46
	Environmental Management	1	%	0.50	7581.17	0.50	8718.35
	Surveying and Design	1	%	5.00	75811.70	5.00	87183.46
	Supervision and Project management	1	%	9.00	136461.06	9.00	156930.22
	Site Establishment	1	%	2.50	37905.85	2.50	43591.73
	Contingency	1	%	15.00	227435.11	15.00	261550.37
Total	Excluding Delivery				**1,516,234**		**1,743,669**
	Including Delivery				**2,141,681**		**2,462,933**



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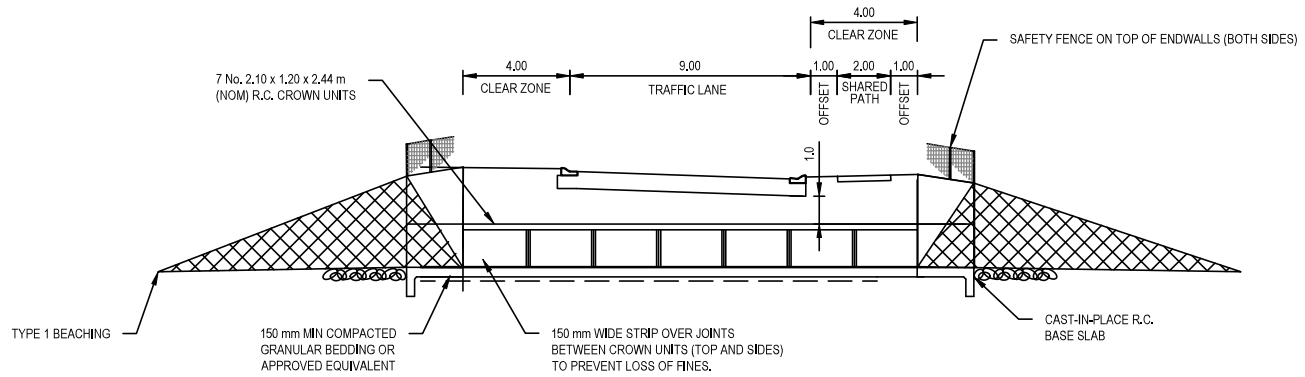
SCALE 1:200



SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

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SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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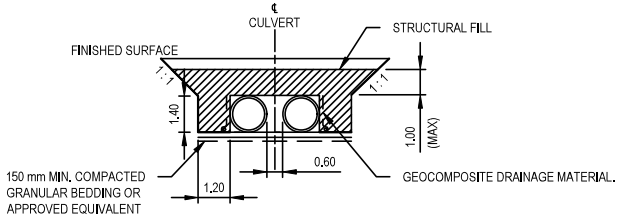
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 31
RCP 1200DN SECONDARY ARTERIAL
INTERIM

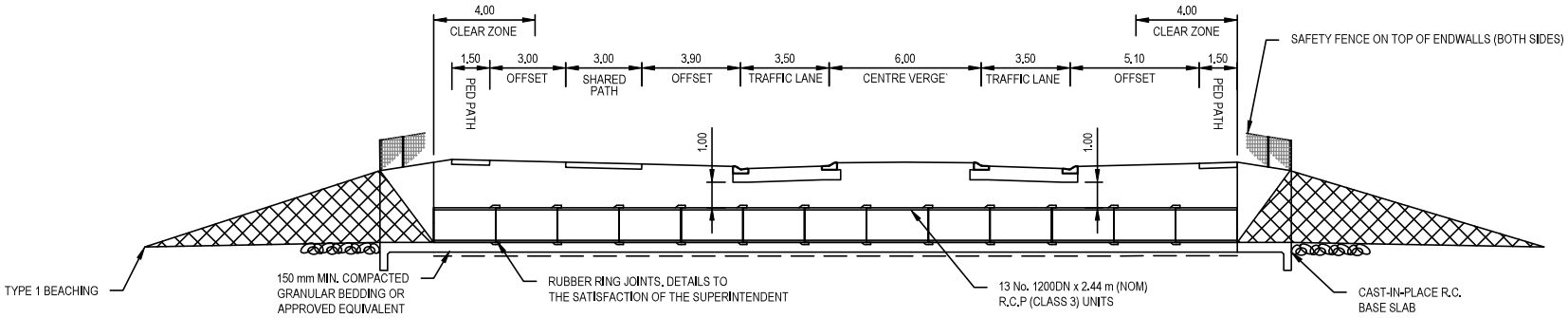
Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2043
Revision: 5

DATE PLOTTED: 28 February 2019 8:04 PM BY: SAMUEL BECKHAM
XREFs: V170524-CI-DG-2002-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2037-2048.dwg

DATE PLOTTED: 28 February 2019 2:56 PM BY: SAMUEL BECKHAM



SECTION ELEVATION
SCALE 1:200



SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

0 5 8m
SCALE 1:200 @A3

Rev.	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 32
RCP 1200DN CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2044
Revision: 5

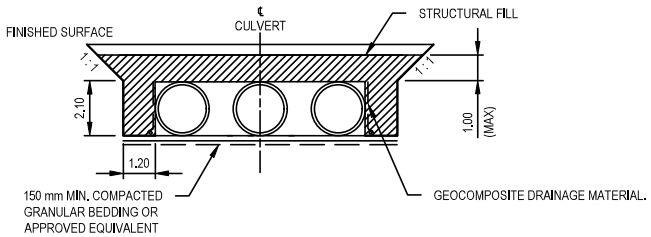
XREFs: V170524-CI-DG-2000-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2003-2046.dwg

Appendix C	
Description:	Culvert Option 7
Civil Component Number:	Item 31

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	118	m2	3.68	434.24	4.23	499.38
	Diversion works (item)	1	item	9000.00	9000.00	10350.00	10350.00
	Waterway re-shaping	1	item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil	302	m2	3.90	1177.80	4.49	1354.47
	Excavation (m3)	602	m3	37.00	22274.00	42.55	25615.10
	Formation of batters (m3)	144	m3	15.00	2160.00	17.25	2484.00
Drainage Structure	Circular Pipes 1200 dia (m)	34	No.	1487.50	50575.00	1710.63	58161.25
	Foundation Slab 1200 dia (250 mm)	183	No.	212.00	38796.00	243.80	44615.40
	Granular Bedding 150 mm thick crushed	183	m2	17.25	3156.75	19.84	3630.26
	Apron Slab (m2)	24	m2	220.25	5286.00	253.29	6078.90
	Wing wall (m2)	19	m2	700.00	13300.00	805.00	15295.00
	Endwall (m2)	12	m2	700.00	8400.00	805.00	9660.00
On Structure	Structural Fill (m3)	170	m2	75.00	12750.00	86.25	14662.50
	Vehicle Barrier	17	m2	247.50	4207.50	284.63	4838.63
	Signs (Item)	1	m3	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	5730.31	3.25	6589.86
	Authority Fees	1	%	1.00	1763.17	1.00	2027.65
	Traffic Management	1	%	5.00	8815.86	5.00	10138.24
	Environmental Management	1	%	0.50	881.59	0.50	1013.82
	Surveying and Design	1	%	5.00	8815.86	5.00	10138.24
	Supervision and Project management	1	%	9.00	15868.56	9.00	18248.84
	Site Establishment	1	%	2.50	4407.93	2.50	5069.12
	Contingency	1	%	15.00	26447.59	15.00	30414.73
Total	Excluding Delivery				**176,317**		**202,765**
	Including Delivery				**249,048**		**286,405**

Appendix C	
Description:	Culvert Option 8
Civil Component Number:	Item 32

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	176	m2	3.68	647.68	4.23	744.83
	Diversion works (item)	1	item	10000.00	10000.00	11500.00	11500.00
	Waterway re-shaping	1	item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil	453	m2	3.90	1766.70	4.49	2031.71
	Excavation (m3)	1008	m3	37.00	37296.00	42.55	42890.40
	Formation of batters (m3)	128	m3	15.00	1920.00	17.25	2208.00
Drainage Structure	Circular Pipes 1200 dia (m)	64	No.	1487.50	95200.00	1710.63	109480.00
	Foundation Slab 1200 dia (250 mm)	183	No.	212.00	38796.00	243.80	44615.40
	Granular Bedding 150 mm thick crushed	183	m2	17.25	3156.75	19.84	3630.26
	Apron Slab (m2)	24	m2	220.25	5286.00	253.29	6078.90
	Wing wall (m2)	19	m2	700.00	13300.00	805.00	15295.00
	Endwall (m2)	12	m2	700.00	8400.00	805.00	9660.00
On Structure	Structural Fill (m3)	320	m2	75.00	24000.00	86.25	27600.00
	Vehicle Barrier	17	m2	247.50	4207.50	284.63	4838.63
	Signs (Item)	1	m3	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	8085.24	3.25	9298.03
	Authority Fees	1	%	1.00	2487.77	1.00	2860.93
	Traffic Management	1	%	5.00	12438.83	5.00	14304.66
	Environmental Management	1	%	0.50	1243.88	0.50	1430.47
	Surveying and Design	1	%	5.00	12438.83	5.00	14304.66
	Supervision and Project management	1	%	9.00	22389.90	9.00	25748.38
	Site Establishment	1	%	2.50	6219.42	2.50	7152.33
	Contingency	1	%	15.00	37316.49	15.00	42913.97
Total	Excluding Delivery				**248,777**		**286,093**
	Including Delivery				**351,397**		**404,107**



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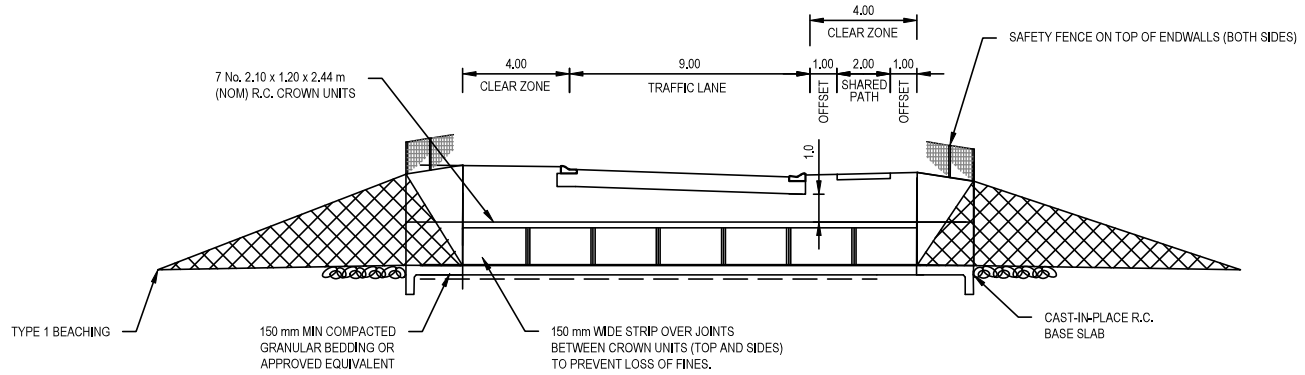
SCALE 1:200



SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

0 5 8m
SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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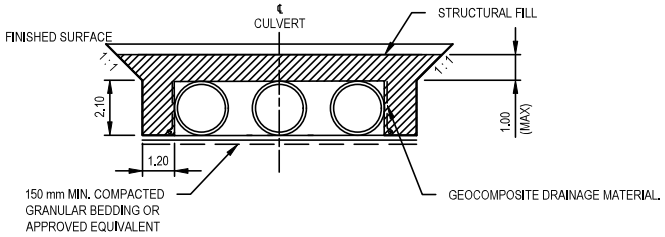
Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 33
RCP 1800DN SECONDARY ARTERIAL
INTERIM

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2045
Revision: 4

DATE PLOTTED: 28 February 2019 8:04 PM BY: SAMUEL BECKHAM
XREFs: V170524-CI-DG-2002-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2037-2046.dwg

DATE PLOTTED: 28 February 2019 3:00 PM BY: SAMUEL BECKHAM



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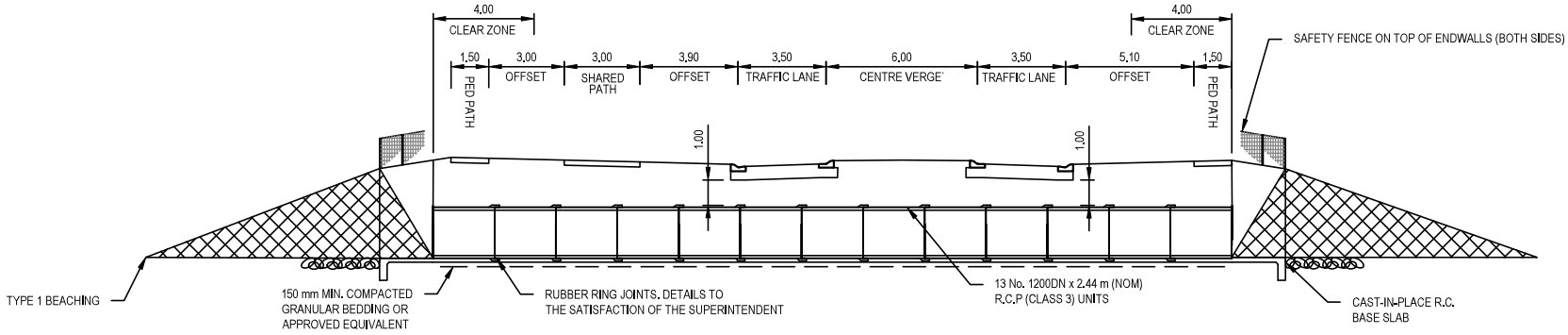

SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

0 5 8m
SCALE 1:200 @A3

Rev.	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
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1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 34
RCP 1800DN CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2046
Revision: 5

XREFs: V170524-CI-DG-2005-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2003-2046.dwg

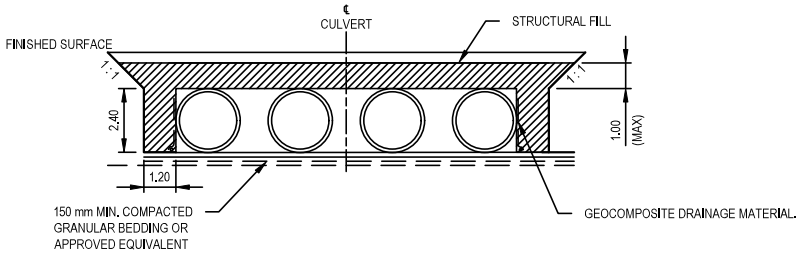
Appendix C	
Description:	Culvert Option 9
Civil Component Number:	Item 33

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	265	m2	3.68	975.20	4.23	1121.48
	Diversion works (item)	1	Item	10000.00	10000.00	11500.00	11500.00
	Waterway re-shaping	1	Item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil	452	m2	3.90	1762.80	4.49	2027.22
	Excavation (m3)	1097	m3	37.00	40589.00	42.55	46677.35
	Formation of batters (m3)	128	m3	15.00	1920.00	17.25	2208.00
Drainage Structure	Circular Pipes 1200 dia (m)	51	No.	2357.00	120207.00	2710.55	138238.05
	Foundation Slab 1200 dia (250 mm)	280	No.	212.00	59360.00	243.80	68264.00
	Granular Bedding 150 mm thick crushed	280	m2	17.25	4830.00	19.84	5554.50
	Apron Slab (m2)	74	m2	220.25	16298.50	253.29	18743.28
	Wing wall (m2)	37	m2	700.00	25900.00	805.00	29785.00
	Endwall (m2)	31	m2	700.00	21700.00	805.00	24955.00
On Structure	Structural Fill (m3)	272	m2	75.00	20400.00	86.25	23460.00
	Vehicle Barrier	26	m2	247.50	6435.00	284.63	7400.25
	Signs (Item)	1	m3	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	10893.27	3.25	12527.26
	Authority Fees	1	%	1.00	3351.78	1.00	3854.54
	Traffic Management	1	%	5.00	16758.88	5.00	19272.71
	Environmental Management	1	%	0.50	1675.89	0.50	1927.27
	Surveying and Design	1	%	5.00	16758.88	5.00	19272.71
	Supervision and Project management	1	%	9.00	30165.98	9.00	34690.87
	Site Establishment	1	%	2.50	8379.44	2.50	9636.35
	Contingency	1	%	15.00	50276.63	15.00	57818.12
Total	Excluding Delivery				**335,178**		**385,454**
	Including Delivery				**473,438**		**544,454**

Appendix C	
Description:	Culvert Option 10
Civil Component Number:	Item 34

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	387	m2	3.68	1424.16	4.23	1637.78
	Diversion works (item)	1	Item	10000.00	10000.00	11500.00	11500.00
	Waterway re-shaping	1	Item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil	652	m2	3.90	2542.80	4.49	2924.22
	Excavation (m3)	1836	m3	37.00	67932.00	42.55	78121.80
	Formation of batters (m3)	194	m3	15.00	2910.00	17.25	3346.50
Drainage Structure	Circular Pipes 1200 dia (m)	96	No.	2357.00	226272.00	2710.55	260212.80
	Foundation Slab 1200 dia (250 mm)	468	No.	212.00	99216.00	243.80	114098.40
	Granular Bedding 150 mm thick crushed	468	m2	17.25	8073.00	19.84	9283.95
	Apron Slab (m2)	74	m2	220.25	16298.50	253.29	18743.28
	Wing wall (m2)	37	m2	700.00	25900.00	805.00	29785.00
	Endwall (m2)	31	m2	700.00	21700.00	805.00	24955.00
On Structure	Structural Fill (m3)	512	m2	75.00	38400.00	86.25	44160.00
	Vehicle Barrier	26	m2	247.50	6435.00	284.63	7400.25
	Signs (Item)	1	m3	1800.00	1800.00	2070.00	2070.00
Delivery	Council Fees	1	%	3.25	17286.86	3.25	19879.89
	Authority Fees	1	%	1.00	5319.03	1.00	6116.89
	Traffic Management	1	%	5.00	26595.17	5.00	30584.45
	Environmental Management	1	%	0.50	2659.52	0.50	3058.44
	Surveying and Design	1	%	5.00	26595.17	5.00	30584.45
	Supervision and Project management	1	%	9.00	47871.31	9.00	55052.01
	Site Establishment	1	%	2.50	13297.59	2.50	15292.22
	Contingency	1	%	15.00	79785.52	15.00	91753.35
Total	Excluding Delivery				**531,903**		**611,689**
	Including Delivery				**751,314**		**864,011**

DATE PLOTTED: 28 February 2019 8:06 PM BY: SAMUEL BECKHAM



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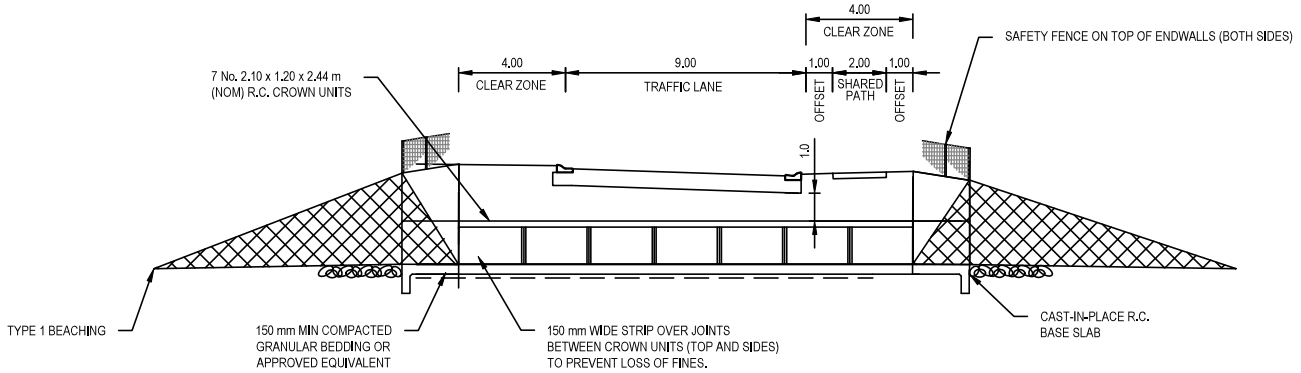

SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2002 FOR SECTION DETAILS

0 5 8m

SCALE 1:200 @A3

Rev.	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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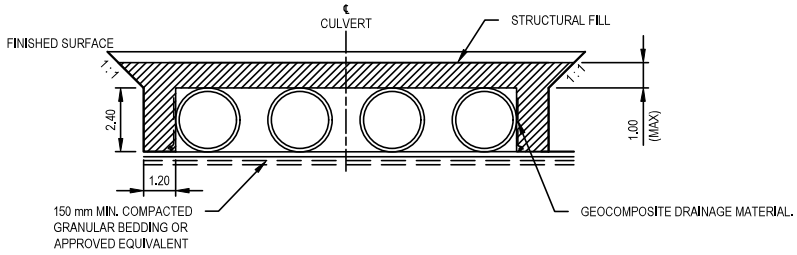
Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 35
RCP 2100DN SECONDARY ARTERIAL
INTERIM

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2047
Revision: 5

XREFs: V170524-CI-DG-2001-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2037-2048.dwg

DATE PLOTTED: 28 February 2019 3:02 PM BY: SAMUEL BECKHAM



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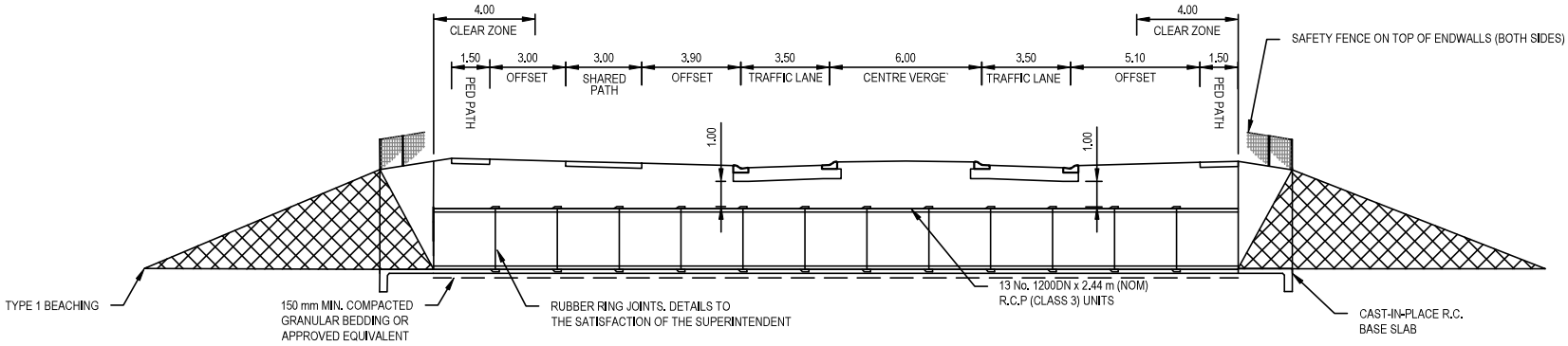

SIDE ELEVATION
SCALE 1:200

NOTE: REFER TO DRAWING NO.V170524-CI-DG-2003 FOR SECTION DETAILS

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SCALE 1:200 @A3

Rev	Date	Description	Des.	Verif.	Appd.
5	28/02/2019	ADDRESS STAKEHOLDER COMMENTS V.2.	CM		
4	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
3	05/07/2018	ADDRESS VPA COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VA		
1	14/12/2017	PRELIMINARY ISSUE	RVR		

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Drawn	NPV	Date 14/12/2017
Checked	MEA	Date 14/12/2017
Designed	RVR	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY
Project: BENCH MARK INFRASTRUCTURE COSTING
Title: ITEM 36
RCP 2100DN CONNECTOR BOULEVARD
ULTIMATE

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
Scale: 1:200
Size: A3
Drawing Number: V181544-CI-DG-2048
Revision: 5

XREFs: V170524-CI-DG-2002-2010
CAD File: M:\2018\181501_2000\V181544_VPA_ICP_Program_Implementation\Civil\Drafting\Benchmark Project\V181544-CI-DG-2003-2048.dwg

Appendix C	
Description:	Culvert Option 11
Civil Component Number:	Item 35

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	406	m2	3.68	1494.08	4.23	1718.19
	Diversion works (item)	1	Item	11500.00	11500.00	13225.00	13225.00
	Waterway re-shaping	1	Item	3000.00	3000.00	3450.00	3450.00
	Stripping of topsoil	550	m2	3.90	2145.00	4.49	2466.75
	Excavation (m3)	1624	m3	37.00	60088.00	42.55	69101.20
	Formation of batters (m3)	260	m3	15.00	3900.00	17.25	4485.00
Drainage Structure	Circular Pipes 1200 dia (m)	68	No.	2882.50	196010.00	3314.88	225411.50
	Foundation Slab 1200 dia (250 mm)	387	m2	212.00	82044.00	243.80	94350.60
	Granular Bedding 150 mm thick crushed	387	m2	17.25	6675.75	19.84	7677.11
	Apron Slab (m2)	130	m2	220.25	28632.50	253.29	32927.38
	Wing wall (m2)	48	m2	700.00	33600.00	805.00	38640.00
	Endwall (m2)	50	m2	700.00	35000.00	805.00	40250.00
On Structure	Structural Fill (m3)	357	m2	75.00	26775.00	86.25	30791.25
	Vehicle Barrier	36	m2	247.50	8910.00	284.63	10246.50
	Signs (Item)	1	m3	2050.00	2050.00	2357.50	2357.50
Delivery	Council Fees	1	%	3.25	16309.29	3.25	18755.68
	Authority Fees	1	%	1.00	5018.24	1.00	5770.98
	Traffic Management	1	%	5.00	25091.22	5.00	28854.90
	Environmental Management	1	%	0.50	2509.12	0.50	2885.49
	Surveying and Design	1	%	5.00	25091.22	5.00	28854.90
	Supervision and Project management	1	%	9.00	45164.19	9.00	51938.82
	Site Establishment	1	%	2.50	12545.61	2.50	14427.45
	Contingency	1	%	15.00	75273.65	15.00	86564.70
Total	Excluding Delivery				**501,824**		**577,098**
	Including Delivery				**708,827**		**815,151**

Appendix C	
Description:	Culvert Option 12
Civil Component Number:	Item 36

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Sitework and Earthwork	Site Preperation	586	m2	3.68	2156.48	4.23	2479.95
	Diversion works (item)	1	Item	20000.00	20000.00	23000.00	23000.00
	Waterway re-shaping	1	Item	4000.00	4000.00	4600.00	4600.00
	Stripping of topsoil	824	m2	3.90	3213.60	4.49	3695.64
	Excavation (m3)	2718	m3	37.00	100566.00	42.55	115650.90
	Formation of batters (m3)	250	m3	15.00	3750.00	17.25	4312.50
Drainage Structure	Circular Pipes 1200 dia (m)	128	No.	2882.50	368960.00	3314.88	424304.00
	Foundation Slab 1200 dia (250 mm)	648	m2	212.00	137376.00	243.80	157982.40
	Granular Bedding 150 mm thick crushed	648	m2	17.25	11178.00	19.84	12854.70
	Apron Slab (m2)	130	m2	220.25	28632.50	253.29	32927.38
	Wing wall (m2)	48	m2	700.00	33600.00	805.00	38640.00
	Endwall (m2)	50	m2	700.00	35000.00	805.00	40250.00
On Structure	Structural Fill (m3)	672	m2	75.00	50400.00	86.25	57960.00
	Vehicle Barrier	36	m2	247.50	8910.00	284.63	10246.50
	Signs (Item)	1	m3	2300.00	2300.00	2645.00	2645.00
Delivery	Council Fees	1	%	3.25	26326.38	3.25	30275.34
	Authority Fees	1	%	1.00	8100.43	1.00	9315.49
	Traffic Management	1	%	5.00	40502.13	5.00	46577.45
	Environmental Management	1	%	0.50	4050.21	0.50	4657.74
	Surveying and Design	1	%	5.00	40502.13	5.00	46577.45
	Supervision and Project management	1	%	9.00	72903.83	9.00	83839.41
	Site Establishment	1	%	2.50	20251.06	2.50	23288.72
	Contingency	1	%	15.00	121506.39	15.00	139732.35
Total	Excluding Delivery				**810,043**		**931,549**
	Including Delivery				**1,144,185**		**1,315,813**

Appendix 3: Community Infrastructure

Discussion

Community facilities are stand-alone entities and are priced on set building size and internal fit out. A community facility is assumed to be adjacent to a road for connectivity with minimal internal road connections or extra servicing costs.

The total estimated cost for a community facility accounts for the following items:

- Kindergarten facilities
- Extra kindergarten facility / multipurpose space
- Maternal and child health consulting
- Multipurpose community spaces
- Allowance for Environmentally Sustainable Design (ESD)
- Ancillaries (such as car parking, covered walkways, connections, etc.)

As for other infrastructure items, no allowance is made for ongoing maintenance or operating expenses.

Other Issues

Community facilities are generally co-located with other community facilities such as schools and sports fields, with significant opportunities for sharing of facilities such as car parking subject to an assessment of demands and scheduling. However, unless this is committed through the PSP, this cannot be automatically assumed in costings for the ICP.

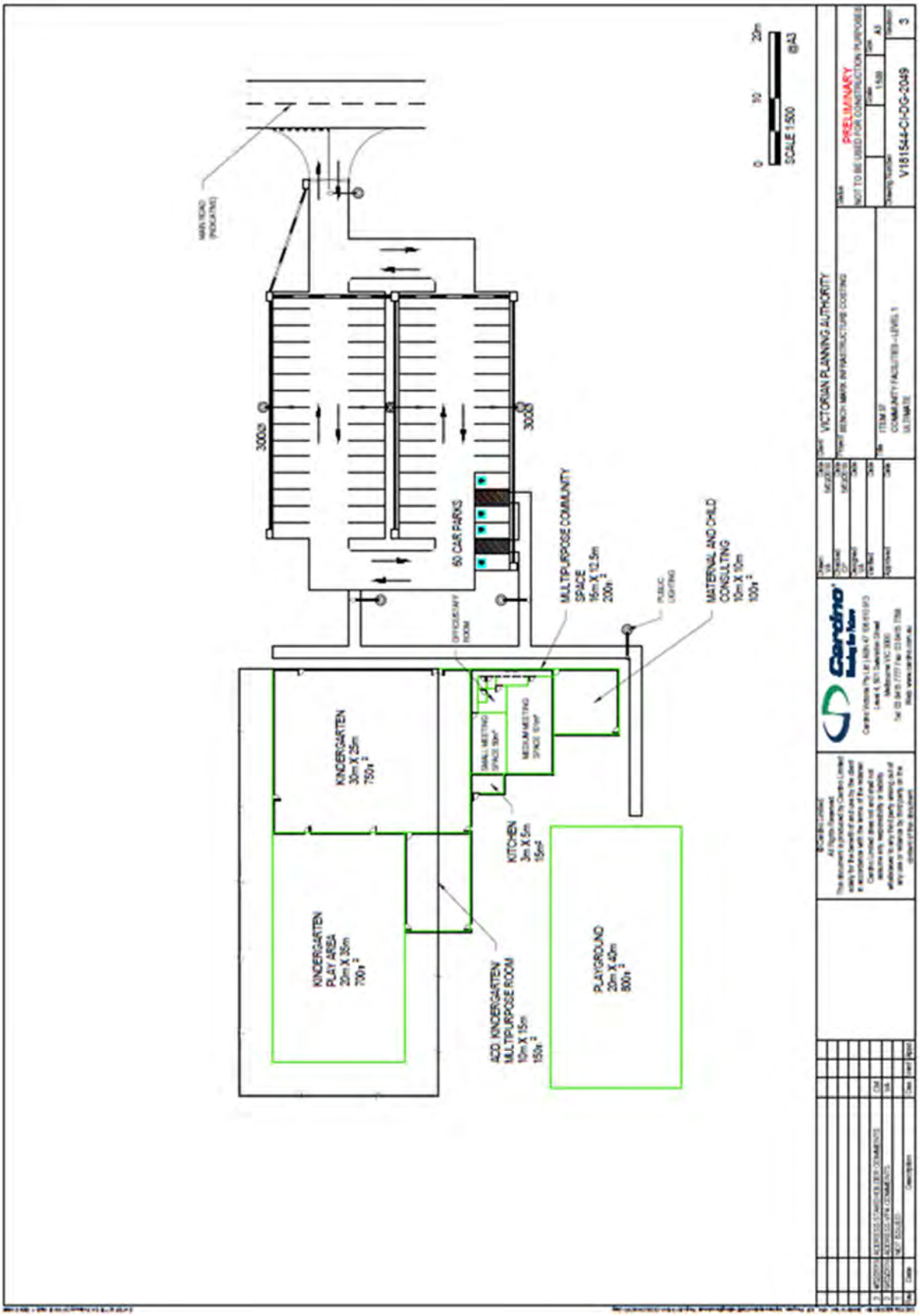
Note that the cost of land for community facilities is not included as this is provided through the public land provisions in the ICP.

Community Infrastructure BIC

The detailed Community Infrastructure benchmark scopes and cost sheets for the items listed below in Table 3 follow.

Item	Category	Description	Standard	Cost Application	Estimate P50	Estimate P90
37	Community Facilities	Level 1 Facility	Contemporary standard	Bldg. floor area	$6,825,000	$7,606,000
38	Community Facilities	Level 2 Facility	Contemporary standard	Bldg. floor area	$8,064,000	$8,928,000
39	Community Facilities	Level 3 Facility	Above contemporary standard allowing for place making architectural features	Bldg. floor area	$10,761,000	$11,830,000

Table 3: Community Infrastructure Costings (Indexed to July 2018)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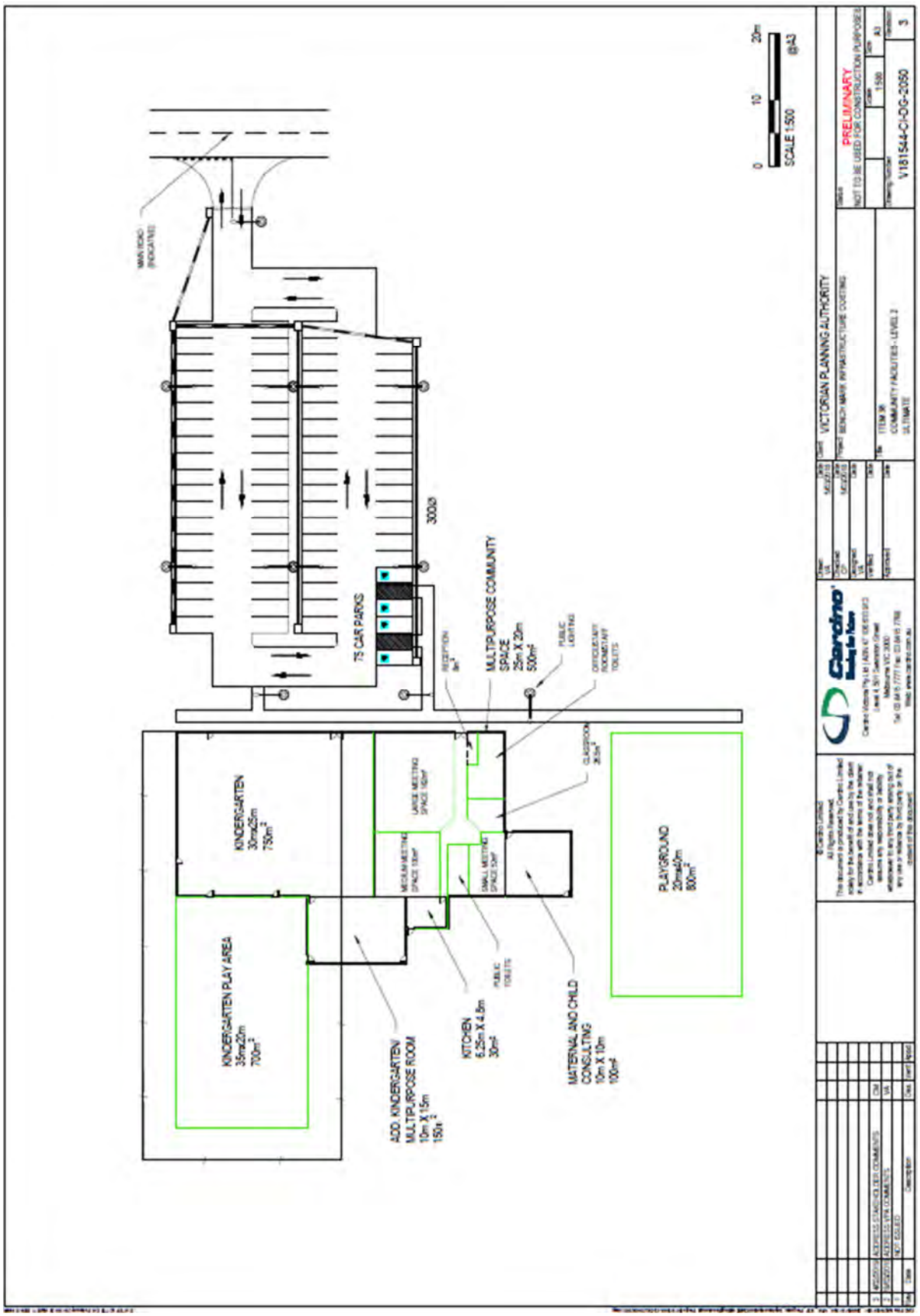
60 CAR PARKS
MULTIPURPOSE COMMUNITY SPACE 16m X 12.5m 200m²
MATERNAL AND CHILD CONSULTING 10m X 10m 100m²
KINDERGARTEN 30m X 25m 750m²
KINDERGARTEN PLAY AREA 20m X 35m 700m²
KITCHEN 3m X 5m 15m²
ADD. KINDERGARTEN MULTIPURPOSE ROOM 10m X 15m 150m²
PLAYGROUND 20m X 40m 800m²
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
VICTORIAN PLANNING AUTHORITY
V181544-CHDG-2049

Appendix C	
Description:	Community Facilities - Level 1
Civil Component Number:	Item 37

Group	Sub item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Building	Kindergarten	750	m2	2544.60	1908450.00	2623.87	1967902.50
	Small commercial Kitchen	15	m2	2854.70	42820.50	3109.11	46636.65
	Maternal And Child Health Consulting	100	m2	2464.03	246403.00	2567.64	256764.00
	Multipurpose community Spaces	200	m2	2301.97	460394.00	2440.90	488180.00
	Storage External	0	m2	1830.21	0.00	2040.01	0.00
	Extra 33-place Kindergarten Room/ multipurpoes meeting space	150	m2	2301.97	345295.50	2440.90	366135.00
	Disabled toilet/ Parent's Change room	0	m2	3039.66	0.00	3461.73	0.00
	Toilets/ Change Rooms	0	m2	2852.57	0.00	3108.74	0.00
	Administration	0	m2	2245.34	0.00	2290.02	0.00
	Cleaners	0	m2	2148.82	0.00	2324.84	0.00
Canopy & Veranda	Canopy & Veranda	0	m2	1105.52	0.00	1298.89	0.00
Car Park	Pavement	1910	m2	97.15	185556.50	105.90	202269.00
	Kerb and Channel	220	m	54.81	12058.20	62.05	13651.00
	Drainage Pipes	159	m	179.85	28596.15	201.37	32017.83
	Drainage Pits	7	item	2565.39	17957.73	2851.46	19960.22
	Linemarking/Signage	1910	item	3.11	5940.10	4.27	8155.70
	Car Park Lighting	2047	m2 of carpark	15.08	30868.76	18.35	37562.45
	Other	0		0.00	0.00	0.00	0.00
Outdoor Play	Kindergarten outdoor playspaces	700	m2	530.00	371000.00	609.50	426650.00
	Playground	800	m3	794.33	635464.00	1131.30	905040.00
Site Works	Site Preperation	6797	m2	3.68	25012.96	5.20	35344.40
	Paths	210	m2	67.64	14204.40	81.25	17062.50
	Landscaping	500	m2	26.18	13090.00	29.81	14905.00
	Lighting	0	item	0.00	0.00	0.00	0.00
	Boundary Fencing	125	m	88.98	11122.50	115.53	14441.25
	Gates	1	item	614.85	614.85	707.08	707.08
	Other			0.00	0.00	0.00	0.00
Services	Stormwater	1	%	3.30	143710.02	3.30	160161.69
	Sewer	1	%	2.03	88403.44	2.03	98523.71
	Water	1	%	1.98	86226.01	1.98	96097.01
	Gas	1	%	0.88	38322.67	0.88	42709.78
	Fire Protection	1	%	0.66	28742.00	0.66	32032.34
	Light & Power	1	%	2.38	103645.41	2.38	115510.55
	Communication	1	%	0.50	21774.25	0.50	24266.92
Miscellaneous	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	158134.37	3.25	176237.31
	Authority Fees	1	%	1.00	48656.73	1.00	54226.87
	Traffic Management	1	%	2.00	97313.46	2.00	108453.73
	Environmental Management	1	%	0.50	24328.36	0.50	27113.43
	Survey/ Design Fees	1	%	5.00	243283.65	5.00	271134.33
	Supervision and Project Management	1	%	9.00	437910.57	9.00	488041.79
	Site Establishment	1	%	2.50	121641.82	2.50	135567.16
	Environmentally Sustainable Design	1	%	2.00	97313.46	2.00	108453.73
	Contingency	1	%	15.00	729850.94	15.00	813402.99
Total	Excluding Delivery				4,865,673		5,422,687
	Including Delivery				6,824,106		7,605,318

Victorian Planning Authority VPA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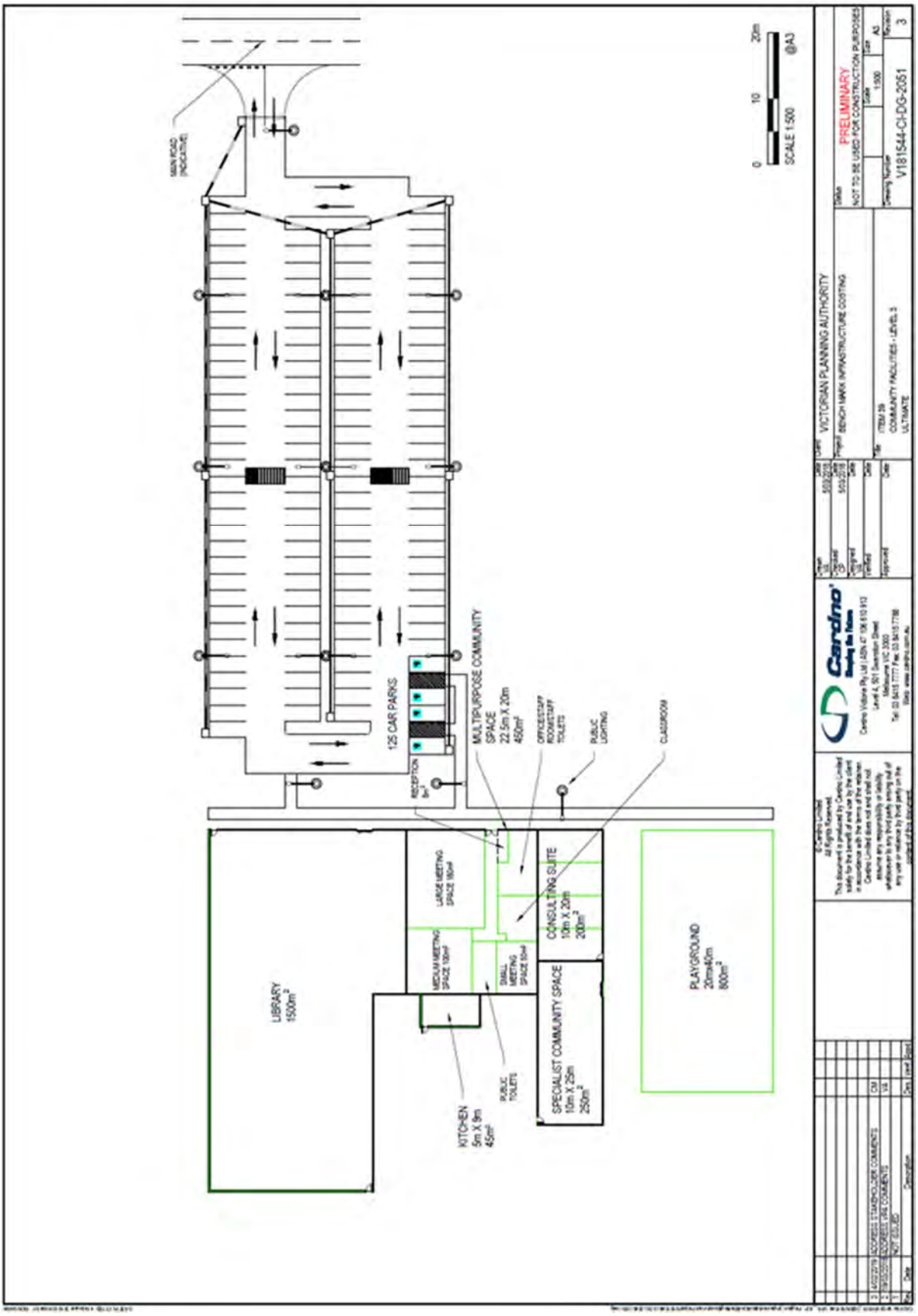
10
20m
MAIN ROAD (INDICATIVE)
75 CAR PARKS
3000
MULTIPURPOSE COMMUNITY SPACE
25m X 20m
500m²
PUBLIC LIGHTING
RECEPTION
DEVELOPMENT ROUNDABOUT TOILETS
KINDERGARTEN
30m x25m
750m²
LARGE MEETING SPACE 150m²
MEDIUM MEETING SPACE 100m²
SMALL MEETING SPACE 50m²
CLASSROOM
PLAYGROUND
20m x40m
800m²
KINDERGARTEN PLAY AREA
35m x20m
700m²
ADD. KINDERGARTEN/ MULTIPURPOSE ROOM
10m X 15m
150 m²
PUBLIC TOILETS
KITCHEN
5.25m X 4.5m
30m²
MATERNAL AND CHILD CONSULTING
10m X 10m
100m²
VICTORIAN PLANNING AUTHORITY
BENCH MARK INFRASTRUCTURE COSTING
ITEM 3K
COMMUNITY FACILITIES - LEVEL 2
ULTIMATE
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
V181544-CI-DG-2050
3

Appendix C	
Description:	Community Facilities - Level 2
Civil Component Number:	Item 38

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Building	Kindergarten	750	m2	2544.60	1908450.00	2623.87	1967902.50
	Small commercial Kitchen	30	m2	2854.70	85641.00	3109.11	93273.30
	Maternal And Child Health Consulting	100	m2	2464.03	246403.00	2567.64	256764.00
	Multipurpose community Spaces	500	m2	2301.97	1150985.00	2440.90	1220450.00
	Storage External	0	m2	1830.21	0.00	2040.01	0.00
	Extra 33-place Kindergarten Room/	150	m2	2301.97	345295.50	2440.90	366135.00
	Disabled toilet/ Parent's Change room	0	m2	3039.66	0.00	3461.73	0.00
	Toilets/ Change Rooms	0	m2	2852.57	0.00	3108.74	0.00
	Administration	0	m2	2245.34	0.00	2290.02	0.00
	Cleaners	0	m2	2148.82	0.00	2324.84	0.00
Canopy & Veranda	Canopy & Veranda	0	m2	1105.52	0.00	1298.89	0.00
Car Park	Pavement	2253	m2	97.15	218878.95	105.90	238592.70
	Kerb and Channel	398	m	54.81	21814.38	62.05	24695.90
	Drainage Pipes	195	m	179.85	35070.75	201.37	39267.15
	Drainage Pits	7	item	2565.39	17957.73	2851.46	19960.22
	Linemarking/Signage	2253	item	3.11	7006.83	4.27	9620.31
	Car Park Lighting	2380	m2	15.08	35890.40	18.35	43673.00
	Other	0		0.00	0.00	0.00	0.00
Outdoor Play	Kindergarten outdoor playspaces	700	m2	530.00	371000.00	609.50	426650.00
	Playground	800	m3	794.33	635464.00	1131.30	905040.00
Site Works	Site Preperation	7313	m2	3.68	26911.84	5.20	38027.60
	Paths	202	m2	67.64	13663.28	81.25	16412.50
	Landscaping	500	m2	26.18	13090.00	29.81	14905.00
	Lighting	0	item	0.00	0.00	0.00	0.00
	Boundary Fencing	130	m	88.98	11567.40	115.53	15018.90
	Gates	1	item	614.85	614.85	707.08	707.08
	Other	0		0.00	0.00	0.00	0.00
Services	Stormwater	1	%	3.30	169808.26	3.30	188004.14
	Sewer	1	%	2.03	104457.81	2.03	115651.03
	Water	1	%	1.98	101884.96	1.98	112802.48
	Gas	1	%	0.88	45282.20	0.88	50134.44
	Fire Protection	1	%	0.66	33961.65	0.66	37600.83
	Light & Power	1	%	2.38	122467.78	2.38	135590.86
	Communication	1	%	0.50	25728.52	0.50	28485.48
Miscellaneous	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	186852.12	3.25	206874.34
	Authority Fees	1	%	1.00	57492.96	1.00	63653.64
	Traffic Management	1	%	2.00	114985.92	2.00	127307.29
	Environmental Management	1	%	0.50	28746.48	0.50	31826.82
	Survey/ Design Fees	1	%	5.00	287464.80	5.00	318268.22
	Supervision and Project Management	1	%	9.00	517436.65	9.00	572882.80
	Site Establishment	1	%	2.50	143732.40	2.50	159134.11
	Environmentally Sustainable Design	1	%	2.00	114985.92	2.00	127307.29
	Contingency	1	%	15.00	862394.41	15.00	954804.66
Total	Excluding Delivery				5,749,296		6,365,364
	Including Delivery				8,063,388		8,927,424

Victorian Planning Authority


MAIN ROAD (INDICATIVE)
125 CAR PARKS
RECEPTION
MULTIPURPOSE COMMUNITY SPACE
22.5m X 20m
450m²
OFFICE/STAFF ROOM/STAFF TOILETS
PUBLIC LIGHTING
CLASSROOM
LIBRARY
1500m²
LARGE MEETING SPACE 180m²
MEDIUM MEETING SPACE 100m²
SMALL MEETING SPACE 80m²
CONSULTING SUITE
10m X 20m
200m²
SPECIALIST COMMUNITY SPACE
10m X 25m
250m²
PUBLIC TOILETS
KITCHEN
5m X 9m
45m²
PLAYGROUND
20m x40m
800m²
0
10
20m
SCALE 1:500 @A3
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
VICTORIAN PLANNING AUTHORITY
BENCH MARK INFRASTRUCTURE COSTING
ITEM 39
COMMUNITY FACILITIES - LEVEL 3
ULTIMATE
V181544-CI-DG-2051
3
Cardno
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3 14/02/2019 ADDRESS STAKEHOLDER COMMENTS CM
2 13/02/2019 ADDRESS DRG COMMENTS VS
1 NOT ISSUED
Rev Date Description Drn Chkd Appd

Appendix C	
Description:	Community Facilities - Level 3
Civil Component Number:	Item 39

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Building	Library	1500	m2	2301.97	3452955.00	2440.90	3661350.00
	Small commercial Kitchen	45	m2	2854.70	128461.50	3109.11	139909.95
	Consulting Suite	200	m2	2464.03	492806.00	2567.64	513528.00
	Multipurpose community Spaces	450	m2	2301.97	1035886.50	2440.90	1098405.00
	Storage External	0	m2	1830.21	0.00	2040.01	0.00
	Specialist Community Space	250	m2	2301.97	575492.50	2440.90	610225.00
	Disabled toilet/ Parent's Change room	0	m2	3039.66	0.00	3461.73	0.00
	Toilets/ Change Rooms	0	m2	2852.57	0.00	3108.74	0.00
	Administration	0	m2	2245.34	0.00	2290.02	0.00
	Cleaners	0	m2	2148.82	0.00	2324.84	0.00
Canopy & Veranda	Canopy & Veranda	0	m2	1105.52	0.00	1298.89	0.00
Car Park	Pavement	3327	m2	97.15	323218.05	105.90	352329.30
	Kerb and Channel	473	m	54.81	25925.13	62.05	29349.65
	Drainage Pipes	282	m	179.85	50717.70	201.37	56786.34
	Drainage Pits	10	item	2565.39	25653.90	2851.46	28514.60
	Linemarking/Signage	3327	item	3.11	10346.97	4.27	14206.29
	Car Park Lighting	3456	m2	15.08	52116.48	18.35	63417.60
	Other	0		0.00	0.00	0.00	0.00
Outdoor Play	Kindergarten outdoor playspaces	0	m2	530.00	0.00	609.50	0.00
	Playground	800	m3	794.33	635464.00	1131.30	905040.00
Site Works	Site Preperation	8777	m2	3.68	32299.36	5.20	45640.40
	Paths	180	m2	67.64	12175.20	81.25	14625.00
	Landscaping	500	m2	26.18	13090.00	29.81	14905.00
	Lighting	0	item	0.00	0.00	0.00	0.00
	Boundary Fencing	0	m	88.98	0.00	115.53	0.00
	Gates	1	item	614.85	614.85	707.08	707.08
	Other	0		0.00	0.00	0.00	0.00
Services	Stormwater	1	%	3.30	226618.36	3.30	249114.99
	Sewer	1	%	2.03	139404.63	2.03	153243.47
	Water	1	%	1.98	135971.02	1.98	149469.00
	Gas	1	%	0.88	60431.56	0.88	66430.67
	Fire Protection	1	%	0.66	45323.67	0.66	49823.00
	Light & Power	1	%	2.38	163439.91	2.38	179664.75
	Communication	1	%	0.50	34336.12	0.50	37744.70
Miscellaneous	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	249364.32	3.25	274118.97
	Authority Fees	1	%	1.00	76727.48	1.00	84344.30
	Traffic Management	1	%	2.00	153454.97	2.00	168688.60
	Environmental Management	1	%	0.50	38363.74	0.50	42172.15
	Survey/ Design Fees	1	%	5.00	383637.42	5.00	421721.49
	Supervision and Project Management	1	%	9.00	690547.36	9.00	759098.68
	Site Establishment	1	%	2.50	191818.71	2.50	210860.74
	Environmentally Sustainable Design	1	%	2.00	153454.97	2.00	168688.60
	Contingency	1	%	15.00	1150912.26	15.00	1265164.47
Total	Excluding Delivery				7,672,748		8,434,430
	Including Delivery				10,761,030		11,829,288

Victorian Planning Authority VPA

Appendix 4: Sports Pavilions

Discussion

Sports pavilions are stand-alone entities and are priced on set building sizes and internal fit out. The sports facilities are considered adjacent to a road or internal road network within a sport reserve for connectivity with minimal internal road connections or extra servicing costs.

The total estimated cost of a sports facility accounts for the following items:

- Change rooms / umpire change rooms
- Storage
- Office / first aid room
- Kitchen and canteen
- Public toilets
- Allowance for Environmentally Sustainable Design (ESD)
- Multipurpose community room / social room

Other issues

As for other infrastructure items, no allowance for ongoing maintenance or operating expenses.

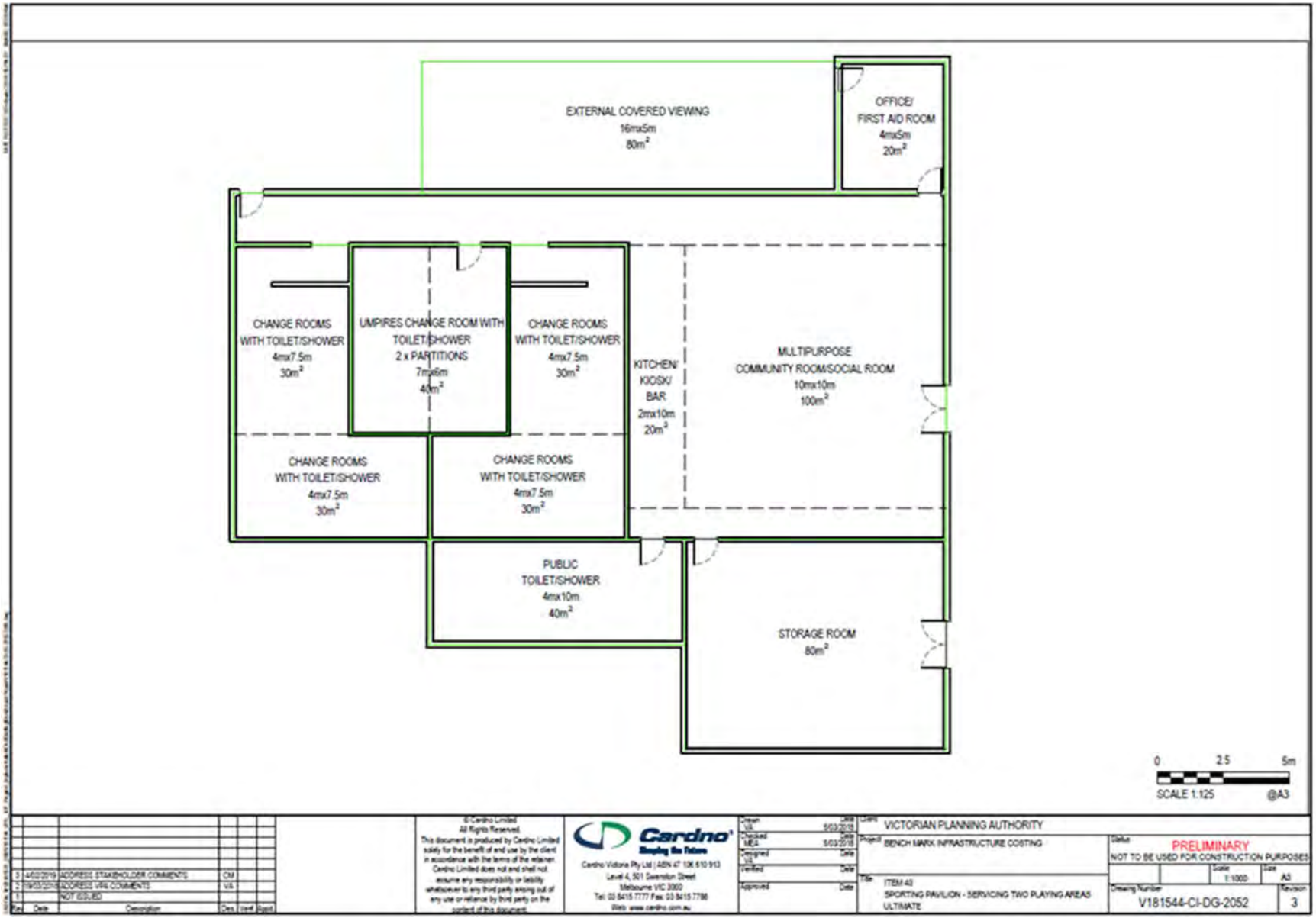
Note that the cost of land is not included as this is provided through the public land provisions in the ICP.

Sports Pavilion BIC

The detailed Sports Pavilion benchmark scopes and cost sheets for the items listed below in Table 4 follow.

Item	Category	Description	Standard	Cost Application	Estimate P50	Estimate P90
40	Sports and Recreation Facilities	Sports Pavilion 2 playing areas	Contemporary standard multi-purpose facility	Bldg. floor area	$1,614,000	$1,656,000
41	Sports and Recreation Facilities	Sports Pavilion 3 playing areas	Contemporary standard multi-purpose facility	Bldg. floor area	$2,687,000	$2,753,000

Table 4: Sports Pavilion Infrastructure Costings (Indexed to July 2018)



Rev	Date	Description	Des.	Verif.	Appd.
3	4/02/2019	ADDRESS STAKEHOLDER COMMENTS	CM		
2	19/03/2018	ADDRESS VPA COMMENTS	VS		
1		NOT ISSUED			

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Drawn	VS	5/03/2018
Checked	MEA	5/03/2018
Designed	VS	Date
Verified		Date
Approved		Date

Client: VICTORIAN PLANNING AUTHORITY

Project: BENCH MARK INFRASTRUCTURE COSTING

Status: PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Scale: 1:1000 | Size: A3

Title: ITEM 40
SPORTING PAVILION - SERVICING TWO PLAYING AREAS
ULTIMATE

Drawing Number: V181544-CI-DG-2052

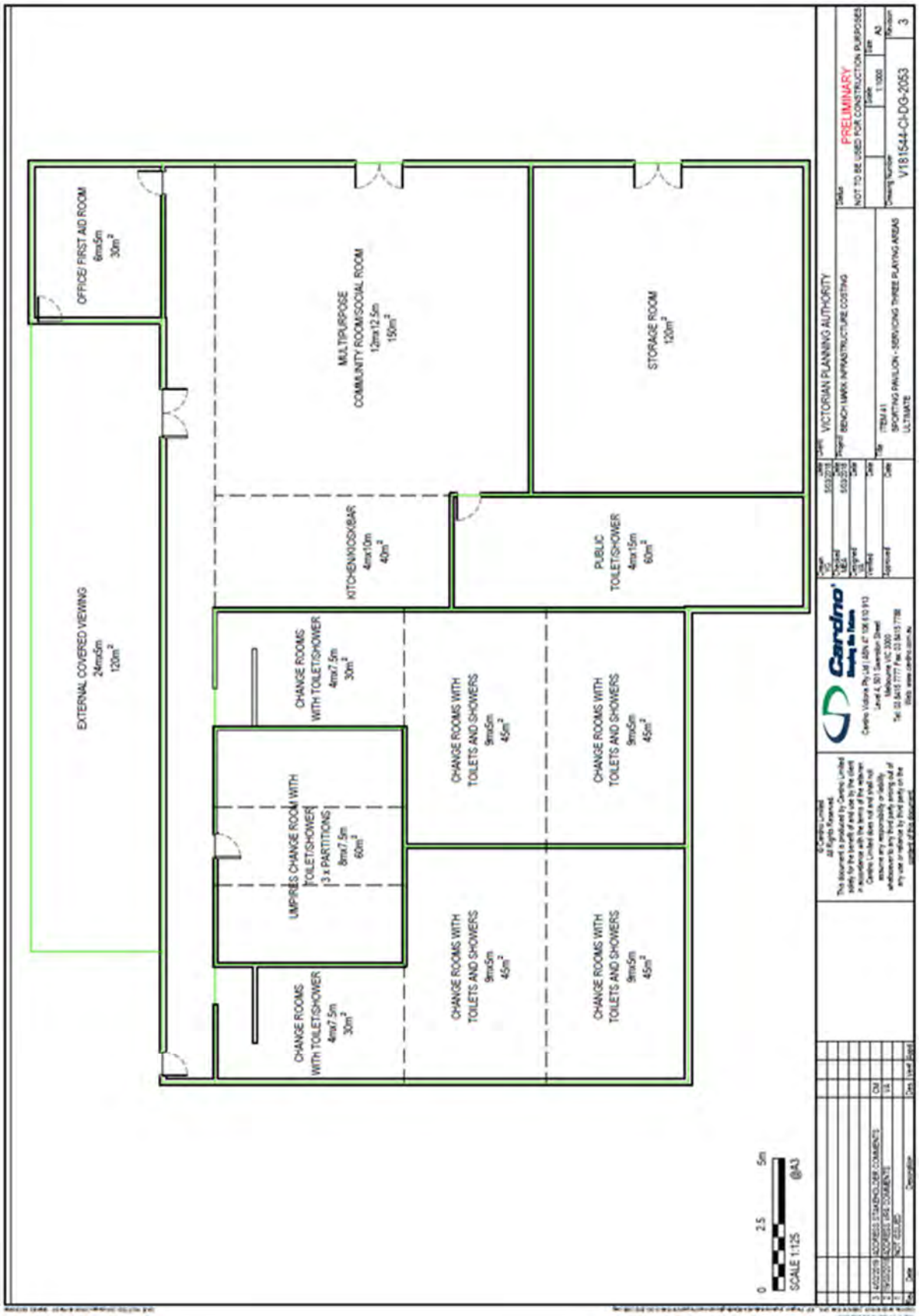
Revision: 3

Victorian Planning Authority

Appendix C	
Description:	Sporting Pavillions - 1
Civil Component Number:	Item 40

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Building	Site Preperation	721	m2	3.68	2,653.28	5.18	3,734.78
	Change Rooms With Toilets and Showers X 6	120	m2	2,408.05	288,966.00	2,445.18	293,421.60
	Umpire Change Rooms with Toilets	40	m2	2,519.24	100,769.60	2,594.83	103,793.20
	Storage Rooms	80	m2	2,414.15	193,132.00	2,406.11	192,488.80
	Multipurpose Room/ Social Room	100	m2	2,365.43	236,543.00	2,330.09	233,009.00
	Office/ First Aid Room	20	m2	2,351.62	47,032.40	2,360.28	47,205.60
	Canteen and Kitchen	20	m2	2,514.88	50,297.60	2,524.88	50,497.60
	Public Toilet	40	m2	1,238.63	49,545.20	1,585.83	63,433.20
Canopy & Veranda	Canopy & Veranda	80	m2	761.83	60,946.40	862.50	69,000.00
Site Works	Concrete Paths	0	m2	0.00	0.00	0.00	0.00
	Lighting	0	m2	0.00	0.00	0.00	0.00
	Gates/entrances	0	m2	0.00	0.00	0.00	0.00
	Other-Miscellaneous	0	M2	0.00	0.00	0.00	0.00
Services	Stormwater	1	%	3.30	33,986.22	3.30	34,867.26
	Sewer	1	%	2.03	20,906.68	2.03	21,448.65
	Water	1	%	1.98	20,391.73	1.98	20,920.36
	Gas	1	%	0.88	9,062.99	0.88	9,297.94
	Fire Protection	1	%	0.66	6,797.24	0.66	6,973.45
	Light & Power	1	%	2.38	24,511.27	2.38	25,146.69
	Communication	1	%	0.50	5,149.43	0.50	5,282.92
Miscellaneous	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	37,397.46	3.25	38,366.93
	Authority Fees	1	%	1.00	11,506.91	1.00	11,805.21
	Traffic Management	1	%	2.00	23,013.82	2.00	23,610.42
	Environmental Management	1	%	0.50	5,753.46	0.50	5,902.61
	Survey/Design	1	%	5.00	57,534.55	5.00	59,026.05
	Supervision & Project Management	1	%	9.00	103,562.19	9.00	106,246.90
	Site Establishment	1	%	2.50	28,767.28	2.50	29,513.03
	Envioronmentally Sustainable Design	1	%	2.00	23,013.82	2.00	23,610.42
	Contingency	1	%	15.00	172,603.66	15.00	177,078.16
Total	Excluding Delivery				1,150,691		1,180,521
	Including Delivery				1,613,844		1,655,681

Victorian Planning Authority


OFFICE/ FIRST AID ROOM
6mx5m
30m²
MULTIPURPOSE
COMMUNITY ROOM/SOCIAL ROOM
12mx12.5m
150m²
STORAGE ROOM
120m²
EXTERNAL COVERED VIEWING
24mx5m
120m²
KITCHEN/KIOSK/BAR
4mx10m
40m²
PUBLIC
TOILET/SHOWER
4mx15m
60m²
CHANGE ROOMS
WITH TOILET/SHOWER
4mx7.5m
30m²
CHANGE ROOMS WITH
TOILETS AND SHOWERS
9mx5m
45m²
UMPIRES CHANGE ROOM WITH
TOILET/SHOWER
3 x PARTITIONS
8mx7.5m
60m²
CHANGE ROOMS
WITH TOILET/SHOWER
4mx7.5m
30m²
CHANGE ROOMS WITH
TOILETS AND SHOWERS
9mx5m
45m²
CHANGE ROOMS WITH
TOILETS AND SHOWERS
9mx5m
45m²
0
2.5
5m
SCALE 1:125 @A3
VICTORIAN PLANNING AUTHORITY
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
BENCH MARK INFRASTRUCTURE COSTING
SPORTING PAVILION - SERVICING THREE PLAYING AREAS
ULTIMATE
V181544-CI-DG-2053
3

Appendix C	
Description:	Sporting Pavillions - 2
Civil Component Number:	Item 41

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Building	Site Preperation	1048	m2	3.68	3,856.64	5.18	5,428.64
	Change Rooms With Toilets and Showers X 6	240	m2	2,408.05	577,932.00	2,445.18	586,843.20
	Umpire Change Rooms with Toilets	60	m2	2,519.24	151,154.40	2,594.83	155,689.80
	Storage Rooms	120	m2	2,414.15	289,698.00	2,406.11	288,733.20
	Multipurpose Room/ Social Room	150	m2	2,365.43	354,814.50	2,330.09	349,513.50
	Office/ First Aid Room	30	m2	2,351.62	70,548.60	2,360.28	70,808.40
	Canteen and Kitchen	40	m2	2,514.88	100,595.20	2,524.88	100,995.20
	Public Toilet	60	m2	1,238.63	74,317.80	1,585.83	95,149.80
Canopy & Veranda	Canopy & Veranda	120	m2	761.83	91,419.60	862.50	103,500.00
Site Works	Concrete Paths	0	m2	0.00	0.00	0.00	0.00
	Lighting	0	m2	0.00	0.00	0.00	0.00
	Gates/entrances	0	m2	0.00	0.00	0.00	0.00
	Other-Miscellaneous	0	m2	0.00	0.00	0.00	0.00
Services	Stormwater	1	%	3.30	56,573.11	3.30	57,969.84
	Sewer	1	%	2.03	34,801.04	2.03	35,660.23
	Water	1	%	1.98	33,943.87	1.98	34,781.90
	Gas	1	%	0.88	15,086.16	0.88	15,458.62
	Fire Protection	1	%	0.66	11,314.62	0.66	11,593.97
	Light & Power	1	%	2.38	40,801.21	2.38	41,808.55
	Communication	1	%	0.50	8,571.68	0.50	8,783.31
Miscellaneous	Sub-standard site conditions	0	% of area	0.00	0.00	0.00	0.00
Delivery	Council Fees	1	%	3.25	62,251.42	3.25	63,788.34
	Authority Fees	1	%	1.00	19,154.28	1.00	19,627.18
	Traffic Management	1	%	2.00	38,308.57	2.00	39,254.36
	Environmental Management	1	%	0.50	9,577.14	0.50	9,813.59
	Survey/Design	1	%	5.00	95,771.42	5.00	98,135.91
	Supervision & Project Management	1	%	9.00	172,388.56	9.00	176,644.63
	Site Establishment	1	%	2.50	47,885.71	2.50	49,067.95
	Envioronmentally Sustainable Design	1	%	2.00	38,308.57	2.00	39,254.36
	Contingency	1	%	15.00	287,314.27	15.00	294,407.72
Total	Excluding Delivery				1,915,428		1,962,718
	Including Delivery				2,686,388		2,752,712

Victorian Planning Authority VPA

Appendix 5: Sport and Recreation Facilities

Discussion

Sports and recreation facilities are stand-alone entities and are priced based on the standard drawings for the overall site area. The total estimated cost of sport and recreation facilities accounts for the following items

- Sporting fields (natural turf sporting fields, synthetic cricket wickets, tennis courts etc.)
- Lighting
- Car parking
- District playground
- Internal accesses
- Landscape construction, establishment and maintenance
- Sporting pavilion
- Allowance for Environmentally Sustainable Design (ESD) (no allowance for ongoing maintenance expenses)
- Ancillaries

As for other infrastructure items, no allowance for ongoing maintenance or operating expenses.

Other Issues

Sports facilities are generally co-located with other community facilities such as schools and open space, with significant opportunities for sharing of facilities such as car parking, subject to an assessment of demands and scheduling. However, unless this is clearly committed by the relevant parties in advance of the ICP being prepared, it cannot be automatically assumed in costings for the ICP.

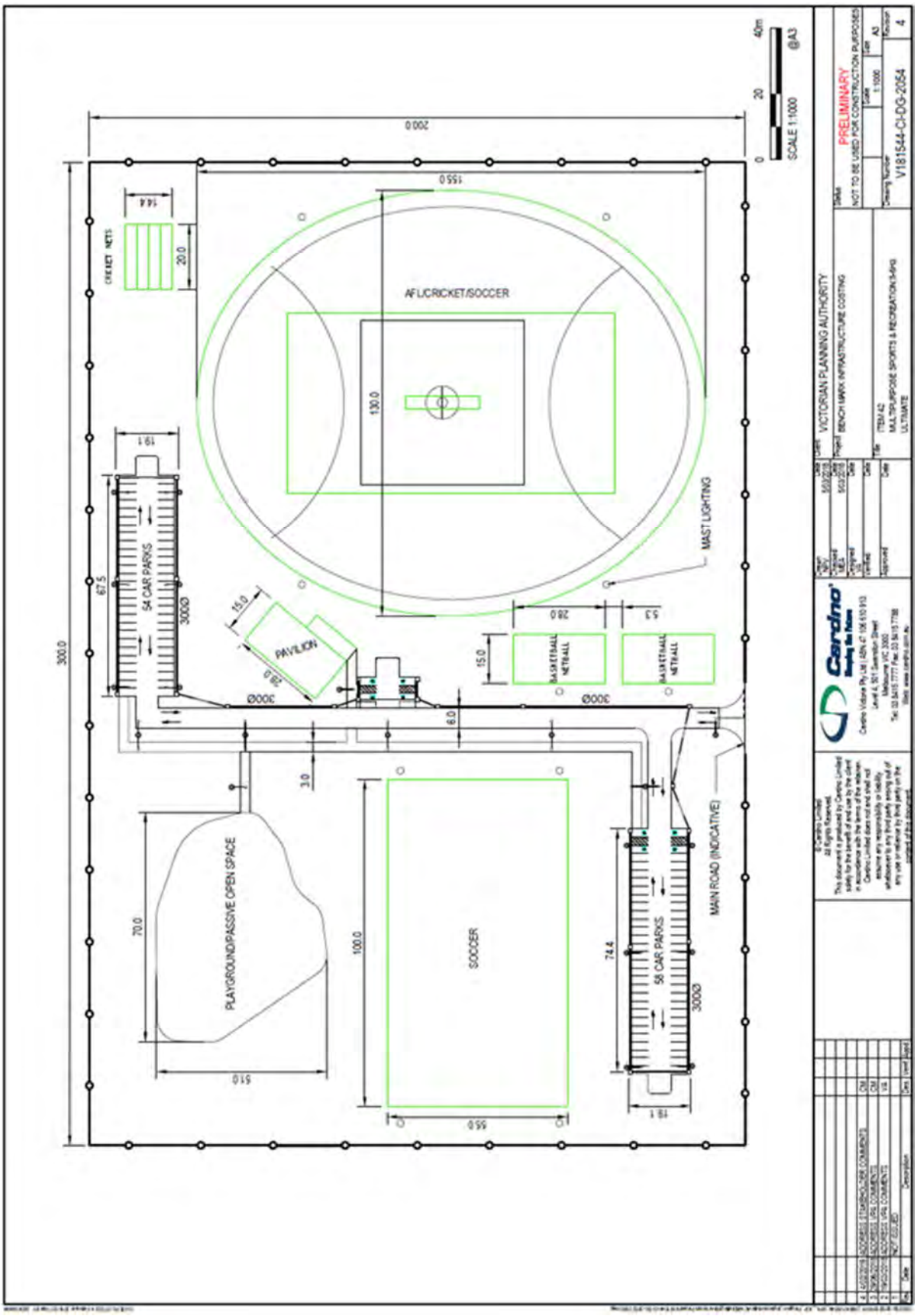
Note that the cost of land is not included as this is provided through the public land provisions in the ICP.

Sports & Recreation Facility BIC

The detailed Sports & Recreation Facility benchmark scopes and cost sheets for the items listed below in Table 5 follow.

Item	Category	Description	Standard	Cost Application	Estimate P50	Estimate P90
42	Sports and recreation Facilities	Sports and Recreation Facility 5 to 6 hectare site	Contemporary senior and junior sporting competition standard	Per Reserve	$6,942,000	$8,021,000
43	Sports and recreation Facilities	Sports and Recreation Facility 8 to 10 hectare site	Contemporary senior and junior sporting competition standard	Per Reserve	$9,011,000	$10,355,000

Table 5: Sports & Recreation Facilities Infrastructure Costings (Indexed to July 2018)


AFL/CRICKET/SOCCER
SOCCER
PAVILION
54 CAR PARKS
58 CAR PARKS
PLAYGROUND/PASSIVE OPEN SPACE
MAIN ROAD (INDICATIVE)
MAST LIGHTING
BASKETBALL NETBALL
BASKETBALL NETBALL
CRICKET NETS
SCALE 1:1000
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
VICTORIAN PLANNING AUTHORITY
BENCH MARK INFRASTRUCTURE COSTING
MULTIPURPOSE SPORTS & RECREATION 5-PVI
ULTIMATE
V181544-CI-DG-2054

Appendix C	
Description:	Item 42 - Sporting and Recreational Facilities (5-6)Ha
Civil Component Number:	Item 42

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Playing Fields	Football Field	1	No	805074.24	805074.24	860162.38	860162.38
	Cricket Pitch	1	No	24049.94	24049.94	28173.45	28173.45
	Cricket Nets	1	No	49791.30	49791.30	57497.73	57497.73
	Soccer Field	1	No	526667.50	526667.50	597198.85	597198.85
	Netball Court	2	No	83143.13	166286.26	98076.30	196152.60
	Tennis Court	0	No	63422.94	0.00	72602.00	0.00
Lighting	Lighting Netball Court	2	No	22802.95	45605.90	24396.01	48792.02
	Lighting Tennis	0	No	21413.84	0.00	24493.23	0.00
	Lighting Soccer	1	No	73003.05	73003.05	97409.90	97409.90
	Lighting Football	1	No	163494.28	163494.28	201714.52	201714.52
Landscaping	Landscaping Construction	28000	m2	20.28	567840.00	26.19	733320.00
	Landscaping Establishment (12wk)	28000	m2	1.12	31360.00	1.29	36120.00
	Landscape maintenance-1 year/2 summers	28000	m2	2.90	81200.00	2.94	82320.00
Car Parking	Pavement	2740	m2	94.73	259560.20	109.24	299317.60
	Kerb and Channel	440	m	55.04	24217.60	60.11	26448.40
	Drainage Pipes	500	m	177.49	88745.00	192.51	96255.00
	Drainage Pits	22	No	2611.95	57462.90	2802.77	61660.94
	Car Park Lighting	2572	m2	15.13	38914.36	17.31	44521.32
	Linemarking/ Signage	2740	m2/pavement	3.26	8932.40	4.07	11151.80
Site Works	Site Preperation	60000	m2	3.68	220800.00	4.71	282600.00
	Footpaths and paved areas	750	m2	63.65	47737.50	71.96	53970.00
Services	Stormwater Drainage	1	Item	251068.39	251068.39	285507.93	285507.93
	Sewer	1	Item	52065.67	52065.67	62444.50	62444.50
	Water	1	Item	75629.58	75629.58	88426.00	88426.00
	Gas	1	Item	16727.49	16727.49	20125.23	20125.23
	Light & power	1	Item	231657.53	231657.53	286561.25	286561.25
	Communications	1	Item	46504.09	46504.09	65834.30	65834.30
	Fire	1	Item	25236.69	25236.69	27694.32	27694.32
Miscellaneous	Gates	1	Item	689.27	689.27	740.17	740.17
	Interchange shelter	10	Item	8443.47	84434.70	9844.59	98445.90
	Fencing	1000	m	91.87	91870.00	106.27	106270.00
	Signage	10	No	0.00	0.00	0.00	0.00
Irrigation	Irrigation Soccer	1	Item	40441.04	40441.04	43757.35	43757.35
	Irrigation Football	1	Item	72462.96	72462.96	82052.35	82052.35
Other	Access Road	1350	m2	217.50	293625.00	225.71	304708.50
	Playground	1	No	415857.14	415857.14	464304.86	464304.86
	Tree Planting	30	No	200.00	6000.00	230.00	6900.00
Delivery	Council Fees	1	%	3.25	162012.89	3.25	187183.67
	Authority Fees	1	%	0.00	0.00	0.00	0.00
	Traffic Management	1	%	2.00	99700.24	2.00	115191.18
	Environmental Management	1	%	0.50	24925.06	0.50	28797.80
	Survey/Design	1	%	5.00	249250.60	5.00	287977.96
	Supervision & Project Management	1	%	9.00	448651.08	9.00	518360.33
	Site Establishment	1	%	2.50	124625.30	2.50	143988.98
	Environmentally sustainable design	1	%	2.00	86839.01	2.00	115191.18
	Contingency	1	%	15.00	747751.80	15.00	863933.88
Total	Excluding Delivery				4,985,012		5,759,559
	Including Delivery				6,941,629		8,020,186

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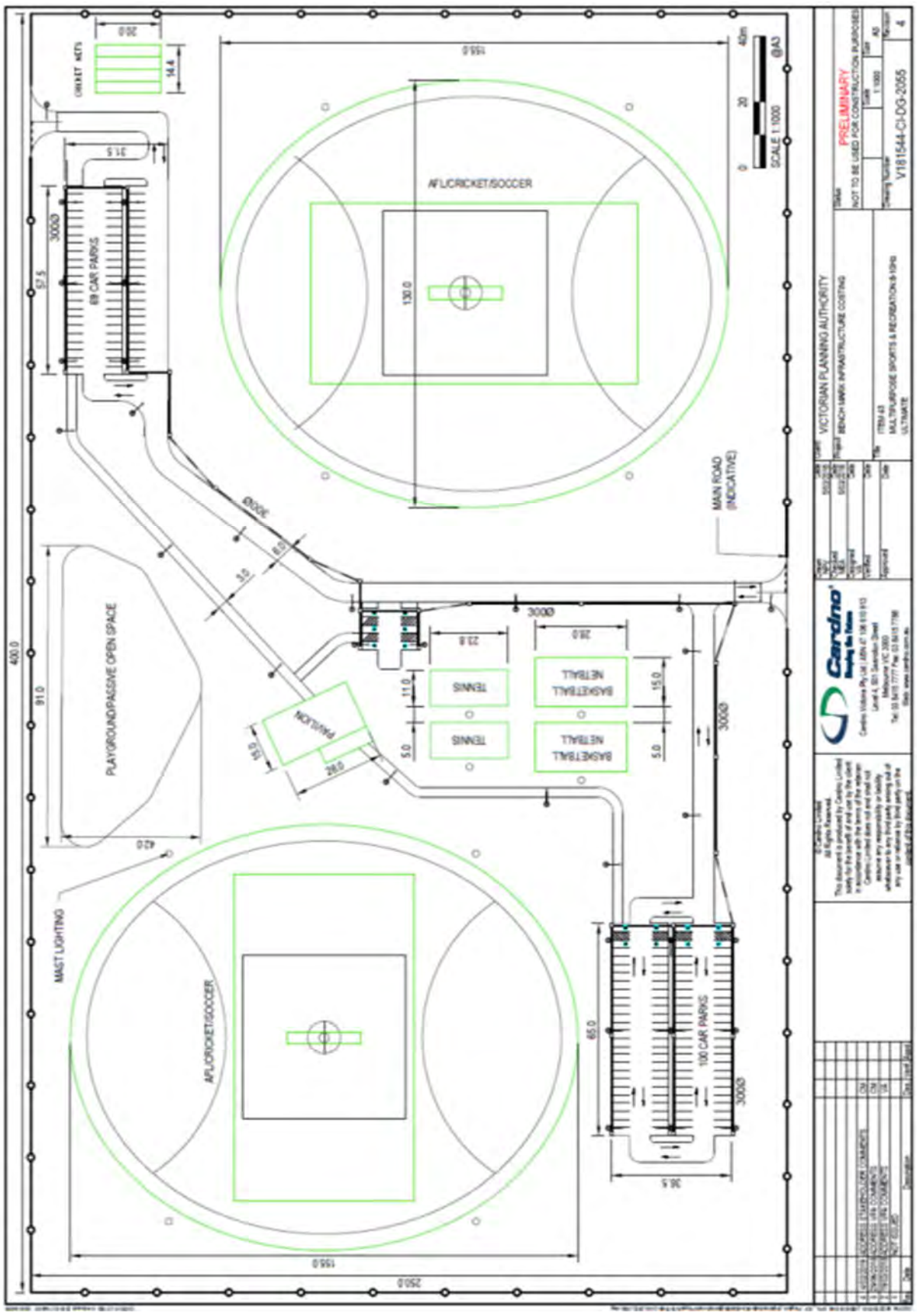

AFL/CRICKET/SOCCER
130.0
155.0
SCALE 1:1000 @A3
0
20
40m
MAIN ROAD (INDICATIVE)
3000
PLAYGROUND/PASSIVE OPEN SPACE
91.0
420.0
PAVILION
TENNIS
TENNIS
BASKETBALL NETBALL
BASKETBALL NETBALL
21.0
11.0
15.0
5.0
28.0
MAST LIGHTING
AFL/CRICKET/SOCCER
155.0
250.0
65.0
100 CAR PARKS
36.5
88 CAR PARKS
57.5
14.4
20.0
PRELIMINARY
NOT TO BE USED FOR CONSTRUCTION PURPOSES
VICTORIAN PLANNING AUTHORITY
BENCHMARK INFRASTRUCTURE COSTING
ITEM 43
MULTIPURPOSE SPORTS & RECREATION FIELD
ULTIMATE
V181544-CI-DG-2055
Cardno
Cardno Victoria Pty Ltd | ABN 47 106 610 913
Unit 4, 501 Swanston Street
Melbourne VIC 3000
Tel: 03 8415 7777 Fax: 03 8415 7788
Web: www.cardno.com.au

Appendix C	
Description:	Item 43 - Sporting & Recreation Facilities (8-10 Ha)
Civil Component Number:	Item 43

Group	Sub Item	Qty	Unit	Rate (P50)	Amount P(50)	Rate (P90)	Amount P(90)
Playing Fields	Football Field	2	No	805074.24	1610148.48	860162.38	1720324.76
	Cricket Pitch	2	No	24049.94	48099.88	28173.45	56346.90
	Cricket Nets	1	No	49791.30	49791.30	57497.73	57497.73
	Soccer Field	0	No	526667.50	0.00	597198.85	0.00
	Netball Court	2	No	83143.13	166286.26	98076.30	196152.60
	Tennis Court	2	No	65422.94	130845.88	72602.00	145204.00
Lighting	Lighting Netball Court	2	No	22802.95	45605.90	24396.01	48792.02
	Lighting Tennis	2	No	21415.84	42831.68	24493.23	48986.46
	Lighting Soccer	0	No	73003.05	0.00	97409.90	0.00
	Lighting Football	2	No	163494.28	326988.56	201714.52	403429.04
Landscaping	Landscaping Construction	38000	m2	20.28	770640.00	26.19	993220.00
	Landscaping Establishment (12wk)	38000	m2	1.12	42560.00	1.29	49020.00
	Landscape maintenance-1 year/2 summers	38000	m2	2.90	110200.00	2.94	111720.00
Car Parking	Pavement	5465	m2	94.73	517699.45	109.24	596996.60
	Kerb and Channel	510	m	55.04	28070.40	60.11	30656.10
	Drainage Pipes	560	m	177.49	99394.40	192.51	107805.60
	Drainage Pits	28	No	2611.95	73134.60	2802.77	78477.56
	Car Park Lighting	4190	m2	15.13	63394.70	17.31	72528.90
	Linemarking/ Signage	5465	m2/pavement	3.26	17815.90	4.07	22242.55
Site Works	Site Preperation	100000	m2	3.68	368000.00	4.71	471000.00
	Footpaths and paved areas	875	m2	63.65	55693.75	71.96	62965.00
Services	Stormwater Drainage	1	Item	251068.39	251068.39	283507.93	283507.93
	Sewer	1	Item	52065.67	52065.67	62444.50	62444.50
	Water	1	Item	75629.58	75629.58	88426.00	88426.00
	Gas	1	Item	16727.49	16727.49	20125.23	20125.23
	Light & power	1	Item	231657.53	231657.53	286561.25	286561.25
	Communications	1	Item	46504.09	46504.09	65834.30	65834.30
	Fire	1	Item	25236.69	25236.69	27694.32	27694.32
Miscellaneous	Gates	2	Item	689.27	1378.54	740.17	1480.34
	Interchange shelter	10	Item	8443.47	84434.70	9944.59	99445.90
	Fencing	1300	m	91.87	119431.00	106.27	138151.00
	Signage	20	No	0.00	0.00	0.00	0.00
Irrigation	Irrigation Soccer	0	m	40441.04	0.00	43757.35	0.00
	Irrigation Football	2	Item	72462.96	144925.92	82052.35	164104.70
Other	Access Road	1980	m2	217.50	430650.00	225.71	446905.80
	Playground	1	m2	415857.14	415857.14	464304.86	464304.86
	Tree Planting	40	No	200.00	8000.00	230.00	9200.00
Delivery	Council Fees	1	%	3.25	210299.96	3.25	241655.44
	Authority Fees	1	%	0.00	0.00	0.00	0.00
	Traffic Management	1	%	2.00	129415.36	2.00	148711.04
	Environmental Management	1	%	0.50	32353.84	0.50	37177.76
	Survey/Design	1	%	5.00	323538.39	5.00	371777.60
	Supervision & Project Management	1	%	9.00	582369.11	9.00	669199.68
	Site Establishment	1	%	2.50	161769.20	2.50	185888.80
	Environmentally sustainable design	1	%	2.00	101418.39	2.00	148711.04
	Contingency	1	%	15.00	970615.18	15.00	1115332.79
Total	Excluding Delivery				6,470,768		7,435,552
	Including Delivery				9,010,544		10,354,006

Victorian Planning Authority

Appendix 6: Application to Non-Benchmark Infrastructure

Where the infrastructure scope and conditions are clearly standard, the benchmark costs outlined in Appendices 1-5 can be applied directly.

As noted earlier, the following definitions have been adopted:

Benchmark Item: The infrastructure item relies on the benchmark design and therefore the benchmark cost can be directly utilised without adjustment. Benchmark is considered 'off the shelf' or 'usual practice'.

Hybrid Item (Examples A-C): The design is based on or similar to the benchmark infrastructure, but some variations are required through either:

- benchmark rates can be used with adjusted quantities to account for minor scope differences (e.g. extra earthworks)
- additional line items are added for non-benchmark components (e.g. a major services relocation)
- a more significant design change but using benchmark materials, and benchmark unit rates can reasonably be applied to develop an estimate (e.g. a new intersection design)

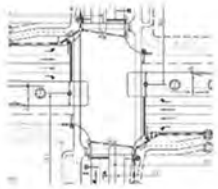
Bespoke Item (Example D): The infrastructure item is significantly different from benchmark design and used non-benchmark materials or construction processes. The P90 unit rates can be used where available for costing line items, but bespoke items will typically may require bespoke design and cost estimate to be prepared (e.g. grade separation of a road).

In all cases, the estimate should be documented based on the VPA's standard costing template used for the benchmark cost estimates with additional breakdown or line items where required.

Below are examples of how non-benchmark infrastructure costs can be adjusted or developed in other situations (based on the figure below):

Benchmark ← Hybrid → Bespoke

a benchmark item?	a benchmark design with non-benchmark quantities or extra non-benchmark items?	a non-benchmark design with mostly benchmark components?	a non-benchmark item with non-benchmark components?
Use benchmark scope	Use benchmark scope	Develop bespoke design	Develop bespoke design
Use benchmark cost	Use benchmark cost adjusted for reduced/greater quantities and/or additional non-benchmark items	Develop estimate using bespoke quantities and benchmark rates (plus extra non-benchmark items if needed)	Develop bespoke estimate using non-benchmark rates where required
e.g. benchmark intersection	e.g. benchmark intersection with extra pavement e.g. benchmark intersection with major service relocation	e.g. different intersection configuration	e.g. grade separated intersection



Benchmark design

Additional RT-lane pavement

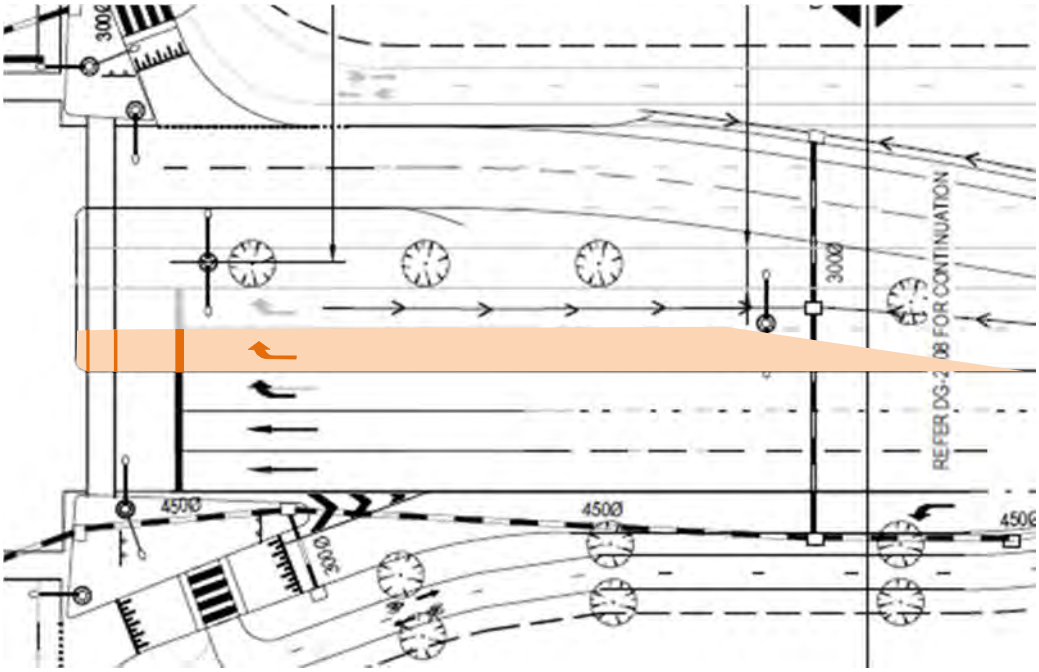
Realign major utility service

T-intersection

Intersection with bridging

Example A. A benchmark item with minor more/less works

An additional right turn lane has been agreed to by all parties at a primary-secondary intersection due to unusually high expected turning movements.



Scope Changes:

- Material: Additional pavement (say 365 m^2)
- Minor: Incidental changes to kerb and channel, line marking & landscaping quantities

Appendix C							
Description:	INTERSECTION - Primary - Secondary Intersection						
Civil Component Number:	Item 6						
Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	32503	m2	3.68	119		
	Earthworks	10122	m3	34.07	344		
Road Pavement	Primary Arterial Pavement	7006	m2				
	Secondary Arterial Pavement	7150	m2	127.01			
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	2831	m2		40		
	Pavement Rehab	0	m2				
	Pavement Other	0	m2	0.00			
Concrete Works	Kerb and Channel	2960	m	54.81	162		
	Cycle Path	1216	m2	76.59	93133.44	91.94	111799.04
	SUP/ Footpath	735	m2	63.51	46679.85	73.63	54118.05
	Traffic Island	1090	m2	77.60	84584.00	84.07	91636.30
Drainage	Drainage Pipe 300mm CR Bfilled	260	m	179.85	46761.00	197.96	51469.60
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	870	m	299.43	260504.10	334.33	290867.10
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00	448.03	0.00
	Drainage - pits	39	No.	2565.39	100050.21	2806.10	109437.90
	Drainage – Sub-soil drainage	3064	m	33.88	103808.32	43.40	132977.60
	Drainage Culvert	0	No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
Landscape	Tree Planting	62	No.	303.34	18807.08	363.01	22506.62
	Landscaping	2728	m2	21.61	58952.08	25.16	68636.48
	Topsoil Seeding	2728	m2	7.21	19668.88	8.44	23024.32
Street Lighting	Street Lighting - Road	0	m	216.34	0.00	225.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg	48468.93	193875.72	55617.74	222470.96
Misc.	Regulatory Signage	16	Item	338.43	5414.88	380.39	6086.24
	Line marking	14156	m2 of Pavement	3.11	44		
	Landscape maintenance (intersections)	1	Item	71344.66	71		
	Landscape maintenance (roads)	0	m2 of r'scape	2.90			
	Tactile Pavers (Hazard only)	24	Item	292.43			
Other	Sub-standard site conditions	0	% of area	0.00	0.00		0.00
Delivery	Council Fees	1	%	3.25		3.25	159662.65
	VicRoads Fees	1	%	1.00		1.00	49126.97
	Traffic Management	1	%	5.00	248.72	5.00	245634.85
	Environmental Management	1	%		21784.87	0.50	24563.48
	Surveying and Design	1	%		217848.72	5.00	245634.85
	Supervision and Project management	1	%	9.00	392127.69	9.00	442142.73
	Site Establishment	1	%	2.50	108924.36	2.50	122817.42
	Contingency	1	%	15.00	653546.16	15.00	736904.54
Total	Excluding Delivery				4,356,974		4,912,697
	Including Delivery				6,154,226		6,939,184

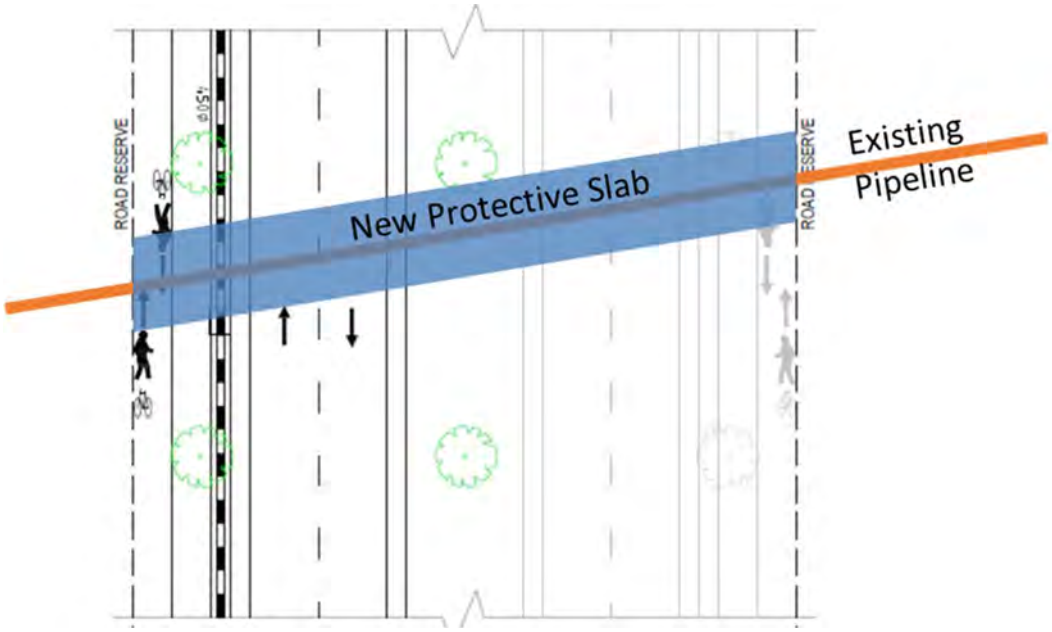
Increase pavement quantity by 365 m^2

Increase subgrade prep quantity by 365 m^2

Incidental changes captured in contingency

Example B. A benchmark item with an extra non-benchmark component

A new road constructed across and existing major distribution pipeline requires a protective slab to be constructed above the pipe. An estimate has been prepared o the extra works that are required.



Scope Changes:

- Pipe deep protective slab with an estimated included as a new line item
- No other material changes to standard scope works expected

Appendix C	
Description:	Road - Primary - 800m
Civil Component Number:	Item 1

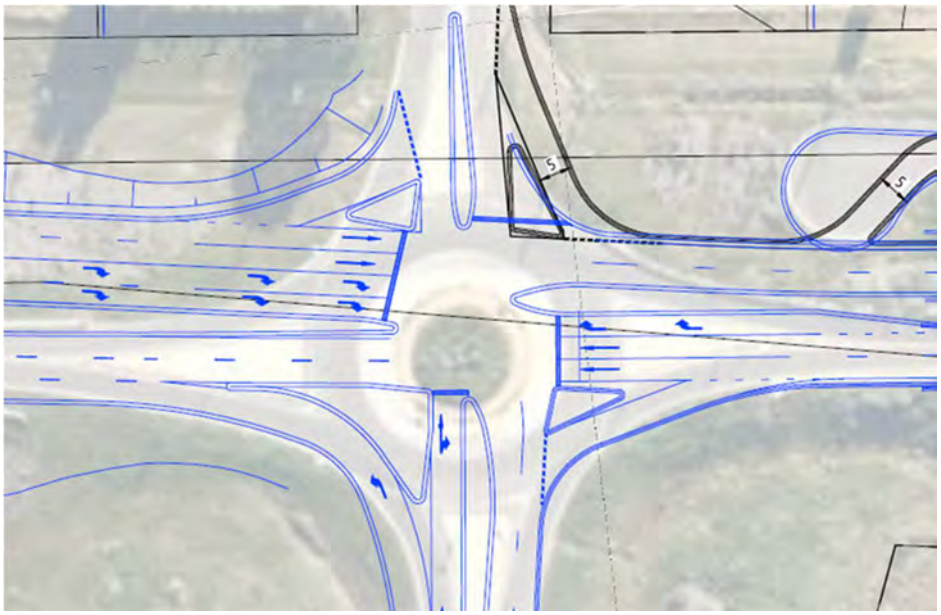
Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	32800	m2	3.68	120704.00	4.96	162688.00
	Earthworks	4004	m3	34.07	136416.28	40.52	162242.08
Road Pavement	Primary Arterial Pavement	5600	m2	169.62	949872.00	186.26	1043056.00
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	1120	m2	14.22	15926.40	16.16	18099.20
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1600	m	54.81	87696.00		
	Cycle Path	2400	m2	76.59	183816.00		
	SUP/ Footpath	0	m2	63.51	0.00		
	Traffic Island	0	m2	77.60	0.00		
Drainage	Drainage Pipe 300mm CR Bfilled	100	m	179.85	17985.00		
	Drainage Pipe 375mm CR Bfilled	350	m	259.10	90685.00		
	Drainage Pipe 450mm CR Bfilled	350	m	299.43	104800.50		117015.50
	Drainage Pipe 525mm CR Bfilled	0	m	403.86	0.00		0.00
	Drainage - pits	16	No.	2565.39	41046		44897.60
	Drainage – Sub-soil drainage	1600	m	33.88	54	43.40	69440.00
	Drainage Culvert	0	No.	0.00		0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	0	Item/ Per Leg	109730.28		128786.34	0.00
Landscape	Tree Planting	160	No.	303.7	14.40	363.01	58081.60
	Landscaping	11200	m2		242032.00	25.16	281792.00
	Topsoil Seeding	11200	m2		80752.00	8.44	94528.00
Street Lighting	Street Lighting - Road	800	m	34	173072.00		
	Street Lighting - Intersections	0	Item/ Per Leg	18468.93	0.00		
Misc	Regulatory Signage	18	Item	338.43	6091.74		
	Linemarking	5600	m2 of	3.11	17416.00		
	Landscape maintenance (intersection)	0	m	71344.66	0.00	8817	00
	Landscape maintenance (road)	1120	m2	2.90	32480.00		152.00
	Tactile Pavers (Hazard only)		Item	292.43	0.00		0.00
Other	Sub-standard site conditions	0	% of area	0.00	0.00		0.00
Delivery	Council Fees	1	%	3.25	78114.8	3.25	88796.73
	VicRoads Fees	1	%	1.00	2403	1.00	27322.07
	Traffic Management	1	%	5.00	120	5.00	136610.35
	Environmental Management	1	%	0.50		0.50	13661.04
	Surveying and Design	1	%	5.00	68	5.00	136610.35
	Supervision and Project management	1	%	9.00	216318.02	9.00	245898.63
	Site Establishment	1	%	2.50	60088.34	2.50	68305.18
	Contingency	1	%	15.00	360530.03	15.00	409831.05
Total	Excluding Delivery				2,403,534		2,732,207
	Including Delivery				3,394,991		3,859,242

Add new "Other" item at estimated cost

Incidental changes captured in contingency

Example C. A non-benchmark item with benchmark components

An interim primary-connector intersection, but with a scope significantly modified to address right-of-way restrictions and existing road connections.



Scope Changes:

- Quite different layout requiring re-estimation of quantities for most items
- But component items are quite similar in type and scale to the benchmark infrastructure and costs

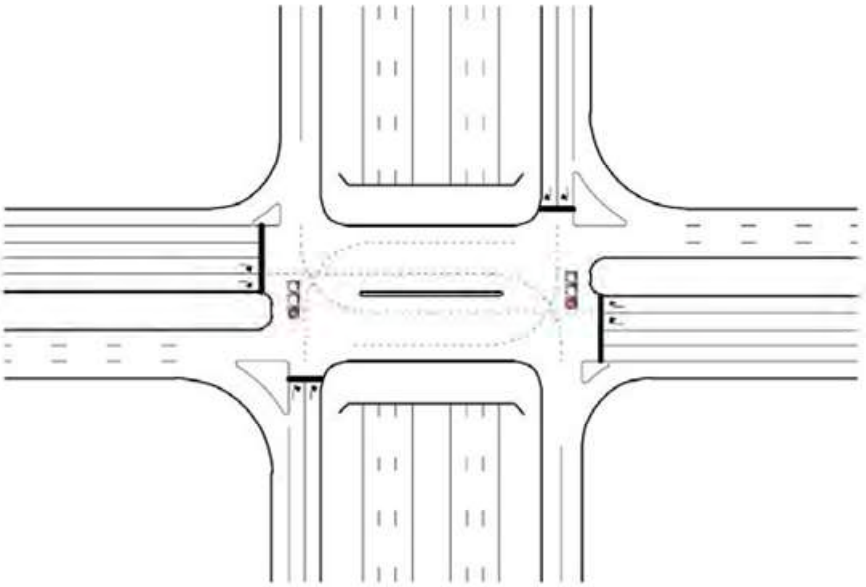
Appendix C							
Description:	INTERSECTION - Primary - Connector Intersection						
Civil Component Number:	Item 7						
Group	Sub Item	Qty	Unit	Rate (P90)	Amount (P90)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	18260	m2	3.68	67196.80	4.96	90569.60
	Earthworks	4754	m3	34.07	161968.78	40.52	192632.08
Road Pavement	Primary Arterial Pavement	5915	m2	169.62	1003302.30	186.26	1101727.90
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	363	m2	105.15	101259.45	112.44	108279.72
	Subgrade Preparation	1376	m2	14.22	19566.72	16.16	22236.16
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	1492	m	54.81	81776.52	60.90	90862.80
	Cycle Path	1547	m2	76.59	118484.73	91.94	142231.18
	SUP/ Footpath	297	m2	63.51	18862.47	73.63	21868.11
	Traffic Island	2890	m2	77.60	224264.00	84.07	242962.30
Drainage	Drainage Pipe 300mm CR Bfilled	220	m	179.85	39567.00	197.96	43551.20
	Drainage Pipe 375mm CR Bfilled	0	m	259.10	0.00	282.96	0.00
	Drainage Pipe 450mm CR Bfilled	455	m	299.43	136240.65	334.33	152120.15
	Drainage Pipe 525mm CR Bfilled		m	403.86	0.00	448.03	0.00
	Drainage - pits		No.	2565.39	64134.75	2806.10	70152.50
	Drainage – Sub-soil drainage		m	33.88	79346.96	43.40	101642.80
	Drainage Culvert		No.	0.00	0.00	0.00	0.00
Traffic signals	Traffic Signals (all inclusive)		Item/ Per Leg	109730.28	438921.12	128786.34	515145.36
				303.34	15470.34	363.01	18513.51
				21.61	26623.52	25.16	30997.12
				7.21	8882.72	8.44	10398.08
				216.34	0.00	225.67	0.00
				48468.93	193875.72	55617.74	222470.96
Misc	Regulatory Signage	16	Item	338.43	5414.88	380.39	6086.24
	Line marking	6878	m2 of Pavement	3.11	21390.58	4.09	28131.02
	Landscape maintenance (Intersections)	1	Item	71344.66	71344.66	88131.43	88131.43
	Landscape maintenance (roads)	0	m2 of Pscape	2.90	0.00	2.96	0.00
	Tactile Pavers (Hazard only)	24	Item	292.43	7018.32	319.78	7674.72
Other	Sub-standard site conditions	0	% of area	0.00		0.00	0.00
Delivery	Council Fees	1	%		94409.67	3.25	107522.51
	Victroads fees	1	%		29049.13	1.00	33083.85
	Traffic	1	%		145245.65	5.00	165419.25
	Environ	1	%		14524.56	0.50	16541.92
	Survey	1	%		145245.65	5.00	165419.25
	Supervi	1	%		261442.17	9.00	297754.64
	Site Establishment	1	%	2.50	72622.82	2.50	82709.62
	Contingency	1	%	15.00	435736.95	15.00	496257.74
Total	Excluding Delivery				2,904,913		3,308,385
	Including Delivery				4,103,190		4,673,094

Estimate new quantities for new intersection

Re-estimate cost using P90 cost rates

Example D. A non-benchmark item with non-benchmark components

A grade-separated intersection design that includes atypical items not included in the benchmark intersection costs.



Scope Changes:

- Quite different layout requiring re-estimation of quantities for most items
- Many new component items (e.g. bridge structure, abutments, drainage, beaching, etc) that are not currently included in the benchmark infrastructure and costs.

Appendix C	
Description:	INTERSECTION - Primary - Primary intersection
Civil Component Number:	Item 5

Group	Sub Item	Qty	Unit	Rate (P50)	Amount (P50)	Rate (P90)	Amount (P90)
Siteworks/ Earthworks	Site Preperation	38603	m2	3.68	142059.04	4.96	191470.88
	Earthworks	8803	m3	34.07	299918.21	40.52	356697.56
Road Pavement	Primary Arterial Pavement	12312	m2	169.62	2088361.44	186.26	2293233.12
	Secondary Arterial Pavement	0	m2	127.01	0.00	133.78	0.00
	Collector Arterial Pavement	0	m2	105.15	0.00	112.44	0.00
	Subgrade Preparation	2462	m2	14.22	35009.64	16.16	39785.92
	Pavement Rehab	0	m2	51.58	0.00	59.32	0.00
	Pavement Other	0	m2	0.00	0.00	0.00	0.00
Concrete Works	Kerb and Channel	3053	m	54.81	167334.93	60	185927.70
	Cycle Path	2383	m	76.59	182513.97		093.02
	SUP/ Footpath	0	m	63.51	0.00		0.00
	Traffic Island	1220		60	94672.00		65.40
Drainage	Drainage Pipe 300mm CR Bfilled	392	m		70501.20		7600.32
	Drainage Pipe 375mm CR Bfilled	0	m		0.00		0.00
	Drainage Pipe 450mm CR Bfilled	760	m		227566		254090.80
	Drainage Pipe 525mm CR Bfilled	0	m				0.00
	Drainage - pits	39	No.				109437.90
	Drainage – Sub-soil drainage	3295	m			3.40	143003.00
	Drainage Culvert	0	No.			0.00	0.00
Traffic signals	Traffic Signals (all inclusive)	4	Item/ Per Leg	1097		128786.34	515145.36
Landscape	Tree Planting	80	No.	303		363.01	29040.80
	Landscaping	1996	m2			25.16	50219.36
	Topsoil Seeding	1996	m2			8.44	16846.24
Street Lighting	Street Lighting - Road	0	m			7.67	0.00
	Street Lighting - Intersections	4	Item/ Per Leg				222470.96
Misc.	Regulatory Signage	20	Item				7607.80
	Line marking	12312	m2 of Pavement		3829		50356.08
	Landscape maintenance (intersections)	1	Item		71344.66		88131.43
	Landscape maintenance (roads)	0	m2 of D		0.00		0.00
	Tactile Pavers (Hazard only)	24		43	7018.32		74.72
Other	Sub-standard site conditions	0	%	0.00	0.00		0.00
Delivery	Council Fees	1	%	3.25	141623.06	3.25	161212.95
	VicRoads Fees	1	%	1.00	43576.33	1.00	49603.98
	Traffic Management	1	%	5.00	217881.64	5.00	248019.92
	Environmental Management	1	%	0.50	21788.16	0.50	24801.99
	Surveying and Design	1	%	5.00	217881.64	5.00	248019.92
	Supervision and Project management	1	%	9.00	392186.94	9.00	446435.85
	Site Establishment	1	%	2.50	108940.82	2.50	124009.96
	Contingency	1	%	15.00	653644.91	15.00	744059.76
Total	Excluding Delivery				4,357,633		4,960,398
	Including Delivery				6,155,156		7,006,563

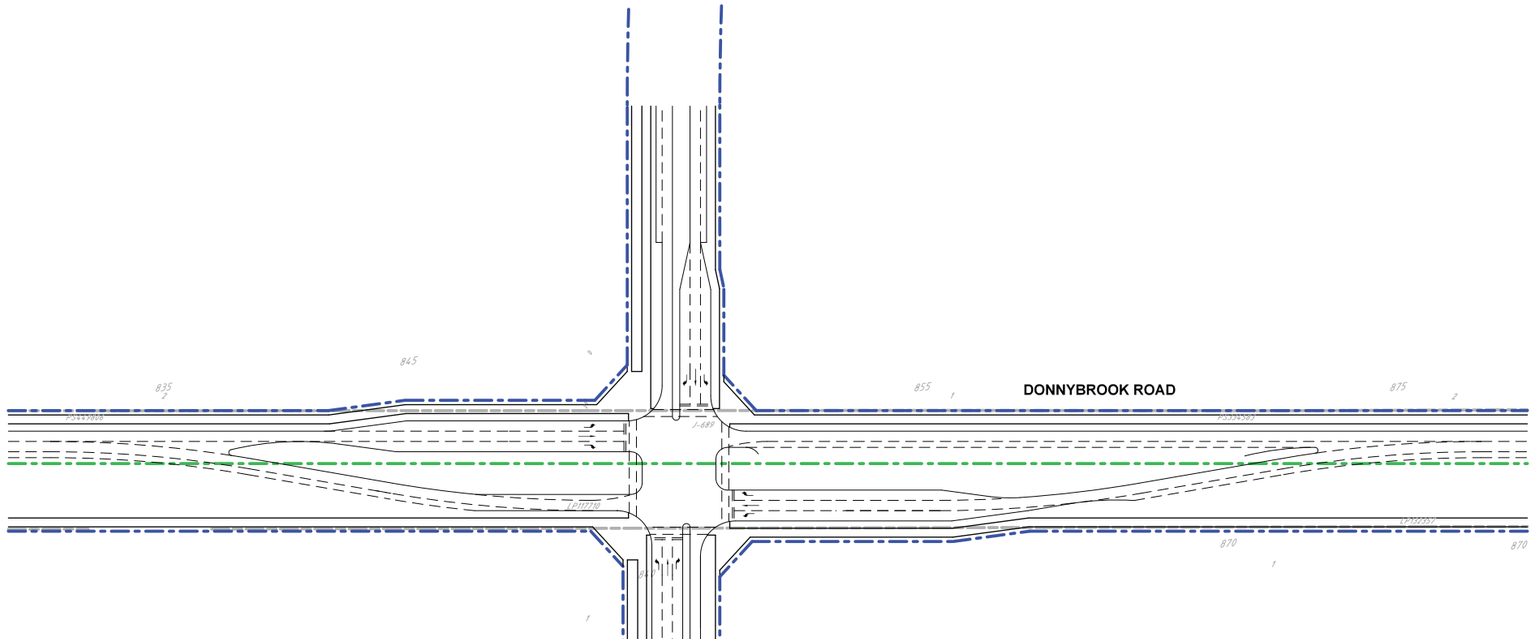
Calculate new quantities and rates and prepare new estimate

Appendix 5 – Donnybrook Road Intersections Redesigns

IN-01

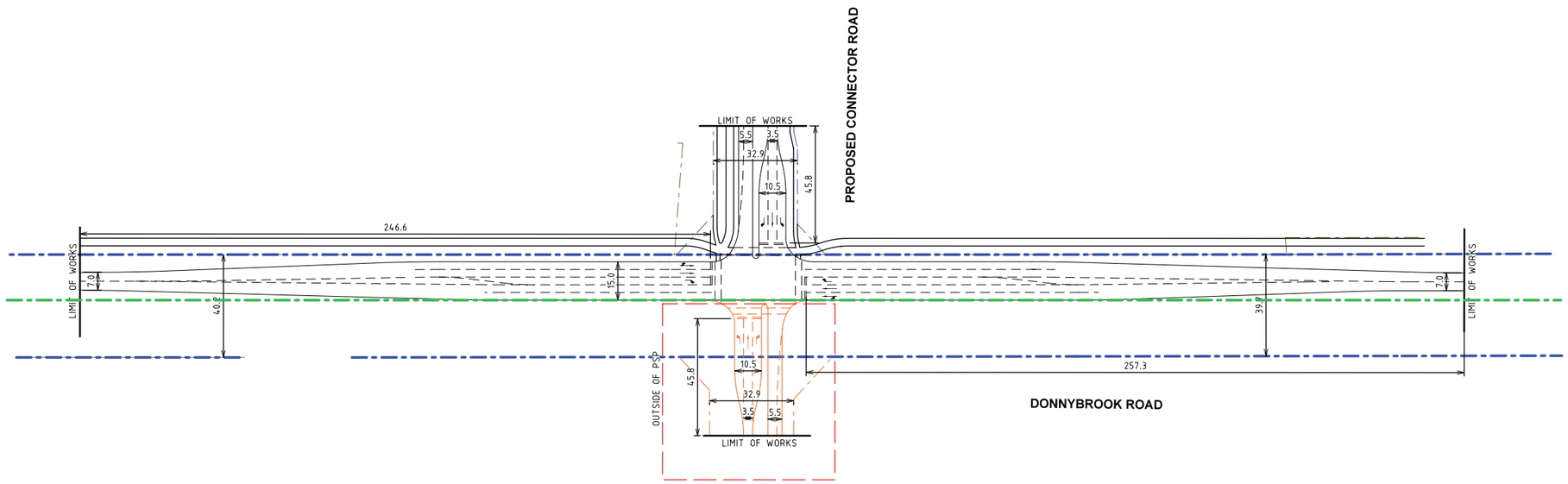
ICP boundary

EXHIBITED ICP
(AUG2018)



RECOMMENDED
CHANGES ICP
(APR 2019)

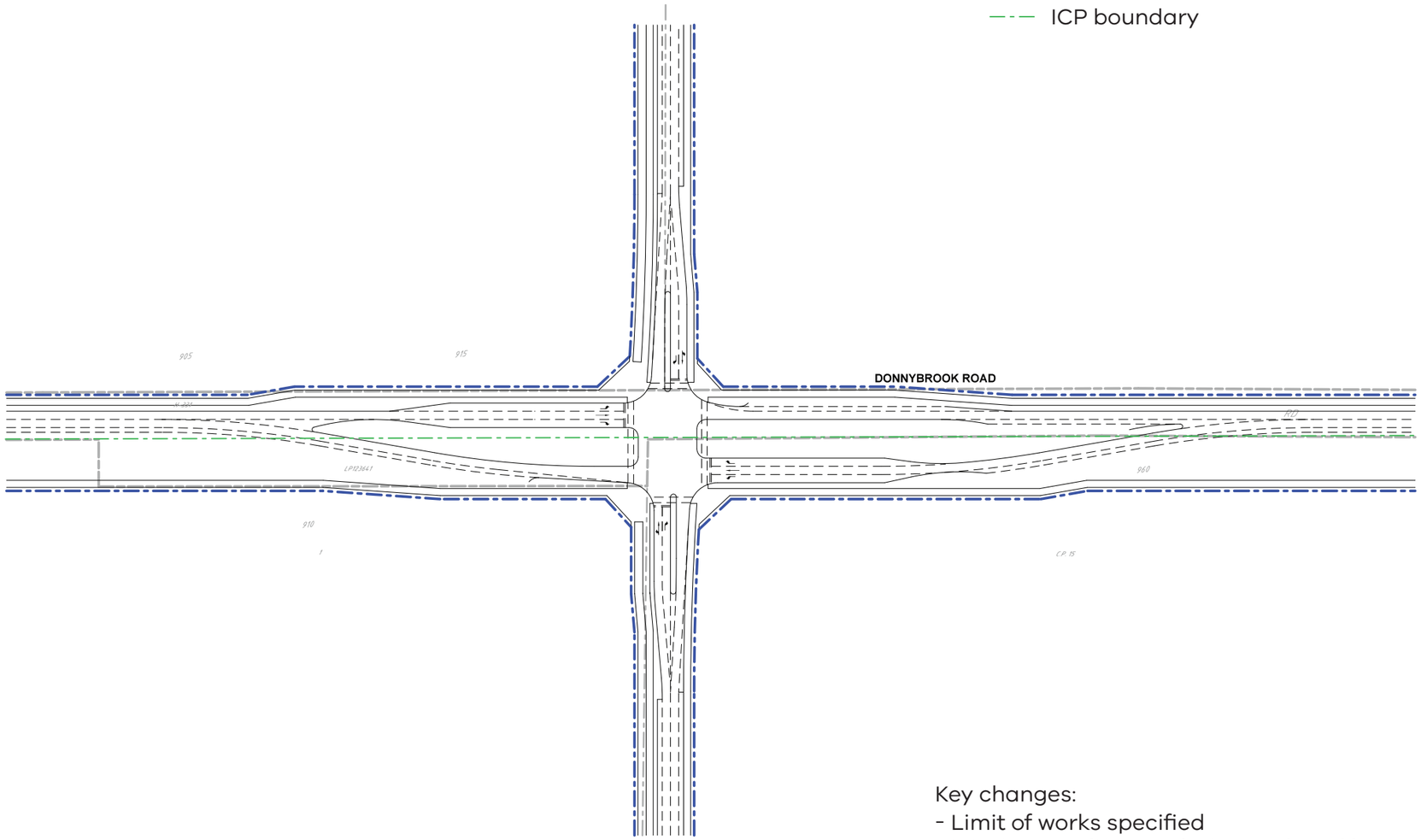
UPDATED
CONCEPT LAYOUT
(26 SEPT 2019)



Key changes:
- Limit of works specified
- Interim-on-ultimate design replaced by traditional compact design

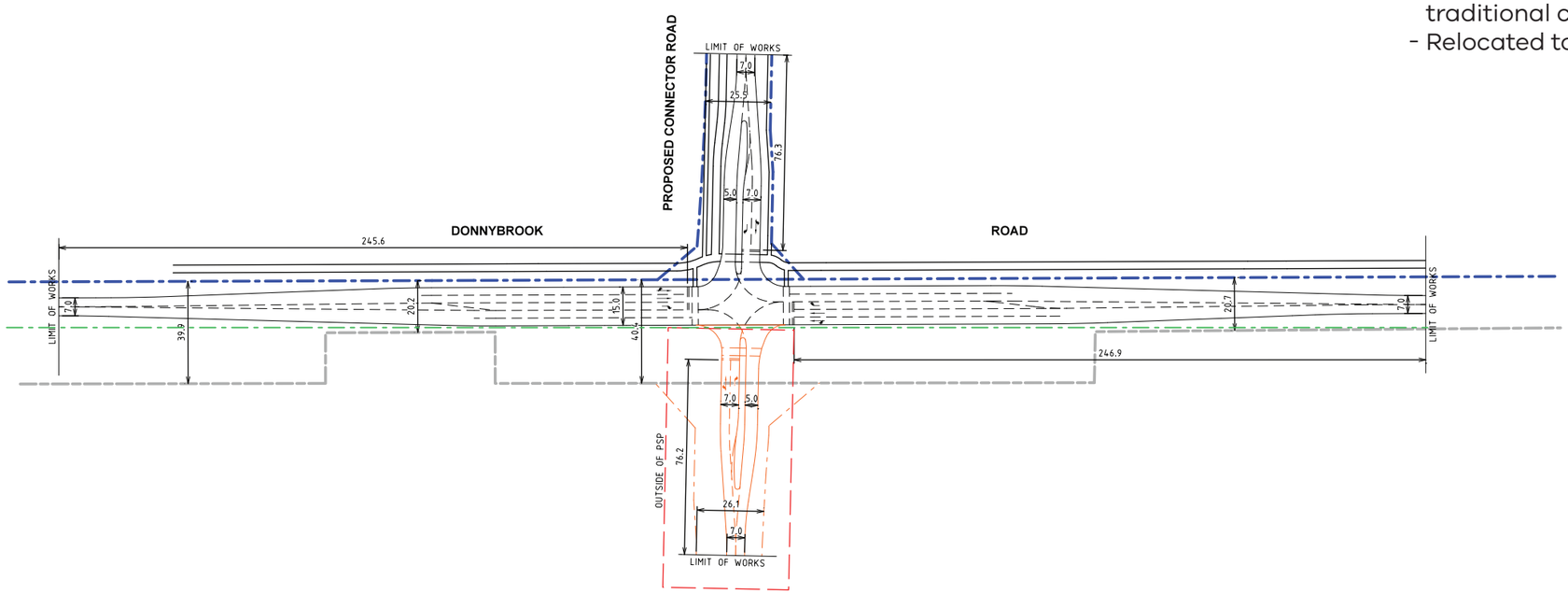
IN-02

EXHIBITED ICP
(AUG 2018)



RECOMMENDED
CHANGES ICP
(APR 2019)

UPDATED
CONCEPT
LAYOUT
(26 SEPT 2019)

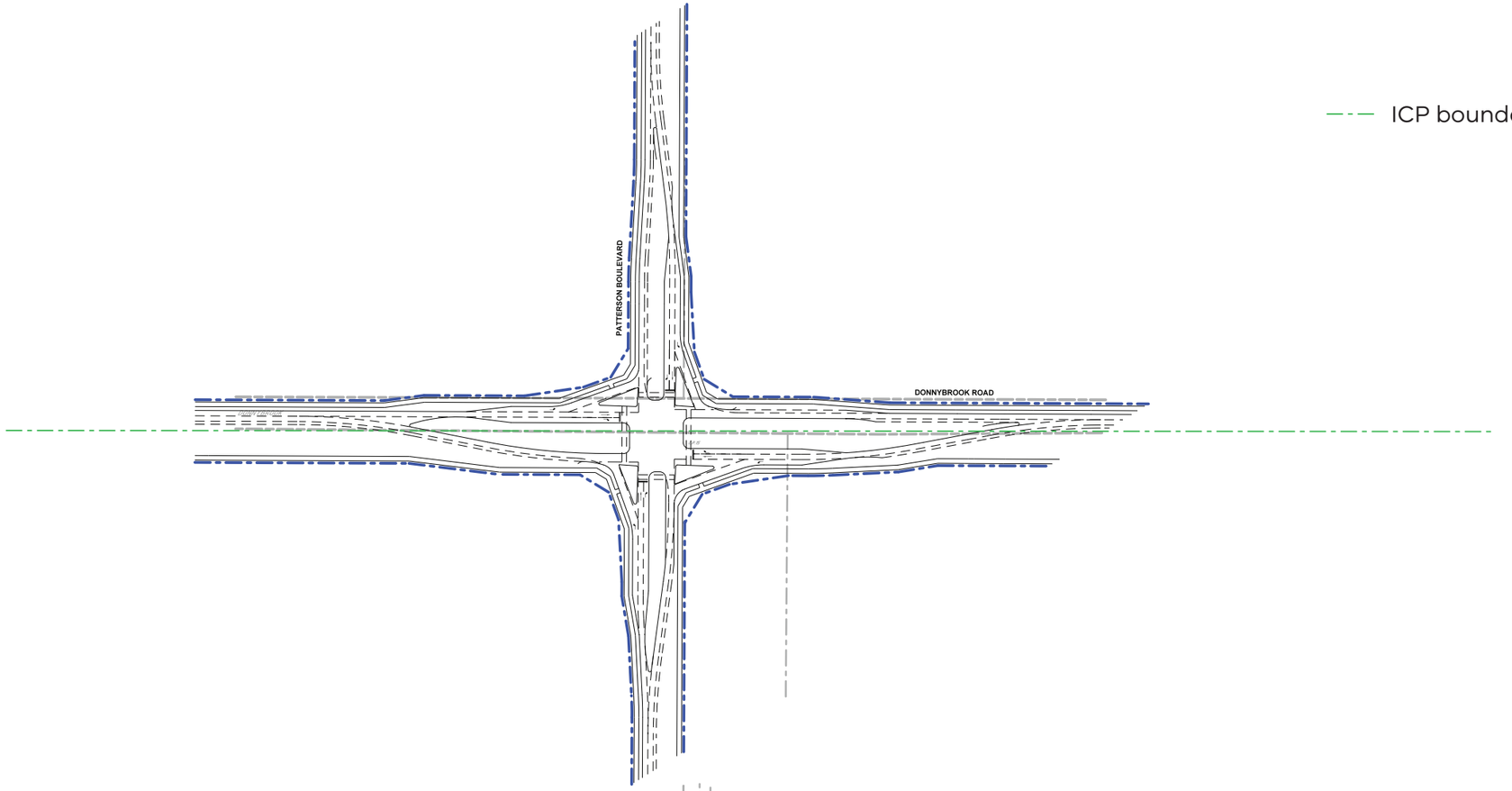


Key changes:
- Limit of works specified
- Interim-on-ultimate design replaced by traditional compact design
- Relocated to the west from exhibited position

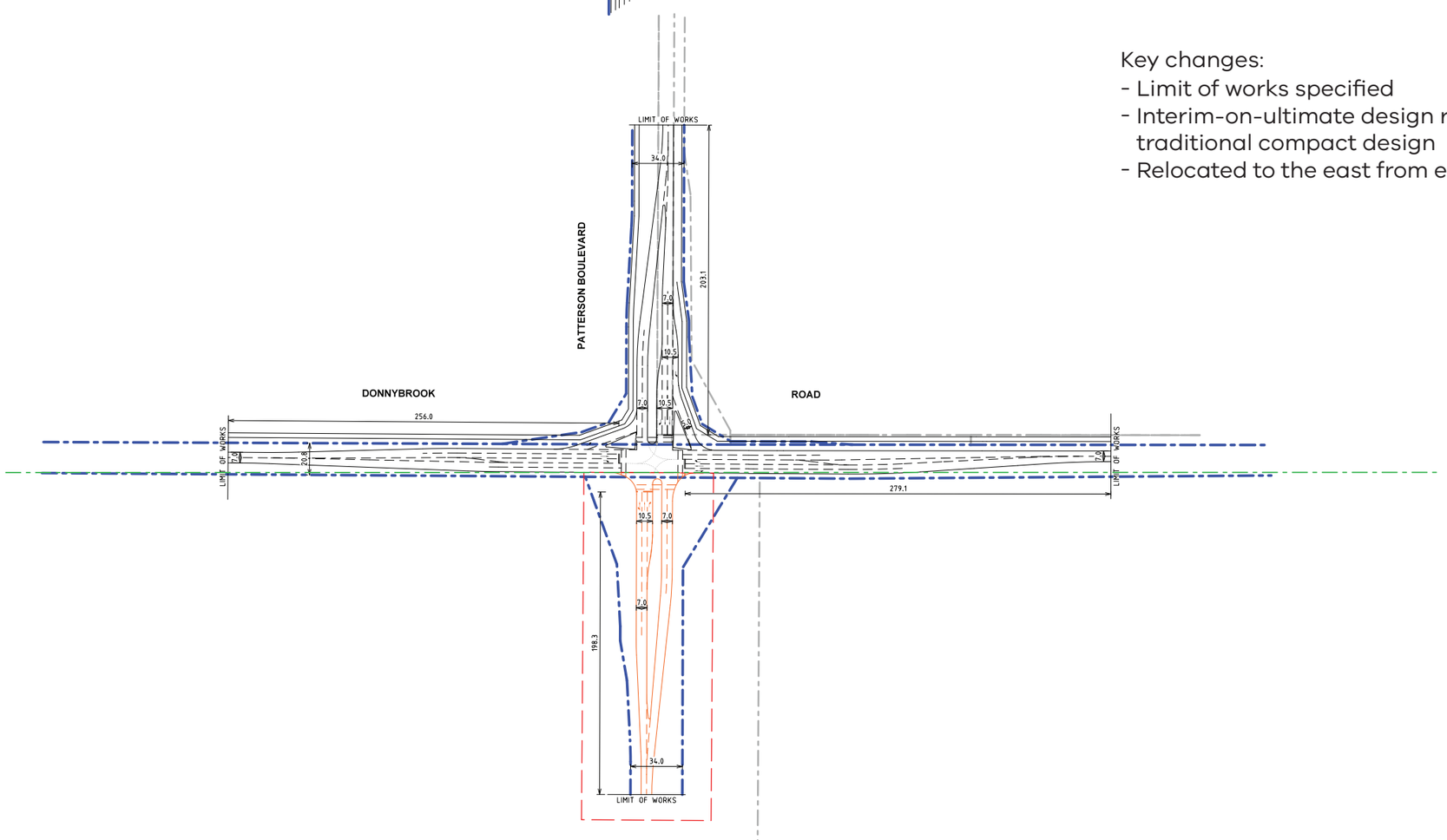
IN-03

ICP boundary

EXHIBITED ICP
(AUG 2018)



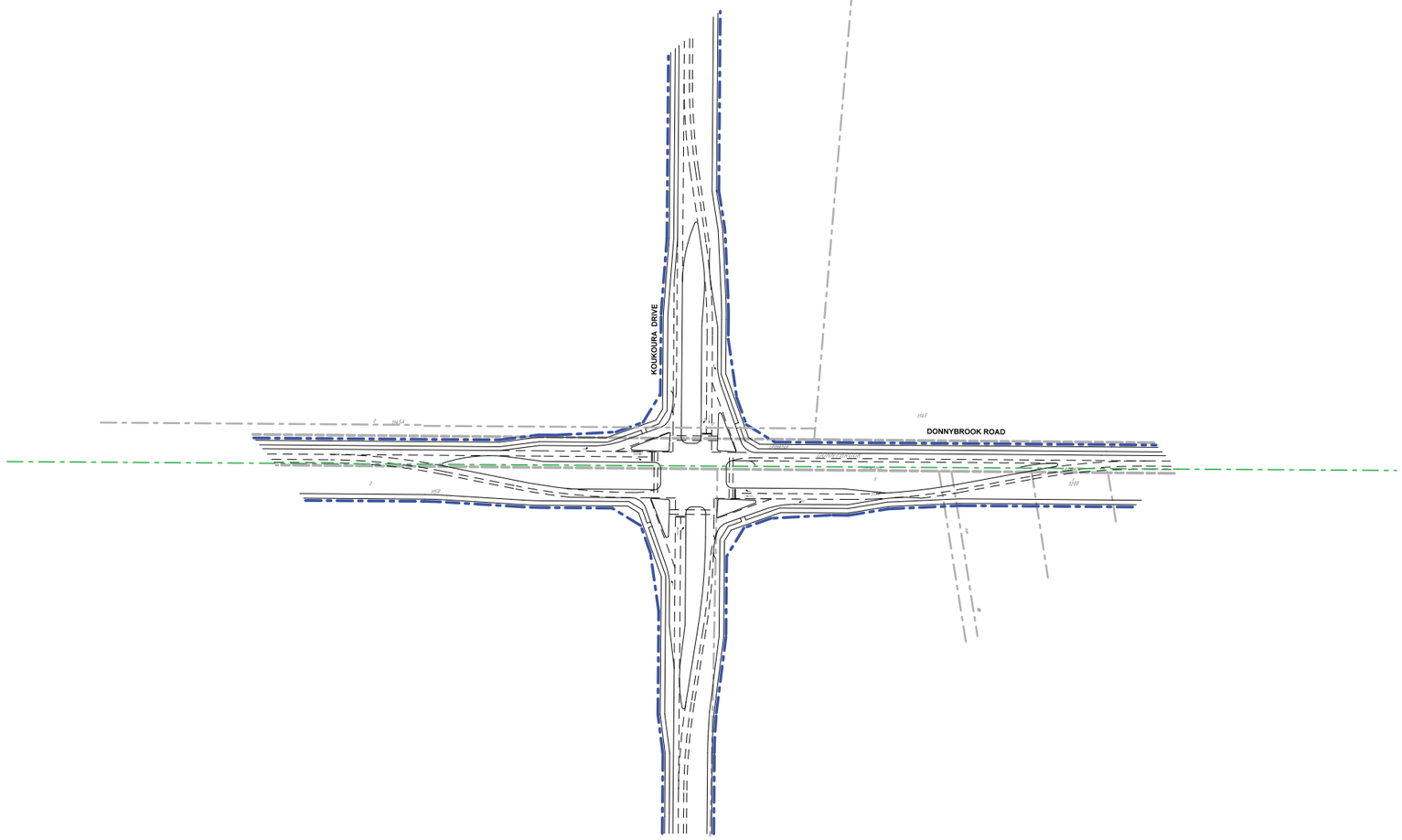
RECOMMENDED
CHANGES ICP
(APR 2019)



Key changes:
- Limit of works specified
- Interim-on-ultimate design replaced by traditional compact design
- Relocated to the east from exhibited position

IN-04

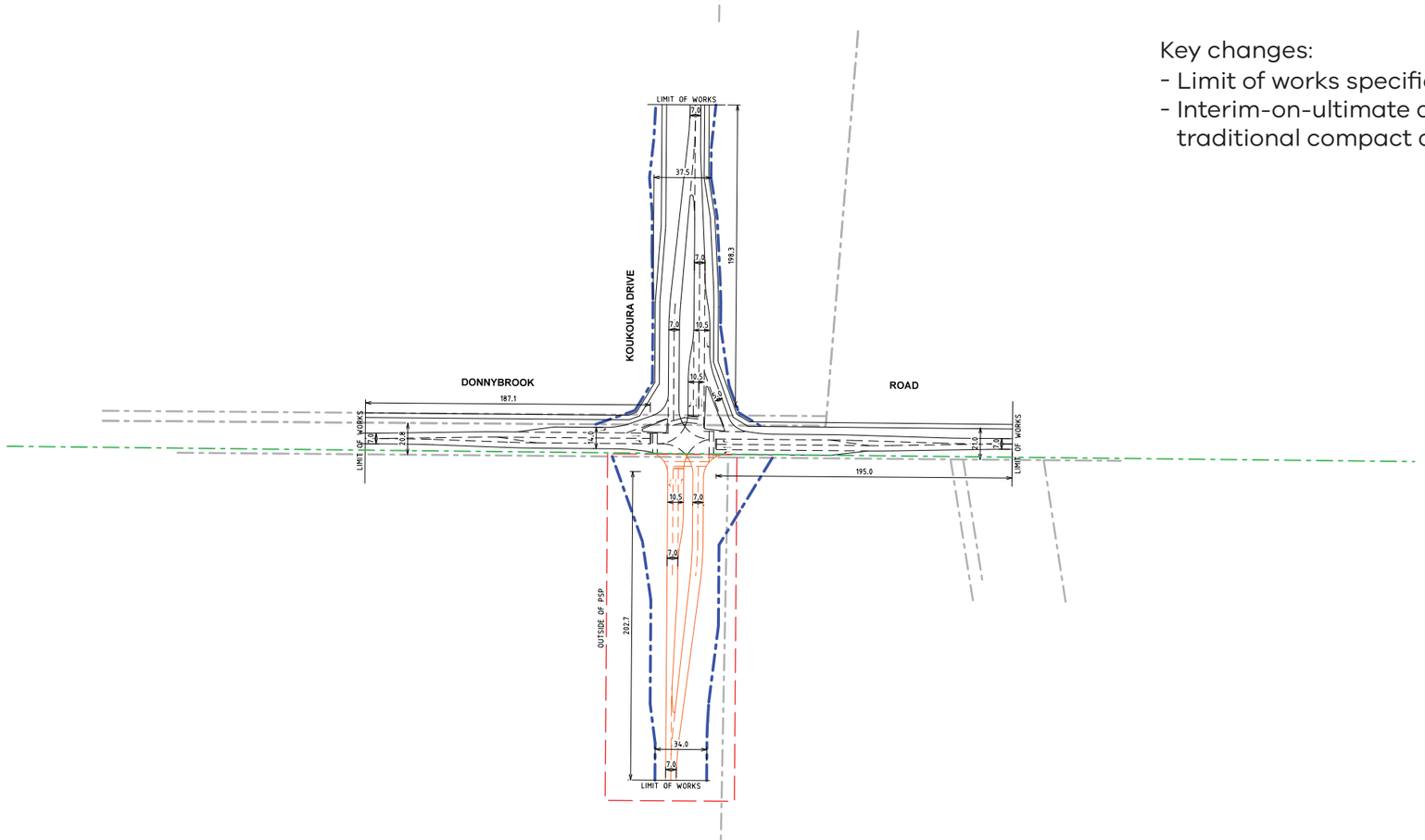
EXHIBITED ICP
(AUG 2018)



ICP boundary

RECOMMENDED
CHANGES ICP
(APR 2019)

UPDATED
CONCEPT LAYOUT
(26 SEPT 2019)

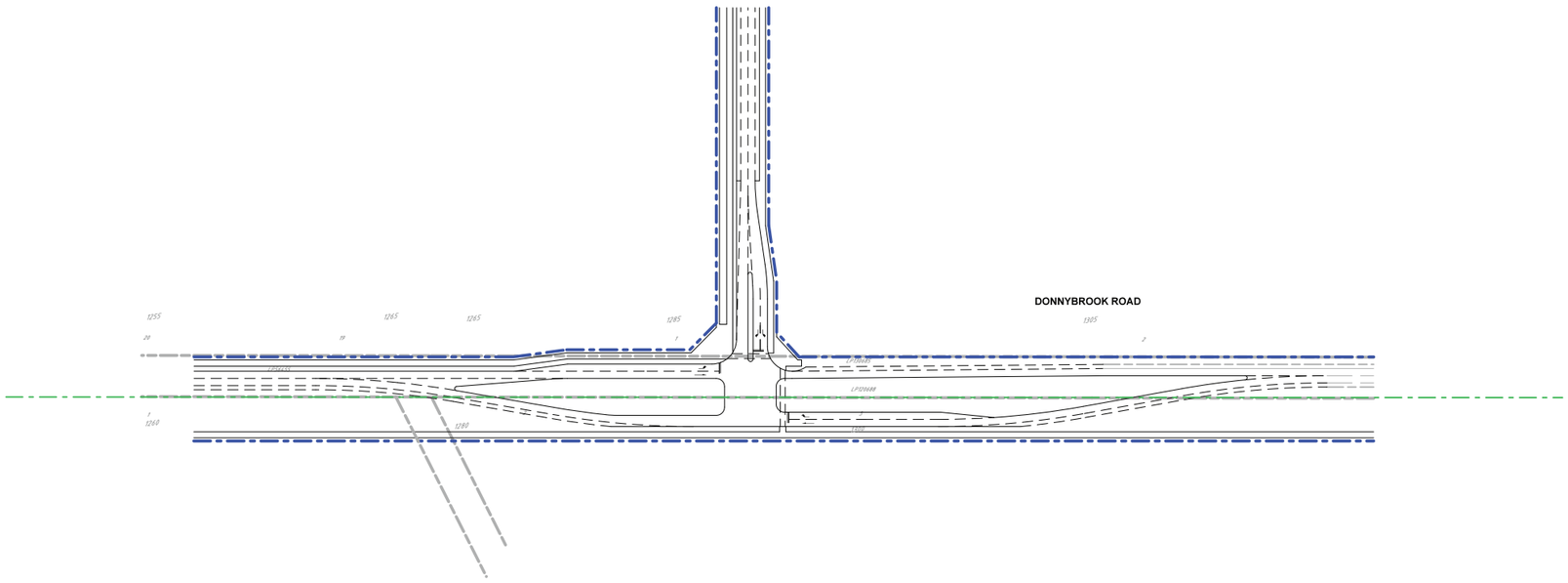


Key changes:
- Limit of works specified
- Interim-on-ultimate design replaced by traditional compact design

IN-05

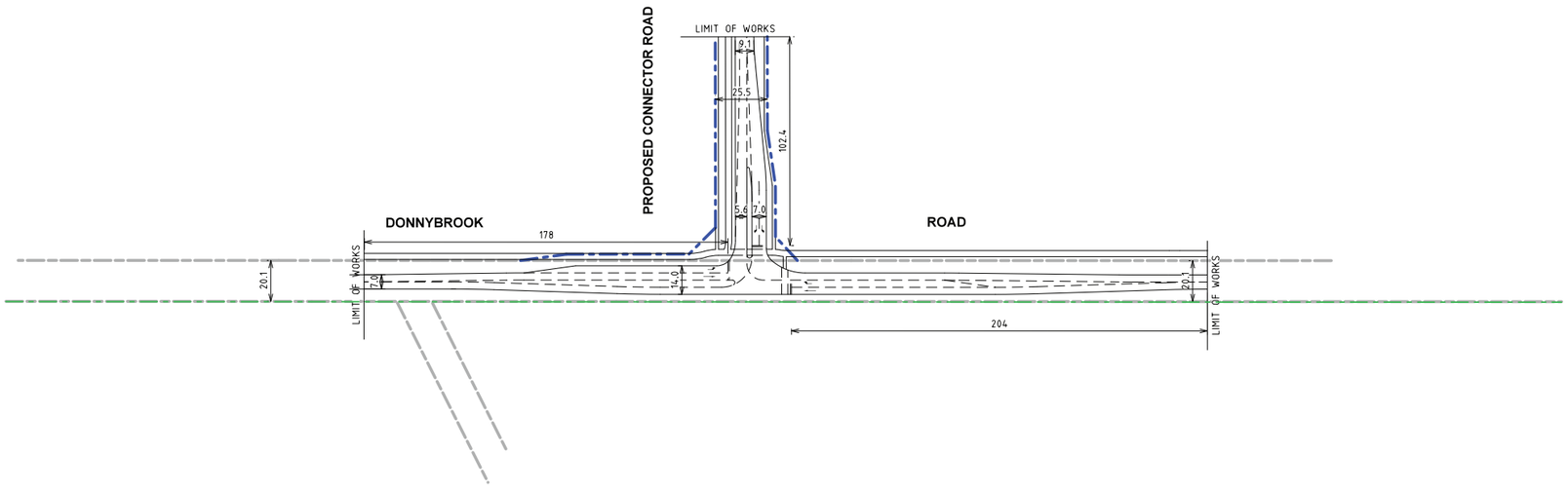
ICP boundary

EXHIBITED ICP
(AUG 2018)



RECOMMENDED
CHANGES ICP
(APR 2019)

UPDATED
CONCEPT
LAYOUT
(26 SEPT 2019)



Key changes:
- Limit of works specified
- Interim-on-ultimate design replaced by traditional compact design

Appendix 6 – Change in costs between the July 2018 and April 2019 Benchmark Costings

Change in the costs between the July 2018 and April 2019 Benchmark Costings

Item	Category	Description	Construction standard	Cost application	July 2018 cost (A)	April 2019 cost (B)	Difference cost (B – A)	Difference percentage (B – A)
1	Road	Primary Arterial	Interim – first carriageway	Per 800m of road	$2,788,000	$3,860,000	$1,072,000	38%
2	Road	Secondary Arterial	Interim – first carriageway	Per 800m of road	$2,703,000	$3,500,000	$797,000	29%
3	Road	Connector Boulevard	Ultimate	Per 800m of road	$3,331,000	$4,140,000	$809,000	24%
4	Road	Connector Street	Ultimate	Per 800m of road	$3,217,000	$3,793,000	$576,000	18%
5	Intersection	Primary arterial/Primary arterial	Cross – Signalised (Interim)	Per intersection	$5,494,000	$7,007,000	$1,513,000	28%
6	Intersection	Primary arterial/ Secondary arterial	Cross – Signalised (Interim)	Per intersection	$5,573,000	$6,939,000	$1,366,000	25%
7	Intersection	Primary/ Connector Boulevard	Cross – Signalised (Interim)	Per Intersection	$4,622,000	$4,674,000	$52,000	1%
8	Intersection	Secondary arterial /Secondary arterial	Cross – Signalised (Interim)	Per intersection	$5,146,000	$6,134,000	$988,000	19%
9	Intersection	Secondary arterial / Connector Boulevard	Cross – Signalised (Interim)	Per intersection	$4,384,260	$4,310,000	-$74,260	-2%
10	Intersection	Connector Boulevard/ Connector Boulevard	Cross–Roundabout (Ultimate)	Per intersection	$2,451,000	$1,979,000	-$472,000	-19%
11	Intersection	Primary arterial / Primary arterial	T – Signalised (Interim)	Per intersection	$4,340,000	$5,546,000	$1,206,000	28%
12	Intersection	Primary arterial / Secondary arterial	T – Signalised (Interim)	Per intersection	$3,922,000	$4,964,000	$1,042,000	27%
13	Intersection	Primary arterial / Connector Boulevard	T – Signalised (Interim)	Per intersection	$3,625,000	$3,962,000	$337,000	9%
14	Intersection	Secondary arterial / Secondary arterial	T – Signalised (Interim)	Per intersection	$3,665,000	$4,417,000	$752,000	21%
15	Intersection	Secondary/ Connector Boulevard	T – Signalised (Interim)	Per intersection	$3,313,000	$3,549,000	$236,000	7%
16	Intersection	Connector Boulevard/ Connector Boulevard	T – Roundabout (Ultimate)	Per intersection	$1,980,000	$1,548,000	-$432,000	-22%
17	Bridge	Interim Primary Arterial Road Bridge 50 m span	Super-T – 15.80m wide (Interim)	Per Bridge	$6,940,000	$8,021,000	$1,081,000	16%
18	Bridge	Interim Primary Arterial Road Bridge 100 m length	Super-T – 15.80m wide (Interim)	Per Bridge	$12,720,000	$14,646,000	$1,926,000	15%
19	Bridge	Interim Secondary Arterial Road Bridge 50m length	Super-T – 14.90m wide (Interim)	Per bridge	$6,415,000	$7,368,000	$953,000	15%

Change in the costs between the July 2018 and April 2019 Benchmark Costings

20	Bridge	Interim Secondary Arterial Road Bridge 100m length	Super-T – 14.90m wide (Interim)	Per bridge	$11,670,000	$13,419,000	$1,749,000	15%
21	Bridge	Ultimate Connector Road Bridge 50m length	Super-T – 14.30m wide (Ultimate)	Per bridge	$6,415,000	$7,368,000	$953,000	15%
22	Bridge	Ultimate Connector Road Bridge 100m length	Super-T – 14.30m wide (Ultimate)	Per bridge	$11,670,000	$13,419,000	$1,749,000	15%
23	Bridge	Pedestrian Bridge 20m length	Super-T – 4m wide (Ultimate)	Per bridge	$824,000	$1,131,000	$307,000	37%
24	Bridge	Pedestrian Bridge 80m length	Super-T – 4m wide (Ultimate)	Per bridge	$2,521,000	$3,364,000	$843,000	33%
25	Major Culvert	Box culverts 1200 x 2100 (4 side by side)	Secondary Arterial Interim – 17.0m	Per structure	$434,000	$452,000	$18,000	4%
26	Major Culvert	Box culverts 1200 x 2100 (4 side by side)	Connector Boulevard Ultimate – 31.0m	Per structure	$622,000	$643,000	$21,000	3%
27	Major Culvert	Box culverts 1800 x 3000 (6 side by side)	Secondary Arterial Interim – 17.0m	Per structure	$795,000	$914,000	$119,000	15%
28	Major Culvert	Box culverts 1800 x 3000 (6 side by side)	Connector Boulevard Ultimate – 31.0m	Per structure	$1,240,000	$1,382,000	$142,000	11%
29	Major Culvert	Box culverts 2100 x 2100	Secondary Arterial	Per structure	$1,357,000	$1,625,000	$268,000	20%
30	Major Culvert	Box culverts 2100 x 2100 (16 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$2,131,000	$2,463,000	$332,000	16%
31	Major Culvert	Circular Pipes (RCP) 1200 dia. (2 side by side)	Secondary Arterial Interim – 17.0m	Per structure	$308,000	$287,000	-$21,000	-7%
32	Major Culvert	Circular Pipes (RCP) 1200 dia. (2 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$444,000	$405,000	-$39,000	-9%
33	Major Culvert	Circular Pipes (RCP) 1800 dia. (3 side by side)	Secondary Arterial Interim – 17.0m	Per structure	$572,000	$545,000	-$27,000	-5%
34	Major Culvert	Circular Pipes (RCP) 1800 dia. (3 side by side)	Connector Boulevard Ultimate – 31.0 m	Per structure	$917,000	$865,000	-$52,000	-6%
35	Major Culvert	Circular Pipes (RCP) 2100 dia. (4 side by side)	Secondary Arterial Interim – 17.0m	Per structure	$861,000	$816,000	-$45,000	-5%
36	Major Culvert	Circular Pipes (RCP) 2100 dia. (4 side by side)	Connector Boulevard Ultimate – 31.0m	Per structure	$1,378,000	$1,316,000	-$62,000	-4%

Change in the costs between the July 2018 and April 2019 Benchmark Costings

37	Community Facilities	Level 1 Facility	Contemporary standard	Bldg. floor area	$6,398,000	$7,606,000	$1,208,000	19%
38	Community Facilities	Level 2 Facility	Contemporary standard	Bldg. floor area	$7,648,000	$8,928,000	$1,280,000	17%
39	Community Facilities	Level 3 Facility	Above contemporary standard allowing for place making architectural features	Bldg. floor area	$10,304,000	$11,830,000	$1,526,000	15%
40	Sports and Recreation Facilities	Sports Pavilion (2 playing areas)	Contemporary standard multi-purpose facility	Bldg. floor area	$1,665,000	$1,656,000	-$9,000	-1%
41	Sports and Recreation Facilities	Sports Pavilion 3 playing areas	Contemporary standard multi-purpose facility	Bldg. floor area	$2,760,000	$2,753,000	-$7,000	0%
42	Sports and recreation Facilities	Sports and Recreation Facility (5 to 6 hectares)	Contemporary senior and junior sporting competition standard	Per Reserve	$7,235,000	$8,021,000	$786,000	11%
43	Sports and recreation Facilities	Sports and Recreation Facility	Contemporary senior and junior sporting competition standard	Per Reserve	$10,388,000	$10,355,000	-$33,000	-0.3%