GREATER SHEPPARTON

VICTORIA
State Government

Shepparton South East

Development Contributions Plan

February 2024

Victorian Planning Authority

CONTENTS

PLANS

TABLES

1. SUMMARY OF CHARGES

Table 1 provides an overview of the project categories and charges included within this Development Contributions Plan (DCP). A more detailed explanation of apportionment, methods of calculation, and the description and costs of individual projects is included within the document.

Table 1: Summary of Charges

SUMMARY - NET DEVELOPABLE AREA (NDA)		
Charge area	Total Cost of Contribution	Contribution per Net Developable Hectare (NDHa)
Residential	$102,987,430	$411,223

SUMMARY - DEVELOPMENT INFRASTRUCTURE LEVY		
Projects	Total cost of projects	Contribution per Net Developable Hectare (NDHa)
Transport	$22,933,876	$91,574
Community	$27,762,012	$110,852
Drainage	$40,134,870	$160,256
Strategic Planning	$2,494,494	$9,960
Early Delivery Works	$9,662,178	$38,580
Total	$102,987,430	$411,223

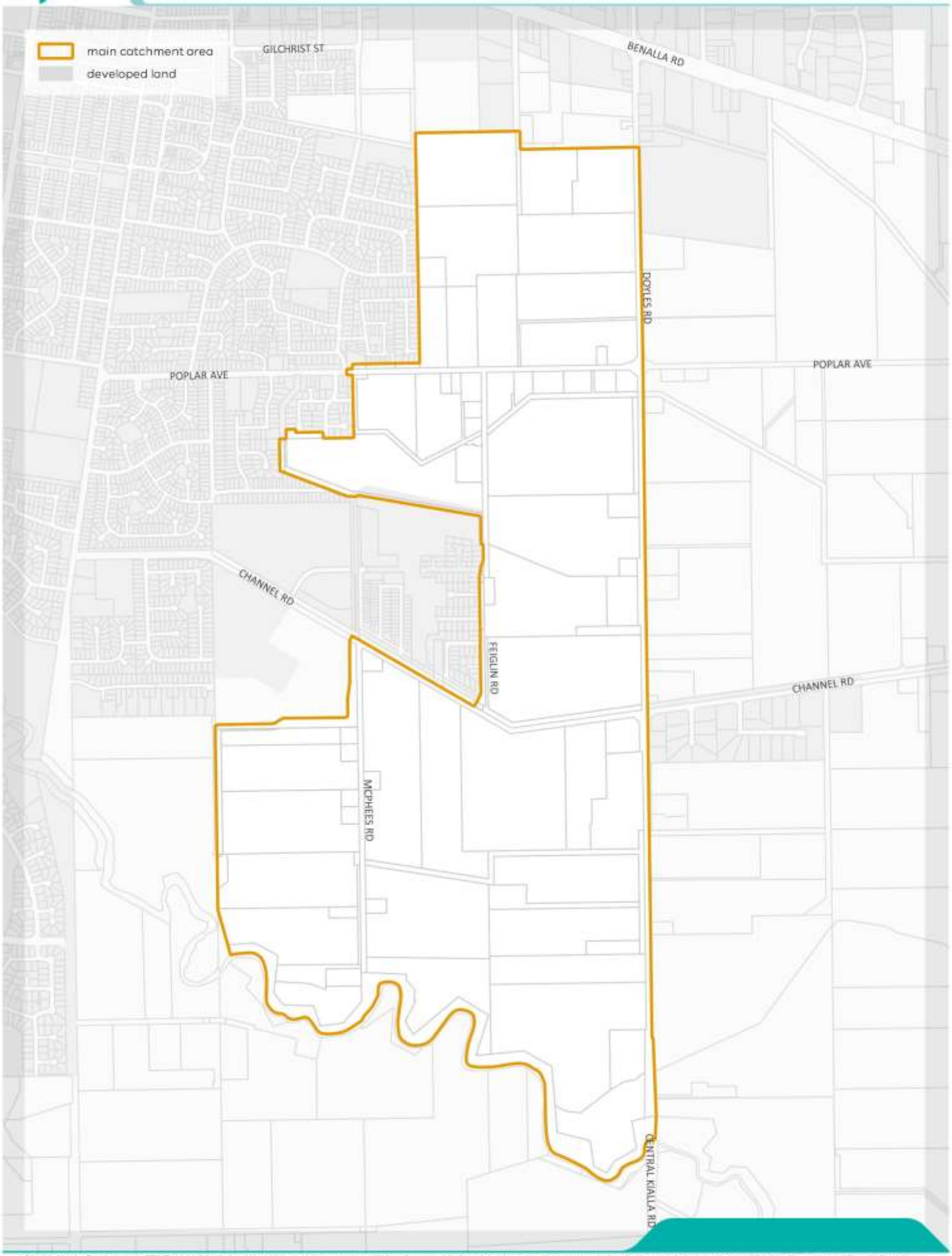
Note: All costs are rounded to the nearest dollar

Plan 1
Main Catchment Area
Shepparton South East Development Contributions Plan

1:17,500 @ A4

0 200 400 600 800 m

N



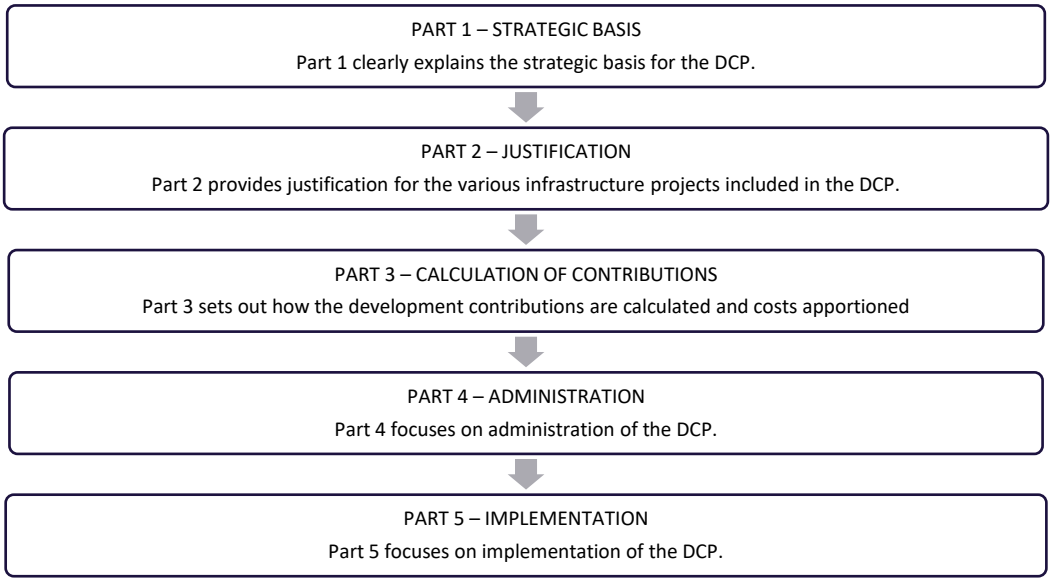
2. INTRODUCTION

The Shepparton South East Development Contributions Plan (DCP) has been prepared by the Victorian Planning Authority (VPA) in partnership with Greater Shepparton City Council and with the assistance of government agencies, service authorities and major stakeholders.

The DCP:

- Outlines projects required to ensure that future residents, visitors and workers in the precinct can be provided with timely access to infrastructure and services necessary to support a quality and affordable lifestyle;
- Establishes a framework for development proponents to make a financial contribution towards the cost of identified infrastructure projects;
- Ensures the cost of providing new infrastructure and services is shared equitably between various development proponents and the wider community;
- Provides the details of the calculation of financial contributions that must be made by future developments towards the nominated projects;
- Provides developers, investors and the local community with certainty about development contribution requirements and how these will be administered.

The DCP document comprises five parts:



The strategic basis for the DCP is informed by:

- State and Local Planning Policy Framework as set out in the Greater Shepparton Planning Scheme;
- *Precinct Structure Planning Guidelines* (Victorian Planning Authority, 2008 revised ,2021);
- *Infrastructure Design Manual* (Local Government Infrastructure Design Association);
- *Shepparton South East Precinct Structure Plan* and supporting documents.

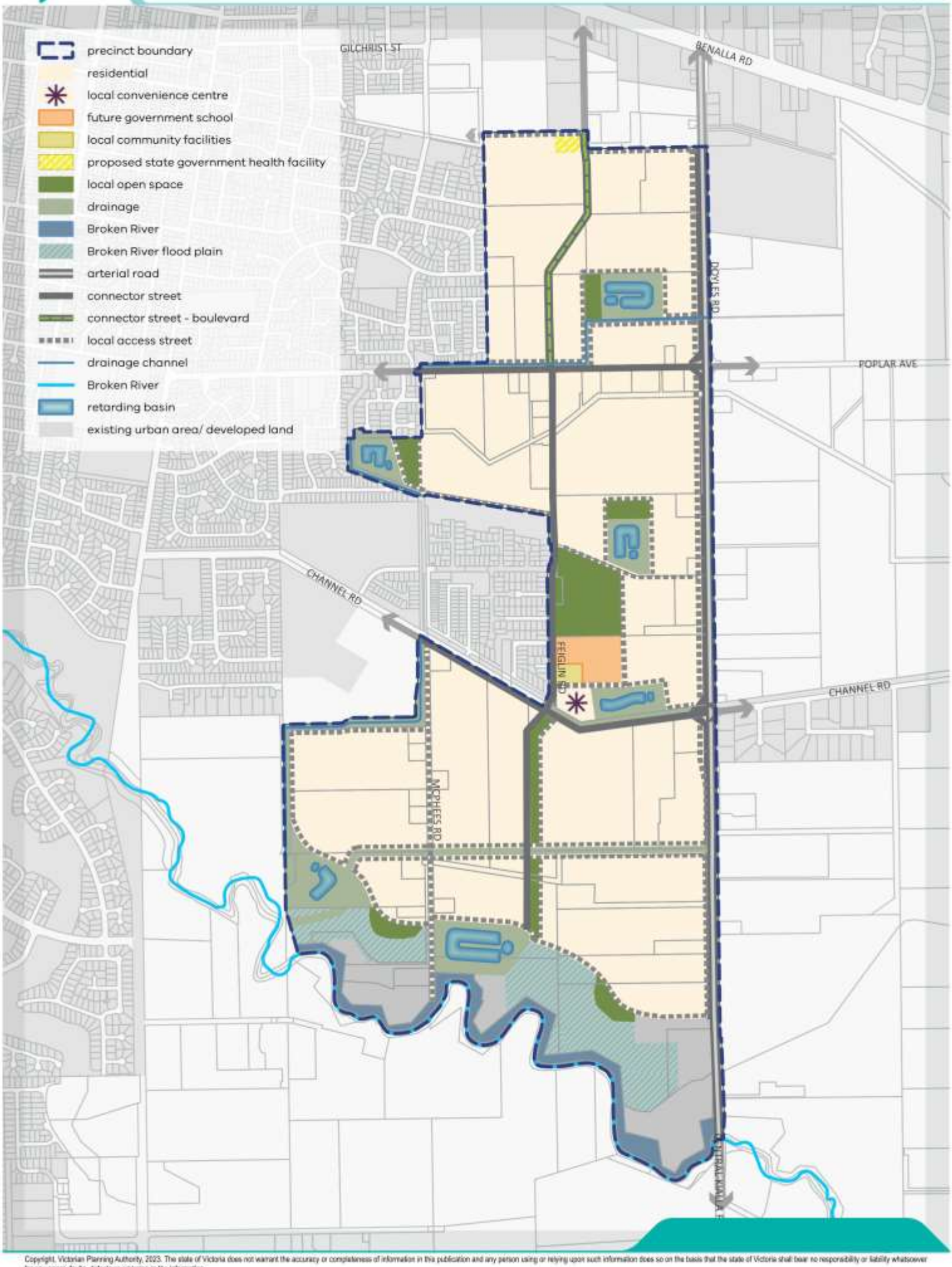
These documents set out a broad, long term vision for the sustainable development of the precinct and its surrounds.

Plan 2
Place Based Plan
Shepparton South East Development Contributions Plan

1:17,500 @ A4

0 200 400 600 800 m

N



2.1 Planning and Environment Act 1987

The DCP has been prepared in accordance with Part 3B of the *Planning and Environment Act 1987* (the Act) as well as other relevant legislation and has been developed in line with the State and Local Planning Policy Framework of the Greater Shepparton Planning Scheme. It is consistent with the Ministerial Direction on development contributions plans made under section 46M(1) of the Act and has regard to the Victorian Government's Development Contributions Plan Guidelines.

The DCP provides for the charging of a Development Infrastructure Levy (DIL) pursuant to section 46J(a) of the Act towards works, services and facilities.

The DCP forms part of the Greater Shepparton Planning Scheme pursuant to section 46I of the Act and is an incorporated document under the Schedule to Clause 72.04 of the Greater Shepparton Planning Scheme. The DCP is implemented into the Greater Shepparton Planning Scheme through Schedule 5 to the Development Contributions Plan Overlay (DCPO5) that applies to the 'main catchment area' illustrated on Plan 2.

2.2 Shepparton South East Precinct Structure Plan

The Shepparton South East Precinct Structure Plan (PSP) is located to the south east of the existing Shepparton urban area. The PSP embraces the residential and natural characteristics, such as the Broken River, which will play an important role in creating a vibrant, sustainable, connected and well serviced community. The PSP will offer the Greater Shepparton community a new residential neighbourhood in proximity to Shepparton's existing services, with well-connected tree-lined streets and landscaped open spaces. The PSP will deliver a new community of 2,500 new homes for a population of approximately 6,000 residents that seamlessly integrates with the surrounding urban framework of Shepparton. The PSP will capture the regional city character of Shepparton and acknowledge its surrounding rural landscapes. It will assist and strengthen the growth of the regional city, while maintaining its unique character and high standard of liveability.

The PSP identifies approximately 385 hectares of land for urban development as illustrated on Plan 2. The PSP sets out the vision for how land should be developed, describes the objectives to be achieved by the future development and outlines projects required to support the future community. The need for the infrastructure set out in the DCP has been determined according to the anticipated development scenario as described in the PSP.

The DCP has a strong relationship to the PSP, as the PSP provides the rationale and justification for infrastructure items that have been included within the DCP. Accordingly, the DCP is an implementation-based planning tool, which identifies the infrastructure items required by the new community and apportions the cost of this infrastructure in an equitable manner across the plan area.

The PSP has been developed following a comprehensive planning process, which establishes the future direction of development within the precinct.

2.3 The area to which the Development Contributions Plan applies

In accordance with section 46K(1)(a) of the Act, the DCP applies to land illustrated on Plan 2; this area is known as the main catchment area (MCA). The area is identified as DCPO5 in the Greater Shepparton Planning Scheme.

In identifying infrastructure items for delivery, consideration has been given to ensure they are not already wholly funded through another contribution mechanism, such as a mandatory infrastructure construction requirement, an existing local DCP, an agreement under Section 173 of the Act, or as a condition on an existing planning permit.

2.4 Infrastructure items included in the Development Contributions Plan

The need for infrastructure included in the DCP has been determined on the basis of the development scenario as described in the PSP and its supporting documents.

Items can be included in a DCP if the proposed development of an area is likely to create the need for infrastructure by its future community. New development does not have to trigger the need for new items in its own right. Furthermore, an item can be included in a DCP regardless of whether it is within or outside the DCP area.

Before inclusion in the DCP, all items have been assessed to ensure they have a relationship or nexus to proposed development in the PSP. The cost apportionment methodology adopted in the DCP relies on the nexus principle. A new development is deemed to have a nexus with an item if it is expected to make use of that item.

The items that have been included in the DCP all have the following characteristics:

- Are essential to the health, safety and wellbeing of the community;
- Will be used by a broad cross-section of the community;
- Reflect the vision and strategic aspirations expressed in the PSP;
- Are not recurrent items;
- Are the basis for the future development of an integrated network;
- Provide for infrastructure delivery due to heavy fragmentation of land.

2.5 Items not included in the Development Contributions Plan (developer works)

The following items are not included in the DCP. They must be provided by developers as a matter of course and/or pursuant to agreements with servicing agencies in implementing the PSP:

- Connector streets and local streets, except those included in the DCP;
- Intersection works and traffic management measures along arterial roads, connector streets and local streets (except those included in the DCP);
- Local bus stop infrastructure;
- Landscaping (including irrigation) of all existing and future connector roads, including central medians, and local streets;
- Local shared, pedestrian and bicycle paths along local streets, connector streets, utilities easements, waterways and within local parks including bridges, intersections, and barrier crossing points (except those included in the DCP);
- Bicycle parking;
- Appropriately scaled lighting along all roads, major shared and pedestrian paths, and traversing the open space network;
- Local street or path crossings of waterways, unless included in the DCP or outlined as the responsibility of an agency in the PSP;
- Local parks (not included in the DCP) masterplans and any agreed associated works required by the PSP;
- Any landscaping in local parks in addition to what is already provided for in the DCP;
- Infrastructure as required by utility services providers, including water, sewerage, electricity, gas and telecommunications;

- De-commissioning of any Goulburn-Murray Water infrastructure such as irrigation channels, relocation of drains that are not included in the DCP;
- Interim works, such as fencing, unless included in the DCP or outlined as the responsibility of an agency in the PSP.

The items listed above are considered to be normal to the construction of a development and are not considered to warrant cost sharing arrangements beyond those set out in the DCP.

They may be further addressed and defined by an agreement under Section 173 of the Act and/or conditions in planning permits.

Upgrade of the existing adjoining road network to an urban standard will be implemented through subdivision permit conditions to the satisfaction of the responsible authority, except where specified as a DCP project.

2.6 Related infrastructure agreements

A number of additional infrastructure agreements may relate to the precinct area. These includes the Section 173 agreements of The Act that have been entered into and relevant capital works programs.

3. INFRASTRUCTURE PROJECT JUSTIFICATION

3.1 Project identification

The DCP uses a project identification system of project category and sequential number in its tables and plans.

The following types of projects are included in the DCP:

- Transport projects
  - RD – Road projects
  - IN – Intersection projects
  - PED – Pedestrian operated signal projects
- Community projects
  - CI – Community Centre projects
  - SR – Sports Reserve projects
  - LP – Local Park projects
  - PCP – Shared Pedestrian and Cycle Path projects
- Drainage projects
  - RBWL – Retarding basin projects
  - SC – Stormwater Conveyance
- Strategic Planning
  - SP – Strategic Planning Costs
- Early Developer Works
  - EDW – Financing for early delivery of DCP items

3.2 Project timing

Each item in the DCP has an assumed indicative provision trigger specified in Tables 2–5. The timing of the provision and the items in the DCP are consistent with information available at the time the DCP was prepared.

The Greater Shepparton City Council is the development agency as well as the collecting agency and will monitor and assess the required timing for individual items and have regard to its capital works program.

The collecting agency* may consider alternatives to the priority delivery of works or land where:

- Infrastructure is to be constructed / provided by development proponents as works or land in kind, as agreed by the collecting agency.
- Network priorities require the delivery of works or land to facilitate broader road network connections.
- Community needs determine the delivery of works or land for community facilities, sports reserves and open space.

All items in the DCP will be provided as soon as is practicable and as soon as sufficient contributions are available, consistent with Section 4.1 and acknowledging the development agency's capacities to provide the balance of funds not recovered by the DCP.

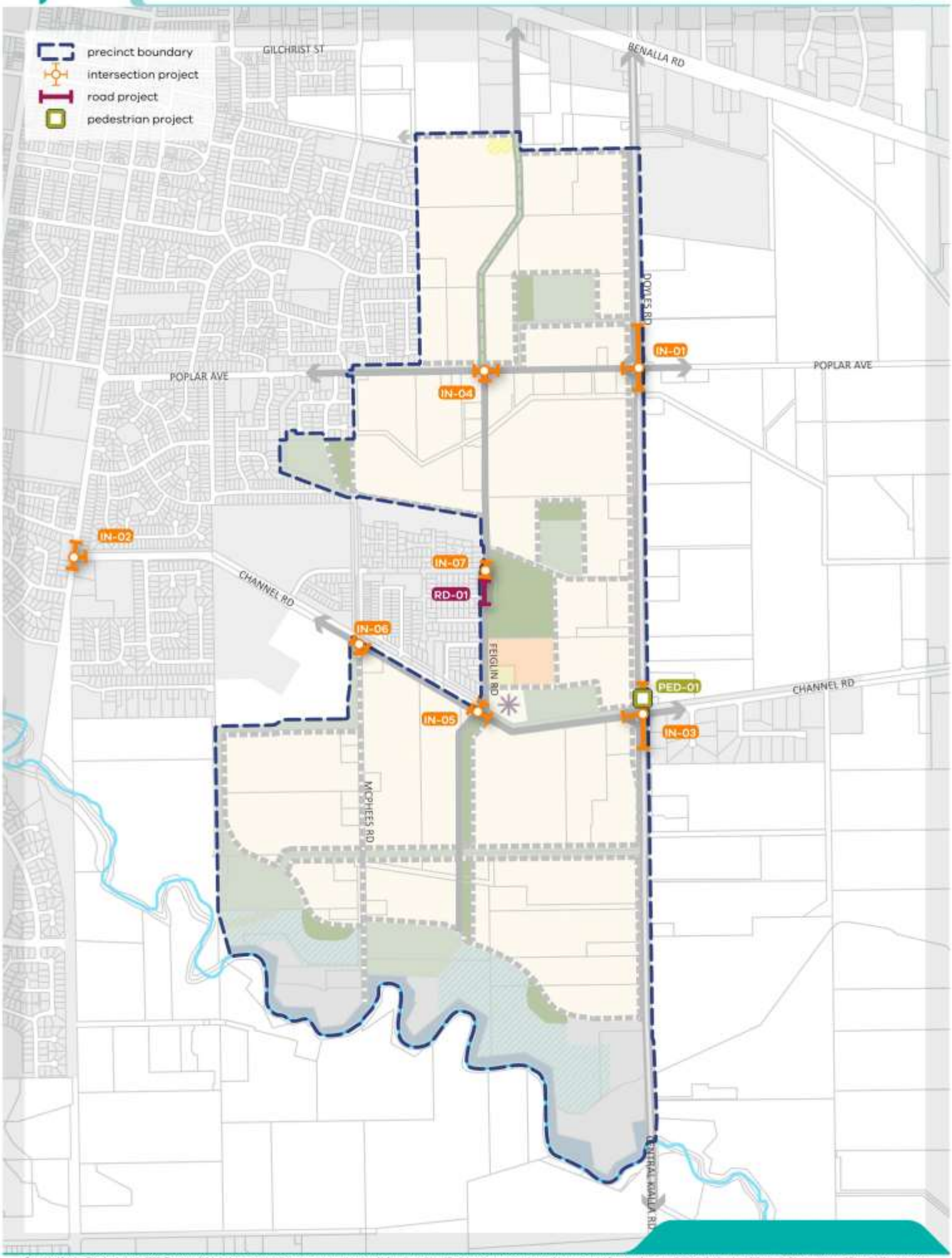
Contributions are to be made by developers at the time of subdivision. If subdivision is not applicable, payments must be made prior to construction of buildings and works (refer to Section 4.1).

Plan 3
Transport Projects
Shepparton South East Development Contributions Plan

1:17,500 @ A4

0 200 400 600 800 m

N



3.3 Transport projects

The PSP outlines an expanded urban structure intended to support the future residential growth of the Precinct, including connector streets, and local streets adjusted to meet the existing constraints of the area. Where the precinct requires a new or upgraded intersection within the existing road network, the costs associated with that intersection have been included in the DCP.

Construction costs associated with local road intersection has been included at the request of Council to assist in mitigating fragmented landowner arrangements which may inhibit their timely delivery.

Transport projects are based on the transport network illustrated in Plan 3 and include a combination of:

- Construction of controlled intersections with the existing road network and associated works; and,
- Land for the above.

The above projects are shown on Plan 3 and described in Table 2.

Land to facilitate the widening of Doyles Road as State arterial has been set aside at the request of Department of Transport and Planning (DTP). This land has been removed from the net developable area of the DCP calculations. The future acquisition and compensation for landowners impacted by this will be managed DTP into the future.

Apportionment has been applied to IN-02, IN-04 and IN-05.

- IN-02 – Channel Road and Archer Road – 33% of total intersection costs will be apportioned to the DCP based upon the PSP traffic usage for this external intersection.
- IN-04 - Zurcas Lane, Poplar Avenue/Feiglin Road – 98% of total intersection costs will be apportioned to the DCP based upon existing 173 Agreement funding contributions collected by Council for this intersection outside of the PSP process.
- IN-05 - Channel Road/Feiglin Road - 98% of total intersection costs will be apportioned to the DCP based upon existing 173 Agreement funding contributions collected by Council outside of the PSP process.

Table 1: Transport projects

DCP PROJECT ID	PROJECT TITLE & DESCRIPTION	INDICATIVE PROVISION TRIGGER
ROADS		
RD-01	Feiglin Road Purchase of property at 75 Feiglin Road for widening of Feiglin Road to support construction of 25.0m wide 2 lane connector Street (as per Cross Section 2 of the Shepparton South East PSP)	M
INTERSECTIONS		
IN-01	Doyles Road/Poplar Avenue Design and construction of a left-in left-out (Interim)	S
IN-02	Channel Road/Archer Road Design and construction of connector signalised T-intersection (ultimate)	S
IN-03	Channel Road/Doyles Road Purchase of land for intersection and design and construction of connector to secondary arterial 4-way roundabout (Interim)	S
IN-04	Zurcas Lane, Poplar Avenue/Feiglin Road Design and construction of boulevard connector to connector 4-way roundabout (ultimate)	M
IN-05	Channel Road/Feiglin Road Design and construction of connector to connector 4-way roundabout (ultimate)	M
IN-06	Channel Road/McPhees Road Removal of existing intersection and design and construction of a 3-way roundabout - (ultimate)	S
IN-07	Buckingham Street/Feiglin Road Removal of existing intersection and design and construction of a 3-way roundabout - (ultimate)	M
PEDESTRIAN CROSSING		
Ped-01c	Signalised Pedestrian Crossing Doyles Road/Channel Road Construction of a pedestrian operated signal across Doyles Road, north of the Channel Road intersection. (Ultimate)	S

Plan 4
Community & Recreation Projects
Shepparton South East Development Contributions Plan

1:17,500 @ A4

0 200 400 600 800 m

N

3.4 Community projects

Community projects include a contribution towards land required for and construction of community centres, active recreational reserves, local parks and shared paths.

Community projects have been identified based upon recommendations of the *South Shepparton Community Infrastructure Needs Assessment* (ASR, 2022) and the Open Space and Landscape Assessment (Hansen, 2023).

In this instance Council has requested inclusion of local parks in the DCP as opposed to their collection via Cl53.01 due to the fragmented nature of the precinct which may inhibit their timely delivery.

Land for LP-04 and LP-06 will be collected for via SC-01 as these local parks form part of the Broken River floodplain area.

At the request of Council PCP-01 has been included in the DCP as it is a shred path within a floodplain area adjacent the Broken River as its location will inhibit its deliver by developers as standard developer works.

In determining the final scope of DCP funded recreation projects within each sporting reserve, Council in its capacity as Development Agency will have regard to matters such as changing provision standards and models, the immediate needs of the community, current regulations and best practice and may seek to adjust and refine the scope of the projects to respond to these matters. The community projects funded by the DCP are shown on Plan 4 and described in Table 3.

Table 2: Community projects

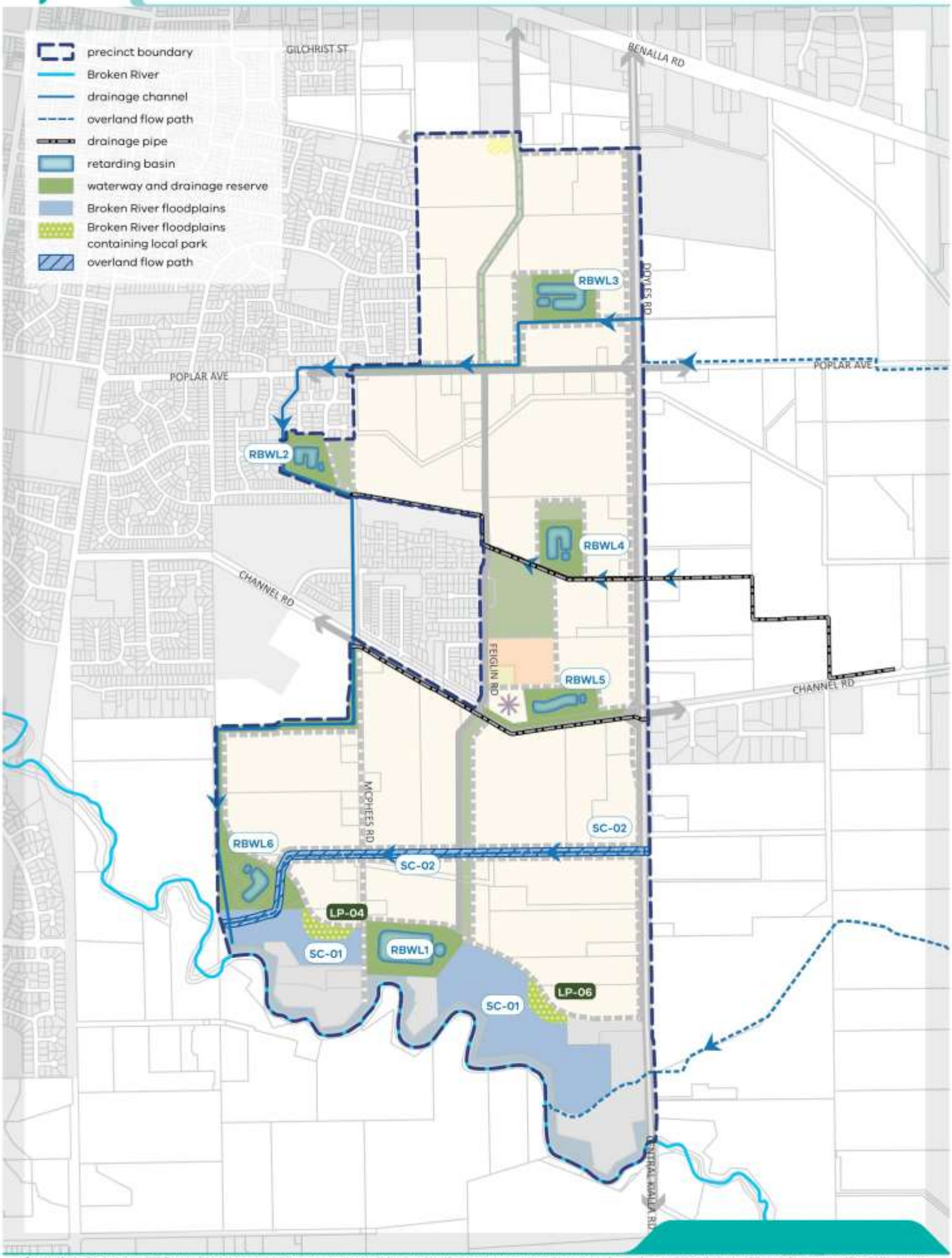
DCP PROJECT ID	PROJECT TITLE & DESCRIPTION	INDICATIVE PROVISION TRIGGER
COMMUNITY CENTRES		
CI-01	Multipurpose Children's Centre Purchase of land and construction of multipurpose children's centre inclusive of kindergarten facilities	M
SPORTING FACILITIES		
SR-01	Multi Purpose Sports Reserve Purchase of land and construction of for sporting reserve including one senior size football and two senior size soccer ovals adjoining school site with lights, pavilion, playground and ancillary facilities.	L
LOCAL PARKS		
LP-01	Local Park Purchase of land and construction of a local park adjoining RBWL, including landscaping and embellishments.	S
LP-02	Local Park Purchase of land and construction of a local park adjoining RBWL, including landscaping and embellishments.	L
LP-03	Local Park Purchase of land and construction of a local a park adjoining RBWL, including landscaping and embellishments.	L
LP-04	Local Park Construction of a local park adjacent Broken River, including landscaping and embellishments. Purchase of land to construct LP-04 adjacent the Broken River is included as part of purchase of land for SC-01	M
LP-05	Linear Park Purchase of land and construction of a linear park, including landscaping and embellishments.	S
LP-06	Local Park Construction of a local park adjacent Broken River, including landscaping and embellishments. Purchase of land to construct LP-06 adjacent the Broken River is included as part of purchase of land for SC-01	L
PEDESTRIAN AND CYCLE PATH		
PCP-01	Construction of a 2,936m length and 2.5m wide shared path adjacent the Broken River.	L

Plan 5
Drainage Projects
Shepparton South East Development Contributions Plan

1:17,500 @ A4

0 200 400 600 800 m

N



3.5 Drainage projects

The DCP makes funding available for the construction of all necessary drainage infrastructure. The DCP only makes an allowance for the acquisition of land for stormwater drainage infrastructure where the land required would be otherwise unencumbered. Waterway corridors and land required for flood mitigation identified in the DCP are encumbered land and represent the minimum width when a suitable frontage road is provided.

The drainage infrastructure has been identified through hydraulic modelling undertaken as part of the Functional Design Report: *Shepparton South East Precinct Structure Plan Stormwater Design (*Alluvium, 2022).

The stormwater drainage infrastructure is required to appropriately retard and treat stormwater flows from new urban development, in accordance with best practice principles and prior to discharge into rural areas at pre-development rates to the satisfaction of Goulburn Murray-Water.

Land for flood mitigation is required to protect future development from inundation from flood events associated with the Broken River flood plain and overland flow paths through the precinct.

The drainage projects include:

- Land and construction of a stormwater drainage projects
- Land and construction of stormwater conveyance projects

The drainage infrastructure projects funded by the DCP are shown on Plan 5 and described in Table 4.

Temporary and interim drainage works are not infrastructure projects in the DCP.

Table 3: Drainage projects

DCP PROJECT ID	PROJECT TITLE & DESCRIPTION	INDICATIVE PROVISION TRIGGER
STORMWATER DRAINAGE		
RBWL-01	Southern Retarding Basin Purchase of land and construction of retarding basin, wetland and sediment basin including landscaping.	S
RBWL-02	North-Western Retarding Basin Purchase of land and construction of retarding basin, wetland and sediment basin including landscaping.	M
RBWL-03	Northern Retarding Basin Purchase of land and construction of retarding basin, wetland and sediment basin including landscaping.	S
RBWL-04	North-Eastern Retarding Basin Purchase of land and construction of retarding basin, wetland and sediment basin including landscaping.	M
RBWL-05	South-Eastern Retarding Basin Purchase of land and construction of retarding basin, wetland and sediment basin including landscaping.	M
RBWL-06	South Western Retarding Basin Purchase of land and construction of retarding basin, wetland and sediment basin including landscaping.	M
STORMWATER CONVEYANCE		
SC-01	Broken River Floodplain Purchase of land adjacent Broken River for the purposes of flood mitigation, including land for LP-04 and LP-06.	M
SC-02	Overland Flow Path Purchase of land and construction of an overland flow path for flood mitigation purposes, including landscaping within the hydraulic channel, excluding land and construction of adjoining local road and their associated landscaping and embellishments.	S

3.6 Strategic Planning Costs

Table 5 describes the strategic planning costs that have been incurred by the VPA as the Planning Authority and Council in preparation of the Shepparton South East PSP and DCP.

Table 4 Strategic Planning Costs

DCP PROJECT ID	PROJECT TITLE & DESCRIPTION	INDICATIVE PROVISION TRIGGER
ROADS		
SP-01	VPA plan preparation costs	S-L*
SP-02	Council plan preparation costs	L

Subject to the agreement between the collecting agency and the planning authority, reimbursement of plan preparation costs should occur as soon as practicable.

3.7 Early Developer Works

Table 6 describes the early developer works delivery cost inclusions within the DCP. Detail of these projects are included on Plan 3 and described in Table 2..

Financing costs cover the interest payments for delivery of IN-01 and IN-03 (EDW-01 until the costs are reimbursed by the DCP contributions paid with the development of the land.

Delivery of IN-01 and IN-03 is required simultaneously and as such has been included as one financing cost identified as item ED-01.

Table 5 Early Delivery of Works costs

DCP PROJECT ID	PROJECT TITLE & DESCRIPTION	INDICATIVE PROVISION TRIGGER
ROADS		
EDW- 01 (IN-01 and IN-03)	Financing delivery of Interim intersections at Poplar Avenue/Doyles Road and Channel Road/Doyles Road in line with lot cap trigger.	S

The rate of each of the individual Transport intersections as set out in Table 2 as relate to early works projects is subject to adjustment downwards by the Collecting Agency in the following circumstances:

- where the Collecting Agency does not borrow funds for the purpose of providing any or all of the projects identified as EDW-01 (IN -01 and IN-03),being those projects which are to be financed by early works funding; and
- The Development Agency enters into an agreement for the works in kind (WIK Agreement) provision of any or all of the EDW-01 (IN-01 and IN-03) projects which were intended to be financed by early works funding, and that agreement does not require the Development Agency or the Collecting Agency to procure a loan of funds for the purpose of satisfying its obligations to the person undertaking the works in kind under the WIK Agreement

4. SUMMARY LAND USE BUDGET

The land use budget in Table 1 provides a summary of the land required for transport, community facilities, education facilities, and open space and identifies the total amount of land available for development in the PSP.

The Net Developable Area (NDA) is established by deducting the land requirements for transport, community facilities, public and private education facilities, open space (sports reserves and local parks), drainage corridors, conservation areas and other encumbered land from the Gross Developable Area (GDA).

The GDA for Shepparton South East PSP is 385 hectares while the NDA is 246.95 hectares. This equates to approximately 65% of the land within the Shepparton South East PSP area being available for development.

TABLE NOTE: The summary land budget included in this table clearly sets out the NDA for the PSP. The NDA will not be amended to respond to minor changes to land budgets that may result from the subdivision process for any other reason than those stated above, unless the variation is agreed to by the responsible authority.

The land budget has been prepared to reflect current advice from council regarding land required for drainage assets as part of the preparation of the drainage scheme for the PSP area. The land required for drainage assets may be subject to minor refinement through the subdivision process.

Table 6: Summary land use budget

Description	PSP		
	HECTARES	% OF TOTAL	% OF NDA
TOTAL PRECINCT AREA (ha)	384.59		
Transport			
Arterial Road - Existing Road Reserve	8.32	2.16%	3.32%
Arterial Road - New / Widening / Intersection Flaring	8.62	2.24%	3.44%
Non-Arterial Road - Retained Existing Road Reserve	10.09	2.62%	4.03%
Non-Arterial Road - New / Widening / Intersection Flaring	0.36	0.09%	0.14%
Sub-total Transport	27.40	7.1%	10.94%
Community & Education			
Proposed Government Primary School	3.50	0.91%	1.40%
Local Community Facility (DCP land)	0.70	0.18%	0.28%
State Government Health Facility	0.60	0.16%	0.24%
Sub-total Community & Education	4.80	1.2%	1.9%
Open Space			
Service Open Space			
Broken River Floodplain	23.28	6.05%	9.30%
Waterway and Drainage Reserve (DCP Land)	27.02	7.03%	10.79%
Waterway and Drainage Reserve (non-DCP Land)	8.58	2.23%	3.43%
Crown Land	11.81	3.07%	4.72%
Sub-total Service Open Space	70.69	18.38%	28.23%
Credited Open Space			
Local Sports Reserve (DCP land)	6.79	1.8%	2.71%
Local Network Park	5.31	1.4%	2.12%
Sub-total Credited Open Space	12.10	3.1%	4.83%
Total All Open Space	82.79	21.5%	33.06%
Other			
Existing Developed Land	19.15	4.98%	7.65%
Total All Other	19.15	4.98%	7.65%
TOTAL NET DEVELOPABLE AREA - (NDA) Ha	**250.44**	**65.12%**	
NET DEVELOPABLE AREA - RESIDENTIAL (NDAR) Ha	**250.44**	**65.12%**	

5. CALCULATION OF CONTRIBUTIONS

The following section sets out how the net developable area (NDA) is calculated and outlines the development projections anticipated in the precinct.

5.1 Net developable area

In the DCP, all development infrastructure contributions are payable on the net developable area of land on any given development site. Calculations of NDA for each individual property is outlined in the property-specific land budget included at Appendix A.

For the purposes of the DCP, the NDA is defined as the total amount of land within the precinct that is made available for development. It is the total precinct area minus community facilities, educational facilities, open space and encumbered land. NDA includes any land for lots, housing and employment buildings, all local streets (including some connector streets), and any small parks defined at subdivision stage that are in addition to those outlined in the PSP.

The NDA for the DCP is outlined in Table 6. The contributions 'per net developable hectare' must not and will not be amended to respond to minor changes to the land budget that may result from the subdivision process. In other words, the DCP is permanently linked to the calculation of the NDA set out in Appendix A.

The NDA may only change if the collecting agency agrees to a variation to the summary land use budget (Table 7) and the detailed property-specific land budget (Appendix A) and associated tables.

5.2 Land budget & demand units

The 'net developable hectare' (NDH) is the demand unit for the DCP.

'Residential' development is defined broadly to include forms of development that support a residential land use, including residential subdivision and development within the local convenience centre.

'Residential' development also includes any non-residential uses within the residential area such as a place of worship, education centre, retirement village, nursing home, childcare centre, medical centre, convenience store or any other approved use.

The DCP contains a total of 500.72 net developable hectares.

5.3 Calculation of contributions charges

5.3.1 Calculation of costs

Each infrastructure project has been assigned a land and/or construction cost, as listed in Table 8. The costs are expressed in 2022/23 dollars and will be adjusted annually in accordance with the method specified in Section 4.3.

Transport projects costs have been determined by One Mile Grid Pty Ltd, Department of Transport and Planning and Spiire Australia Pty Ltd (refer to Appendix B for Transport Project cost sheets).

Community project costs have been determined by VPA benchmark costings, Hanen Partnership Pty Ltd and Cohen Leigh Pty Ltd. (refer to Appendix B for Community Project cost sheets).

Drainage project costs have been determined by Alluvium Pty Ltd (refer to Appendix B for Drainage cost project sheets).

5.3.2 Temporary Works

Temporary works are not factored in as a cost in this DCP unless expressly listed in the DCP.

5.3.3 Estimate of land value

The area of land to be acquired for each DCP project on each property was identified from the property specific land budget prepared for the PSP. A description of the precinct land area was provided to a registered valuer who then prepared a valuation to determine a 'broad-hectare' value for the entire precinct for that use. To ensure a fair compensation for each affected land owner, this value has then been used to calculate the cost of the land component for all relevant projects included in the DCP.

Per property broad hectare estimate of value

The per property broad hectare estimate of value prepared for each individual property assumes the unencumbered, highest and-best use as indicated by the PSP.

The estimates of value are prepared on a 'Before and After' basis where:

- The 'Before' assessment is based on the total developable area of each property and ignores the land and infrastructure items to be provided by the DCP. Any development that occurs subsequent to the approval of the DCP is ignored for the purpose of the valuation.
- The 'After' assessment comprises the remaining portion of each property after all land required by the DCP has been provided. Severance or enhancement, disturbance, special value etc. are ignored for the purpose of the 'after' valuation.

5.3.4 Main catchment area

The main catchment area is the geographic area from which a given item of infrastructure will draw most of its use. The DCP includes one main catchment area, which is the same as the precinct area and illustrated in Plan 2. It is important to note that the number of net developable hectares (that is the demand units) in the main catchment area is based on the land budgets in Table 7 and Appendix A.

5.3.5 Non-government schools

The development of land for a non-government school is exempt from the requirement to pay a development infrastructure levy and a community infrastructure levy under the DCP.

5.3.6 Cost apportionment

The DCP apportions a charge in respect to each infrastructure project to new development according to its projected share of use of identified infrastructure items.

The cost apportionment is expressed as a percentage in Table 10 and 11. Projects that are 100% apportioned to the DCP area are considered to be wholly required for the future development of the DCP area. Projects that are less than 100% apportioned to the DCP area are shared with other areas outside the precinct and other funding sources.

5.3.7 Social and Affordable Housing

The Collecting Agency may on an individual basis consider any request for an exemption or discount of the Development Infrastructure Levy for the development of social and affordable housing.

5.3.8 Calculations of Costs - DIL

Table 7: Calculation of costs – Development Infrastructure Levy (DIL)

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
TRANSPORT PROJECT								
ROAD PROJECTS								
RD-01	Feiglin Road Widening Purchase of 75 Feiglin Road to widen road reserve for an ultimate connector	Development	0.11	$141,158.62	$0	100%	$141,158.62	$ 563.64
Subtotal Road Projects			**0.11**	**$141,158.62**	**$ 0**	**100%**	**$ 141,158.62**	**$ 563.64**
INTERSECTION PROJECTS								
IN-01	Doyles Road/Poplar Avenue Purchase of land for intersection (interim)	Development	0.00	$0	$0	100%	$0	$0
IN-01c	Doyles Road/Poplar Avenue	Development	0.00	$0	$ 246,732.00	100%	$246,732.00	$985.19

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Design and construction of a left-in left-out (Interim) Channel Road/Archer Road							
IN-02	Purchase of land for intersection (ultimate) Channel Road/Archer Road	Development	0.00	$0	$0	33%	$0	$0
IN-02c	Design and construction of connector signalised T-intersection (Ultimate)	Development	0.00	$0	$928,683.00	33%	$306,465.39	$1,223.70
IN-03	Channel Road/Doyles Road Purchase of land for intersection (Interim)	Development	3.35	$ 1,974,318	$0	100%	$1,974,318.29	$ 7,883.33
IN-03c	Channel Road/Doyles Road	Development	0.00	$0	$14,219,000	100%	$14,219,000	$56,776

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Design and construction of boulevard connector to secondary arterial 4 way roundabout (Interim) Zurcas Lane, Poplar Avenue/Feiglin Road Purchase of land for intersection (ultimate) Zurcas Lane, Poplar Avenue/Feiglin Road							
IN-04		Development	0.00	$0	$0	98%	$0	$0
IN-04c	Design and construction of boulevard connector to connector 4 way roundabout (Ultimate)	Development	0.00	$0	$1,719,039.00	98%	$1,684,658.22	$6,726.74
IN-05	Channel Road/Feiglin Road	Development	0.00	$0	$0	98%	$0	$0

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Purchase of land for intersection (ultimate) <u>Channel Road/Feiglin Road</u>							
IN-05c	Design and construction of boulevard connector to connector 4 way roundabout (Ultimate)	Development	0.00	$0	$1,776,122.00	98%	$1,740,599.56	$ 6,950.11
IN-06	<u>Channel Road/McPhees Road</u> Purchase of land for intersection (ultimate)	Development	0.00	$0	$0	100%	$0	$0
IN-06c	<u>Channel Road/McPhees Road</u> Removal of existing intersection and design and construction of a 3-	Development	0.00	$0	$1,083,036.00	100%	$ 1,083,036.00	$4,324.50

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	way roundabout (Ultimate) Feiglin Road/Buckingham Street							
IN-07	Purchase of land for intersection (ultimate) Feiglin Road/Buckingham Street	Development	0.00	$0	$0	100%	$0	$0
IN-07c	Removal of existing intersection and design and construction of a four-way roundabout (Ultimate)	Development	0.00	$0	$1,207,908.00	100%	$1,207,908.00	$4,823.10
Subtotal Intersection Projects			**3.35**	**$1,974,318.29**	**$21,180,520**	**-**	**$22,462,717**	**$89,692**
PEDESTRIAN OPERATED SIGNAL PROJECTS								
Ped-01c	Signalised Pedestrian Crossing Doyles Road/Channel Road	Development	0.00	$0.00	$330,000	100%	$ 330,000	$ 1,317.67

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Construction of a pedestrian operated signal across Doyles Road, south of the Channel Road intersection.							
Subtotal Pedestrian Crossing			**0.00**	**$0**	**$330,000**	**100%**	**$330,000**	**$1,317.67**
TOTAL TRANSPORT PROJECTS			**3.46**	**$ 2,115,477**	**$21,510,520**		**$22,933,876**	**$91,574**
COMMUNITY PROJECTS								
COMMUNITY CENTRE PROJECTS								
CI-01	Multipurpose Children's Centre Purchase of land for multipurpose community centre	Development	0.70	$87,614		100%	$87,614	$ 350
CI-01c	Multipurpose Children's Centre Construction of multi-purpose children's centre –	Development	0.00	$0.00	$10,166,000	100%	$10,166,000	$ 40,592

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	3-4 playrooms, Kindergarten, 2 room M&CH centre, activity spaces							
Subtotal Community Centre			**0.70**	**$ 87,614**	**$10,166,000**		**$10,253,614**	**$40,942**
ACTIVE RECREATION PROJECTS								
SR-01	Multipurpose Sports Reserve Purchase of land for sporting reserve	Development	6.79	$3,151,653.24	$0	100%	$3,151,653.24	$12,584.36
SR-01c	Multipurpose Sports Reserve Construction of one senior size football and two senior size soccer ovals adjoining school site with, lights, pavilion, playground and ancillary facilities	Development	0.00	$0	$4,413,925	100%	$4,413,925	$17,625
Subtotal Active Recreation			**6.79**	**$3,151,351**	**$4,413,925**		**$7,565,578**	**$30,209**
LOCAL PARK PROJECTS								

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
LP-01	Local Park Purchase of land to construct a park adjoining RBWL-1	Development	1.00	$394,295.94	$0	100%	$ 394,295.94	$1,574.40
LP-01c	Local Park Construction of a local park	Development	0.00	$0	$1,083,125.00	100%	$1,083,125.00	$4,324.85
LP-02	Local Park Purchase of land to construct a park adjoining RBWL-2	Development	1.00	$260,003.80	$0	100%	$260,003.80	$1,038.18
LP-02c	Local Park Construction of a local park	Development	0.00	$0	$1,083,125.00	100%	$1,083,125.00	$4,324.85
LP-03	Local Park Purchase of land to construct a park adjoining RBWL3	Development	1.00	$362,623.27	$0	100%	$362,623.27	$1,447.93
LP-03c	Local Park	Development	0.00	$0	$1,083,125.00	100%	$1,083,125.00	$4,324.85

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Construction of a local park Local Park							
LP-04	Purchase of land to construct LP-04 adjacent the Broken River is included as part of purchase of land for SC-01	Development	0.00	$0	$0	0%	$0	$0
LP-04c	Local Park Construction of a local park	Development	0.00	$0	$1,083,125.00	100%	$1,083,125.00	$4,324.85
LP-05	Linear Park Purchase of land to construct a linear park	Development	2.31	$545,712.51	$0	100%	$545,712.51	$ 2,179.00
LP-05c	Linear Park Construction of a local park	Development	0.00	$0	$2,494,800.00	100%	$2,494,800.00	$9,961.58
LP-06	Local Park	Development	0.00	$0	$0	0%	$0	$0

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Purchase of land to construct LP-06 adjacent the Broken River is included as part of purchase of land for SC-01							
LP-06c	Construction of a local park	Development	0.00	$0	$1,083,125.00	100%	$1,083,125.00	$4,324.85
Subtotal Local Parks			**5.31**	**$1,562,636**	**$7,910,425**		**$9,473,061**	**$37,825**
PEDESTRIAN AND CYCLE PATHS								
PCP-01	Shared Path Construction of a 2936m length and 2.5m wide shared path adjacent the Broken River.	Development	0.00	$0	$469,760.00	100%	$469,760.00	$1,875.72
Subtotal Pedestrian and Cycle Paths			**0.00**	**$0**	**$469,760.00**		**$469,760.00**	**$1,875.72**
TOTAL COMMUNITY PROJECTS			**12.80**	**$4,801,902.30**	**$22,960,110**		**$27,762,012.30**	**$110,852.02**
DRAINAGE PROJECTS								
STORMWATER DRAINAGE PROJECTS								

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Southern Retarding Basing							
RBWL-1	Purchase of land for a retardant basin, wetland and sediment basin	Development	6.11	$383,068.05	$0	100%	$383,068.05	$1,529.57
	Southern Retarding Basing							
RBWL-1c	Construction of retarding basin, wetland and sediment basin including landscaping	Development	0.00	$0	$2,679,964.06	100%	$2,679,964.06	$10,700.93
	North-Western Retarding Basin							
RBWL-2	Purchase of land for a retardant basin, wetland and sediment basin	Development	2.35	$940,297.85	$0	100%	$940,297.85	$ 3,754.55
RBWL-2c	North-Western Retarding Basin	Development	0.00	$0	$2,819,301.59	100%	$2,819,301.59	$11,257.30

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	Construction of retarding basin, wetland and sediment basin including landscaping <u>Northern Retarding Basin</u>							
RBWL-3	Purchase of land for a retardant basin, wetland and sediment basin. <u>Northern Retarding Basin</u>	Development	3.91	$1,540,635.02	$0	100%	$1,540,635.02	$6,151.66
RBWL-3c	Construction of retarding basin, wetland and sediment basin including landscaping	Development	0.00	$0	$7,030,005.85	100%	$7,030,005.85	$28,070.39
RBWL-4	<u>North-Eastern Retarding Basin</u> Purchase of land for a retardant basin,	Development	3.03	$1,097,787.45	$0	100%	$1,097,787.45	$4,383.40

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	wetland and sediment basin. <u>North-Eastern Retarding Basin</u>							
RBWL-4c	Construction of retarding basin, wetland and sediment basin including landscaping <u>South Eastern Retarding Basin</u>	Development	0.00	$0	$ 5,237,487.22	100%	$5,237,487.22	$20,912.97
RBWL-5	Purchase of land for a retardant basin, wetland and sediment basin. <u>South-Eastern Retarding Basin</u>	Development	2.89	$1,116,017.16	$0	100%	$1,116,017.16	$4,456.19
RBWL-5c	Construction of retarding basin, wetland and sediment basin including landscaping	Development	0.00	$0	$3,071,094.45	100%	$3,071,094.45	$12,262.69

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
	South Western Retarding Basin							
RBWL-6	Purchase of land for a retardant basin, wetland and sediment basin.	Development	1.98	$2,779,937.20	$0	100%	$2,779,937.20	$11,100.12
	South Western Retarding Basin							
RBWL-6c	Construction of retarding basin, wetland and sediment basin including landscaping	Development	0.00		$2,687,669.12	100%	$2,687,669.12	$ 10,731.70
Subtotal stormwater drainage			**20.27**	**$7,857,742.72**	**$23,525,522.28**		**$31,383,265.00**	**$125,311.47**
STORMWATER CONVEYANCE PROJECTS								
	Broken River Floodplain							
SC-01	Purchase of land for the purposes of flood mitigation adjacent the Broken River	Development	23.28	$3,151,653.24	$0	100%	$3,151,653.24	$ 12,584.36

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
SC-02	Overland Flow Path Purchase of land for overland flow path for flood mitigation purposes, excluding adjoining local roads.	Development	5.27	$2,049,834.44	$0	100%	$2,049,834.44	$8,184.86
SC-02c	Overland Flow Path Construction of an overland flow path for flood mitigation purposes, including landscaping within the hydraulic channel, excluding adjoining local road construction, landscaping and embellishments.	Development	0.00	$0	$3,550,117.25	100%	$3,550,117.25	$ 14,175.40
Subtotal stormwater conveyance projects			**28.55**	**$5,201,487.68**	**$3,550,117.25**		**$8,751,604.93**	**$34,944.63**
TOTAL DRAINAGE PROJECTS			**48.82**	**$ 13,059,230**	**$27,075,640**		**$40,134,870**	**$ 160,256**

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
STRATEGIC PLANNING COSTS								
SP-01	VPA plan preparation costs	Developer	0.00	$0	$1,930,140	100%	$1,930,140	$7,707
SP-02	Council plan preparation costs	Developer	0.00	$0	$564,354	100%	$564,354	$2,253
Subtotal strategic planning costs			**0.00**	**$0**	**$2,494,494**		**$2,494,494**	**$9,730**
TOTAL STRATEGIC PLANNING COSTS			**0.00**	**$0**	**$2,494,494**		**$2,494,494**	**$9,730**
EARLY DEVELOPER WORKS								
EDW-01	Financing delivery of Interim intersections at Poplar Avenue/Doyles Road and Channel Road/Doyles Road in line with lot cap trigger.	Developer	0.00	$0	$9,662,178	100%	$9,662,178	$38,580
Subtotal early developer works			**0.00**	**$0**	**$9,662,178**	**100%**	**$9,662,178**	**$38,580**

DCP PROJECT ID	PROJECT	INFRASTRUCTURE CATEGORY	LAND AREA (HA)	ESTIMATED PROJECT COST: LAND	ESTIMATED PROJECT COST: CONSTRUCTION	% APPORTIONED TO DCP	TOTAL COST RECOVERED BY DCP	RESIDENTIAL - CONTRIBUTION PER NDHA
TOTAL EARLY DEVELOPER WORKS			0.00	$0	$9,662,178	100%	$9,662,178	$38,580
TOTALS			**65.09**	**$19,976,610**	**$70,713,150**		**$102,846,431**	**$407,896**

6. ADMINISTRATION

This section sets out how the DCP will be administered and covers the timing of payment, provision of works and land in kind and how funds generated by the DCP will be managed in terms of reporting, indexation and review periods.

The development infrastructure levy applies to subdivision and/or development of land.

Greater Shepparton City Council will be both the collecting agency and the development agency for the purposes of the DCP.

6.1 Payment of contributions and payment timing

6.1.1 Development infrastructure levy (DIL)

For subdivision of land

A development infrastructure levy must be paid to the collecting agency for the land within the following specified time, namely after certification of the relevant plan of subdivision but not more than 21 days prior to the issue of a Statement of Compliance in respect of that plan or included in an implementation agreement under Section 173 of the Act.

Where the subdivision is to be developed in stages, the infrastructure levy for the stage to be developed only may be paid to the collecting agency within 21 days prior to the issue of a Statement of Compliance in respect of that stage provided that a Schedule of Development Contributions is submitted with each stage of the plan of subdivision. This schedule must show the amount of the development contributions payable for each stage and value of the contributions in respect of prior stages to the satisfaction of the collecting agency or included in an implementation agreement under section 173 of the Act.

If the collecting agency agrees to works and/or provision of land in lieu of the payment of the infrastructure levy, the landowner must enter into an agreement under Section 173 of the Act in respect of the proposed works and/or provision of land in kind to specific requirements.

For development of land where no subdivision is proposed

Provided an infrastructure levy has not already been paid on subject land, an infrastructure levy must be paid to the collecting agency in accordance with the provisions of the approved DCP for each demand unit (net developable hectare) proposed to be developed prior to the commencement of any development (i.e. development includes buildings, car park, access ways, landscaping and ancillary components). The collecting agency may require that development infrastructure levy contributions be made at either the planning permit or building permit stage.

If the collecting agency agrees to works and/or provision of land in lieu of the payment of the infrastructure levy, the landowner must enter into an agreement under Section 173 of the Act or other arrangement acceptable to the collecting agency proposed in respect of the proposed works and/or land to be provided in kind.

Where no planning permit is required

The following requirement applies where no planning permit is required. The land may only be used and developed subject to the following requirements being met:

- Unless some other arrangement has been agreed to by collecting agency in a Section 173 agreement, prior to the commencement of any development, a development infrastructure levy must be paid to the collecting agency in accordance with the provisions of the DCP for the land.

If the collecting agency agrees to works and/or provision of land in lieu of the payment of the infrastructure levy, the landowner must enter into an agreement under Section 173 of the Act in respect of the proposed works or provision of land, which is proposed to be provided in kind.

6.1.2 Works-in-kind

The collecting agency may permit development proponents to undertake works in lieu of cash payments, providing that:

- The works constitute projects funded by the DCP;
- The collecting agency agrees that the timing of the works would be consistent with priorities in the DCP;
- The development proponent complies with appropriate tendering, documentation, supervision and related provisions as required by the responsible authority;
- Works must be provided to a standard that generally accords with the DCP, unless an alternative is agreed by the collecting agency and the development agency;
- Detailed design must be approved by the collecting agency and the development agency and must generally accord with the layout and standards outlined in the PSP and DCP unless an alternative is agreed by the collecting agency and the development agency;
- The construction of works must be completed to the satisfaction of the collecting agency and the development agency;
- There should be no negative financial impact on the DCP to the satisfaction of the collecting agency.

In particular, the works will only be accepted in lieu of a financial contribution required by the DCP to the extent that they constitute part or all of the design of the infrastructure item and reduce the cost to complete that design, to the satisfaction of the collecting agency. Temporary works will not be accepted as works in kind.

Where the collecting agency agrees that works are to be provided by a development proponent in lieu of cash contribution (subject to the arrangements specified above):

- The credit for the works provided shall equal the total cost of the works as identified in the DCP, taking into account the impact of indexation;
- The value of works provided in accordance with the principle outlined above will be offset against the development contributions liable to be paid by the development proponent;
- No further DCP financial contributions will be required until the agreed value of any credits are used.

6.1.3 Credit for over-provision

Where the collecting agency agrees that a development proponent can deliver an infrastructure item (either works and/or land), the situation may arise where the developer makes a contribution with a value that exceeds that required by the DCP.

In such a case, the developer may be entitled to credits against other projects in the DCP to the extent of the excess contribution. Alternatively, a developer may seek an agreement with the collecting agency to provide cash reimbursement where an over-contribution has been made.

The details of credits and reimbursements for construction shall equal the final cost of the works identified in the DCP, taking into account the impact of indexation. The value of credits and reimbursements for the transfer of land will need to be at the values that are outlined in the DCP, subject to revaluation and indexation of the land as specified in Section 4.3.

6.1.4 Non-government schools

Where land is subdivided or developed for the purpose of a non-government school and the use of that land is subsequently for a purpose other than a non-government school, the owner of that land must pay to the collecting agency development contributions in accordance with the provision of the DCP. The development infrastructure levy must be paid within 28 days of the date of the commencement of the construction of any buildings or works for that alternative use.

6.1.5 Funds administration

The administration of the contributions made under the DCP will be transparent and development contributions charges will be held until required for provision of the items in that class. Details of funds received and expenditures will be held by the collecting agency in accordance with the provisions of the Local Government Act 2020 and the Act.

The administration of contributions made under the DCP will be transparent and demonstrate the:

- Amount and timing of funds collected;
- Source of the funds collected;
- Amount and timing of expenditure on specific projects;
- Project on which the expenditure was made;
- Account balances for individual project classes;
- Details of works in kind arrangements for project provision;
- Pooling or quarantining of funds to deliver specific projects, where applicable.

The collecting agency will provide for regular monitoring, reporting and review of the monies received and expended in accordance with the DCP.

The collecting agency will establish interest bearing accounts and all monies held in these accounts will be used solely for the provision of infrastructure as itemised in the DCP, as required under section 46QA of the Act.

Should the collecting agency resolve to not proceed with any of the infrastructure projects listed in the DCP, the funds collected for these items will be used for the provision of alternative works in the same infrastructure class as specified in the DCP. Such funds may also be used for the provision of additional works, services or facilities where approved by the Minister responsible for the Act, or will be refunded to owners of land subject to these infrastructure charges.

6.2 Construction and land value costs indexation

Capital costs of all infrastructure items, including land, are in 2022 dollars and will be adjusted by the collecting agency annually for inflation.

In relation to the costs associated with infrastructure items other than land, the cost must be adjusted according to the following method:

- **Intersection projects** – indexed in line with the Australian Bureau of Statistics Producer Prices Indexes, Road and Bridge Construction Index, Victoria;
- **All other infrastructure items** – indexed in line with the Australian Bureau of Statistics Producer Price Indexes, Non-Residential Building Construction Index, Victoria.

Estimates of land value will be revised annually by a registered valuer based on a broad hectare methodology, this exercise may be required for each respective land use category within the DCP. Revisions may occur more frequently if market conditions warrant.

The collecting agency will publish the amended contributions on the collecting agency's website within 14 days of the adjustments being made.

6.3 Review period

The DCP commenced on the date when it was first incorporated into the Greater Shepparton Planning Scheme.

The DCP adopts a long-term outlook for future development in Shepparton South East.

The DCP is expected to be revised and updated every five years (or more frequently if required). This will require an amendment to the Greater Shepparton Planning Scheme to replace this document with an alternative, revised document. Any review will need to have regard to any arrangements (e.g. section 173 agreements under the Act) for the implementation of the DCP.

6.4 Adjustment to the scope of projects

The infrastructure projects in the DCP have been costed to a sufficient level of detail; however, all of the projects will require a detailed design process prior to construction.

As part of detailed design, Council or a development proponent with the consent of Council may amend or modify some aspects of projects, so long as they are still generally in accordance with the PSP and any direction regarding the scope outlined in the DCP.

A development proponent may also propose material changes to the use and development of land from that contemplated in the PSP, leading to an increased requirement for infrastructure. In these cases, there should be no negative impact on the DCP by requirement for the developer to bear the additional costs associated with the provision of the infrastructure item over and above the standard required by the DCP.

Where Council or another agency seeks to change the scope of a DCP infrastructure item to meet changing standards imposed by adopted policy or a public regulatory agency, such changes of standards and the resulting cost changes should normally be made through a change to the DCP at the time of a regular review of the DCP.

Where, after the DCP has been approved, Council or other agency proposes changes to the scope of a DCP infrastructure item for reasons other than changes in standards imposed by policy or regulation the net cost increases resulting from the change should normally be met by the agency requesting the change.

6.5 Collecting agency (agency responsible for collecting infrastructure levy)

Council is the collecting agency pursuant to section 46K(1)(fa) of the Act which means that it is the public authority to which all levies are payable. As the collecting agency, Council is responsible for the administration of the DCP and also its enforcement pursuant to section 46QC of the Act.

6.6 Development agency (agency responsible for works)

Council is the development agency and is responsible for the provision of the designated infrastructure projects which are funded under the DCP and the timing of all works. In the future, the designated Development Agency for intersection projects associated with Doyles Road (a declared State freight arterial road) may change from Council to the relevant Roads Authority. However, any such transfer of responsibility would be dependent upon written agreement from the Roads Authority.

7. IMPLEMENTATION STRATEGY

This section provides further details regarding how the collecting agency intends to implement the DCP. In particular, this section clearly identifies the rationale for the implementation strategy and details the various measures that have been adopted to reduce the risk posed by the DCP to all parties.

7.1 Rationale for the implementation strategy

This implementation strategy has been included to provide certainty to both the collecting agency and development proponents. The implementation strategy recognises the complexities associated with infrastructure provision and funding and seeks to minimise risk to the collecting agency, development agency, development proponent and future community.

This implementation strategy has been formulated by:

- Assessing the PSP;
- Having regard to the development context;
- Assessing the need for finance requirements including upfront financing and pooling of funds;
- Agreeing the land value and indexing it appropriately (where possible);
- Identifying preferred implementation mechanisms to achieve the above outcomes and reducing the risk associated with the DCP to ensure that it will be delivered as intended.

7.2 Implementation mechanism

Under section 46P of the Act, the collecting agency may accept (with the consent of the development agency where the collecting agency is not also the development agency) the provision of land, works, services or facilities by the applicant in part or full satisfaction of the amount of levy payment. This can be by agreement with the collecting agency before or after the application for the permit is made or before the development is carried out.

To coordinate the provision of infrastructure, Schedule 2 to the Urban Growth Zone in the Greater Shepparton Planning Scheme for the PSP requires an application for subdivision to be accompanied by an infrastructure plan to the satisfaction of the responsible authority.

The Public Infrastructure Plan needs to show the location, type, staging and timing of infrastructure on the land as identified in the PSP or reasonably required as a result of the subdivision of the land and address the following:

- Stormwater drainage works;
- Road works internal or external to the land consistent with any relevant traffic report or assessment;
- The reserving or encumbrance of land for infrastructure, including for community facilities, sports reserves and open space;
- Any infrastructure works which an applicant proposes to provide in lieu of development contributions in accordance with the DCP;
- The effects of the provision of infrastructure on the land or any other land;
- Any other relevant matter related to the provision of infrastructure reasonably required by the responsible authority.

Through the approval of these agreements, Council (acting as the collecting agency) will consider if and what infrastructure should be provided as works in kind under the DCP in accordance with section 46P of the Act. The agreement must include a list of the DCP infrastructure projects that the collecting agency has agreed in writing to allow to be provided as works and/or land in lieu.

APPENDICES

8. APPENDIX A – PROPERTY SPECIFIC LAND BUDGET

Detailed information on the developable area for each property is included in the property-specific land budget with each PSP.

PSP PROPERTY ID	TOTAL AREA (HECTARES)	Transport				Community & Education			Open Space						Other	Total Net Developable Area (Hectares)
		Arterial Road		Other Transport					Service Open Space				Credited Open Space			
		Arterial Road - Existing Road Reserve	Arterial Road - New / Widening / Intersection Flaring	Non-Arterial Road - Retained Existing Road Reserve	Non-Arterial Road - New / Widening / Intersection Flaring	Proposed Government Primary School	DCP Community Facilities	State Government Health Facility	Stormwater Infrastructure	Waterway and Drainage Reserve (DCP Land)	Waterway and Drainage Reserve (non-DCP Land)	Crown Land	Local Sports Reserve (DCP land)	Local Network Park	Existing Developed Land	
1	10.08	-	-	-	-	-	-	0.60	-	-	-	-	-	-	-	9.48
2	4.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.81
3	5.29	-	0.68	-	-	-	-	-	-	-	-	-	-	-	-	4.61
4	9.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.30
5	9.52	-	0.62	-	-	-	-	-	-	-	-	-	-	-	-	8.90
6	1.10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.10
7	3.06	-	-	-	-	-	-	-	-	0.03	0.08	-	-	-	-	2.96
8	3.36	-	-	-	-	-	-	-	-	0.11	-	-	-	-	-	3.24
9	4.99	-	-	-	-	-	-	-	-	0.15	-	-	-	-	-	4.84
10	14.11	-	0.98	-	-	-	-	-	-	3.91	-	-	-	1.00	-	8.23
11	0.09	-	-	-	-	-	-	-	-	0.09	-	-	-	-	-	0.00

12	0.19	-	-	-	-	-	-	-	-	0.17	0.03	-	-	-	-	0.00
13	0.16	-	-	-	-	-	-	-	-	0.0003	0.16	-	-	-	-	0.00
14	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27
15	1.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.35
16	4.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.91
17	4.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.28
18	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.30
19	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27
20	0.80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.80
21	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38
22	0.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.39
23	1.64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.64
24	0.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.70
25	0.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.92
26	0.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.83
27	0.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.65
28	0.61	-	0.25	-	-	-	-	-	-	-	-	-	-	-	-	0.36
29	12.18	-	-	-	-	-	-	-	-	0.40	1.75	-	-	1.00	-	9.03
30	1.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.20
31	0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14
32	18.08	-	0.31	-	-	-	-	-	-	-	-	-	-	-	-	17.77
33	0.67	-	0.67	-	-	-	-	-	-	-	-	-	-	-	-	0.00

34	0.09	-	-	0.09	-	-	-	-	-	-	-	-	-	-	-	0.00
35	1.43	-	-	-	-	-	-	-	-	0.10	0.61	-	-	-	0.08	0.64
36	13.52	-	0.41	-	-	-	-	-	-	3.03	-	-	-	1.00	-	9.08
37	1.00	-	0.24	-	-	-	-	-	-	-	-	-	-	-	-	0.76
38	10.98	-	-	-	-	-	-	-	-	-	-	-	6.50	-	-	4.48
39	0.43	-	0.11	-	-	-	-	-	-	-	-	-	-	-	-	0.32
40	2.10	-	0.32	-	-	-	-	-	-	-	-	-	-	-	-	1.78
41	0.40	-	-	-	0.11	-	-	-	-	-	-	-	0.29	-	-	0.00
42	0.81	-	0.09	-	-	-	-	-	-	-	-	-	-	-	-	0.72
43	16.29	-	0.77	-	-	3.50	0.70	-	-	2.89	-	-	-	-	-	8.42
44a	1.49	-	0.14	-	0.25	-	-	-	-	1.10	-	-	-	-	-	0.00
44b	0.06	-	-	0.06	-	-	-	-	-	-	-					0.00
44c	0.01	-	-	0.01	-	-	-	-	-	-	-					0.00
45	0.50	-	-	0.50	-	-	-	-	-	-	-	-	-	-	-	0.00
46	0.28	-	-	0.28	-	-	-	-	-	-	-	-	-	-	-	0.00
47	2.24	-	-	-	-	-	-	-	-	0.01	2.23	-	-	-	-	0.00
48	0.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.49
49	14.56	-	-	-	-	-	-	-	-	0.63	-	-	-	-	-	13.93
50	10.84	-	-	-	-	-	-	-	-	0.60	-	-	-	0.17	-	10.07
51	17.86	-	-	-	-	-	-	-	-	0.54	-	-	-	1.50	-	15.82
52	5.93	-	-	-	-	-	-	-	-	0.12	-	-	-	-	-	5.81
53	1.55	-	0.29	-	-	-	-	-	-	-	-	-	-	-	-	1.26

54	5.77	-	0.87	-	-	-	-	-	-	0.22	-	-	-	-	-	4.68
55	1.10	-	-	-	-	-	-	-	-	-	1.10	-	-	-	-	0.00
56a	10.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.70
56b	0.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.39
57	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.41
58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00
59	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.42
60	10.82	-	-	-	-	-	-	-	-	0.33	0.43	-	-	-	-	10.06
61	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.41
62	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.42
63	0.01	-	-	-	-	-	-	-	-	-	0.01	-	-	-	-	0.00
64	0.43	-	-	-	-	-	-	-	-	-	0.43	-	-	-	-	0.00
65a	0.82	-	-	-	-	-	-	-	-	0.14	-	-	-	-	-	0.68
65b	9.14	-	-	-	-	-	-	-	-	3.45	1.76	-	-	-	-	3.93
66	0.10	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	0.06
67	3.20	-	0.87	-	-	-	-	-	-	0.99	-	-	-	0.06	-	1.28
68	13.57	-	-	-	-	-	-	-	0.61	4.38	-	-	-	0.58	-	8.00
69	8.56	-	0.14	-	-	-	-	-	-	-	-	-	-	-	-	8.42
70	2.10	-	0.02	-	-	-	-	-	-	-	-	-	-	-	-	2.09
71	8.58	-	0.10	-	-	-	-	-	0.04	-	-	-	-	-	-	8.45
72	0.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.41
73	1.00	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	0.96

74	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.43
75a	1.64	-	-	-	-	-	-	-	0.72	-	-	-	-	-	0.91	0.00
75b	7.07	-	-	-	-	-	-	-	5.72	0.64	-	-	-	-	0.01	0.69
76	0.37	-	-	-	-	-	-	-	0.13	-	-	-	-	-	0.01	0.23
77a	0.22	-	-	0.22	-	-	-	-	-	-	-	-	-	-	-	0.00
77b	0.05	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	0.00
77c	0.14	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	0.00
77d	8.98	-	-	-	-	-	-	-	-	-	-	8.98	-	-	-	0.00
77e	0.02	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	0.00
77f	0.02	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	0.00
77g	0.02	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	0.00
77h	2.57	-	-	-	-	-	-	-	-	-	-	2.57	-	-	-	0.00
77i	0.004	-	-	-	-	-	-	-	-	-	-	0.004	-	-	-	0.00
77j	0.005	-	-	-	-	-	-	-	-	-	-	0.005	-	-	-	0.00
78	1.50	-	-	-	-	-	-	-	-	-	-	-	-	-	1.50	0.00
79	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-	0.85	0.00
80	3.24	-	-	-	-	-	-	-	-	-	-	-	-	-	3.24	0.00
81	7.31	-	-	-	-	-	-	-	3.72	1.73	-	-	-	-	1.86	0.00
82	6.03	-	0.30	-	-	-	-	-	1.19	-	-	-	-	-	-	4.55
83	16.89	-	0.38	-	-	-	-	-	10.42	-	-	-	-	-	1.86	4.22
84	3.41	-	-	-	-	-	-	-	0.73	-	-	-	-	-	2.68	0.00
85	6.15	-	-	-	-	-	-	-	-	-	-	-	-	-	6.15	0.00

86	0.35	-	-	-	-	-	-	-	-	0.35	-	-	-	-	-	0.00
87	0.21	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	0.00
88	0.59	-	0.03	-	-	-	-	-	-	0.56	-	-	-	-	-	0.00
SUB-TOTAL	**365.90**	**0.00**	**8.62**	**1.15**	**0.36**	**3.50**	**0.70**	**0.60**	**23.28**	**26.90**	**8.58**	**11.81**	**6.79**	**5.31**	**19.15**	**249.16**

Road Reserve																
R1	0.48	-	-	0.48	-	-	-	-	-	-	-	-	-	-	-	0.00
R2	8.29	8.23	-	-	-	-	-	-	-	0.06	-	-	-	-	-	0.00
R3	2.20	0.10	-	2.10	-	-	-	-	-	-	-	-	-	-	-	0.00
R4	1.54	-	-	1.54	-	-	-	-	-	-	-	-	-	-	-	0.00
R5	1.34	-	-	0.06	-	-	-	-	-	-	-	-	-	-	-	1.28
R6	2.41	-	-	2.41	-	-	-	-	-	-	-	-	-	-	-	0.00
R7	2.42	-	-	2.36	-	-	-	-	-	0.06	-	-	-	-	-	0.00
SUB-TOTAL	**18.66**	**8.32**	**0.00**	**8.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.28**

TOTALS PSP	**384.59**	**8.32**	**8.62**	**10.09**	**0.36**	**3.50**	**0.70**	**0.60**	**23.28**	**27.02**	**8.58**	**11.81**	**6.79**	**5.31**	**19.15**	**250.44**

9. APPENDIX B – PROJECT COST ESTIMATES & CONCEPT DESIGNS

The following cost estimates and designs are provided for information purposes only to provide an indication of how the DCP project costs were calculated. All projects will be subject to detail design prior to delivery.

9.1 Transport Projects

Please note all costs have been indexed to 2023 dollars.

Transport items IN-02 and IN-04-IN-07 have been reviewed by Spiire in 2023 and updated costs included in the DCP for these intersections are outlined in Section 9.1.8 below.

Pedestrian Operated Signals – Cost inclusions for the Pedestrian Operated Signals – PED-01 is a VPA Benchmark Cost indexed to 2023 dollars.

https://vpa.vic.gov.au/metropolitan/infrastructure-contributions-plans/benchmark-costings/

9.1.1 IN-01 Doyles Road and Poplar Avenue

02/06/2022

OPINION OF PROBABLE COSTS

BILL OF QUANTITIES

POPLAR AVENUE DOYLES ROAD INTERSECTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
1	EARTHWORKS				
	Excavation, forming, trimming, compacting, filling and grading in roads, forming of table, catch and open drains, stockpiling and spreading topsoil on nature strips, demolition of existing structures, removal of excess spoil from site as specified. Approx. quantities:solid measurement				
	- Strip (150mm)	80	m^2	$ 20.00	$ 1,600.00
	- Cut	50	m^3	$ 100.00	$ 5,000.00
	- Fill	0	m^3		
	- Removal of existing asphalt.	325	m^2	$ 40.00	$ 13,000.00
2	ASPHALT PAVEMENTS				
	(i) Supply, lay and compact				
	a) 30mm thick size 10mm asphalt.	105	m^2	$ 40.00	$ 4,200.00
	b) 40mm thick size 14mm asphalt.	105	m^2	$ 50.00	$ 5,250.00
	b) 120mm thick Base Course - Class 2 20mm fine crushed rock	105	m^2	$ 30.00	$ 3,150.00
	c) 200mm thick subbase - Class 3 20mm crushed rock	120	m^2	$ 30.00	$ 3,600.00
3	CONCRETE WORKS				
	Including F.C.R. bedding and reinforcing as specified as per Council Standard Drawings.				
	a) SM2 kerb and channel	29	m	$ 95.00	$ 2,755.00
	a) SM3 kerb and channel	165	m	$ 90.00	$ 14,850.00
	b) concrete island infill	193	m^2	$ 120.00	$ 23,160.00

02/06/2022

OPINION OF PROBABLE COSTS

BILL OF QUANTITIES

POPLAR AVENUE
DOYLES ROAD
INTERSECTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
4	AGRICULTURAL PIPE DRAINS				
	a) 90mm dia. with screenings backfill	29	m	$ 60.00	$ 1,740.00
5	INCIDENTAL ROAD WORKS				
	a) Line markings (including RRPMs) as specified	1	Item	$ 10,000.00	$ 10,000.00
	b) Street signs	6	No.	$ 600.00	$ 3,600.00
6	INCIDENTAL GENERAL WORKS				
	a) Site Management Plan	1	Item	$ 1,500.00	$ 1,500.00
	b) R-Spec	1	Item	$ 4,000.00	$ 4,000.00
	c) Upgrade existing lighting to current standards	1	Item	$ 60,000.00	$ 60,000.00
				TOTAL	**$ 157,405.00**
8	DELIVERY				
	a) Council Fees	1	Item	3.25%	$ 5,115.66
	b) VicRoads Fees	1	Item	1.00%	$ 1,574.05
	c) Traffic Management	1	Item	15.00%	$ 23,610.75
	d) Environmental Management	1	Item	1.00%	$ 1,574.05
	e) Survey & Design	1	Item	5.00%	$ 7,870.25
	f) Supervision & Project Management	1	Item	9.00%	$ 14,166.45
	g) Site Establishment	1	Item	2.50%	$ 3,935.13
	h) Contingency	1	Item	20.00%	$ 31,481.00
				SUB-TOTAL	**$ 89,327.34**

TOTAL $ 246,732.34

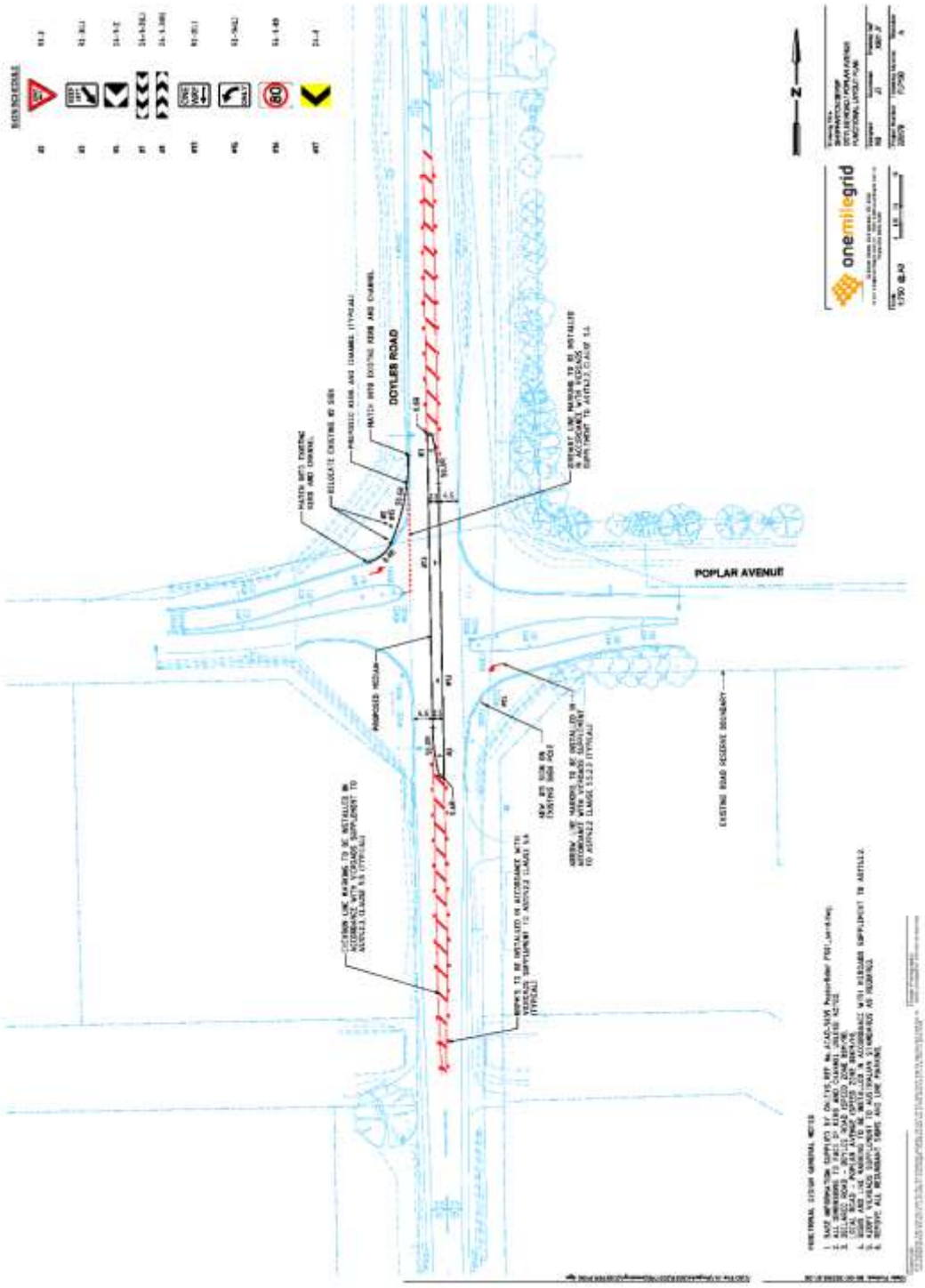
NOTES:

NOTES THAT FORM PART OF THIS OPINION:

1. This opinion is based upon "One Mile Grid Functional Layout Plan 220179 FLP100-A".
2. The opinion assumes that trees within road and/or construction areas can be removed.
3. The opinion makes no allowance for:

a) Any net gain offsets. Should Council deem these necessary, costs will apply.
b) Any assessment, treatment, remediation or removal of contaminated material from site.
c) Rectification of existing filling
d) Excavation in rock or removal of existing buildings or structures from site.
e) Escalation of costs past the date of this opinion.

4. Costs for relevant Authority charges are an opinion only and must be confirmed by Authorities.
5. Costs are preliminary only based upon recent unit rates for tenders received for similar type projects and not based upon detailed design.
6. Whilst every effort has been made to ensure the accuracy of this opinion, Patama Pty. Ltd. Trading as Lanigan Civil cannot accept any liability arising from the use of this opinion of costs.


DOYLES ROAD
POPLAR AVENUE
EXISTING ROAD RESERVE BOUNDARY
PROPOSED MEDIAN
onemilegrid

9.1.2 IN-02 Channel Road and Archer Street

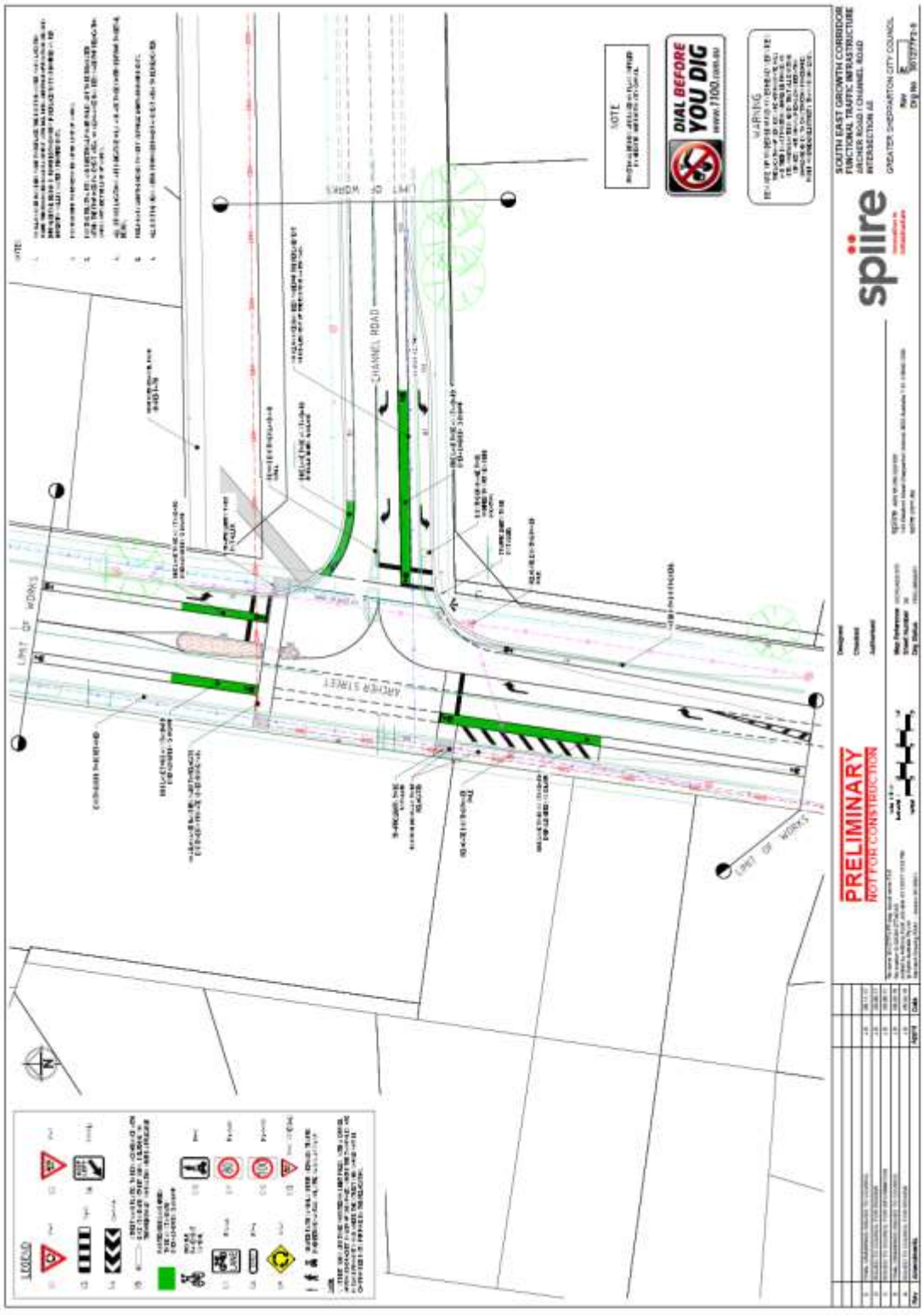
PRELIMINARY ESTIMATE OF DEVELOPMENT COSTS **20 March 2019**

Proposed Intersection Upgrade Channel Road/Archer Street

Item	Description	Qty	Unit	Rate $	Amount $
1	**PRELIMINARIES**				$ 30,918
1.1	Site Preparation (incl clearing & grubbing)	795	m²	$ 5.00	$ 3,975
1.2	Strip, stockpile, maintain and re-spread topsoil	795	m²	$ 7.00	$ 5,565
1.3	Demolish existing structures, pipes, etc	1	item	$ 7,000.00	$ 7,000
1.4	Sawcut existing asphalt at joints	1	item	$ 3,600.00	$ 3,600
1.5	Earthworks (cut to fill incl compaction)	162	m³	$ 45.00	$ 7,311
1.6	Earthworks (cut to spoil)	108	m³	$ 32.00	$ 3,466
2	**PAVEMENT**				$ 39,944
2.1	**Connector Level 1 (400mm)**				
2.1.1	Wearing Course Type N 10mm (40mm)	235	m²	$ 27.00	$ 6,345
2.1.2	Base Course - Class 1 FCR (100mm)	235	m²	$ 43.00	$ 10,105
2.1.3	Lower Base Course Class 3 FCR (260mm)	400	m²	$ 43.00	$ 17,181
2.1.4	Subgrade replacement (300mm)	80	m²	$ 24.00	$ 1,918
2.1.5	Rock Allowance	40	m²	$ 110.00	$ 4,395
2.2	**Connector Level 2 (490mm)**				
2.2.1	Wearing Course Type N 10mm (40mm)	-	m²	$ 27.00	$ -
2.2.2	Base Course - Class 1 FCR (150mm)	-	m²	$ 64.00	$ -
2.2.3	Lower Base Course Class 3 FCR (300mm)	-	m²	$ 50.00	$ -
2.2.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.2.5	Rock Allowance	-	m²	$ 110.00	$ -
2.3	**Access Street (370mm)**				
2.3.1	Wearing Course Type N 10mm (30mm)	-	m²	$ 23.00	$ -
2.3.2	Base Course - Class 1 FCR (100mm)	-	m²	$ 43.00	$ -
2.3.3	Lower Base Course Class 3 FCR (240mm)	-	m²	$ 43.00	$ -
2.3.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.3.5	Rock Allowance	-	m²	$ 110.00	$ -
3	**CONCRETE WORKS**				$ 59,050
3.1	**Kerb & channel**				
3.1.1	SM2	163	m	$ 64.00	$ 10,432
3.1.2	SM3	-	m	$ 61.00	$ -
3.1.3	M1	94	m	$ 52.00	$ 4,888
3.2	**Splitter island infill**				
3.2.1	150mm depth Concrete SL82 REO centrally placed	110	m²	$ 70.00	$ 7,700
3.2.2	100 mm depth, 20 mm nominal size, Class 3 FCR	110	m²	$ 35.00	$ 3,850
3.3	**Pedestrian pathway**				
3.3.1	125mm depth Concrete SL72 REO centrally placed	-	m²	$ 59.00	$ -
3.3.2	50 mm depth, 20 mm nominal size, Class 3 FCR	-	m²	$ 28.00	$ -

3.4	**Shared path**				
3.4.1	125mm depth Concrete SL72 REO centrally placed	340	m²	$ 59.00	$ 20,060
3.4.2	50 mm depth, 20 mm nominal size, Class 3 FCR	340	m²	$ 28.00	$ 9,520
3.5	Pram ramps	4	item	$ 650.00	$ 2,600
4	**DRAINAGE**				$ 8,025
4.1	SEP	-	item	$ 4,900.00	$ -
4.2	Junction pits - 900 x 900mm	-	item	$ 1,650.00	$ -
4.3	**Headwall to suit**				
4.3.1	525mm dia RCP	-	item	$ 4,200.00	$ -
4.3.2	600mm dia RCP	-	item	$ 5,300.00	$ -
4.4	**Reinforced Concrete Pipes, RRJ, standard backfill compacted to 98% standard dry density**				
4.4.1	375mm dia RCP Class 3, RRJ	-	m	$ 325.00	$ -
4.4.2	450mm dia RCP Class 3, RRJ	-	m	$ 480.00	$ -
4.4.3	525mm dia RCP Class 3, RRJ	-	m	$ 600.00	$ -
4.4.4	600mm dia RCP Class 3, RRJ	-	m	$ 750.00	$ -
4.5	**Grated Pits**				
4.5.1	1000mmx750mm	-	item	$ 3,800.00	$ -
4.6	Subsoil drains 100mm dia	257	m	$ 25.00	$ 6,425
4.7	Subsoil flush out risers	4	No	$ 400.00	$ 1,600
5	**TRAFFIC**				$ 280,000
5.1	Traffic Signals	1	item	$ 280,000.00	$ 280,000
5.2	Traffic Safety	-	item		$ -
6	**LANDSCAPING WORKS**				$ 2,690
6.1	Trees	12	item	$ 50.00	$ 600
6.2	Landscaping (shrubs, mulch)	-	m²	$ 60.00	$ -
6.3	Nature strip (grass seeding, additional topsoil)	836	m²	$ 2.50	$ 2,090
7	**STREET LIGHTING**				$ 133,400
7.1	Signalised intersection	1	item	$ 100,000.00	$ 100,000
7.2	Roundabout	-	item	$ 80,000.00	$ -
7.3	Lighting (standard poles)	100	m	$ 160.00	$ 16,000
7.4	PowerCor costs	15	%	$ 116,000.00	$ 17,400
8	**MISCELLANEOUS**				$ 90,229
8.1	Line marking	1	item	$ 27,000.00	$ 27,000
8.2	Regulatory signage	21	item	$ 280.00	$ 5,880
8.3	Works maintenance	1	item	$ 1,605.28	$ 1,605
8.4	Landscape maintenance (2 summers)	1	item	$ 403.50	$ 404
8.5	Traffic signal maintenance fee (10 years)	10	year	$ 4,200.00	$ 42,000
8.6	Street lighting maintenance and power	1	item	$ 13,340.00	$ 13,340
9	**OTHER WORKS**				$ -
	SUB-TOTAL				**$ 644,255**
10	**DELIVERY**				
10.1	Council Fees	3.25	%		$ 20,938.28
10.2	VicRoads Fees	1.00	%		$ 6,442.55
10.3	Traffic Management	5.00	%		$ 32,212.74

10.4	Environmental Management	0.50	%		$ 3,221.27
10.5	Survey/Design	5.00	%		$ 32,212.74
10.6	Supervision & Project Management	9.00	%		$ 57,982.94
10.7	Site Establishment	2.50	%		$ 16,106.37
10.8	Contingency	15.00	%		$ 96,638.23
	TOTAL ESTIMATED COST				**$ 910,010**



9.1.3 IN-03 Doyles Road and Channel Road

Project:	Channel Road and Doyles Road Roundabout project	
Location:	Channel Road and Doyles Road Roundabout project	
Estimate Prepared By:	Department of Transport and Planning	
Business Area:		
Estimate Date:	19/04/23	
Item	P90*	
A Project & Program Management	$1,407,000	
B Design and Investigation	$0	
C Land Acquisition	$833,000	
D Preconstruction & Construction	$9,525,000	
SUB-TOTAL (Inherent Risks)	$11,765,000	
E Contingent Risks	$1,432,000	
TOTAL (No Escalation)	$13,197,000	
Escalation	$475,000	
TOTAL (Including Escalation)	Total Capital Cost = $13,672,000	
	Output on-cost = $546,880	
	Total Estimated Investment (TEI) = $14,218,880 Rounded to $14,219,000	
	P90*	
A - PROJECT & PROGRAM MANAGEMENT		
A2 - Project Management - Development	$	666,369
A3 - Project Management - Construction	$	266,548
A4 - Stakeholder Management	$	22,212
A5 - Program Administration	$	451,871
SUB-TOTAL	$	1,407,000
C - LAND ACQUISITION		
C2 - Land Compensation	$	833,000
SUB-TOTAL	$	833,000
D - PRECONSTRUCTION & CONSTRUCTION WORKS		
D1 - Contractor Management	$	771,679
D2 - Contractor's Offsite Overhead & Margin	$	1,062,951
D6 - Utility Service Relocations	$	1,616,640
D7 - Traffic Management	$	799,437
D10 - Environmental Offsets	$	24,294
D11 - Earthworks	$	636,441
D12 - Drainage	$	1,759,317

D13 - Pavements	$	1,837,262
D14 - Structures	$	401,856
D17 - Traffic Signals & Lighting	$	444,132
D23 - Signage, Linemarking, Road Furniture	$	170,991
SUB-TOTAL	$	9,525,000
E - CONTINGENT RISKS		
E1 - Project Risks	$	1,432,000
SUB-TOTAL	$	1,432,000

ITEM	DESCRIPTION	L1 Category	L2 Category	Unit	Probability	Quantity				Rate			
						Risk	Likely Quantity	Lowest Quantity	Highest quantity	Risk	Likely rate	Lowest Rate	Highest Rate
A	**PROJECT & PROGRAM MANAGEMENT**												
A1	**PROJECT PLANNING**	A - PROJECT & PROGRAM MANAGEMENT	A1 - Project Management - Planning	Item	0%								
A1.1	Post completion Evaluation	A - PROJECT & PROGRAM MANAGEMENT	A1 - Project Management - Planning	Item	0%								
A2	**PROJECT DEVELOPMENT**												
A2.1	VicRoads - Project Development	A - PROJECT & PROGRAM MANAGEMENT	A2 - Project Management - Development	Item	100%	Constant Value	1	1	1	-10% , +10%	600,000.00	540,000.00	660,000.00
A3	**PROJECT MANAGEMENT CONSTRUCTION**												
A3.1	Contract administration / management	A - PROJECT & PROGRAM MANAGEMENT	A3 - Project Management - Construction	weeks	100%	-10% , +10%	40	36	44	Constant Value	6,000.00	6,000.00	6,000.00
A4	**STAKEHOLDER MANAGEMENT**												
A4.1	Stakeholder Management	A - PROJECT & PROGRAM MANAGEMENT	A4 - Stakeholder Management	Item	100%	Constant Value	1	1	1	-10% , +10%	20,000.00	18,000.00	22,000.00
A5	**PROGRAM ADMINISTRATION**												
A5.1	Program Management (Safer Roads)	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration	%									
	Council fees	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration	%	100%	Constant Value	1	1	1	User defined	3.25	3.25	3.25
A5.2	Environmental Rehabilitation (Regional Projects)	A - PROJECT & PROGRAM MANAGEMENT	A5 - Program Administration	%	100%	Constant Value	1	1	1	Constant Value	1.00	1.00	1.00
B	**DESIGN AND INVESTIGATION**												
B1	**PLANNING ACTIVITIES**		B1 - Planning Activities	Item	0%								
B2	**GROUND SURVEYS**												
B3	**ENVIRONMENTAL STUDIES**												
B4	**REFERENCE DESIGN**		B4 - Reference Design										
B5	**DETAILED DESIGN**												
C	**LAND ACQUISITION**												
C2	**LAND COMPENSATION**	C - LAND ACQUISITION	C2 - Land Compensation										

C2.1	Purchase of NE property and Demolish existing dwelling	C - LAND ACQUISITION	C2 - Land Compensation	Item	100%	Constant Value	1	1	1	-20% , +20%	500,000.00	440,000.00	660,000.00
C2.1	Other property Acquisiiton	C - LAND ACQUISITION	C2 - Land Compensation	Item	100%	Constant Value	1	1	1	-20% , +20%	250,000.00	200,000.00	300,000.00
D	**PRECONSTRUCTION AND CONSTRUCTION WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS											
D1	**CONTRACTOR MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management										
D1.1	Site Establishment	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	item	100%	Constant Value	1	1	1	-10% , +10%	100,000.00	90,000.00	110,000.00
D1.2	Site Management & Supervision	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	week	100%	-10% , +10%	30	27	33	-5% , +20%	18,000.00	17,100.00	21,600.00
D1.3	Prepare & Maintain Quality System	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	week	100%	Constant Value	30	30	30	-10% , +10%	500.00	450.00	550.00
D1.4	Service Relocation Management, programming, co-ordination of all service asset works including associated documentation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	week	100%	User defined				User defined			
D1.5	As Constructed Plans	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	Item	100%	Constant Value	1	1	1	Constant Value	10,000.00	10,000.00	10,000.00
D1.6	Environment Management	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	weeks	100%	Constant Value	30	30	30	Constant Value	1,000.00	1,000.00	1,000.00
D1.7	Environment Management Plan	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D1 - Contractor Management	Item									
D2	**CONTRACTOR'S OFFSITE OVERHEAD & MARGIN**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D2 - Contractor's Offsite Overhead & Margin										
D2.1	Contractors Off-site overhead and margins	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D2 - Contractor's Offsite Overhead & Margin	%	100%	Constant Value	1	1	1	Constant Value	10.00	10.00	10.00
D3	**SPECIAL CONTRACTING COSTS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D3 - Special Contracting Costs										
D4	**DETAILED DESIGN**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D4 - Detailed Design										

D5	**SITE PREPARATION**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D5 - Site Preparation										
D6	**UTILITY SERVICE RELOCATIONS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations										
D6.1	Powercor - Power Relocation Design	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	-10% , +20%	400,000.00	360,000.00	480,000.00
D6.2	Powercor - Power Relocation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		100%	Constant Value							
D6.3	Powercor - Lighting Relocation Design	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		0%								
D6.4	Powercor - Power Relocation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		0%								
D6.5	Telstra - Relocation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	-20% , +20%	500,000.00	400,000.00	600,000.00
D6.6	Telstra - Relocation Construction				0%								
D6.7	Gas - APA Gas Design	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations										
D6.8	Goulburn Valley Water - Relocation	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations		100%	Constant Value	1	1	1	-20% , +20%	350,000.00	280,000.00	420,000.00
D6.9	Goulburn Valley Water - Relocation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS											
D6.10	NBN & Optus Relocation Design	A - PROJECT & PROGRAM MANAGEMENT	D6 - Utility Service Relocations		0%								
D6.11	NBN & Optus Relocation Construction				0%								
D6.12	Relocate existing private sewer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	Constant Value	200,000.00	200,000.00	200,000.00
D6.13	R-Spec	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D6 - Utility Service Relocations	Item	100%	Constant Value	1	1	1	Constant Value	6,000.00	6,000.00	6,000.00
D7	**TRAFFIC MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management										

D7.1	Provision for Traffic Control	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management	week	100%	-10% , +10%	30	27	33	-10% , +20%	20,000.00	18,000.00	24,000.00
D7.2	Electronic Variable Message Sign	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management	week	100%	User defined	30	27	33	-10% , +20%	1,500.00	1,350.00	1,800.00
D7.3	Temporary Pavements (place and remove rate)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D7 - Traffic Management	m2	100%	-5% , +30%	300	285	390	-20% , +20%	250.00	200.00	300.00
D8	**RAIL MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D8 - Rail Management										
D9	**ENVIRONMENTAL MANAGEMENT**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D9 - Environmental Management										
D10	**ENVIRONMENTAL OFFSETS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D10 - Environmental Offsets										
D10.2	Large Tree Removal	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D10 - Environmental Offsets	trees	100%	User defined	3	2	5	-20% , +20%	1,500.00	1,200.00	1,800.00
D10.3	General Habitat Units	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D10 - Environmental Offsets	ha	100%	-20% , +20%	0.158	0.1264	0.1896	-20% , +20%	110,000.00	88,000.00	132,000.00
D11	**EARTHWORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks										
D11.1	Lump Sum Allowance for Formation Construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	Item									
D11.2	Clearing & Grubbing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m2									
D11.3	Removal of Trees (significant), Includes grub up & cart away	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	item	0%								
D11.4	Stripping & Stockpiling of Topsoil	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m2	100%	-10% , +10%	1500	1350	1650	-10% , +10%	12.00	10.80	13.20
D11.5	Treat Unsuitable Material - Excavate/Replace	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid									
D11.6	Excavation in Rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid									

D11.7	Earthworks - Cut	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid	100%	-10% , +10%	4000	3600	4400	-10% , +10%	100.00	90.00	110.00
D11.8	Earthworks - Cut to Waste (place "on-site")	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid									
D11.9	Earthworks - Cut to waste (place "off site")	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid									
D11.10	Earthworks - Import to Fill (type A material)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m3 solid	100%	-10% , +10%	1500	1350	1650	-10% , +10%	90.00	81.00	99.00
D11.11	Construct Table Drains & Verges & detailed earthworks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m	100%	-10% , +10%	110	99	121	-10% , +20%	20.00	18.00	24.00
D11.12	Construct Runoff Drains	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m									
D11.13	Remove & replacement of unsuitable subgrade material	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	Item									
D11.14	Topsoiling (include fertilising & seeding)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	m2	100%	-10% , +10%	1500	1350	1650	-10% , +10%	12.00	10.80	13.20
D11.15	Tree Planting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D11 - Earthworks	Item									
D12	**DRAINAGE WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage										
D12.1	Lump Sum Allowance for drainage works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	Item									
D12.2	Supply & Install 450x300 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.3	Supply & Install 600x300 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.4	Supply & Install 600x450 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.5	Supply & Install 750x300 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									

D12.6	Supply & Install 900x450 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.7	Supply & Install 900x600 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.8	Supply & Install 2x2400x1200 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	100%	-5% , +10%	120	114	132	-20% , +20%	10,000.00	8,000.00	12,000.00
D12.9	Extend 900mm dia drainage Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%								
D12.10	Supply & Install 300mm drainage Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	100%	-20% , +20%	200	160	240	-20% , +20%	400.00	320.00	480.00
D12.11	Supply & Install 450mm drainage Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	100%	-20% , +20%	50	40	60	-20% , +20%	550.00	440.00	660.00
D12.12	Supply & Install 1800x900 RC Box Culvert	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.13	Supply & Install Class 2 300mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.14	Supply & Install Class 2 375mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.15	Supply & Install Class 3 375mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.16	Supply & Install Class 2 <450mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%								
D12.17	Supply & Install Class 2 >450mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	0%								
D12.18	Supply & Install Class 2 750mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.19	Supply & Install Class 2 900mm dia RCP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.20	Supply & Install 2x1200x2400 pipe headdwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	100%	User defined	2	2	2	-20% , +20%	40,000.00	32,000.00	48,000.00

D12.21	Supply & Install 450 pipe headdwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	100%	User defined	2	2	2	-20% , +20%	2,500.00	2,000.00	3,000.00
D12.22	Supply & Install 300 pipe headdwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	100%	User defined	1	0.8	1.2	-20% , +20%	2,000.00	1,600.00	2,400.00
D12.23	Supply & Install Wingwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.24	Supply & Install Subsurface Drains (Fabric around trench) Type 2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m									
D12.25	Supply & Install Subsurface Drains agricultural pipes (100mm sockfitted) Type 3	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m	100%	Constant Value	1500	1500	1500	Constant Value	110.00	110.00	110.00
D12.26	Supply & Install Subsurface Drain Risers	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.27	Supply & Install Subsurface Drain Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%								
D12.28	Supply & Install Subsurface Drain Outlets	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.29	Supply & Install Junction Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	100%	-20% , +20%	5	5	5	-20% , +20%	5,000.00	4,000.00	6,000.00
D12.30	Supply & Install SEP's (1.5m x 600 x 450)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.	0%								
D12.31	Supply & Install End Entry Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.32	Supply & Install Inlet Catch Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.33	Supply & Install Grated Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.34	Supply & Install Side Entry Grated Pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									
D12.35	Supply & Install Gatic Lid	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	No.									

D12.36	Supply & Place Rock Beaching	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m2									
D12.37	Supply & Install Drainage Blankets	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m2									
D12.38	Supply & Install Erosion Matting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D12 - Drainage	m2									
D13	**PAVEMENT CONSTRUCTION**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements										
D13.1	Lump Sum Item for Pavement construction	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Item									
D13.2	Construct deep strength pavement, including wearing course (350mm depth)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.3	Construct deep strength pavement, including wearing course (40mm), intermediate asphalt course (180mm), asphalt base course (75mm), lower subbase of 20m class 4 FCR (150mm) and caping layer of Type A (405mm)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	100%	-10% , +10%	4930	4437	5423	-20% , +20%	300.00	240.00	360.00
D13.4	Construct granular pavement, including double application seal (460mm depth)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.5		D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
	Individual Pavement Components												
D13.6	Rip, Mix & Compact Existing Pavement to 250mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.7	Removal of existing Asphalt	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	100%	-10% , +10%	2500	2250	2750	-10% , +10%	30.00	27.00	33.00
D13.8	Cold Planning	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.9	Insitu Subgrade Stabilisation 150mm depth	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									

D13.10	Insitu Pavement Stabilisation up to 200mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.11	SAMI Seal	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.12	Asphalt - Supply & Place 30mm thick Size 10mm Asphalt	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%								
D13.13	Asphalt - Supply & Place 40mm thick Size 14mm Asphalt	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%								
D13.14	Asphalt - Supply & Place Intermediate Asphalt Layer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.15	Asphalt - Supply & Place Base Asphalt Layer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.16	Regulation - GG7 (Gap Graded 7)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.17	Regulation - Type SI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.18	Patching - Remove & Replace 0-100mm Type SI Size 14	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.19	Patching - Remove & Replace100-200mm Type SI Size 20	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.20	Supply & Place CTCR	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.21	Supply and Place Class 1 Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.22	Supply and Place 120mm thick Base Course Class 2 20mm fine Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%								
D13.23	Supply and Place 200mm thick subbase - Class 3 20mm Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	0%								
D13.24	Supply and Place Class 4 Crushed rock	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									

D13.25	Supply and Place Type A Fill	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.26	Supply and Place Type B Fill	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.27	Crack Sealing existing pavement	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m									
D13.28	Saw cutting of existing pavement	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m									
D13.29	Construct Private Entrances (concrete pavement)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	100%	-10% , +10%	70	63	77	-20% , +30%	250.00	200.00	325.00
D13.30	Construct Private Entrances (sealed bell mouth)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	No.									
	Pavement Surfacing												
D13.31	Lump Sum Allowance	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Item									
D13.32	Primer seal - 10mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.33	Final Seal - 7mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.34	Final Seal - 14mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.35	Reseal existing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2	100%	-10% , +10%	4160	3744	4576	-10% , +20%	20.00	18.00	24.00
D13.36	Geofabric/Geotextile Seal - Size 10mm	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.37	Asphalt - Supply & Place Wearing Course - Standard (H/HG)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									
D13.38	Asphalt - Supply & Place Wearing Course (SMA)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	Tonne									

D13.39	Shoulder Sealing - Existing / New	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.40	Water Blasting <1000m2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.41	Water Blasting >1000m2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.42	Coloured Surfacing Treatments (e.g. Bus Bays & Bicycle Lanes)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D13.43	Calcine Bauxite Skid Resistant Overlay	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D13 - Pavements	m2									
D14	**STRUCTURES & CONCRETE WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures										
D14.1	Lump Sum Allowance for structural works	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item									
D14.2	Precast RC Piles - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m									
D14.3	Concrete Cast Insitu Piles - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item									
D14.4	Pier Crosshead, Abutment Widening & Wingwalls	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m3									
D14.5	Deck Overlay	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m3									
D14.6	Bored Piles Supporting Railing Ends	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m3									
D14.7	Removal & Disposal of Redundant Items (pits, pipes, endwalls and other drainage)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item	100%	-10% , +10%	150	135	165	-20% , +20%	200.00	160.00	240.00
D14.8	Drilling & Epoxying in of Steel Dowels Through Deck	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	No.									
D14.9	Bridge Railing on Deck - Supply & Erect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m									

D14.10	Supply and Install Gantry	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item									
D14.11	Cattle, Pedestrian or Animal Underpass	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	Item									
D14.12	Remove Kerb and Channel & Pavement	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	100%	-5% , +10%	1500	1425	1650	-10% , +10%	20.00	18.00	22.00
D14.13	Remove Concrete Paving	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2									
D14.14	Supply & Cast Edge Strip	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m									
D14.15	Supply & Cast Kerb & Channel SM2	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m	100%	-10% , +10%	630	567	693	-10% , +10%	115.00	103.50	126.50
D14.16	Supply & Cast Kerb & Channel SM3	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m	100%	-10% , +10%	840	756	924	-10% , +10%	115.00	103.50	126.50
D14.17	Concrete paving (75mm depth) with bedding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	0%								
D14.18	Concrete paving (150mm depth) with bedding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	0%								
D14.19	Concrete paving (200mm depth) with bedding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2									
D14.20	Roundabout Concrete verge	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	100%	-10% , +10%	360	324	396	-10% , +10%	250.00	225.00	275.00
D14.21	Construct Bicycle/Pedestrian Path	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2									
D14.22	Grass median Infill	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2	100%	-10% , +10%	1715	1543.5	1886.5	-10% , +10%	25.00	22.50	27.50
D14.23	Relocate Bus Shelter	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	No									
D14.24	Bus Bays (reinforced concrete)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	No.									

D14.25	3 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.26	4 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.27	5 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.28	6 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.29	7 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.30	8 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.31	9 m hgt Noise Fence	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	lin m									
D14.32	Absorptive Barriers	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2									
D14.33	Acylic Panelling	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m2									
D14.34	Retaining wall	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D14 - Structures	m									
D15	**BUILDING CONSTRUCTION WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D15 - Buildings										
D16	**NOISE ATTENUATION WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D16 - Noise Attenuation										
D17	**TRAFFIC SIGNALS & LIGHTING**	D - PRECONSTRUCTION & CONSTRUCTION WORKS											
	Signal Installation												
D17.1	POS - standard undivided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.2	POS - standard divided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									

D17.3	POS - puffin undivided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.4	POS - puffin divided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.5	POS - pelican undivided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.6	POS - pelican divided	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.7	Intersection Signals - cross	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.8	Intersection Signals - T	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.9	Intersection Signals - divided cross	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.10	Intersection Signals - divided T	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.11	Ramp Metering Signals	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.12	CCTV Camera System	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.13	Internally Illuminated Multi Message Signs for Ramp Metering	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	per site									
D17.14	New Signal Pedestal - 2B	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.15	New Signal Pedestal Mastarm or JUP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.16	New Signal Pedestal - JUMA	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.17	New Signal Pedestal - Type 3	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									

D17.18	Relocate Signal Pedestal - 2A	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.19	Relocate Signal Pedestal - 2B	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.20	Relocate Signal Pedestal - 2C	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.21	Relocate Signal Pedestal - JUP	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.22	Relocate Signal Pedestal - JUMA	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.23	New Pedestal Foundation - 3.0m base	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.24	New Pedestal Foundation - 0.7m base	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.25	Lanterns - 1 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.26	Lanterns - 2 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.27	Lanterns - 3 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.28	Lanterns - 4 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.29	Lanterns - 5 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.30	Lanterns - 6 aspect	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.31	Lanterns - 2 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.32	Lanterns - 3 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									

D17.33	Lanterns - 4 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.34	Lanterns - 5 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.35	Lanterns - 6 aspect (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.36	Lanterns - Pedestrian	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.37	Lanterns - Pedestrian (LED)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.38	Give Way to Pedestrian Lantern	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.39	Audio Tactiles - Variable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.40	Audio Tactiles - Constant	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.41	Detector Loops - Standard (vehicle)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.42	Detectors - PUFFIN / Wheelchair	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.43	PUFFIN unit only	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.44	Supply & Install Detector Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.45	Conduit Pit (standard)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.46	Conduit Pit (heavy duty)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.47	Relocate Conduit Cable Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									

D17.48	Conduit - Bore under road, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.49	Conduit - Open trench through footpath/paved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.50	Conduit - Open trench through grassed/unpaved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.51	Conduit - Open trench through footpath/paved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.52	Conduit - Open trench through grassed/unpaved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.53	Conduit - Open trench through footpath/paved area, supply & Install 1/32mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.54	Conduit - Open trench through grassed/unpaved area, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.55	Conduit - Bore under road, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.56	2 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m									
D17.57	13 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m									

D17.58	29/33 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m									
D17.59	51 Core Cable	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	L.m									
D17.60	Pillar Mounted Point of Supply	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	item									
D17.61	Point of Supply on Pole	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	item									
D17.62	New Controller - POS	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.63	New Controller - Signals	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.64	New Controller Base	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.65	Reprogramming - Simple	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item									
D17.66	Reprogramming - Standard	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item									
D17.67	Reprogramming - Complex	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item									
D17.68	Red Light Camera	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
	Street Lighting												
D17.70	Retirement of Existing Poles	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.71	New Lighting Pole (all inclusive)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.	100%	Constant Value	1	1	1	Constant Value	400,000.00	**400,000.00**	**400,000.00**
D17.72	Brackets - Single	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									

D17.73	Brackets - Double	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.74	Lamps (globes) - 150W	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.75	Lamps (globes) - 250W	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.76	Pole (supply & install) - SB (8.5m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.77	Pole (supply & install) - SB (11m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.78	Pole (supply & install) - IA (8.5m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.79	Pole (supply & install) - IA (11m with footing)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.80	Meter Cabinets - Supply and Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	No.									
D17.81	Cable (supply and install)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.82	Conduit - Bore under road, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.83	Conduit - Open trench through footpath/paved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.84	Conduit - Open trench through grassed/unpaved area, supply & Install 1/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.85	Conduit - Open trench through footpath/paved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									

D17.86	Conduit - Open trench through grassed/unpaved area, supply & Install 1/50mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.87	Conduit - Open trench through footpath/paved area, supply & Install 1/32mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.88	Conduit - Open trench through grassed/unpaved area, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.89	Conduit - Bore under road, supply & Install 2/100mm Underground Conduit, Backfill & Reinstate	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	m									
D17.90	Conduit Pit (standard)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.91	Conduit Pit (heavy duty)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.92	Relocate Conduit Cable Pit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D17.93	Transformer	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	Item									
D17.94	Solar Panel	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D17 - Traffic Signals & Lighting	each									
D18	**INTELLIGENT TRANSPORT SYSTEMS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D18 - Intelligent Transport Systems										
D19	**RAIL TRACK WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D19 - Rail Track										
D20	**RAIL POWER WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D20 - Rail Power										
D21	**RAIL SIGNALLING WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D21 - Rail Signalling										

D22	**RAIL COMMUNICATIONS WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D22 - Rail Communications										
D23	**SIGNAGE, LINEMARKING, ROAD FURNITURE**	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture										
D23.1	Lump Sum Allowance for Linemarking (including RRPMs)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item	100%	**Constant Value**	**1**	**1**	**1**	**-10% , +20%**	**50,000.00**	**45,000.00**	**60,000.00**
D23.2	Guideposts - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.	0%								
D23.3	RRPM's - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each	0%								
	Guard fence & Wire Rope Safety Barrier												
D23.4	Guardrail - Supply & Erect (Armco) (<1km length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m	100%	**-20% , +20%**	**240**	**192**	**288**	**-10% , +20%**	**170.00**	**153.00**	**204.00**
D23.5	Guard fence - Supply & Erect (Armco) (>1km length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.6	Guard fence - Supply & Erect (New Jersey)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.7	Breakaway Cable End Terminal (BCTA/BCTB) (<10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.8	Breakaway Cable Terminal (BCTA/BCTB) (>10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.9	GREAT Guard Fence Terminal - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.	100%	**Constant Value**	**8**	**8**	**8**	**-10% , +10%**	**7,000.00**	**6,300.00**	**7,700.00**
D23.10	X-Tension Terminal - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.11	Trailing Terminal - Supply & Install	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.12	Wire Rope Safety Barrier (<200m length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.13	Wire Rope Safety Barrier (>200m length)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									

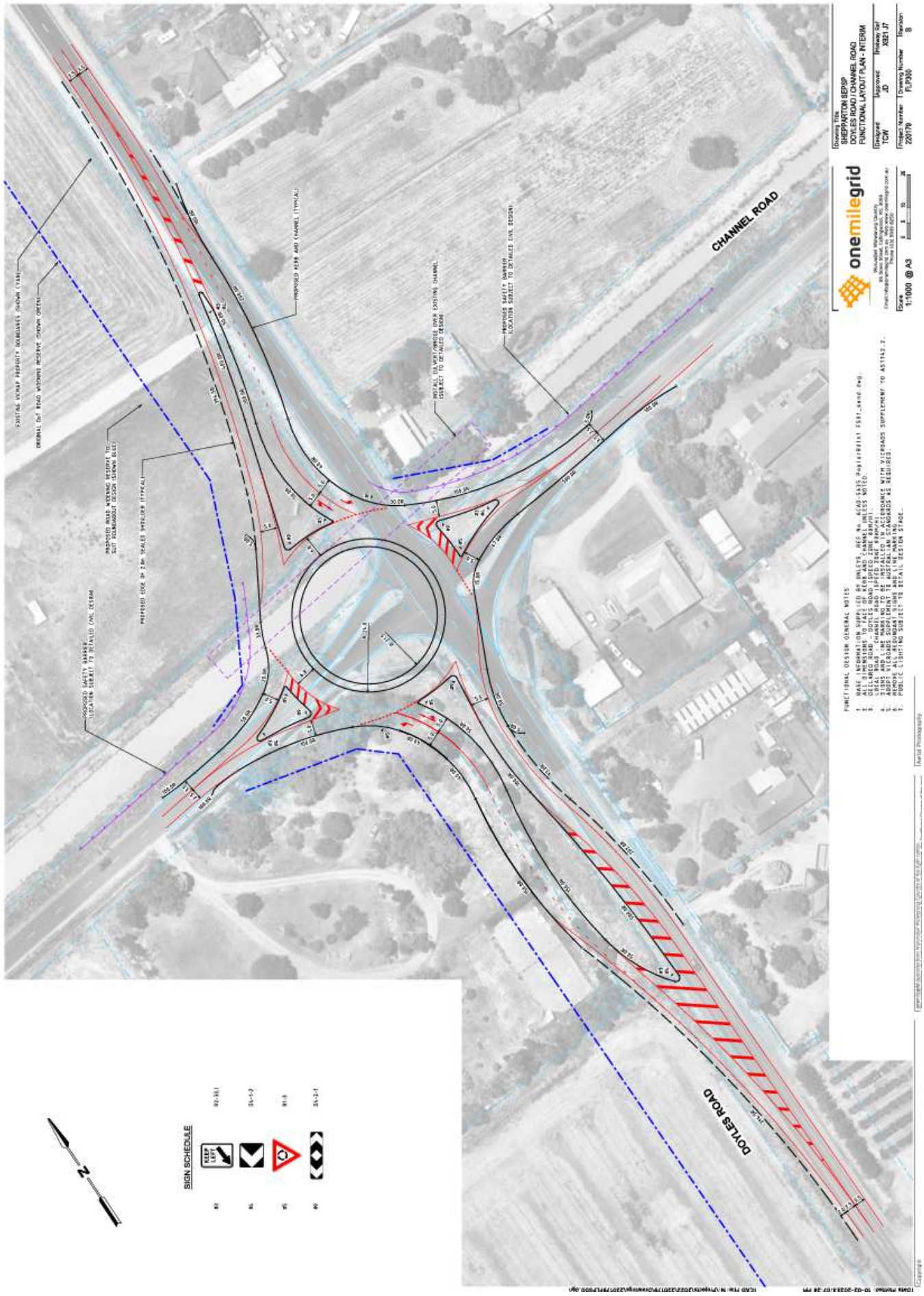
D23.14	Wire Rope Safety Barrier - End Terminals (<10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.15	Wire Rope Safety Barrier - End Terminals (>10 terminals)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.16	Install stac cushions	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
	Signage												
D23.17	Manufacture & Erect New Signing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Each	100%	**Constant Value**	**16**	**16**	**16**	**-10% , +20%**	**450.00**	**405.00**	**540.00**
D23.18	Remove & dispose Existing Signing Allowance	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Each	0%								
D23.19	Supply and Install Single Metal Sign Posts	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.20	Supply and Install Parking/No standing signs	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	unit									
D23.21	Supply and Install Double Sign Posts	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.22	Supply and install medium signs	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	unit									
D23.23	Supply and install double frangible posts	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.24	Supply and install large sign (i.e. direction sign)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	unit									
	Extruded Thermoplastic Linemarking												
D23.25	Linemarking - Select Road Standard…	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item									
D23.26	Statcon holding bar blocks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	block									
D23.27	Statcon stop lines 300mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									

D23.28	Statcon giveway blocks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	block									
D23.29	Statcon roundabout blocks	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	block									
D23.30	Statcon centreline 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.31	Standard stripe	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.32	Semi-barrier	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.33	Double-barrier	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.34	Edgeline 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.35	Single Solid Centreline 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.36	Continuity Stripes 100mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.37	Edgeline 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.38	Single Solid Centreline 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.39	Continuity Stripes 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.40	Turn Lines	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.41	Lane Lines	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.42	Profiled Edgline (<20km)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									

D23.43	Profiled Edgline (>20km)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
	Cold Applied Plastic Roadmarking												
D23.44	Chevron bars 600mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.45	Straight ahead arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.46	Turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.47	Combination turn / straight ahead arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.48	Combination straight / double turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.49	Double turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.50	U-turn arrows	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.51	Pedestrian Lines 150mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.52	Stop Bars 600mm wide	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.53	Keep Clear	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.54	Small Bicycle Symbol	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.55	Large Bicycle Symbol	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.56	Rail Crossing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.57	Transit Lane / Bus Lane	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									

	Linemarking Removal												
D23.58	Blacking out - with paint	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2									
D23.59	Blacking out - with grit blasting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2									
D23.60	Blacking out - with painted grit	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2									
D23.61	Water blasting	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item									
D23.62	Grinding	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m2									
	DDA												
D23.63	Lump Sum Allowance	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item	0%								
D23.64	Supply and Install stick down TGSI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m²									
D23.65	Supply and install ceramic TGSI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m²									
D23.66	Reconstruct Kerb Ramp & Install TGSI	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.67	Reconstruct Kerb Ramp & Install TGSI (corner with LT slip lane)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.68	Reconstruct Kerb Ramp & Install TGSI (corner no LT slip lane)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	No.									
D23.69	Reconstruct Median (1.5m wide with TGSI)	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	m									
D23.70	Flush Crosswalk Through Median	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.71	Relocate side entry pits	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									

D23.72	Zebra Crossing	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	each									
D23.73	Tram Stop	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item									
D23.74	Bus stop	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item									
D23.75	Flashing lights	D - PRECONSTRUCTION & CONSTRUCTION WORKS	D23 - Signage, Linemarking, Road Furniture	Item									
D24	**LANDSCAPING WORKS**	D - PRECONSTRUCTION & CONSTRUCTION WORKS											
E	**CONTINGENT RISKS**	E - CONTINGENT RISKS											
E1	Project Risks	E - CONTINGENT RISKS	E1 - Project Risks	%	99%	**Constant Value**	**1**	**1**	**1**	**User defined**	**10.00**	**5.00**	**20.00**
E1.1	Subgrade Improvement	E - CONTINGENT RISKS	E1 - Project Risks	item	99%	**-20% , +20%**	**1200**	**960**	**1440**	**-20% , +20%**	**180.00**	**144.00**	**216.00**
E1.2	Footpath	E - CONTINGENT RISKS	E1 - Project Risks	m2	95%	**-20% , +20%**	**600**	**480**	**720**	**-20% , +20%**	**225.00**	**180.00**	**270.00**
E1.3		E - CONTINGENT RISKS	E1 - Project Risks	item	60%								
E1.4		E - CONTINGENT RISKS	E1 - Project Risks	%D	0%								


CHANNEL ROAD
DOYLES ROAD
SIGN SCHEDULE
FUNCTIONAL DESIGN GENERAL NOTES
SHEPPARTON SERSP
DOYLES ROAD / CHANNEL ROAD
FUNCTIONAL LAYOUT PLAN - INTERIM
onemilegrid
Scale
1:1000 @ A3
Project Number
220170
Drawing Number
FLP300
Revision
B

9.1.4 IN-04 Zurcas Lane/Poplar Avenue/Feiglin Road

PRELIMINARY ESTIMATE OF DEVELOPMENT COSTS
Proposed Intersection Upgrade Poplar Avenue/Feiglin Road

20 March 2019

Item	Description	Qty	Unit	Rate $	Amount $
1	**PRELIMINARIES**				$ 134,319
1.1	Site Preparation (incl clearing & grubbing)	3,634	m²	$ 5.00	$ 18,172
1.2	Strip, stockpile, maintain and re-spread topsoil	3,634	m²	$ 7.00	$ 25,440
1.3	Demolish existing structures, pipes, etc	1	item	$ 5,000.00	$ 5,000
1.4	Sawcut existing asphalt at joints	1	item	$ 3,200.00	$ 3,200
1.5	Earthworks (cut to fill incl compaction)	1,244	m³	$ 45.00	$ 55,973
1.6	Earthworks (cut to spoil)	829	m³	$ 32.00	$ 26,535
2	**PAVEMENT**				$ 444,639
2.1	**Connector Level 1 (400mm)**				
2.1.1	Wearing Course Type N 10mm (40mm)	3,194	m²	$ 27.00	$ 86,238
2.1.2	Base Course - Class 1 FCR (100mm)	3,194	m²	$ 43.00	$ 137,342
2.1.3	Lower Base Course Class 3 FCR (260mm)	3,760	m²	$ 43.00	$ 161,659
2.1.4	Subgrade replacement (300mm)	752	m²	$ 24.00	$ 18,046
2.1.5	Rock Allowance	376	m²	$ 110.00	$ 41,355
2.2	**Connector Level 2 (490mm)**				
2.2.1	Wearing Course Type N 10mm (40mm)	-	m²	$ 27.00	$ -
2.2.2	Base Course - Class 1 FCR (150mm)	-	m²	$ 64.00	$ -

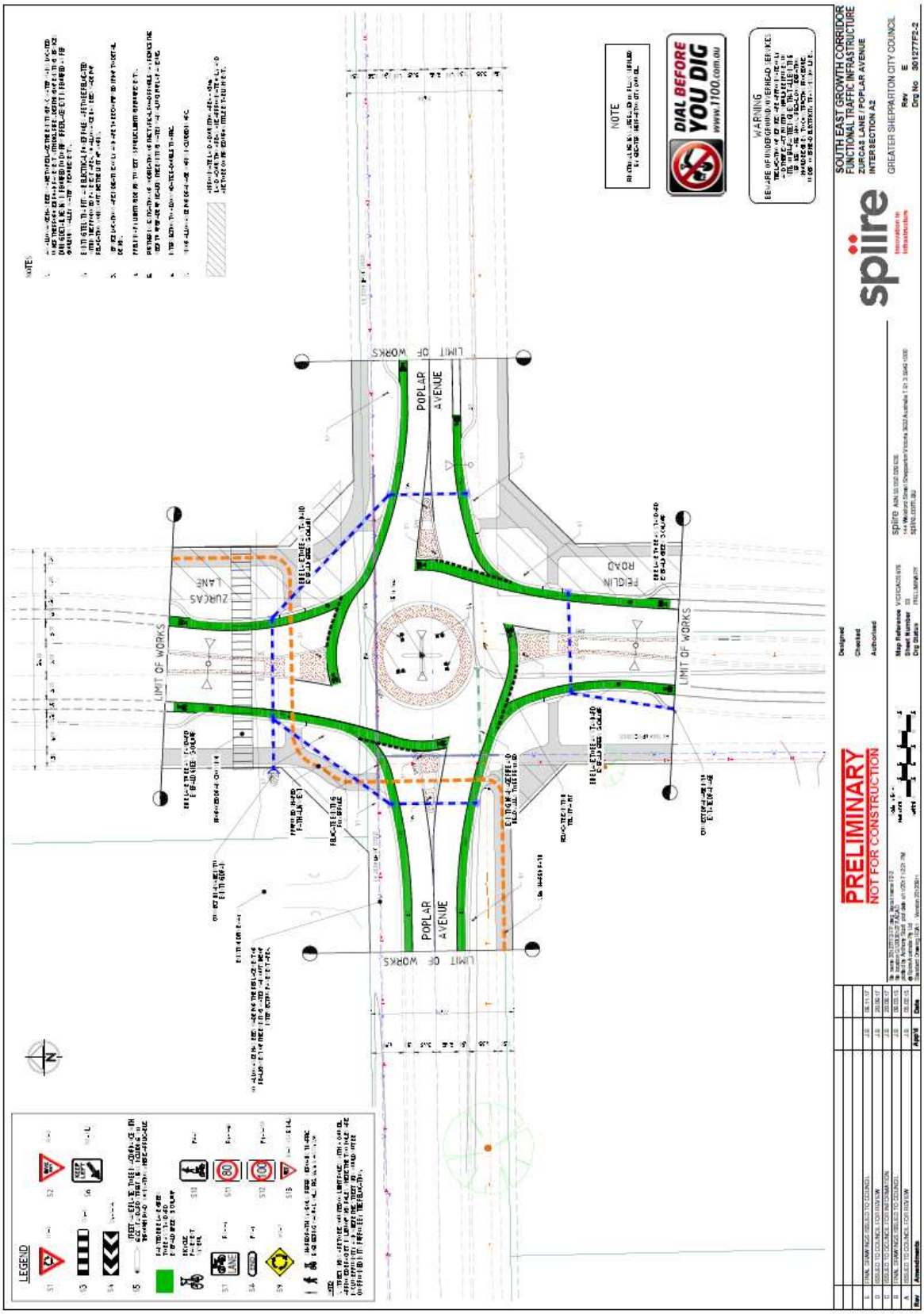
2.2.3	Lower Base Course Class 3 FCR (300mm)	-	m²	$ 50.00	$ -
2.2.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.2.5	Rock Allowance	-	m²	$ 110.00	$ -
2.3	**Access Street (370mm)**				
2.3.1	Wearing Course Type N 10mm (30mm)	-	m²	$ 23.00	$ -
2.3.2	Base Course - Class 1 FCR (100mm)	-	m²	$ 43.00	$ -
2.3.3	Lower Base Course Class 3 FCR (240mm)	-	m²	$ 43.00	$ -
2.3.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.3.5	Rock Allowance	-	m²	$ 110.00	$ -
3	**CONCRETE WORKS**				$ 226,960
3.1	**Kerb & channel**				
3.1.1	SM2	595	m	$ 64.00	$ 38,080
3.1.2	SM3	-	m	$ 61.00	$ -
3.1.3	M1	265	m	$ 52.00	$ 13,780
3.2	**Splitter island infill**				
3.2.1	150mm depth Concrete SL82 REO centrally placed	320	m²	$ 70.00	$ 22,365
3.2.2	100 mm depth, 20 mm nominal size, Class 3 FCR	320	m²	$ 35.00	$ 11,183
3.3	**Pedestrian pathway**				
3.3.1	125mm depth Concrete SL72 REO centrally placed	-	m²	$ 59.00	$ -
3.3.2	50 mm depth, 20 mm nominal size, Class 3 FCR	-	m²	$ 28.00	$ -
3.4	**Shared path**				

3.4.1	125mm depth Concrete SL72 REO centrally placed	1,508	m²	$ 59.00	$ 88,943
3.4.2	50 mm depth, 20 mm nominal size, Class 3 FCR	1,508	m²	$ 28.00	$ 42,210
3.5	Pram ramps	16	item	$ 650.00	$ 10,400
4	**DRAINAGE**				$ 252,600
4.1	SEP	6	item	$ 4,900.00	$ 29,400
4.2	Junction pits - 900 x 900mm	2	item	$ 1,650.00	$ 3,300
4.3	**Headwall to suit**				
4.3.1	525mm dia RCP	-	item	$ 4,200.00	$ -
4.3.2	600mm dia RCP	-	item	$ 5,300.00	$ -
4.4	**Reinforced Concrete Pipes, RRJ, standard backfill compacted to 98% standard dry density**				
4.4.1	375mm dia RCP Class 3, RRJ	24	m	$ 325.00	$ 7,800
4.4.2	450mm dia RCP Class 3, RRJ	50	m	$ 480.00	$ 24,000
4.4.3	525mm dia RCP Class 3, RRJ	-	m	$ 600.00	$ -
4.4.4	600mm dia RCP Class 3, RRJ	220	m	$ 750.00	$ 165,000
4.5	**Grated Pits**				
4.5.1	1000mmx750 mm	-	item	$ 3,800.00	$ -
4.6	Subsoil drains 100mm dia	860	m	$ 25.00	$ 21,500
4.7	Subsoil flush out risers	4	No	$ 400.00	$ 1,600
5	**TRAFFIC**				$ -
5.1	Traffic Signals	-	item	$ 280,000.00	$ -
5.2	Traffic Safety	-	item		$ -
6	**LANDSCAPING WORKS**				$ 91,045
6.1	Trees	22	item	$ 50.00	$ 1,100

6.2	Landscaping (shrubs, mulch)	125	m²	$ 60.00	$ 7,500
6.3	Nature strip (grass seeding, additional topsoil)	32,978	m²	$ 2.50	$ 82,445
7	**STREET LIGHTING**				$ 114,080
7.1	Signalised intersection	-	item	$ 100,000.00	$ -
7.2	Roundabout	1	item	$ 80,000.00	$ 80,000
7.3	Lighting (standard poles)	120	m	$ 160.00	$ 19,200
7.4	PowerCor costs	15	%	$ 99,200.00	$ 14,880
8	**MISCELLANEOUS**				$ 63,248
8.1	Line marking	1	item	$ 12,000.00	$ 12,000
8.2	Regulatory signage	44	item	$ 280.00	$ 12,320
8.3	Works maintenance	1	item	$ 13,862.98	$ 13,863
8.4	Landscape maintenance (2 summers)	1	item	$ 13,656.75	$ 13,657
8.5	Traffic signal maintenance fee (10 years)	10	year	$ -	$ -
8.6	Street lighting maintenance and power	1	item	$ 11,408.00	$ 11,408
9	**OTHER WORKS**				$ -

	SUB-TOTAL				**$ 1,326,891**
10	**DELIVERY**				
10.1	Council Fees	3.25	%		$ 43,123.95
10.2	VicRoads Fees	1.00	%		$ 13,268.91
10.3	Traffic Management	5.00	%		$ 66,344.53
10.4	Environmental Management	0.50	%		$ 6,634.45
10.5	Survey/Design	5.00	%		$ 66,344.53
10.6	Supervision & Project Management	9.00	%		$ 119,420.16
10.7	Site Establishment	2.50	%		$ 33,172.27
10.8	Contingency	15.00	%		$ 199,033.59

	TOTAL ESTIMATED COST				**$ 1,874,233**



9.1.5 IN-05 Channel Road and Feiglin Road

PRELIMINARY ESTIMATE OF DEVELOPMENT COSTS
Proposed Intersection Upgrade Channel Road/Feiglin Road

20 March 2019

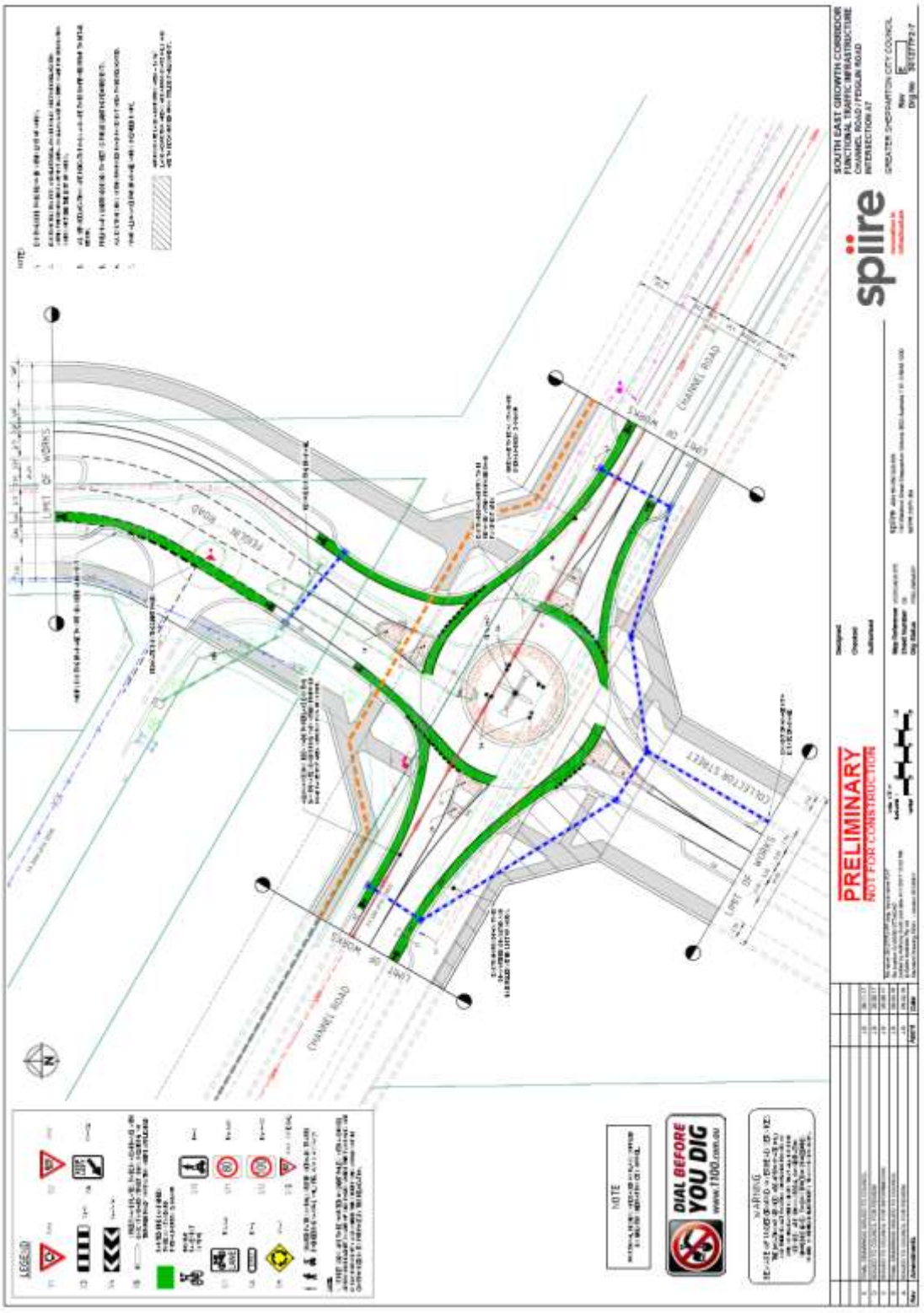
Item	Description	Qty	Unit	Rate $	Amount $
1	**PRELIMINARIES**				$ 173,600
1.1	Site Preparation (incl clearing & grubbing)	4,160	m²	$ 5.00	$ 20,799
1.2	Strip, stockpile, maintain and re-spread topsoil	4,160	m²	$ 7.00	$ 29,118
1.3	Demolish existing structures, pipes, etc	1	item	$ 10,000.00	$ 10,000
1.4	Sawcut existing asphalt at joints	1	item	$ 4,800.00	$ 4,800
1.5	Earthworks (cut to fill incl compaction)	1,699	m³	$ 45.00	$ 76,470
1.6	Earthworks (cut to spoil)	1,013	m³	$ 32.00	$ 32,413
2	**PAVEMENT**				$ 575,240
2.1	**Connector Level 1 (400mm)**				
2.1.1	Wearing Course Type N 10mm (40mm)	4,196	m²	$ 27.00	$ 113,292
2.1.2	Base Course - Class 1 FCR (100mm)	4,196	m²	$ 43.00	$ 180,428
2.1.3	Lower Base Course Class 3 FCR (260mm)	4,788	m²	$ 43.00	$ 205,873
2.1.4	Subgrade replacement (300mm)	958	m²	$ 24.00	$ 22,981
2.1.5	Rock Allowance	479	m²	$ 110.00	$ 52,665
2.2	**Connector Level 2 (490mm)**				
2.2.1	Wearing Course Type N 10mm (40mm)	-	m²	$ 27.00	$ -
2.2.2	Base Course - Class 1 FCR (150mm)	-	m²	$ 64.00	$ -

2.2.3	Lower Base Course Class 3 FCR (300mm)	-	m²	$ 50.00	$ -
2.2.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.2.5	Rock Allowance	-	m²	$ 110.00	$ -
2.3	**Access Street (370mm)**				
2.3.1	Wearing Course Type N 10mm (30mm)	-	m²	$ 23.00	$ -
2.3.2	Base Course - Class 1 FCR (100mm)		m²	$ 43.00	$ -
2.3.3	Lower Base Course Class 3 FCR (240mm)		m²	$ 43.00	$ -
2.3.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.3.5	Rock Allowance	-	m²	$ 110.00	$ -
3	**CONCRETE WORKS**				$ 225,241
3.1	**Kerb & channel**				
3.1.1	SM2	687	m	$ 64.00	$ 43,968
3.1.2	SM3	-	m	$ 61.00	$ -
3.1.3	M1	170	m	$ 52.00	$ 8,840
3.2	**Splitter island infill**				
3.2.1	150mm depth Concrete SL82 REO centrally placed	203	m²	$ 70.00	$ 14,210
3.2.2	100 mm depth, 20 mm nominal size, Class 3 FCR	203	m²	$ 35.00	$ 7,105
3.3	**Pedestrian pathway**				
3.3.1	125mm depth Concrete SL72 REO centrally placed	8	m²	$ 59.00	$ 443
3.3.2	50 mm depth, 20 mm nominal size, Class 3 FCR	8	m²	$ 28.00	$ 210
3.4	**Shared path**				

3.4.1	125mm depth Concrete SL72 REO centrally placed	1,595	m²	$ 59.00	$ 94,105
3.4.2	50 mm depth, 20 mm nominal size, Class 3 FCR	1,595	m²	$ 28.00	$ 44,660
3.5	Pram ramps	18	item	$ 650.00	$ 11,700
4	**DRAINAGE**				$ 197,455
4.1	SEP	8	item	$ 4,900.00	$ 39,200
4.2	Junction pits - 900 x 900mm	2	item	$ 1,650.00	$ 3,300
4.3	**Headwall to suit**				
4.3.1	525mm dia RCP	1	item	$ 4,200.00	$ 4,200
4.3.2	600mm dia RCP	-	item	$ 5,300.00	$ -
4.4	**Reinforced Concrete Pipes, RRJ, standard backfill compacted to 98% standard dry density**				
4.4.1	375mm dia RCP Class 3, RRJ	122	m	$ 325.00	$ 39,650
4.4.2	450mm dia RCP Class 3, RRJ	146	m	$ 480.00	$ 70,080
4.4.3	525mm dia RCP Class 3, RRJ	30	m	$ 600.00	$ 18,000
4.4.4	600mm dia RCP Class 3, RRJ	-	m	$ 750.00	$ -
4.5	**Grated Pits**				
4.5.1	1000mmx750 mm	-	item	$ 3,800.00	$ -
4.6	Subsoil drains 100mm dia	857	m	$ 25.00	$ 21,425
4.7	Subsoil flush out risers	4	No	$ 400.00	$ 1,600
5	**TRAFFIC**				$ -
5.1	Traffic Signals	-	item	$ 280,000.00	$ -
5.2	Traffic Safety	-	item		$ -
6	**LANDSCAPING WORKS**				$ 7,313
6.1	Trees	10	item	$ 50.00	$ 500

6.2	Landscaping (shrubs, mulch)	-	m²	$ 60.00	$ -
6.3	Nature strip (grass seeding, additional topsoil)	2,725	m²	$ 2.50	$ 6,813
7	**STREET LIGHTING**				$ 136,160
7.1	Signalised intersection	-	item	$ 100,000.00	$ -
7.2	Roundabout	1	item	$ 80,000.00	$ 80,000
7.3	Lighting (standard poles)	240	m	$ 160.00	$ 38,400
7.4	PowerCor costs	15	%	$ 118,400.00	$ 17,760
8	**MISCELLANEOUS**				$ 53,162
8.1	Line marking	1	item	$ 12,000.00	$ 12,000
8.2	Regulatory signage	41	item	$ 280.00	$ 11,480
8.3	Works maintenance	1	item	$ 14,969.03	$ 14,969
8.4	Landscape maintenance (2 summers)	1	item	$ 1,096.88	$ 1,097
8.5	Traffic signal maintenance fee (10 years)	10	year	$ -	$ -
8.6	Street lighting maintenance and power	1	item	$ 13,616.00	$ 13,616
9	**OTHER WORKS**				$ 10,000
9.1	Disposal of unsuitable material from abandoned channel	1	item	$ 10,000.00	$ 10,000
	SUB-TOTAL				**$ 1,378,169**
10	**DELIVERY**				
10.1	Council Fees	3.25	%		$ 44,790.50
10.2	VicRoads Fees	1.00	%		$ 13,781.69
10.3	Traffic Management	5.00	%		$ 68,908.46
10.4	Environmental Management	0.50	%		$ 6,890.85
10.5	Survey/Design	5.00	%		$ 68,908.46
10.6	Supervision & Project Management	9.00	%		$ 124,035.22

10.7	Site Establishment	2.50	%		$ 34,454.23
10.8	Contingency	15.00	%		$ 206,725.37
	TOTAL ESTIMATED COST				**$ 1,946,664**



9.1.6 IN-06 Channel Road and McPhees Road

PRELIMINARY ESTIMATE OF DEVELOPMENT COSTS
Proposed Intersection Upgrade Channel Road/McPhees Road

20 March 2019

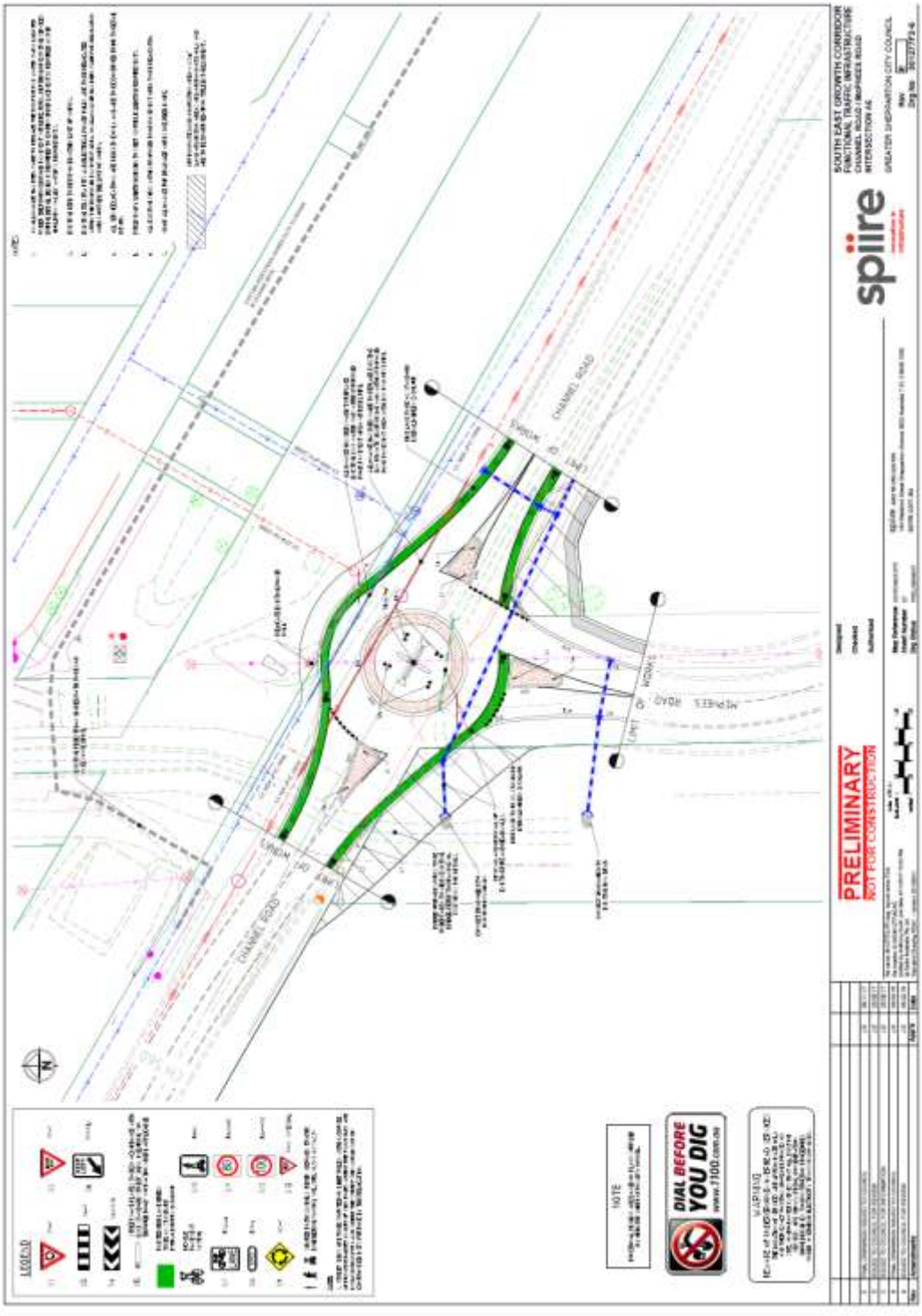
Item	Description	Qty	Unit	Rate $	Amount $
1	**PRELIMINARIES**				$ 97,436
1.1	Site Preparation (incl clearing & grubbing)	2,003	m²	$ 5.00	$ 10,014
1.2	Strip, stockpile, maintain and re-spread topsoil	2,003	m²	$ 7.00	$ 14,019
1.3	Demolish existing structures, pipes, etc	1	item	$ 5,000.00	$ 5,000
1.4	Sawcut existing asphalt at joints	1	item	$ 3,600.00	$ 3,600
1.5	Earthworks (cut to fill incl compaction)	1,099	m³	$ 45.00	$ 49,462
1.6	Earthworks (cut to spoil)	479	m³	$ 32.00	$ 15,342
2	**PAVEMENT**				$ 268,841
2.1	**Connector Level 1 (400mm)**				
2.1.1	Wearing Course Type N 10mm (40mm)	1,951	m²	$ 27.00	$ 52,677
2.1.2	Base Course - Class 1 FCR (100mm)	1,951	m²	$ 43.00	$ 83,893
2.1.3	Lower Base Course Class 3 FCR (260mm)	2,250	m²	$ 43.00	$ 96,729
2.1.4	Subgrade replacement (300mm)	450	m²	$ 24.00	$ 10,798
2.1.5	Rock Allowance	225	m²	$ 110.00	$ 24,745
2.2	**Connector Level 2 (490mm)**				
2.2.1	Wearing Course Type N 10mm (40mm)	-	m²	$ 27.00	$ -
2.2.2	Base Course - Class 1 FCR (150mm)	-	m²	$ 64.00	$ -

2.2.3	Lower Base Course Class 3 FCR (300mm)	-	m²	$ 50.00	$ -
2.2.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.2.5	Rock Allowance	-	m²	$ 110.00	$ -
2.3	**Access Street (370mm)**				
2.3.1	Wearing Course Type N 10mm (30mm)	-	m²	$ 23.00	$ -
2.3.2	Base Course - Class 1 FCR (100mm)	-	m²	$ 43.00	$ -
2.3.3	Lower Base Course Class 3 FCR (240mm)	-	m²	$ 43.00	$ -
2.3.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.3.5	Rock Allowance	-	m²	$ 110.00	$ -
3	**CONCRETE WORKS**				$ 121,851
3.1	**Kerb & channel**				
3.1.1	SM2	332	m	$ 64.00	$ 21,248
3.1.2	SM3	-	m	$ 61.00	$ -
3.1.3	M1	110	m	$ 52.00	$ 5,720
3.2	**Splitter island infill**				
3.2.1	150mm depth Concrete SL82 REO centrally placed	181	m²	$ 70.00	$ 12,670
3.2.2	100 mm depth, 20 mm nominal size, Class 3 FCR	181	m²	$ 35.00	$ 6,335
3.3	**Pedestrian pathway**				
3.3.1	125mm depth Concrete SL72 REO centrally placed	105	m²	$ 59.00	$ 6,195
3.3.2	50 mm depth, 20 mm nominal size, Class 3 FCR	105	m²	$ 28.00	$ 2,940
3.4	**Shared path**				

3.4.1	125mm depth Concrete SL72 REO centrally placed	678	m²	$ 59.00	$ 39,973
3.4.2	50 mm depth, 20 mm nominal size, Class 3 FCR	678	m²	$ 28.00	$ 18,970
3.5	Pram ramps	12	item	$ 650.00	$ 7,800
4	**DRAINAGE**				$ 177,330
4.1	SEP	8	item	$ 4,900.00	$ 39,200
4.2	Junction pits - 900 x 900mm	2	item	$ 1,650.00	$ 3,300
4.3	**Headwall to suit**				
4.3.1	525mm dia RCP	1	item	$ 4,200.00	$ 4,200
4.3.2	600mm dia RCP	-	item	$ 5,300.00	$ -
4.4	**Reinforced Concrete Pipes, RRJ, standard backfill compacted to 98% standard dry density**				
4.4.1	375mm dia RCP Class 3, RRJ	92	m	$ 325.00	$ 29,900
4.4.2	450mm dia RCP Class 3, RRJ	146	m	$ 480.00	$ 70,080
4.4.3	525mm dia RCP Class 3, RRJ	30	m	$ 600.00	$ 18,000
4.4.4	600mm dia RCP Class 3, RRJ	-	m	$ 750.00	$ -
4.5	**Grated Pits**				
4.5.1	1000mmx750mm	-	item	$ 3,800.00	$ -
4.5	Subsoil drains 100mm dia	442	m	$ 25.00	$ 11,050
4.7	Subsoil flush out risers	4	No	$ 400.00	$ 1,600
5	**TRAFFIC**				$ -
5.1	Traffic Signals	-	item	$ 280,000.00	$ -
5.2	Traffic Safety	-	item		$ -
6	**LANDSCAPING WORKS**				$ 29,558
6.1	Trees	7	item	$ 50.00	$ 350

6.2	Landscaping (shrubs, mulch)	-	m²	$ 60.00	$ -
6.3	Nature strip (grass seeding, additional topsoil)	11,683	m²	$ 2.50	$ 29,208
7	**STREET LIGHTING**				$ 92,000
7.1	Signalised intersection	-	item	$ 100,000.00	$ -
7.2	Roundabout	1	item	$ 80,000.00	$ 80,000
7.3	Lighting (standard poles)	-	m	$ 160.00	$ -
7.4	PowerCor costs	15	%	$ 80,000.00	$ 12,000
8	**MISCELLANEOUS**				$ 40,674
8.1	Line marking	1	item	$ 9,000.00	$ 9,000
8.2	Regulatory signage	34	item	$ 280.00	$ 9,520
8.3	Works maintenance	1	item	$ 8,520.32	$ 8,520
8.4	Landscape maintenance (2 summers)	1	item	$ 4,433.63	$ 4,434
8.5	Traffic signal maintenance fee (10 years)	10	year	$ -	$ -
8.6	Street lighting maintenance and power	1	item	$ 9,200.00	$ 9,200
9	**OTHER WORKS**				$ 10,000
9.1	Disposal of unsuitable material from abandoned channel	1	item	$ 10,000.00	$ 10,000
	SUB-TOTAL				**$ 837,689**
10	**DELIVERY**				
10.1	Council Fees	3.25	%		$ 27,224.88
10.2	VicRoads Fees	1.00	%		$ 8,376.89
10.3	Traffic Management	5.00	%		$ 41,884.43
10.4	Environmental Management	0.50	%		$ 4,188.44
10.5	Survey/Design	5.00	%		$ 41,884.43
10.6	Supervision & Project Management	9.00	%		$ 75,391.97

10.7	Site Establishment	2.50	%		$ 20,942.21
10.8	Contingency	15.00	%		$ 125,653.28
	TOTAL ESTIMATED COST				**$ 1,183,235**



9.1.7 IN-07 Buckingham Street/ Fieglin Road

PRELIMINARY ESTIMATE OF DEVELOPMENT COSTS
Proposed Intersection Upgrade
Buckingham Street/Feiglin Road

20 March 2019

Item	Description	Qty	Unit	Rate $	Amount $
1	**PRELIMINARIES**				$ 107,571
1.1	Site Preparation (incl clearing & grubbing)	2,829	m²	$ 5.00	$ 14,143
1.2	Strip, stockpile, maintain and re-spread topsoil	2,829	m²	$ 7.00	$ 19,800
1.3	Demolish existing structures, pipes, etc	1	item	$ 10,000.00	$ 10,000
1.4	Sawcut existing asphalt at joints	1	item	$ 3,200.00	$ 3,200
1.5	Earthworks (cut to fill incl compaction)	911	m³	$ 45.00	$ 40,994
1.6	Earthworks (cut to spoil)	607	m³	$ 32.00	$ 19,434
2	**PAVEMENT**				$ 342,609
2.1	**Connector Level 1 (400mm)**				
2.1.1	Wearing Course Type N 10mm (40mm)	2,458	m²	$ 27.00	$ 66,366
2.1.2	Base Course - Class 1 FCR (100mm)	2,458	m²	$ 43.00	$ 105,694
2.1.3	Lower Base Course Class 3 FCR (260mm)	2,901	m²	$ 43.00	$ 124,722
2.1.4	Subgrade replacement (300mm)	580	m²	$ 24.00	$ 13,922
2.1.5	Rock Allowance	290	m²	$ 110.00	$ 31,906
2.2	**Connector Level 2 (490mm)**				
2.2.1	Wearing Course Type N 10mm (40mm)	-	m²	$ 27.00	$ -
2.2.2	Base Course - Class 1 FCR (150mm)	-	m²	$ 64.00	$ -

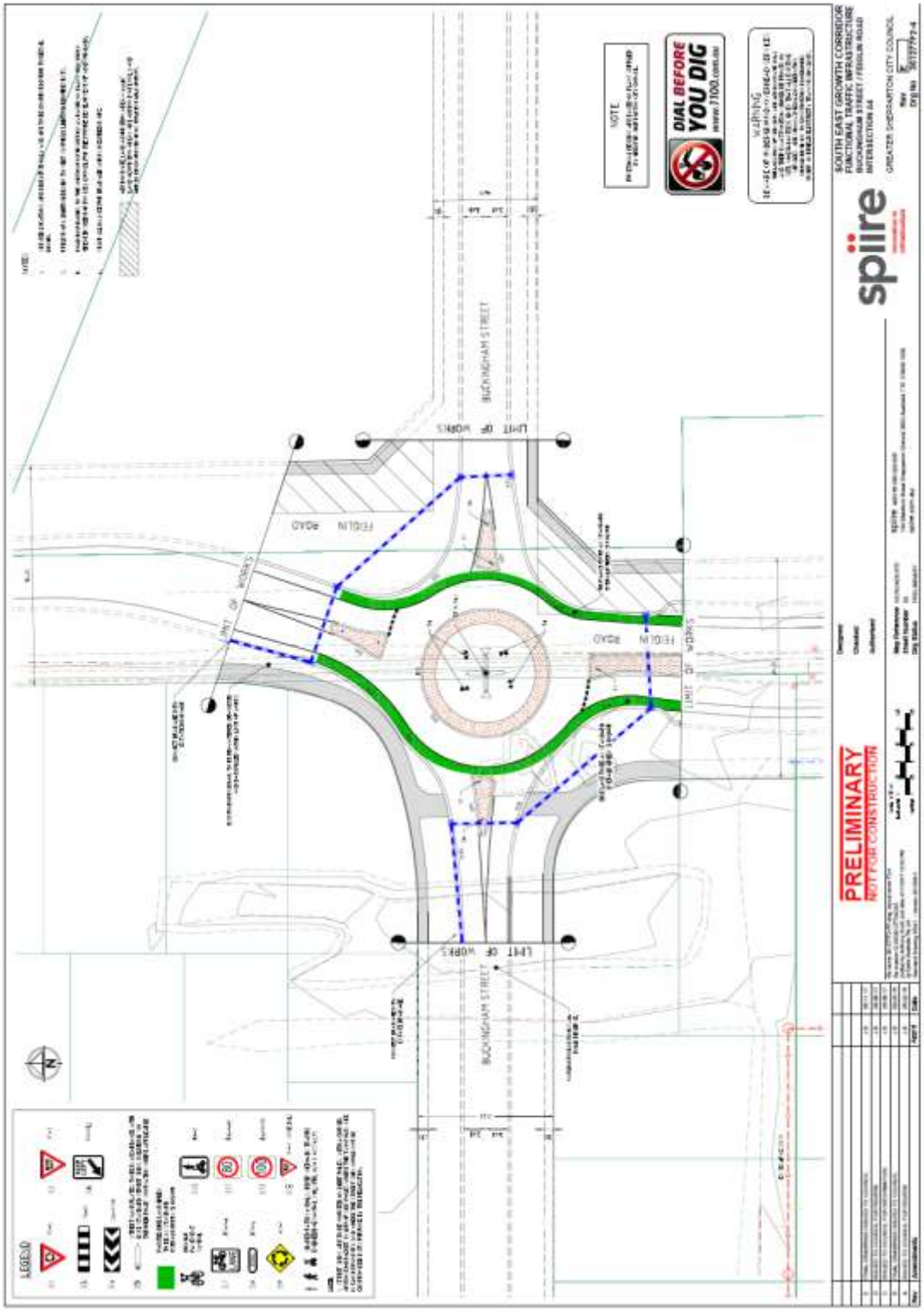
2.2.3	Lower Base Course Class 3 FCR (300mm)	-	m²	$ 50.00	$ -
2.2.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.2.5	Rock Allowance	-	m²	$ 110.00	$ -
2.3	**Access Street (370mm)**				
2.3.1	Wearing Course Type N 10mm (30mm)		m²	$ 23.00	$ -
2.3.2	Base Course - Class 1 FCR (100mm)		m²	$ 43.00	$ -
2.3.3	Lower Base Course Class 3 FCR (240mm)		m²	$ 43.00	$ -
2.3.4	Subgrade replacement (300mm)	-	m²	$ 24.00	$ -
2.3.5	Rock Allowance	-	m²	$ 110.00	$ -
3	**CONCRETE WORKS**				$ 169,649
3.1	**Kerb & channel**				
3.1.1	SM2	488	m	$ 64.00	$ 31,232
3.1.2	SM3	-	m	$ 61.00	$ -
3.1.3	M1	170	m	$ 52.00	$ 8,840
3.2	**Splitter island infill**				
3.2.1	150mm depth Concrete SL82 REO centrally placed	210	m²	$ 70.00	$ 14,665
3.2.2	100 mm depth, 20 mm nominal size, Class 3 FCR	210	m²	$ 35.00	$ 7,333
3.3	**Pedestrian pathway**				
3.3.1	125mm depth Concrete SL72 REO centrally placed	365	m²	$ 59.00	$ 21,506
3.3.2	50 mm depth, 20 mm nominal size, Class 3 FCR	365	m²	$ 28.00	$ 10,206
3.4	**Shared path**				

3.4.1	125mm depth Concrete SL72 REO centrally placed	753	m²	$ 59.00	$ 44,398
3.4.2	50 mm depth, 20 mm nominal size, Class 3 FCR	753	m²	$ 28.00	$ 21,070
3.5	Pram ramps	16	item	$ 650.00	$ 10,400
4	**DRAINAGE**				$ 123,310
4.1	SEP	6	item	$ 4,900.00	$ 29,400
4.2	Junction pits - 900 x 900mm	-	item	$ 1,650.00	$ -
4.3	**Headwall to suit**				
4.3.1	525mm dia RCP	-	item	$ 4,200.00	$ -
4.3.2	600mm dia RCP	-	item	$ 5,300.00	$ -
4.4	**Reinforced Concrete Pipes, RRJ, standard backfill compacted to 98% standard dry density**				
4.4.1	375mm dia RCP Class 3, RRJ	68	m	$ 325.00	$ 22,100
4.4.2	450mm dia RCP Class 3, RRJ	112	m	$ 480.00	$ 53,760
4.4.3	525mm dia RCP Class 3, RRJ	-	m	$ 600.00	$ -
4.4.4	600mm dia RCP Class 3, RRJ	-	m	$ 750.00	$ -
4.5	**Grated Pits**				
4.5.1	1000mmx750mm	-	item	$ 3,800.00	$ -
4.6	Subsoil drains 100mm dia	658	m	$ 25.00	$ 16,450
4.7	Subsoil flush out risers	4	No	$ 400.00	$ 1,600
5	**TRAFFIC**				$ -
5.1	Traffic Signals	-	item	$ 280,000.00	$ -
5.2	Traffic Safety	-	item		$ -
6	**LANDSCAPING WORKS**				$ 7,568
6.1	Trees	16	item	$ 50.00	$ 800

6.2	Landscaping (shrubs, mulch)	-	m²	$ 60.00	$ -
6.3	Nature strip (grass seeding, additional topsoil)	2,707	m²	$ 2.50	$ 6,768
7	**STREET LIGHTING**				$ 113,160
7.1	Signalised intersection	-	item	$ 100,000.00	$ -
7.2	Roundabout	1	item	$ 80,000.00	$ 80,000
7.3	Lighting (standard poles)	115	m	$ 160.00	$ 18,400
7.4	PowerCor costs	15	%	$ 98,400.00	$ 14,760
8	**MISCELLANEOUS**				$ 39,225
8.1	Line marking	1	item	$ 8,000.00	$ 8,000
8.2	Regulatory signage	33	item	$ 280.00	$ 9,240
8.3	Works maintenance	1	item	$ 9,533.52	$ 9,534
8.4	Landscape maintenance (2 summers)	1	item	$ 1,135.13	$ 1,135
8.5	Traffic signal maintenance fee (10 years)	10	year	$ -	$ -
8.6	Street lighting maintenance and power	1	item	$ 11,316.00	$ 11,316
9	**OTHER WORKS**				$ -

	SUB-TOTAL				**$ 903,091**
10	**DELIVERY**				
10.1	Council Fees	3.25	%		$ 29,350.47
10.2	VicRoads Fees	1.00	%		$ 9,030.91
10.3	Traffic Management	5.00	%		$ 45,154.56
10.4	Environmental Management	0.50	%		$ 4,515.46
10.5	Survey/Design	5.00	%		$ 45,154.56
10.6	Supervision & Project Management	9.00	%		$ 81,278.22
10.7	Site Establishment	2.50	%		$ 22,577.28

10.8	Contingency	15.00	%		$ 135,463.69
	TOTAL ESTIMATED COST				**$ 1,275,616**



9.1.8 Spiire Transport Item Cost Review

SOUTH EAST GROWTH CORRIDOR - PRECINCT STRUCTURE PLAN (PSP)
OPINION OF PROBABLE CONSTRUCTION COST REVIEW
TOTAL INCLUDING FEES

Spiire Review March 2023

DCP ID	*Description*	*Cardno 2019 Costs*	*Spiire 2023 Review*
IN-02	Channel Road and Archer Street	$910,010	$928,683
IN-04	Zurcas Lane, Poplar Avenue and Feiglin Road	$1,874,233	$1,719,039
IN-05	Channel Road and Feiglin Road	$1,946,664	$1,776,122
IN-06	Channel Road and McPhees Road	$1,173,235	$ 1,083,036
IN-07	Feiglin Road and Buckingham Street	$1,275,616	$1,207,908

Key Summary Notes:
1. OPCC is based on updating line item figures in Quantity Spreadsheet Supplied, no checking of quantities.
2. OPPC Line Items based on recent Spiire Project Rates as of Dec 2022.
3. Spiire assume proposed internal intersections are to IDM Standard not DOT (as per Cardno).
4. Producer Price Index (PPI) Index from Reserve Bank Calculator
5. Local Park (10000sqm) is reduction applied by area items only. Care to be taken utlising these figures.
6. Local Park 10,000sqm (1 Ha) derived from North East Growth Corridor typical park
7. Due to current volitile market conditions, the rates are highly subjected to rise and fall based on contractor and supply availability

9.2 Community Project

9.2.1 CI-01 – Multipurpose Childrens Centre

FEASIBILITY STAGE COST PLAN	SHEPPARTON SE PRECINCT STRUCTURE PLAN KINDERGARTEN					6/12/2022
	WORKS					
1	**PRE-CONSTRUCTION**					
1.1	Site Preparation	m2	6958	$ 6	$	41,748
2	**BUILDING**					
	Kindergarten	m2	850	$ 2,860	$	2,431,000
	Kitchens	m2	69	$ 3,389	$	233,841
	Maternal & Child Health Consulting	m2	66	$ 2,799	$	184,734
	Multipurpose Community Spaces	m2	191	$ 2,661	$	508,251
	Disabled Toilet / Parent's Change Room	m2	14	$ 3,774	$	52,836
	Toilets / Change Rooms	m2	118	$ 3,389	$	399,902
	Administration	m2	104	$ 2,496	$	259,584
	Cleaners	m2	3	$ 2,534	$	7,602
	Total Indoor Floor Area	m2	1415			
3	**CANOPIES & VERANDAS**					
3.1	Main Covered Entry	m2	70	$ 1,416	$	99,120
3.2	Secondary Covered Entry	m2	24	$ 1,416	$	33,984
3.3	Staff Entry	m2	7	$ 1,416	$	9,912
3.4	External Play Covered Outdoor Areas	m2	235	$ 1,416	$	332,760
4	**CAR PARK**					
4.1	Asphalt Pavement	m2	1734	$ 116	$	201,144
4.2	Kerb & Channel	m	380	$ 68	$	25,840
4.3	Drainage pipes / pits	m2	1734	$ 30	$	52,020
4.4	Linemarking / Signage	m2	1734	$ 5	$	8,670
4.6	Car Park Lighting	m2	1734	$ 20	$	34,680
5	**OUTDOOR PLAY**					
5.1	Kindergarten Outdoor Playspaces	m2	540	$ 665	$	359,100
5.2	Playground	m2	634	$ 1,233	$	781,722

FEASIBILITY STAGE COST PLAN	SHEPPARTON SE PRECINCT STRUCTURE PLAN KINDERGARTEN					6/12/2022
6	**SITE WORKS**					
6.1	Concrete Paths	m2	442	$ 89	$	39,338
6.4	Landscaping	m2	1928	$ 33	$	63,624
6.7	Fencing & Gates	m	465	$ 126	$	58,590
6.8	Other (Piling)	m2	1415	$ 132	$	186,780
	SUB-TOTAL				$	6,406,782
7	**SERVICES**					
7.1	Stormwater	Item	3.30%		$	211,424
7.1	Sewer	Item	2.03%		$	130,058
7.2	Water	Item	1.98%		$	126,854
7.2	Gas	Item	0.88%		$	56,380
7.3	Fire Protection	Item	0.66%		$	42,285
7.4	Light & Power	Item	2.38%		$	152,481
7.5	Communication	No	0.50%		$	32,034
8	**MISCELLANEOUS**					
8.1	Building Maintenance - 1 year	Item	1	$ 60,000	$	60,000
8.2	Landscape Maintenance - 1 year / 2 Summers	Item	1	$ 30,000	$	30,000
	SUB-TOTAL WORKS				**$**	**7,248,298**

FEASIBILITY STAGE COST PLAN	SHEPPARTON SE PRECINCT STRUCTURE PLAN KINDERGARTEN	6/12/2022

9	**DELIVERY**		
9.1	Council Fees	3.25%	$ 235,570
9.2	Authority Fees	1%	$ 72,483
9.3	Traffic Management	2%	$ 144,966
9.4	Environmental Management	0.50%	$ 36,241
9.5	Survey / Design	5%	$ 362,415
9.6	Supervision & Project Management	9%	$ 652,347
9.7	Site Establishment	2.5%	$ 181,207
9.7	Environmentally Sustainable Design	2.0%	$ 144,966
9.8	Contingency	15%	$ 1,087,245
	SUB-TOTAL DELIVERY		**$ 2,917,440**
10	**TOTAL ESTIMATED COST**		**$ 10,165,737**
	ROUNDED TO		**$ 10,166,000**


CohenLeigh Architects
Suite 1 Level 1, 5 Melrose Street Sandringham, Victoria 3191
(03) 9521 6888
www.cohenleigh.com
info@cohenleigh.com
PROJECT
Shepparton SE Precinct Structure Plan Kindergarten
CLIENT
Greater Shepparton City Council
PROJECT 220903
SCALE 1 : 200
DRAWING TITLE
Floor Plan - Proposed
DRAWING SK-02
REV A
No. Description Date
A Client Design Issue 221104
EXTERNAL ACCESS
INTERNAL ACCESS
ROLLER SHUTTER EXTERNAL ACCESS
ROLLER SHUTTER SERVERY ACCESS

9.2.2 SR-01 – Multipurpose Sports Reserve

Sports Reserve - Opinion of Probable Cost								
			Site Area		ha			
Item			Description	Quantity	Unit	Rate	Amount	Comments
	WORKS							
1	PRE-CONSTRUCTION							
	1.1	Pre-construction						
		1.1.1	Site preparation	67722	m2	$3	$169,305	Topsoil strippping & stockpile
2	PLAYING FIELDS							
	2.1	Football/Cricket Oval						
		2.1.1	Full-size Oval	15200	m2	$40	$608,000	Incl. earthworks, shaping, soil, turf, set-out
		2.1.2	Irrigation	1	Item	$30,000	$30,000	
		2.1.3	Fences to oval permiter	472	LM	$100	$47,200	1.2m high fencing
		2.1.4	Goal posts	1	Item	$10,000	$10,000	AFL standard
		2.1.5	Practice Cricket pitches and nets	3	No.	$75,000	$225,000	
		2.1.6	Oval Lighting	1	Item	$250,000	$250,000	4 No. light towers
		2.1.7	Coaches Box, Scoreboard, Interchange shelters	1	Item	$75,000	$75,000	
		2.1.8	Sports centre	1	Item	$800,000	$800,000	
	2.2	Soccer Field						
		2.2.1	Soccer Field playing surface	14280	m2	$40	$571,200	Incl. earthworks, shaping, soil, turf, drainage, set-out
		2.2.2	Irrigation	2	Item	$30,000	$60,000	
		2.2.3	Fences to field permiter	712	LM	$100	$71,200	1.2m high fencing
		2.2.4	Goals	4	Item	$3,000	$12,000	
		2.2.5	Field Lighting	1	Item	$250,000	$250,000	8 No. light towers
		2.2.6	Coaches Box, Scoreboard, Interchange shelters	2	Item	$75,000	$150,000	
3	CAR PARK							
	3.1	Car Park	Car park spaces	140	No.	$3,500	$490,000	Open parking areas, including paving, stormwater drainage, minimal lighting, and some landscaping
4	SITE WORKS							
	4.1	Pedestrian Paths						
		4.1.1	Footpath - 2m wide	2104	m2	$80	$168,320	100mm depth reinforced concrete paving
	4.2	Landscaping						
			General landscaping innclusive of topsoil, planting, grass and mulch.	1074	m2	$50	$53,700	

	4.3	Site Lighting						
		4.3.1	Light Poles & Fittings	6	No.	$8,000	$48,000	
5	PLAYGROUND							
	5.1	Playground						
		5.1.1	Playground	1	Item	$250,000	$250,000	Incl. earthworks, shaping, drainage, playground equipment, set- out, soft fall, edging
6	SHELTER AND BBQ FACILITIES							
	6.1	Shelter						
		6.1.1	Shelter	1	Item	$50,000	$50,000	
	6.2	BBQ Facilities						
		6.2.1	BBQ	1	Item	$25,000	$25,000	
					TOTAL : OPINION OF PROBABLE COST		$4,413,925	

ASSUMPTIONS AND EXCLUSIONS:

*Community Garden is excluded;
*Stormwater Harvesting System is excluded;
*Sports field drainage is excluded;
*Stormwater quantity and quality treatments are excluded;
*Provison of utility services is excluded;
*Delivery of Council Fees, Authority Fees, Traffic Management, Environmental Management, Survey/Design, Supervision & Project Management, Site Establishment, and Contigency are excluded.

DISCLAIMER: THESE DESIGNS ARE CONCEPTS ONLY AND ARE SUBJECT TO CHANGE VIA THE DETAILED DESIGN PROCESS AT THE TIME OF DELIVERY.

65

9.2.3 LP-01 – LP-06 Local Park/Linear Park

Prepared 14 March 2023

Quantities Based on Local Park Reference Design Rev B Dated 14 March 2023

QUANTITIES - FOR INFORMATION ONLY

Items	Unit	Qty
1. Landscape Surfaces		
1.1 Proposed Pedestrian Grade Plain Concrete Pavement with Light Broom Finish	m2	135
1.2 Proposed 50mm Cement Stabilised Granitic Sand/ Toppings with steel edging over 50mm compacted crushed rock sub-base	m2	394
1.3 Proposed Organic Softfall Mulch	m2	269
2. Landscape Furniture & Features		
2.1 Proposed Council Standard Seat on min. 3m x 1.5m concrete slab	no.	6
2.2 Proposed Council Standard 80L Rubbish & Recycle Bins on concrete slab	no.	1
2.3 Proposed Nature Play Items including timber logs, timber steppers & mudstone boulders	item	1
2.4 Proposed Shade Sail Over Play Area 12m x 10m	no.	1
2.5 Proposed Steel edge (For Granitic Sand Pavement Item 1.2)	lm.	476
3. Soft Landscape Works		
3.1 Proposed Evergreen Trees in 45L pot	no.	57
3.2 Proposed Deciduous Trees in 45L pot	no.	61
3.3 Proposed Hydromulched Grass with 100mm depth of topsoil. (Allow for drip irrigation to kick-about area only 3590m2).	m2	9172
3.5 Proposed Hydromulched Grassed Mound	m2	686
3.4 Grass Swale	lm.	281

Open Space (Typical Park)- Total	Ref	Plan Cost Ref	Spiire 2023 Review Total
Local Park (7000sqm)		Sept 2018	$ 790,775
Local Park (10000sqm) - % Increase from 7000sqm to 10000sqm on Area Rates		Mar-23	$ 1,040,390
Local Park (10000sqm) - SGC Park Equivalent Minimial		Mar-23	$ 1,083,125

Key Summary Notes:

1. OPCC is based on updating line item figures in Quantity Spreadsheet Supplied, no checking of quantities.
2. OPPC Line Items based on recent Spiire Project Rates as of Dec 2022.
3. Spiire assume proposed internal intersections are to IDM Standard not DOT (as per Cardno).
4. Producer Price Index (PPI) Index from Reserve Bank Calculator
5. Local Park (10000sqm) is reduction applied by area items only. Care to be taken utlising these figures.
6. Local Park 10,000sqm (1 Ha) derived from North East Growth Corridor typical park
7. Due to current volitile market conditions, the rates are highly subjected to rise and fall based on contractor and supply availability


LOCAL ACCESS STREET (16m)
LOCAL ACCESS STREET (16m)
CONNECTOR STREET (30m)
RETARDATION BASIN
NOTES:
LEGEND

9.2.4 PCP-01 – Shared Pedestrian and Cycle Path

Source: Shepparton City Council - June 2023

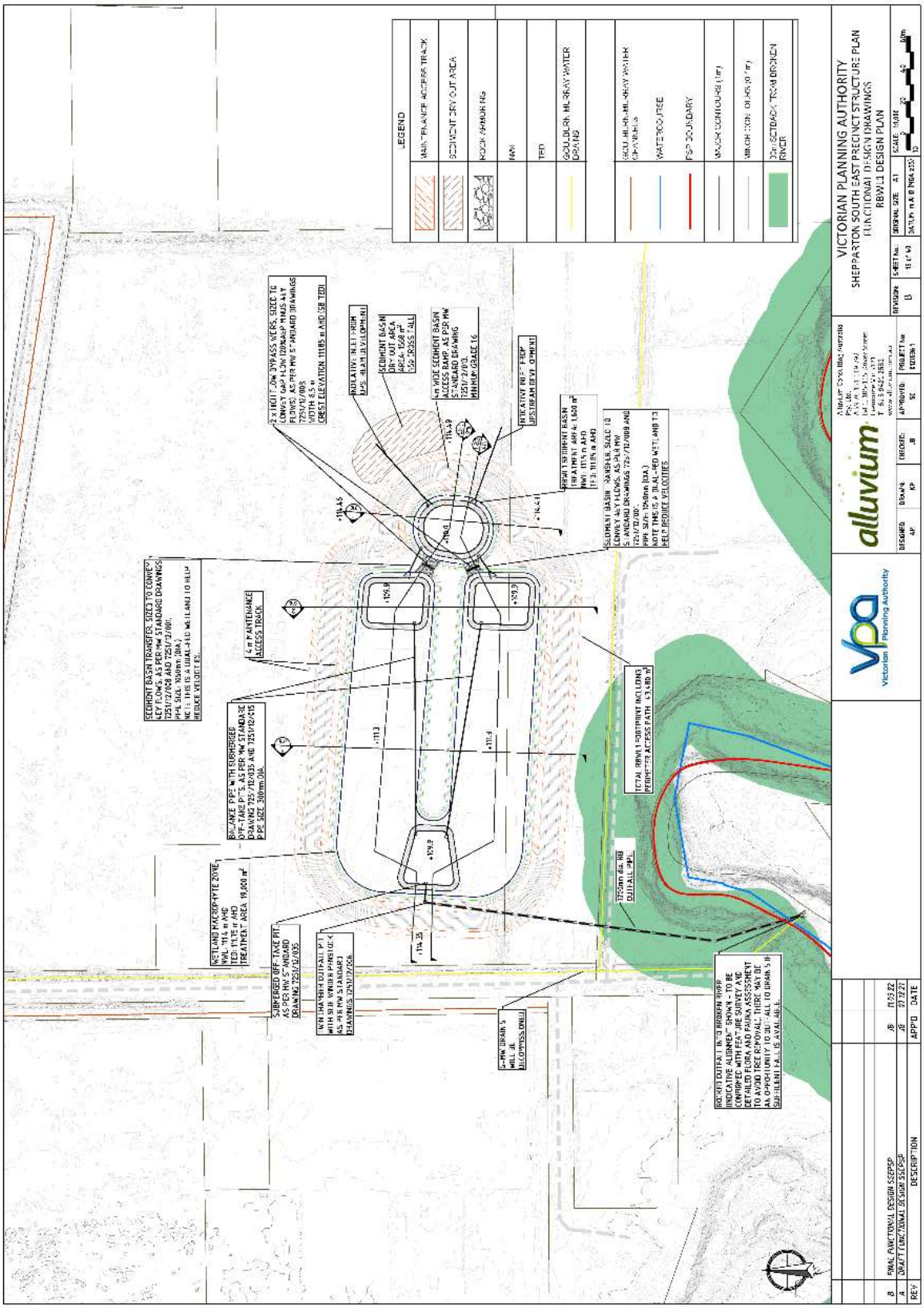
Material	Width	Depth	Length	Per L/M ex gst	Total
Concrete	2.5m	125mm	2,936m	$160 / m	$469,760

Wetland RB 1- Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS				$1,757,748.21	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	40321	m2	$1.50	$60,481.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling	112484	m3	$15.00	$1,687,266.71	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other (Description)		Item		$-	
2	DRAINAGE				$2,036,547.50	
2.1	BOX CULVERTS					
2.1.1	Box culvert units (Description)		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	DRAINAGE PIPES					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	1800	LM	$800.00	$1,440,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assume there will be at least two mains coming into WL1 given size of 20% AEP flows. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 2 x 1050mm dia RC transfer pipes (SB to WL inlet pools) incl excavation, crushed rock bedding and back fill	27	LM	$800.00	$21,600.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	260	LM	$220.00	$57,200.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDO control pit) incl excavation, crushed rock bedding and back fill	11	LM	$310.00	$3,410.00	
2.2.5	Drainage - pipes: Supply and install 1200 mm dia retarding basin outfall pipe (to Broken River) incl excavation, crushed rock bedding and back fill	263	LM	$1,200.00	$315,600.00	
2.2.6	Drainage - pits: Supply and install 2 x concrete headwall to suit 1500mm dia. pipe	2	No.	$10,000.00	$20,000.00	
2.2.7	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1500mm x 1500mm x 1500mm)	2	No.	$8,500.00	$17,000.00	
2.2.8	Drainage - pits: Supply and install concrete headwall to suit 1050mm dia. pipe	2	No.	$8,000.00	$16,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	4	No.	$3,000.00	$12,000.00	
2.2.10	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.11	Drainage - pits: Supply and install twin chamber EDO control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	
2.2.12	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	
2.2.13	Drainage - pits: Allowance for pits located every 80m along stormwater main	23	No.	$2,400.00	$54,000.00	
2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous (Description)		Item		$-	

2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	149	m3	$350.00	$52,237.50	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/B/108 (300mm thick, 1100mm deep, 8.5m long)	2	Item	$3,250.00	$6,500.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$33,281.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	23	m3	$200.00	$4,560.00	
3.2	Supply and install well graded D50=300mm rock to form sediment basin to wetland spillway	134	m3	$200.00	$26,720.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	50	lin.m	$10.00	$501.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (Broken River connection)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$220,032.00**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	604	m3	$32.00	$19,324.80	Up to TED
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	6,272	m3	$32.00	$200,707.20	Up to TED
5	**TOPSOIL**				**$108,233.40**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	503	m2	$3.30	$1,659.90	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	22,996	m2	$3.30	$75,886.80	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	9,299	m2	$3.30	$30,686.70	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$367,470.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	540	No.	$5.00	$2,700.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	15,196	No.	$5.00	$75,980.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	15,994	No.	$5.00	$79,970.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	29,456	No.	$2.50	$73,640.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	37,196	No.	$2.50	$92,990.00	RB planting (above path in RB)
6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	2,219	m2	$10.00	$22,190.00	NWL to TED area for wetland and SB
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				$-	
7.1	Supply and installation of rising main		LM	$200.00	$-	
7.2	Supply and installation of pumping station		Item	$170,000.00	$-	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees		Item	$2,500.00	$-	
8	**LANDSCAPE**				**$198,996.00**	

8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	3164	m2	$33.00	$104,412.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	2848	m2	$33.00	$93,984.00	
9	**MISCELLANEOUS**				**$84,533.50**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	10089	m2	$1.50	$15,133.50	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				**$-**	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$4,806,841.61**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$156,222.35	
11.2	VicRoads Fees	1	%		$48,068.42	
11.3	Traffic Management	5	%		$240,342.08	
11.4	Environmental Management	0.5	%		$24,034.21	
11.5	Survey/Design	5	%		$240,342.08	
11.6	Supervision & Project Management	9	%		$432,615.74	
11.7	Site Establishment	2.5	%		$120,171.04	
11.8	Contingency	20	%		$961,368.32	
	SUB-TOTAL DELIVERY				**$2,223,164.24**	
12	**TOTAL ESTIMATED COST**				**$7,030,005.85**	

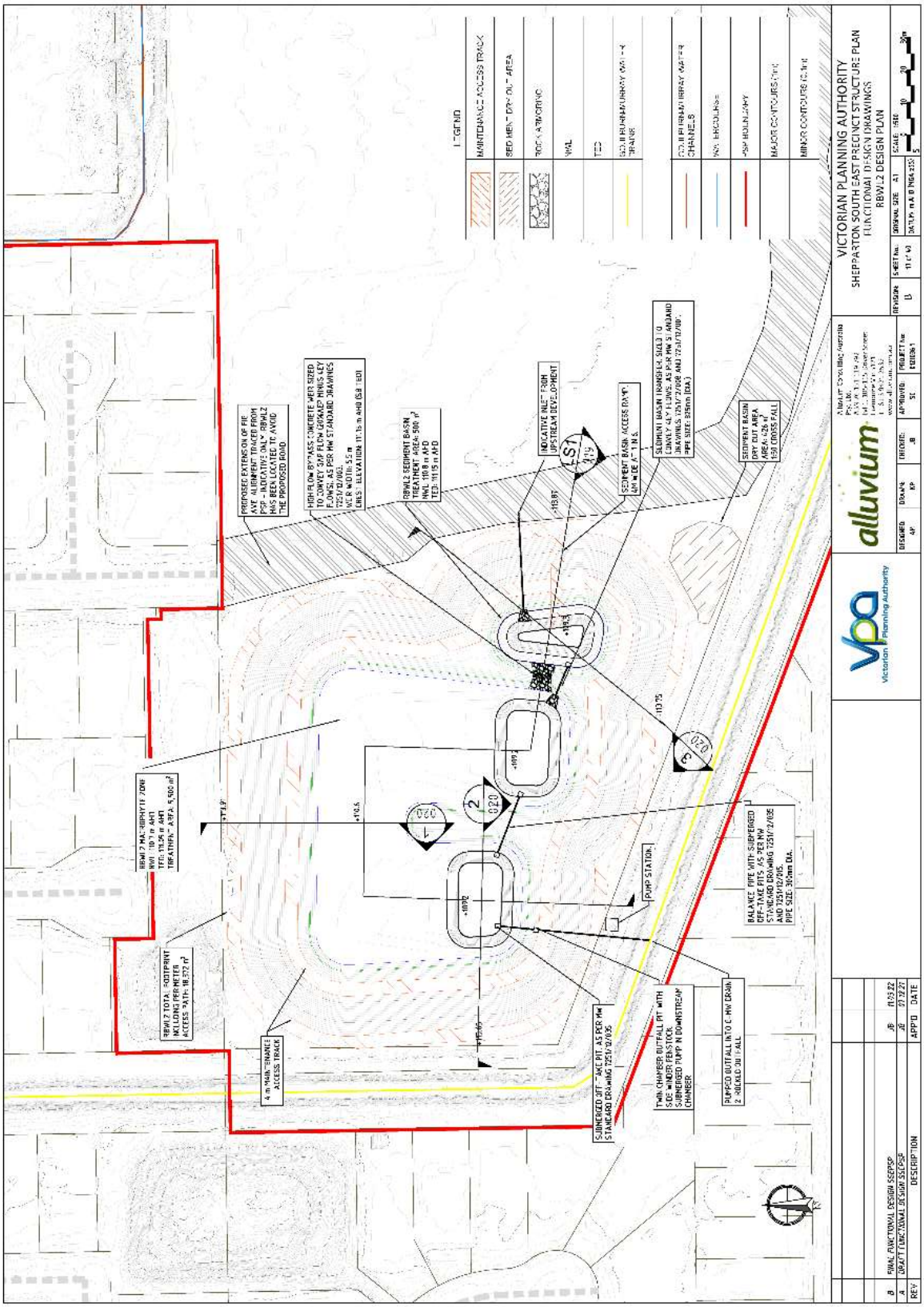

LEGEND
MAINTENANCE ACCESS TRACK
SEDIMENT DRY OUT AREA
ROCK ARMOURING
BANK
TOE
GOULBURN-MURRAY WATER DRAINS
WATERCOURSE
PSP BOUNDARY
MAJOR CONTOURS (1m)
MINOR CONTOURS (0.5m)
50m SETBACK FROM DRAINAGE LINE
VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL1 DESIGN PLAN
alluvium
Victorian Planning Authority
FINAL FUNCTIONAL DESIGN SSDPSP
DRAFT FUNCTIONAL DESIGN SSDPSP
DESCRIPTION
APPD
DATE

Wetland RB2 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$629,699.69**	
1.1	Site preparation	1	Item	$ 10,000.00	$ 10,000.00	
1.2	Earthworks		m3		$ -	
1.3	Diversion works		Item		$ -	
1.4	Waterway re-shaping		Item		$ -	
1.5	Stripping of topsoil and stockpiling	16356	m2	$1.50	$24,533.69	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling	39864	m3	$ 15.00	$ 594,966.00	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$ 15.00	$ -	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other (Description)		Item		$ -	
2	**DRAINAGE**				**$ 629,222.50**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units (Description)		No.		$ -	
2.1.2	Link slabs		No.		$ -	
2.1.3	Foundation slab		m2		$ -	
2.1.4	Other (Description)		Item		$ -	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	670	LM	$ 800.00	$ 536,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 825mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	10	LM	$ 500.00	$ 5,000.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	19	LM	$ 220.00	$ 4,180.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	11	LM	$ 310.00	$ 3,410.00	
2.2.5	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$ 10,000.00	$ 10,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1200mm x 1200mm x 1200mm)	1	No.	$ 7,500.00	$ 7,500.00	
2.2.7	Drainage - pits: Supply and install headwall to suit 825 mm dia. pipe	1	No.	$ 6,000.00	$ 6,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$ 3,000.00	$ 6,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$ 5,000.00	$ 5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$ 15,000.00	$ 15,000.00	
2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$ 1,000.00	$ 1,000.00	
2.2.12	Drainage - pits: Allowance for pits located every 80m along stormwater main	8	No.	$ 2,400.00	$ 20,100.00	
2.2.3	Drainage – Sub-soil drainage		LM		$ -	
2.2.4	Drainage – Miscellaneous (Description)		Item		$ -	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$ -	
2.3.2	Wing wall		m2		$ -	
2.3.3	Headwall above culverts		m2		$ -	

2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	23	m3	$ 350.00	$ 8,032.50	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/B/108 (300mm thick, 1100mm deep, 5.5m long)	1	Item	$ 2,000.00	$ 2,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$ -	Included in pipe rates
2.4.2	Other (Description)		Item		$ -	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$ -	
3	**ROCK WORKS**				**$ 14,287.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR @5% cement stabilised below NWL).	24	m3	$ 200.00	$ 4,800.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	39	m3	$ 200.00	$ 7,840.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	15	lin.m	$ 10.00	$ 147.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$ 1,500.00	$ 1,500.00	
4	**CLAY LINER**				**$ 67,276.80**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	213	m3	$ 32.00	$ 6,806.40	Up to TED
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	1,890	m3	$ 32.00	$ 60,470.40	Up to TED
5	**TOPSOIL**				**$44,705.10**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	287	m2	$3.30	$947.10	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	7,459	m2	$3.30	$24,614.70	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	5,801	m2	$3.30	$19,143.30	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$ 164,340.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	242	No.	$ 5.00	$ 1,210.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	3,468	No.	$ 5.00	$ 17,340.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	5,748	No.	$ 5.00	$ 28,740.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	11,588	No.	$ 2.50	$ 28,970.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	23,204	No.	$ 2.50	$ 58,010.00	RB planting (above path in RB)
6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1,007	m2	$ 10.00	$ 10,070.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones	1	No.	$ 20,000.00	$ 20,000.00	
7	**PUMPING**				**$ 179,500.00**	
7.1	Supply and installation of rising main	35	LM	$ 200.00	$ 7,000.00	

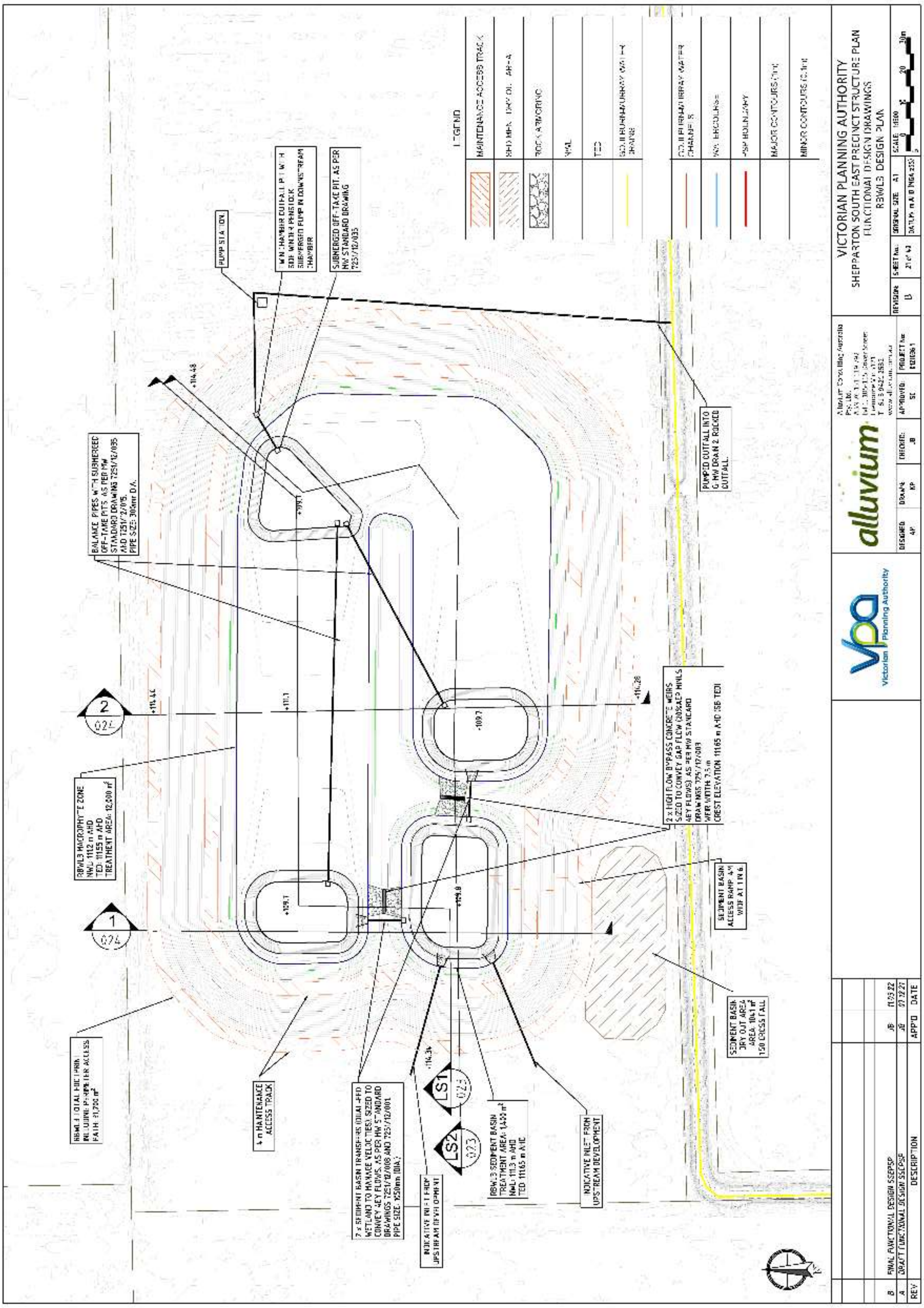
7.2	Supply and installation of pumping station	1	Item	$ 170,000.00	$ 170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$ 2,500.00	$ 2,500.00	
8	**LANDSCAPE**				**$ 120,060.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$ 6.00	$ 600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2019	m2	$ 33.00	$ 66,627.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1601	m2	$ 33.00	$ 52,833.00	
9	**MISCELLANEOUS**				**$78,836.50**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$ 2,500.00	$ 30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$ 2,000.00	$ 6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$ 750.00	$ 18,000.00	
9.4	Allowance for timber bollards	2	No	$ 200.00	$ 400.00	
9.5	Allowance for seats	2	No	$ 2,500.00	$ 5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$ 5,000.00	$ 10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6291	m2	$1.50	$9,436.50	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				**$ -**	
10.1			Item		$ -	
	SUB-TOTAL WORKS				**$1,927,727.59**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$62,651.15	
11.2	VicRoads Fees	1	%		$19,277.28	
11.3	Traffic Management	5	%		$96,386.38	
11.4	Environmental Management	0.5	%		$9,638.64	
11.5	Survey/Design	5	%		$96,386.38	
11.6	Supervision & Project Management	9	%		$173,495.48	
11.7	Site Establishment	2.5	%		$48,193.19	
11.8	Contingency	20	%		$385,545.52	
	SUB-TOTAL DELIVERY				**$891,574.01**	
12	**TOTAL ESTIMATED COST**				**$2,819,301.59**	


VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL2 DESIGN PLAN
alluvium
Victorian Planning Authority
FINAL FUNCTIONAL DESIGN SSDPSP
DRAFT FUNCTIONAL DESIGN SSDPSP
DESCRIPTION
APP'D
DATE
PROPOSED EXTENSION OF RIE AXE ALIGNMENT TRACED FROM PSP - INDICATIVE ONLY. RBWL2 HAS BEEN LOCATED TO AVOID THE PROPOSED ROAD
HIGH FLOW BYPASS CONCRETE WEIR SIZED TO CONVEY 50AP FLOW (20YARP) MINUS KEY FLOWS, AS PER MW STANDARD DRAWINGS 725112/002.
RBWL2 SEDIMENT BASIN TREATMENT AREA: 500 m²
INDICATIVE INLET FROM UPSTREAM DEVELOPMENT
SEDIMENT BASIN ACCESS RAMP 4m WIDE AT 1 IN 6.
SEDIMENT BASIN TRANSFER SIZED TO CONVEY 4.4 m³/s AS PER MW STANDARD DRAWINGS 725112/2026 AND 725112/2030. PIPE SIZE: 825mm DIA.
SEDIMENT BASIN DRY OUT AREA AREA: 426 m² 1:50 CROSS FALL
RBWL2 MAINTENANCE ACCESS TRACK WIDTH: 10 m AHD TOP: 115.95 m AHD TREATMENT AREA: 5,560 m²
RBWL2 TOTAL FOOTPRINT INCLUDING PERIMETER ACCESS PATH: 18,272 m²
4 m MAINTENANCE ACCESS TRACK
SUBMERGED OFF - TAKE PIT, AS PER MW STANDARD DRAWING 725112/005
TWIN CHAMBER OUTFALL PIT WITH SIDE WATER FEATSTOCK SUBMERGED PUMP IN DOWNSTREAM CHAMBER
PUMPED OUTFALL INTO C MW DRAIN 2 - 450ALD 30° FALL
BALANCE PIPE WITH SUBMERGED OFFTAKE PITS, AS PER MW STANDARD DRAWING 725112/005 AND 725112/005 PIPE SIZE: 300mm DIA.
PUMP STATION
LEGEND
MAINTENANCE ACCESS TRACK
SEDIMENT DRY OUT AREA
BOX CULVERT
WIER
TCD
SUBTERRANEAN DRAINAGE
MAJOR CONTOURS (1m)
MINOR CONTOURS (0.1m)

Wetland RB3 - Cost Estimate						
Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS				$1,234,262.14	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	28583	m2	$1.50	$42,874.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling	78759	m3	$15.00	$1,181,387.64	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other (Description)		Item		$-	
2	DRAINAGE				$1,380,705.00	
2.1	BOX CULVERTS					
2.1.1	Box culvert units (Description)		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	DRAINAGE PIPES					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	1460	LM	$800.00	$1,168,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assume there will be at least two mains coming into WL3 given size of 20% AEP flows. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 2 x 1050mm dia RC transfer pipes (SB to WL inlet pools) incl excavation, crushed rock bedding and back fill	22	LM	$800.00	$17,600.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	72	LM	$220.00	$15,840.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	12	LM	$310.00	$3,565.00	
2.2.5	Drainage - pits: Supply and install 2 x concrete headwall to suit 1500mm dia. pipe	2	No.	$10,000.00	$20,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1500mm x 1500mm x 1500mm)	2	No.	$8,500.00	$17,000.00	
2.2.7	Drainage - pits: Supply and install concrete headwall to suit 1050mm dia. pipe	2	No.	$8,000.00	$16,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes.	4	No.	$3,000.00	$12,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	

2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	
2.2.13	Drainage - pits: Allowance for pits located every 80m along stormwater main	18	No.	$2,400.00	$43,800.00	
2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous (Description)		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	114	m3	$350.00	$39,900.00	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 7.5m long)	2	Item	$3,000.00	$6,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$33,038.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of D-40 NDCR (6% cement stabilised below NWL).	22	m3	$200.00	$4,480.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	133	m3	$200.00	$26,560.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	50	lin.m	$10.00	$498.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$145,478.40**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	518	m3	$32.00	$16,560.00	Up to TED
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site).	4029	m3	$32.00	$128,918.40	Up to TED
5	**TOPSOIL**				**$76,662.30**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	475	m2	$3.30	$1,567.50	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	14951	m2	$3.30	$49,338.30	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	7805	m2	$3.30	$25,756.50	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$267,275.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	443	No.	$5.00	$2,215.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	9528	No.	$5.00	$47,640.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	10394	No.	$5.00	$51,970.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	20088	No.	$2.50	$50,220.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	31220	No.	$2.50	$78,050.00	RB planting (above path in RB)

6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1718	m2	$10.00	$17,180.00	NWL to TED area for wetland and SB
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$205,500.00**	
7.1	Supply and installation of rising main	165	LM	$200.00	$33,000.00	
7.2	Supply and installation of pumping station	1	Item	$170,000.00	$170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$2,500.00	$2,500.00	
8	**LANDSCAPE**				**$156,195.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2571	m2	$33.00	$84,843.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	2144	m2	$33.00	$70,752.00	
9	**MISCELLANEOUS**				**$82,072.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	8448	m2	$1.50	$12,672.00	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				**$-**	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$3,581,187.84**	
11	**DELIVERY**					
11.1	Council Fees	3	%		$116,388.60	
11.2	VicRoads Fees	1	%		$35,811.88	
11.3	Traffic Management	5	%		$179,059.39	
11.4	Environmental Management	1	%		$17,905.94	
11.5	Survey/Design	5	%		$179,059.39	
11.6	Supervision & Project Management	9	%		$322,306.91	
11.7	Site Establishment	3	%		$89,529.70	
11.8	Contingency	20	%		$716,237.57	
	SUB-TOTAL DELIVERY				**$1,656,299.38**	
12	**TOTAL ESTIMATED COST**				**$5,237,487.22**	

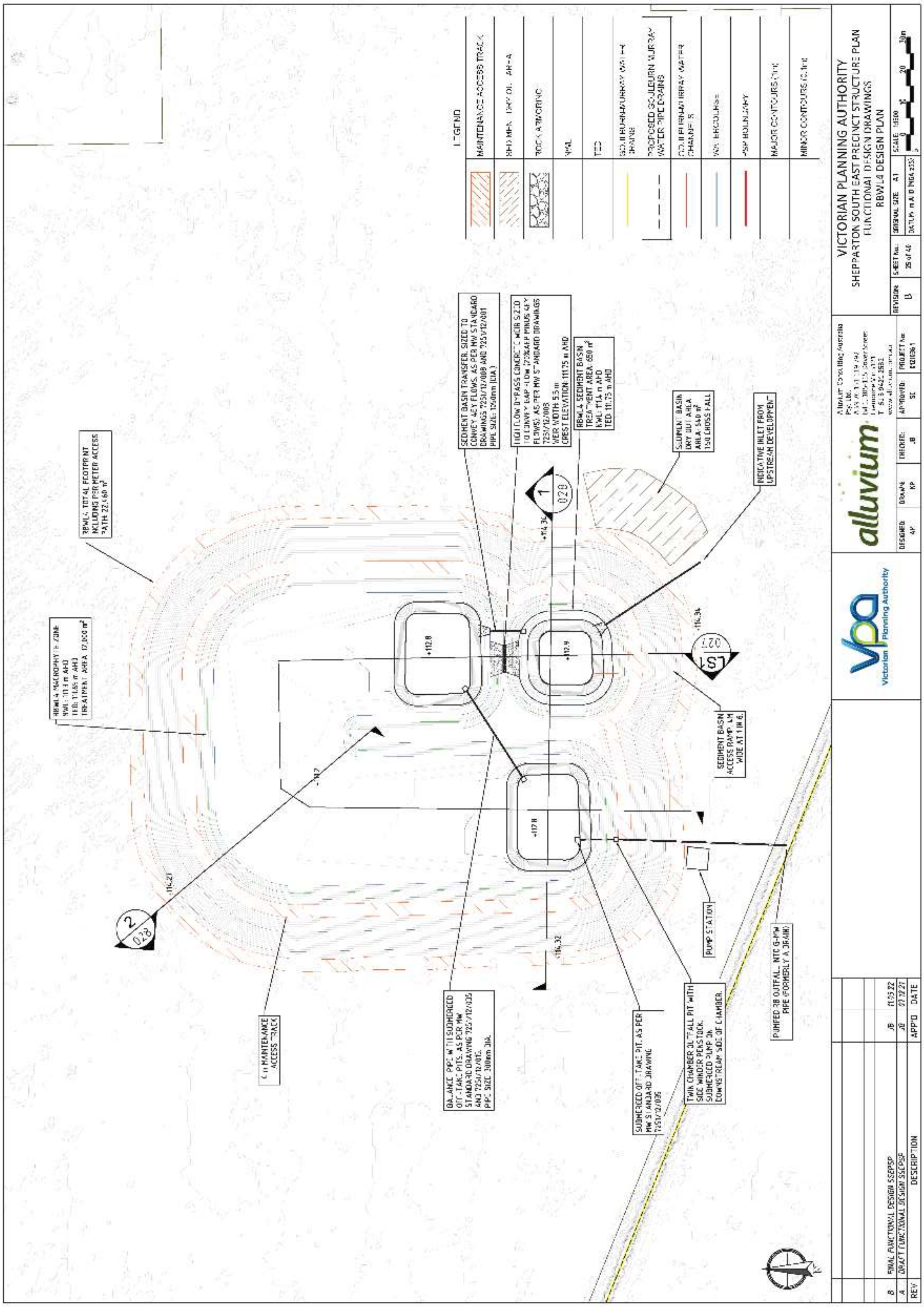

VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL3 DESIGN PLAN
LEGEND
MAINTENANCE ACCESS TRACK
ROCK ARMORING
PUMP STATION
PUMPED OUTFALL INTO GMW DRAIN 2 ROCKED OUTFALL
SEDIMENT BASIN ACCESS RAMP 4M WIDE AT 1 IN 6
4 m MAINTENANCE ACCESS TRACK
INDICATIVE INLET FROM UPSTREAM DEVELOPMENT
alluvium
FINAL FUNCTIONAL DESIGN SSEPSP
DRAFT FUNCTIONAL DESIGN SSEPSP
REV
DESCRIPTION
APP'D
DATE

Wetland RB4 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS				$831,383.44	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	20295	m2	$1.50	$30,442.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling	52729	m3	$15.00	$790,940.94	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other (Description)		Item		$-	
2	DRAINAGE				$512,235.00	
2.1	BOX CULVERTS					
2.1.1	Box culvert units (Description)		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	DRAINAGE PIPES					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	507	LM	$800.00	$405,600.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 1050mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	10	LM	$800.00	$8,000.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	32	LM	$220.00	$7,040.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	11	LM	$310.00	$3,255.00	
2.2.5	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$10,000.00	$10,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1500mm x 1500mm x 1500mm)	1	No.	$8,500.00	$8,500.00	
2.2.7	Drainage - pits: Supply and install headwall to suit 1050mm dia. pipe	1	No.	$8,000.00	$8,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$3,000.00	$6,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	
2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	
2.2.12	Drainage - pits: Allowance for pits located every 80m along stormwater main	6	No.	$2,400.00	$15,210.00	
2.2.3	Drainage – Sub-soil drainage		LM		$-	

2.2.6	Drainage – Miscellaneous (Description)		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	47	m3	$350.00	$16,380.00	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 8.5m long)	1	Item	$3,250.00	$3,250.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$18,368.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	22	m3	$200.00	$4,480.00	
3.2	Supply and install well graded 050–400mm rock to form sediment basin to wetland spillway	61	m3	$200.00	$12,160.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	23	lin.m	$10.00	$228.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$96,134.40**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	291	m3	$32.00	$9,302.40	Up to TED
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	2714	m3	$32.00	$86,832.00	Up to TED
5	**TOPSOIL**				**$54,915.30**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	322	m2	$3.30	$1,062.60	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	10240	m2	$3.30	$33,792.00	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	6079	m2	$3.30	$20,060.70	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$197,255.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	291	No.	$5.00	$1,455.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	6204	No.	$5.00	$31,020.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	7158	No.	$5.00	$35,790.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	14360	No.	$2.50	$35,900.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	24316	No.	$2.50	$60,790.00	RB planting (above path in RB)
6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1230	m2	$10.00	$12,300.00	NWL to TED area for wetland and SB

6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$183,500.00**	
7.1	Supply and installation of rising main	55	LM	$200.00	$11,000.00	
7.2	Supply and installation of pumping station	1	Item	$170,000.00	$170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$2,500.00	$2,500.00	
8	**LANDSCAPE**				**$126,792.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2112	m2	$33.00	$69,696.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1712	m2	$33.00	$56,496.00	
9	**MISCELLANEOUS**				**$79,310.50**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6607	m2	$1.50	$9,910.50	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				$-	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$2,099,893.64**	
11	**DELIVERY**					
11.1	Council Fees	3	%		$68,246.54	
11.2	VicRoads Fees	1	%		$20,998.94	
11.3	Traffic Management	5	%		$104,994.68	
11.4	Environmental Management	1	%		$10,499.47	
11.5	Survey/Design	5	%		$104,994.68	
11.6	Supervision & Project Management	9	%		$188,990.43	
11.7	Site Establishment	3	%		$62,497.34	
11.8	Contingency	20	%		$419,978.73	
	SUB-TOTAL DELIVERY				**$971,200.81**	
12	**TOTAL ESTIMATED COST**				**$3,071,094.45**	

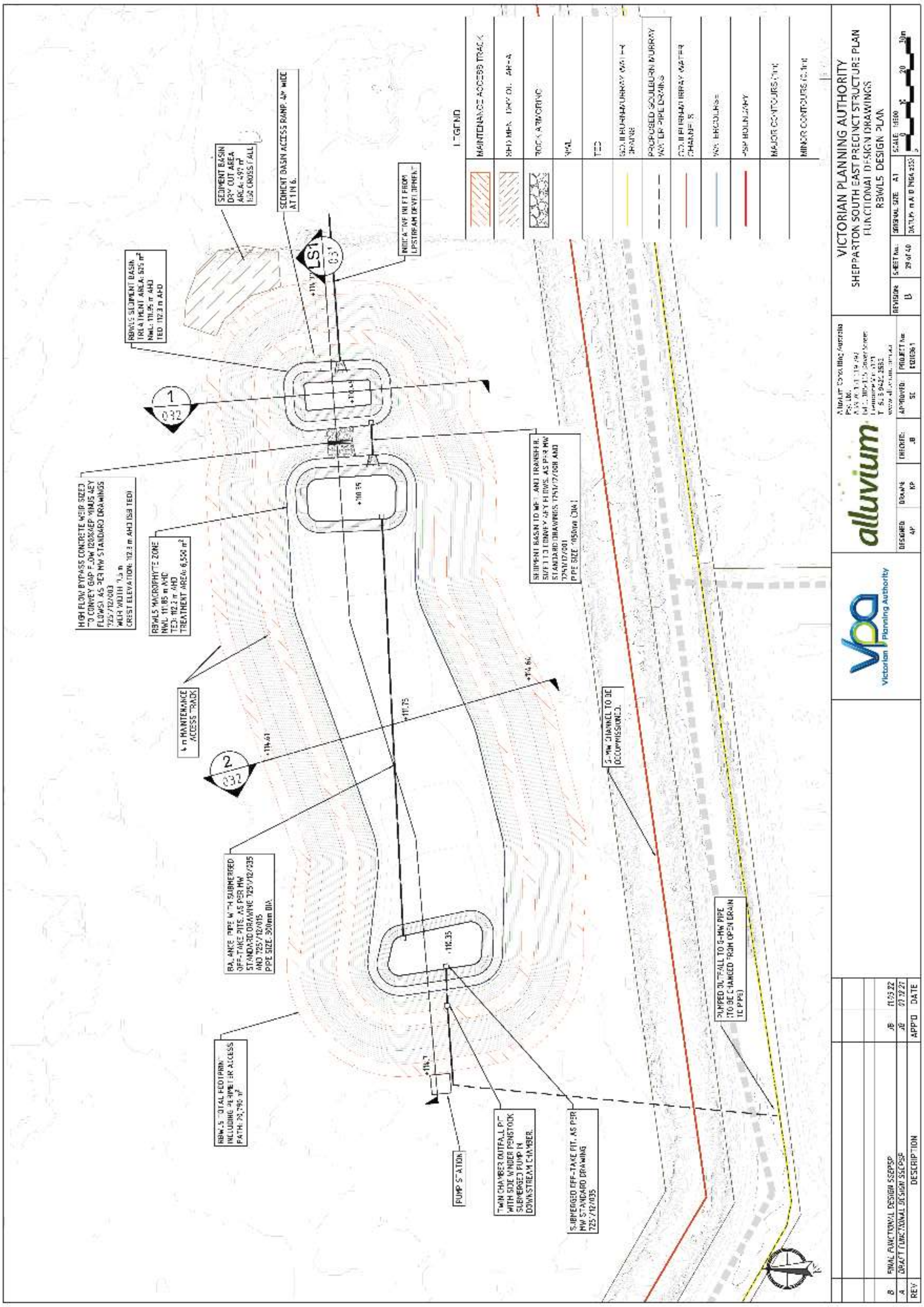

LEGEND
MAINTENANCE ACCESS TRACK
ROCK ARMORING
VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL4 DESIGN PLAN
alluvium
SEDIMENT BASIN ACCESS RAMP 4M WIDE AT 1 IN 6
PUMP STATION
INDICATIVE INLET FROM UPSTREAM DEVELOPMENT
FINAL FUNCTIONAL DESIGN SSEPSP
DRAFT FUNCTIONAL DESIGN SSEPSP
REV
DESCRIPTION
APP'D
DATE

Wetland RB5 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$658,533.18**	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	18414	m2	$1.50	$27,621.00	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	41394	m3	$15.00	$620,912.18	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other (Description)		Item		$-	
2	**DRAINAGE**				**$436,825.00**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units (Description)		No.		$-	
2.1.2	Unit slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill.	397	LM	$800.00	$317,600.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 1050mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	10	LM	$800.00	$8,000.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	129	LM	$220.00	$28,380.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDD control pit) incl excavation, crushed rock bedding and back fill	11	LM	$310.00	$3,410.00	
2.2.5	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$10,000.00	$10,000.00	
2.2.6	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1500mm x 1500mm x 1500mm)	1	No.	$8,500.00	$8,500.00	
2.2.7	Drainage - pits: Supply and install headwall to suit 1050mm dia. pipe	1	No.	$8,000.00	$8,000.00	
2.2.8	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$3,000.00	$6,000.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.10	Drainage - pits: Supply and install twin chamber EDD control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	
2.2.11	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	
2.2.12	Drainage - pits: Allowance for pits located every 80m along stormwater main	5	No.	$2,400.00	$11,910.00	

2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous (Description)		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	32	m3	$350.00	$11,025.00	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 7.5m long)	1	Item	$3,000.00	$3,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$16,255.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	21	m3	$200.00	$4,160.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	52	m3	$200.00	$10,400.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	20	lin.m	$10.00	$195.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (into G-MW drain)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$79,449.60**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	254	m3	$32.00	$8,131.20	
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	2,229	m3	$32.00	$71,318.40	Up to TED
5	**TOPSOIL**				**$49,001.70**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	302	m2	$3.30	$996.60	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	8,479	m2	$3.30	$27,980.70	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	6,068	m2	$3.30	$20,024.40	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$178,150.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	272	No.	$5.00	$1,360.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	5,474	No.	$5.00	$27,370.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	5,498	No.	$5.00	$27,490.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	12,092	No.	$2.50	$30,230.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	24,272	No.	$2.50	$60,680.00	RB planting (above path in RB)

6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	1,102	m2	$10.00	$11,020.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$196,700.00**	
7.1	Supply and installation of rising main	121	LM	$200.00	$24,200.00	
7.2	Supply and installation of pumping station	1	Item	$170,000.00	$170,000.00	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.	1	Item	$2,500.00	$2,500.00	
8	**LANDSCAPE**				**$143,424.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2356	m2	$33.00	$77,748.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1972	m2	$33.00	$65,076.00	
9	**MISCELLANEOUS**				**$79,384.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6656	m2	$1.50	$9,984.00	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				$-	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$1,837,722.48**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$59,725.98	
11.2	VicRoads Fees	1	%		$18,377.22	
11.3	Traffic Management	5	%		$91,886.12	
11.4	Environmental Management	0.5	%		$9,188.61	
11.5	Survey/Design	5	%		$91,886.12	
11.6	Supervision & Project Management	9	%		$165,395.02	
11.7	Site Establishment	2.5	%		$45,943.06	
11.8	Contingency	20	%		$367,544.50	
	SUB-TOTAL DELIVERY				**$849,946.64**	
12	**TOTAL ESTIMATED COST**				**$2,687,669.12**	

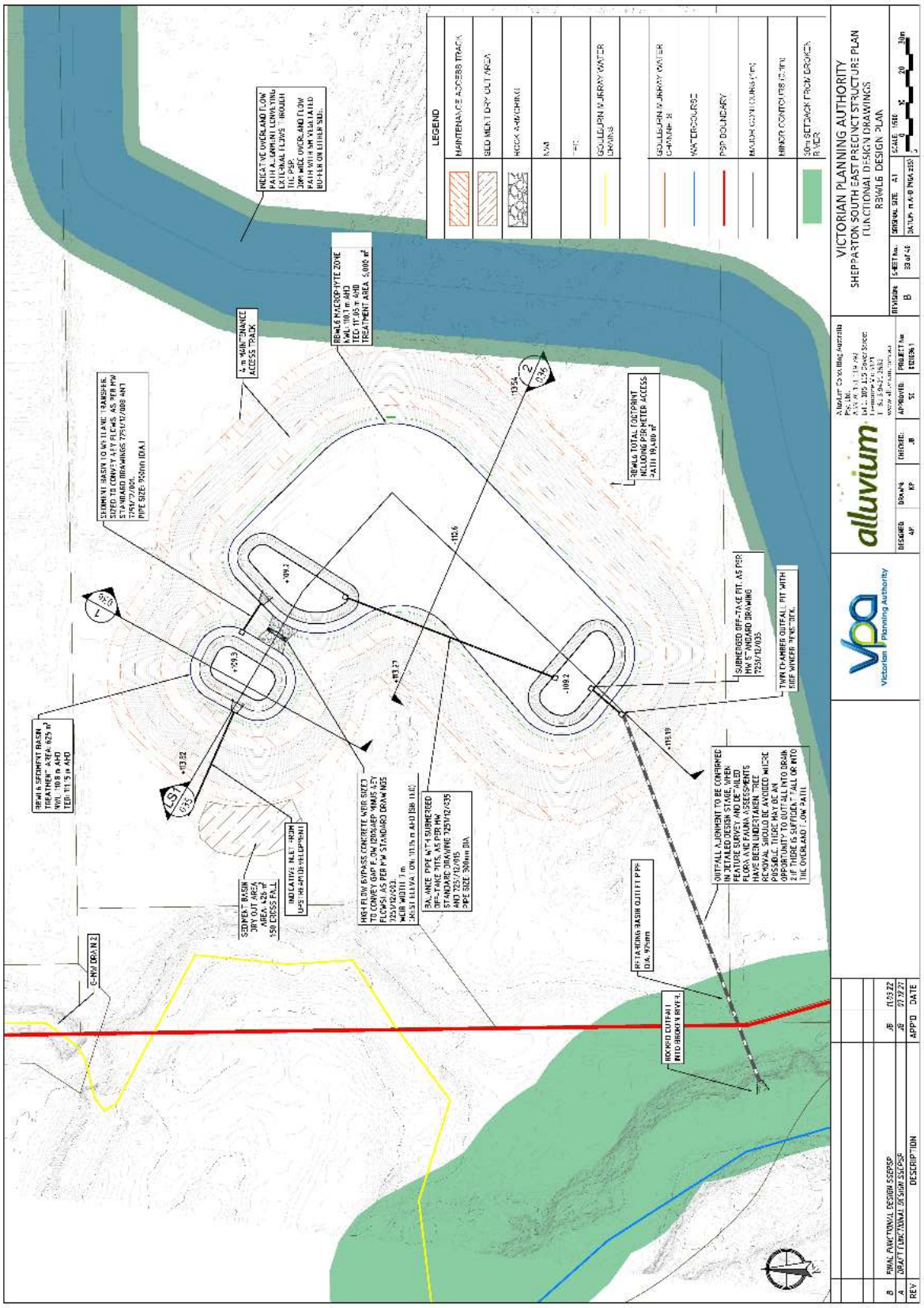

VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWL5 DESIGN PLAN
LEGEND
MAINTENANCE ACCESS TRACK
ROCK ARMORING
NWL
TED
MAJOR CONTOURS
MINOR CONTOURS
RBWL5 MACROPHYTE ZONE
4 m MAINTENANCE ACCESS TRACK
PUMP STATION
alluvium
FINAL FUNCTIONAL DESIGN SSEPSP
DRAFT FUNCTIONAL DESIGN SSEPSP
REV
DESCRIPTION
APP'D
DATE

Wetland RB6 - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	**SITEWORKS AND EARTHWORKS**				**$636,414.36**	
1.1	Site preparation	1	Item	$10,000.00	$10,000.00	
1.2	Earthworks		m3		$-	
1.3	Diversion works		Item		$-	
1.4	Waterway re-shaping		Item		$-	
1.5	Stripping of topsoil and stockpiling	17163	m2	$1.50	$25,744.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling	40045	m3	$15.00	$600,669.86	Excavated material assumed to be re-used in development/transported within Shepparton. Includes over-excavation to allow for clay liner (topsoil layer already removed).
1.7	Formation of batters	0	m3	$15.00	$-	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other (Description)		Item		$-	
2	**DRAINAGE**				**$681,807.50**	
2.1	**BOX CULVERTS**					
2.1.1	Box culvert units (Description)		No.		$-	
2.1.2	Link slabs		No.		$-	
2.1.3	Foundation slab		m2		$-	
2.1.4	Other (Description)		Item		$-	
2.2	**DRAINAGE PIPES**					
2.2.1	Drainage - pipes: Supply and install catchment stormwater main incl. excavation, crushed rock bedding and back fill	630	LM	$800.00	$504,000.00	Note this has not been designed throughout the catchment yet. A nominal average pipe size has been selected based on the peak 20% AEP flows and preliminary pipe sizing calculations. Assumed average of 1050mm pipe.
2.2.2	Drainage - pipes: Supply and install 900mm dia RC transfer pipe (SB to WL) incl excavation, crushed rock bedding and back fill	11	LM	$550.00	$6,050.00	
2.2.3	Drainage - pipes: Supply and install 300mm dia RC balance pipes incl excavation, crushed rock bedding and back fill	68	LM	$220.00	$14,960.00	
2.2.4	Drainage - pipes: Supply and install 525mm diam RC pipe (submerged offtake to EDO control pit) incl excavation, crushed rock bedding and back fill	11	LM	$310.00	$3,410.00	
2.2.5	Drainage - pipes: Supply and install 925 mm dia retarding basin outfall pipe (to Broken River) incl excavation, crushed rock bedding and back fill	122	LM	$550.00	$67,100.00	
2.2.6	Drainage - pits: Supply and install concrete headwall to suit 1500mm dia. pipe	1	No.	$10,000.00	$10,000.00	
2.2.7	Drainage - pits: Supply and install sediment basin to wetland transfer pit including step irons and pipe grill lid arrangement (1200mm x 1200mm x 1200mm)	1	No.	$7,500.00	$7,500.00	
2.2.8	Drainage - pits: Supply and install headwall to suit 900mm dia. pipe	1	No.	$6,500.00	$6,500.00	
2.2.9	Drainage - pits: Supply and install submerged offtake pits (600mm x 600mm x 600mm) for balance pipes	2	No.	$3,000.00	$6,000.00	
2.2.10	Drainage - pits: Supply and install submerged offtake pit (900mm x 900mm x 900mm) for wetland outlet	1	No.	$5,000.00	$5,000.00	
2.2.11	Drainage - pits: Supply and install twin chamber EDO control outlet pit/retarding basin outlet with side-winder penstock, step irons and pipe grill lid	1	No.	$15,000.00	$15,000.00	
2.2.12	Drainage - pits: Supply and install water level gauge wetland outlet submerged pit	1	No.	$1,000.00	$1,000.00	

2.2.13	Drainage - pits: Allowance for pits located every 80m along stormwater main	8	No.	$2,400.00	$18,900.00	
2.2.3	Drainage – Sub-soil drainage		LM		$-	
2.2.4	Drainage – Miscellaneous (Description)		Item		$-	
2.3	**CONCRETE WORKS**					
2.3.1	Apron slab		m2		$-	
2.3.2	Wing wall		m2		$-	
2.3.3	Headwall above culverts		m2		$-	
2.3.4	Supply and install reinforced N32 grade concrete, 150 mm deep, extending 300mm vertically up batter, to form sediment basin base	38.25	m3	$350.00	$13,387.50	
2.3.5	Concrete weir/sill: Supply and install reinforced N32 grade concrete to form sediment basin to wetland spillway weir/sill to Melbourne Water standard specification 7251/8/108 (300mm thick, 1100mm deep, 7m long)	1	Item	$3,000.00	$3,000.00	
2.4	**ON-STRUCTURE WORKS**					
2.4.1	Backfill above drainage structure		m3		$-	Included in pipe rates
2.4.2	Other (Description)		Item		$-	
2.5	**OUTLET STRUCTURE**					
2.5.1	Major Outlet pit structure		Item		$-	
3	**ROCK WORKS**				**$15,597.00**	
3.1	Sediment Pond: Supply and install 4m wide sediment basin maintenance access ramp, including sub base preparation. 200mm depth - bottom layer is 100mm depth of 0-100mm FCR, top layer is 100mm of 0-40 NDCR (6% cement stabilised below NWL).	22	m3	$200.00	$4,480.00	
3.2	Supply and install well graded D50=400mm rock to form sediment basin to wetland spillway	47	m3	$200.00	$9,440.00	
3.3	Geofabric: Supply and install geofabric (Bidim A44 or equivalent) for all rockwork	18	lin.m	$10.00	$177.00	4m wide roll, includes allowance for overlap
3.4	Supply and install rockwork to RB outfall (Broken River connection)	1	Item	$1,500.00	$1,500.00	
4	**CLAY LINER**				**$74,140.80**	
4.1	Sediment Basin: Placement of 300 mm compacted clay liners for sediment basin (allow to source off site)	264	m3	$32.00	$8,448.00	
4.2	Wetland: Placement of 300 mm compacted clay liners for wetland (allow to source off site)	2,053	m3	$32.00	$65,692.80	Up to TED
5	**TOPSOIL**				**$45,764.40**	
5.1	Sediment basin: Re spread 200 mm topsoil for planting areas	299	m2	$3.30	$986.70	Assumed site topsoil is used, with 20% allowance for imported topsoil
5.2	Wetland: Re spread 200 mm topsoil for planting areas	7,683	m2	$3.30	$25,353.90	Assumed site topsoil is used, with 20% allowance for imported topsoil. Includes ephemeral area for wetland/SB as these are connected
5.3	Retarding basin	5,886	m2	$3.30	$19,423.80	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	**AQUATIC PLANTING**				**$167,070.00**	
6.1	Supply and install submerged marsh planting (600cm3 tube, 1/m2).	268	No.	$5.00	$1,340.00	For both sediment basin and wetland
6.2	Supply and install deep marsh planting (600cm3 tube, 2/m2).	5,526	No.	$5.00	$27,630.00	For both sediment basin and wetland
6.3	Supply and install shallow marsh planting (600cm3 tube, 2/m2).	4,706	No.	$5.00	$23,530.00	For both sediment basin and wetland
6.4	Supply and install ephemeral planting (90cm3 tube, 4/m2).	10,392	No.	$2.50	$25,980.00	For both sediment basin and wetland. Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.
6.5	Supply and install terrestrial planting (90cm3 tube, 4/m2).	23,544	No.	$2.50	$58,860.00	RB planting (above path in RB)

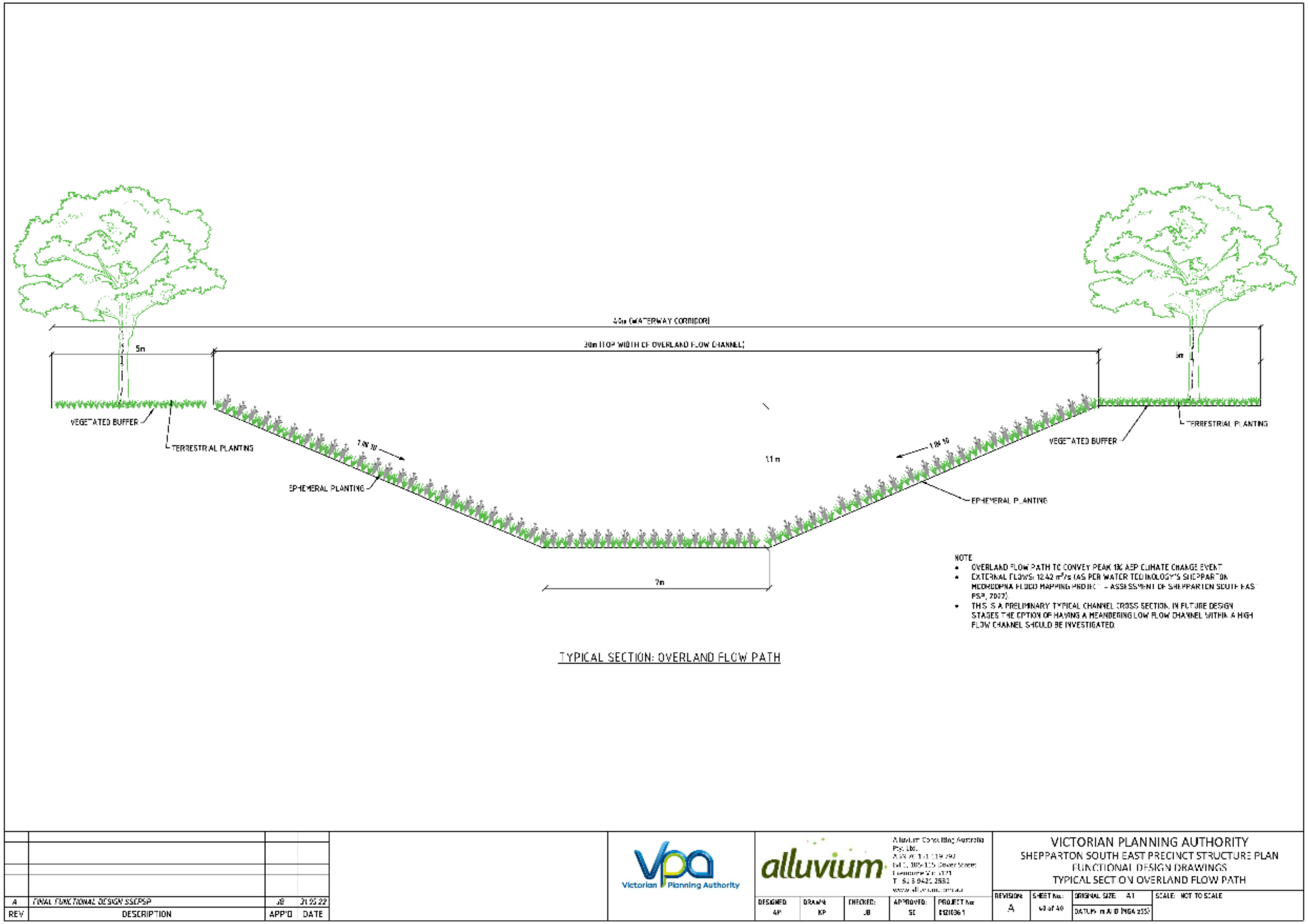
6.6	WL/SB: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in wetland and sediment basin, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	973	m2	$10.00	$9,730.00	NWL to TED area for wetland and SB.
6.7	Supply, install and maintain plant protection netting for a selected species in the aquatic zones.	1	No.	$20,000.00	$20,000.00	
7	**PUMPING**				**$-**	
7.1	Supply and installation of rising main		LM	$200.00	$-	
7.2	Supply and installation of pumping station		Item	$170,000.00	$-	
7.3	Provision of electricity supply to pump station switchboard from nominated point of supply, supply and installation of electrical switchboard, connection of power and associated fees.		Item	$2,500.00	$-	
8	**LANDSCAPE**				**$132,600.00**	
8.1	Trees: Supply and install trees (tubestock)	100	No.	$6.00	$600.00	Nominal allowance for trees
8.2	Landscaping: Supply and install 4m wide RB perimeter gravel access path (thickness 150mm)	2220	m2	$33.00	$73,260.00	
8.3	Landscaping: Supply and install 4m wide wetland/SB perimeter gravel access path within RB (thickness 150mm)	1780	m2	$33.00	$58,740.00	
9	**MISCELLANEOUS**				**$79,060.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$2,500.00	$30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$2,000.00	$6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$750.00	$18,000.00	
9.4	Allowance for timber bollards	2	No	$200.00	$400.00	
9.5	Allowance for seats	2	No	$2,500.00	$5,000.00	
9.6	WL/SB: Install habitat logs approx. 4.0m long (no securing required) to wetland area.	2	No.	$5,000.00	$10,000.00	
9.7	Allowance for hydroseeding the batters of the basin	6440	m2	$1.50	$9,660.00	allowance for hydro seeding the batters of the basins and 1m back from the top of batter. RB planting area (above path in RB) + 1m buffer.
10	**OTHER**				$-	
10.1			Item		$-	
	SUB-TOTAL WORKS				**$1,832,454.06**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$59,554.75	
11.2	VicRoads Fees	1	%		$18,324.54	
11.3	Traffic Management	5	%		$91,622.70	
11.4	Environmental Management	0.5	%		$9,162.27	
11.5	Survey/Design	5	%		$91,622.70	
11.6	Supervision & Project Management	9	%		$164,920.86	
11.7	Site Establishment	2.5	%		$45,811.35	
11.8	Contingency	20	%		$366,490.81	
	SUB-TOTAL DELIVERY				**$847,510.00**	
12	**TOTAL ESTIMATED COST**				**$2,679,964.06**	


LEGEND
MAINTENANCE ACCESS TRACK
SED MELT DRY OUT AREA
ROCK ARMOURING
ROAD
KERB
GOULBURN IRRIGATION CHANNEL
GOULBURN IRRIGATION CHANNEL
WATERCOURSE
PSP BOUNDARY
MAJOR CONTOURS (1m)
MINOR CONTOURS (0.5m)
30m SETBACK FROM GROWLERS RIVER
VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
RBWLG DESIGN PLAN
alluvium
Victorian Planning Authority
DESIGNED AP
DRAWN KP
CHECKED JB
APPROVED SL
PROJECT No 170105-1
REVISION B
SHEET No 33 of 44
ORIGINAL SIZE A1
SCALE 1:500
DATUM m AHD MGA2020
RWAL FUNCTIONAL DESIGN SSDPSP JB 11.03.22
DRAFT FUNCTIONAL DESIGN SSDPSP JB 07.12.21
REV DESCRIPTION APP'D DATE

Overland flow path - Cost Estimate

Item	Description	Quantity	Unit	Rate $	Amount $	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS				$ 921,870.50	
1.1	Site preparation	1	Item	$ 20,000.00	$ 20,000.00	
1.2	Earthworks		m3		$ -	
1.3	Diversion works		Item		$ -	
1.4	Waterway re-shaping		Item		$ -	
1.5	Stripping of topsoil and stockpiling - overland flow path and vegetated buffers (5m either side)	69497	m2	$ 1.50	$ 104,245.50	Assumed average depth of 200mm
1.6	Excavation: Bulk excavation of soil to specified levels including cut, haulage, stockpiling.	53175	m3	$ 15.00	$ 797,625.00	Excavated material assumed to be re-used in development/transported within Shepparton.
1.7	Formation of batters	0	m3	$ 15.00	$ -	Filling and compaction to design levels and compaction in designated areas using selected materials from the excavation.
1.8	Other *(Description)*		Item		$ -	
2	DRAINAGE				$ -	
2.1	BOX CULVERTS					
2.1.1	Box culvert units *(Description)*		No.		$ -	
2.1.2	Link slabs		No.		$ -	
2.1.3	Foundation slab		m2		$ -	
2.1.4	Other (Description)		Item		$ -	
2.2	DRAINAGE PIPES					
2.2.1			LM		$ -	
2.2.3	Drainage – Sub-soil drainage		LM		$ -	
2.2.4	Drainage – Miscellaneous *(Description)*		Item		$ -	
2.3	CONCRETE WORKS					
2.3.1	Apron slab		m2		$ -	
2.3.2	Wing wall		m2		$ -	
2.3.3	Headwall above culverts		m2		$ -	
2.4	ON-STRUCTURE WORKS					
2.4.1	Backfill above drainage structure		m3		$ -	
2.4.2	Other (Description)		Item		$ -	
2.5	OUTLET STRUCTURE					
2.5.1	Major Outlet pit structure		Item		$ -	
3	ROCK WORKS				$ -	
3.1			m3	$ 200.00	$ -	
4	CLAY LINER				$ -	
4.1			m3	$ 32.00	$ -	
4.2			m3	$ 32.00	$ -	
5	TOPSOIL				$ 229,340.10	
5.1	Re spread 200 mm topsoil for planting areas (overland flow path and vegetated buffers)	69,497	m2	$ 3.30	$ 229,340.10	Assumed site topsoil is used, with 20% allowance for imported topsoil
6	AQUATIC PLANTING				$ 1,216,220.00	
6.1	Supply and install ephemeral planting (90cm3 tube, 4/m2).	208,500	No.	$ 2.50	$ 521,250.00	Planting rate can be 6/m2. 4/m2 has been adopted for some of our other jobs recently.

6.2	Supply and install terrestrial planting (90cm3 tube, 1/m2) to vegetated buffers (5m either side of overland flow path)	69,488	No.	$ 2.50	$ 173,720.00	
6.3	Overland flow path: Supply and install heavy jute mat (800gsm) pre-slit at density 6/m2 in overland flow path, including overlap of matting (300mm longitudinally/direction of flow), 150mm vertically)	52,125	m2	$ 10.00	$ 521,250.00	
7	**PUMPING**				**$ -**	
7.1			LM		$ -	
8	**LANDSCAPE**				**$ -**	
8.1	Trees: Supply and install trees (tubestock)		No.	$ 6.00	$ -	
9	**MISCELLANEOUS**				**$ 60,000.00**	
9.1	Civil Works Defects Maintenance incl pits, pipes and rockwork – 1 year	12	Month	$ 2,500.00	$ 30,000.00	
9.2	3 months Plant Establishment maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas.	3	Month	$ 2,000.00	$ 6,000.00	
9.3	24 month Plant Maintenance period of all soft landscape works including watering of plants and trees during establishment, weed control of all planted areas as per specification.	24	Month	$ 1,000.00	$ 24,000.00	
10	**OTHER**				**$ -**	
10.1			Item		$ -	
	SUB-TOTAL WORKS				**$ 2,427,430.60**	
11	**DELIVERY**					
11.1	Council Fees	3.25	%		$ 78,891.49	
11.2	VicRoads Fees	1	%		$ 24,274.31	
11.3	Traffic Management	5	%		$ 121,371.53	
11.4	Environmental Management	0.5	%		$ 12,137.15	
11.5	Survey/Design	5	%		$ 121,371.53	
11.6	Supervision & Project Management	9	%		$ 218,468.75	
11.7	Site Establishment	2.5	%		$ 60,685.77	
11.8	Contingency	20	%		$ 485,486.12	
	SUB-TOTAL DELIVERY				**$ 1,122,686.65**	
12	**TOTAL ESTIMATED COST**				**$ 3,550,117.25**	



44m (WATERWAY CORRIDOR)
30m (TOP WIDTH OF OVERLAND FLOW CHANNEL)
5m
5m
VEGETATED BUFFER
TERRESTRIAL PLANTING
EPHEMERAL PLANTING
1 IN 10
1.1m
7m
NOTE
OVERLAND FLOW PATH TO CONVEY PEAK 1% AEP CLIMATE CHANGE EVENT
THIS IS A PRELIMINARY TYPICAL CHANNEL CROSS SECTION. IN FUTURE DESIGN STAGES THE OPTION OF HAVING A MEANDERING LOW FLOW CHANNEL WITHIN A HIGH FLOW CHANNEL SHOULD BE INVESTIGATED.
TYPICAL SECTION: OVERLAND FLOW PATH
VICTORIAN PLANNING AUTHORITY
SHEPPARTON SOUTH EAST PRECINCT STRUCTURE PLAN
FUNCTIONAL DESIGN DRAWINGS
TYPICAL SECTION OVERLAND FLOW PATH
alluvium
Victorian Planning Authority
A
FINAL FUNCTIONAL DESIGN SSEPSP
REV
DESCRIPTION
APP'D
DATE
DESIGNED
DRAWN
CHECKED
APPROVED
PROJECT No.
REVISION
SHEET No.
ORIGINAL SIZE A1
SCALE NOT TO SCALE

9.4 Strategic Planning Costs

9.4.1 VPA plan preparation costs

Consultancy	Expense	Cost
Victorian Planning Authority	VPA Staff Resourcing Costs	$1,437,333
	Subtotal	**$1,437,333**

Consultancy	Technical Report	Cost
Technical reports	Technical advice Drainage, Transport and Infrastructure Design and Costing, Panel and Legal expenses	$492,807
	Subtotal	**$492,807**
	Total	**$1,930,140**

9.4.2 Council plan preparation costs

Consultancy	Technical Reports	Cost
Technical reports	Drainage, Utilities, Amenity, Transport, Cultural Heritage, Community, Bushfire, Infrastructure Design and Costing, Land Valuations, Panel and Legal expenses	$564,354
	Total	**$564,354**

9.5 Early Developer Works Costs

9.5.1 EDW – 01 – IN-01 and IN-03 Financing

T7. SUMMARY FINANCIAL RESULTS

	Amount
Loan Amount (July 2022)	$16,440,050.29
Interest Rate	5.0%
Duration (timeframe)	2036-2055
Duration (years)	20 years
Number of Payments per Year	4
Total number of payments	80 repayments
Payment per period	$326,277.85
Sum of payments	$26,102,228.24
Interest cost (July 2022)	**$9,662,177.96**

Source: Urban Enterprise

Shepparton South East
Development Contributions Plan

February 2024

Victorian Planning Authority