

West Mundijong Industrial Development Contribution Plan

Report No. 2



Ordinary Council Meeting - 16 November 2020 sjshire.wa.gov.au with us

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Continued

10.1.14 - attachment 2 West Mundijong Industrial Development Contribution Plan (DCP2)

Revision Schedule

No.	Date	Details	СМ
1	13/02/18	Gazettal	JE
1.1	01/11/19	Draft Revision	JE
1.2	13/03/20	Draft Revision and reformatting	SM
1.3	26/03/20	Final Draft for Submission	SM
1.4	08/05/20	Final for advertising	SM



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1. Introduction

1.1 Background

The West Mundijong Industrial area is located within the Shire of Serpentine Jarrahdale, and is generally bound by the Kwinana Freight Rail Line to the north, the proposed Tonkin Highway to the east, Mundijong Road to the south and Kargotich Road to the west.

The Mundijong Urban Development zoned areas under the Shire of Serpentine Jarrahdale's Town Planning Scheme No.2 are generally bound by Bishop Road and Norman Road to the north, Mundijong Road and Watkins Road to the south, South Western Highway to the east and Kargotich Road to the west.

Provision 1 of Development Area 1, and Provision 1 of Development Area 2, listed under Shire of Serpentine Jarrahdale Town Planning Scheme No. 2, provides that a single District Structure Plan is to be adopted to guide subdivision and development and will cover the areas of Development Areas No. 1 and 2. This updated Draft District Structure Plan, adopted by Council for advertising at the 17 December 2018 meeting, represents the latest version of the District Structure Plan and is advertised concurrently, though independently, to this amendment, for community consultation in its draft form. If Council adopts this Draft District Structure Plan, in accordance with Provision 1 of Development Area 1, and Provision 1 of Development Area 2.

As a District Structure Plan, it is not being prepared or determined under the Deemed Provisions of the Scheme. Rather, it is being considered in accordance with the specific Development Area provisions.

The proposed 2020 Council Approved Mundijong District Structure Plan (CAMDSP) is an informing, relevant and strategic document that enables the consideration and exercising of discretion for Structure Plans and Local Development Plans, which fall under the auspices of the deemed provisions.

The CAMDSP has been prepared, and updates the original draft West Mundijong Industrial DSP, to guide the preparation of more detailed local structure plans (LSPs) facilitating subdivision and development within the whole Mundijong area.

The CAMDSP forms the basis for the West Mundijong Industrial Development Contribution Plan and the update to Appendix 10 into the Local Planning Scheme.

A copy of the original CAMDSP Map is contained in Figure 1 and the updated proposed 2020 CAMDSP Map is shown in Figure 2.

NOTE:

The cost estimates and assumptions in this documentation are based on the best available information at this point in time. This documentation has been prepared for the basis of public advertising and may change during the statutory planning and approval process.

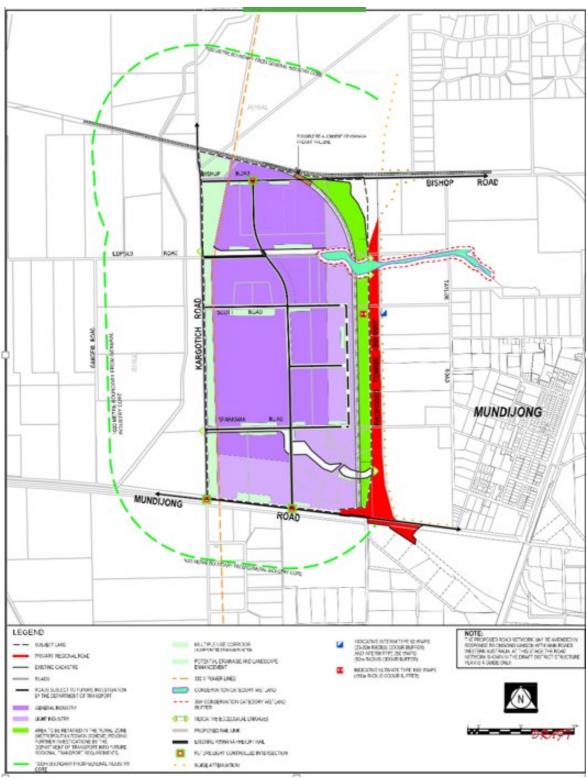
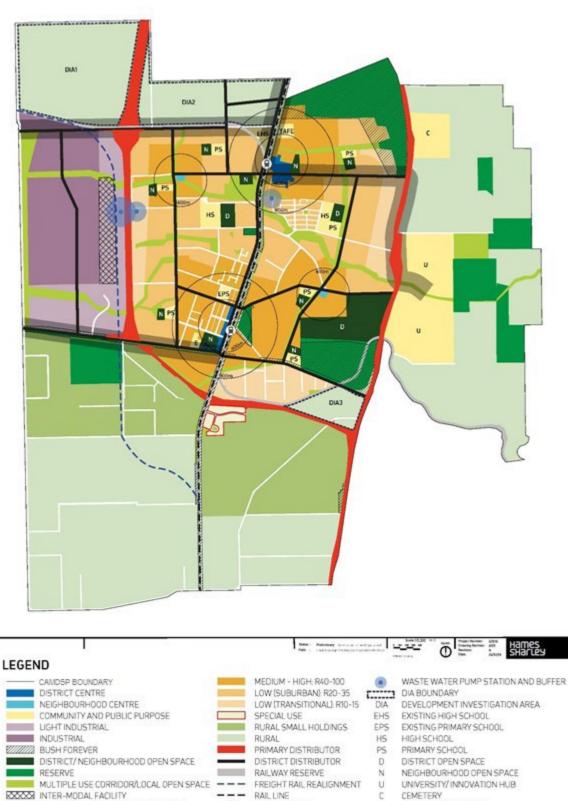


Figure 1 Original Council Approved West Mundijong District Structure Plan Map







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1.2 Purpose of Development Contribution Arrangements

Due to the existence of multiple landholdings within the West Mundijong DSP area, the Shire has decided to prepare the West Mundijong Industrial Development Contribution Plan to share the cost of infrastructure, land and other items required to support the development of the area.

1.3 Purpose of the Development Contribution Plan Report

This development contribution plan (DCP) report has been prepared to set out in detail:

- The infrastructure, land and other items for which development contributions are to be collected.
- How land values are calculated and the valuation methodology applied.
- The cost estimates of infrastructure and other items.
- The cost contribution rate applicable within the West Mundijong Industrial contribution area (DCA).
- The methodology to calculate development contributions applicable to landowners/developers and the operational aspects of the methodology.
- Principles for the priority and timing of infrastructure provision and land acquisition.
- The period of operation and review of the DCP.
- Various other operational matters.

1.4 Status

This West Mundijong Industrial DCP report has been prepared pursuant to Clause 9.3.10 of the Shire of Serpentine Jarrahdale Town Planning Scheme No. 2 (TPS2).

The report should be read in conjunction with Clause 9.3 and Appendix 10 of TPS2, the West Mundijong District Structure Plan and any relevant precinct-level LSP.

This West Mundijong Industrial Development Contribution Plan report does not form part of TPS2.

1.5 **Principles**

This West Mundijong Industrial Development Contribution Plan report has been prepared pursuant to the guiding principles for development contribution plans, as set out in State Planning Policy 3.6 Development Contributions for Infrastructure (SPP 3.6) and Clause 9.3.6 of TPS 2 as detailed below:

a) Need and the nexus

The need for the infrastructure included in the plan must be clearly demonstrated (need) and the connection between the development and the demand created should be clearly established (nexus).

b) Transparency

Both the method for calculating the development contribution and the manner in which it is applied should be clear, transparent and simple to understand and administer.



c) Equity

Development contributions should be levied from all developments within a development contribution area, based on their relative contribution to need.

d) Certainty

All development contributions should be clearly identified and methods of accounting for cost adjustments determined at the commencement of a development.

e) Efficiency

Development contributions should be justified on a whole of life capital cost basis consistent with maintaining financial discipline on service providers by precluding over recovery of costs

f) Consistency

Development contributions should be applied uniformly across a development contribution area and the methodology for applying contributions should be consistent.

g) Right of consultation and review

Owners have the right to be consulted on the manner in which development contributions are determined. They also have the opportunity to seek a review by an independent third party if they believe the calculation of the costs of the contributions is not reasonable.

h) Accountable

There must be accountability in the manner in which development contributions are determined and expended.

i) Risk Minimisation

The financial risk to the local government and other stakeholders is to be mitigated through the minimisation of items included.

1.6 Area of Operation

The West Mundijong Industrial Development Contribution Plan Report applies to the West Mundijong Industrial development contribution area referred to as DCA2 and as indicated on the TPS 2 Scheme Maps and detailed within Part 9 of TPS 2 (see Figure 2).

1.7 Strategic Basis

The West Mundijong DSP guides the preparation of LSPs, which facilitate the eventual subdivision and development of land within West Mundijong. This subdivision and development necessitates the provision of new and upgraded infrastructure and land for drainage purposes. In this context, the West Mundijong DSP forms the strategic basis for the DCA and DCP report for West Mundijong Industrial.



Figure 2 – West Mundijong Industrial Development Contribution Area





2 Infrastructure, Land and Other items

This section of the DCP report identifies the infrastructure, land and other items for which development contributions will be collected in West Mundijong. These items include:

- District distributor and connector roads playing a district function;
- Land for drainage; and
- Administration costs.

2.1 Land Value

Roads and drainage include a significant land component. To determine the total cost of the items, a land value therefore needs to be identified. Pursuant to Clause 9.3.12 of TPS 2, the rate for the purpose of calculating the value of land for public open space, drainage and infrastructure is based on land valuations undertaken, as detailed in **Appendix F**.

Pursuant to Clause 9.3.11 of TPS 2, the land value will be reviewed at least annually.

For the purposes of TPS 2, the Scheme DCP for West Mundijong Industrial and the West Mundijong Industrial DCP report, one englobo land value will apply to the entire West Mundijong Industrial development contribution area, irrespective of precinct or structure plan classification or similar. This approach is considered to be the simplest, effective and equitable method of addressing land valuation.

2.2 Roads

The land, earthworks, paving/surfacing, drainage, traffic control devices, shared paths, utilities and associated costs for the upgrading and/or construction of:

- 1. Mundijong Road between Kargotich Road and Tonkin Highway reservation;
- 2. Kargotich Road between the freight rail crossing and Mundijong Road; and
- 3. Bishop Road between Kargotich Road and Tonkin Highway reservations.
- 4. North South Spine Road between Mundijong Road (West) and Bishop Road (West)

2.2.1 Mundijong Road – District Distributor

Mundijong Road borders a significant portion of the West Mundijong DSP area to the south. Under the Metropolitan Region Scheme (MRS), the road is reserved as an Other Regional Road and is identified as a district distributor. The portion of Mundijong Road abutting the West Mundijong DSP is under control of the Shire.

The road currently exists, but will require changes in width, alignment and configuration to support development envisaged under the DSP.

The width of the Mundijong Road reserve will be 40m.

The upgrade of Mundijong Road will occur between the Tonkin Highway Metropolitan Region Scheme (MRS) Primary Regional Road Reserve and Kargotich Road to the West. The detailed design of Mundijong Road is still to be determined in conjunction with relevant State agencies.



In accordance with State Planning Policy No. 3.6 – Development Contributions for Infrastructure (SPP 3.6), the following items are included within the DCP for Mundijong Road, between Kargotich Road and Tonkin Highway reservation:

- Land required over and above a standard 20m road reserve, to achieve 40m wide road reserve;
- Earthworks for the whole road reserve;
- The construction and upgrade of one carriageway;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices and intersection treatments incorporating slip lanes and associated works;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design, administration and management.

A detailed breakdown of the costs is contained within a spreadsheet at **Appendix A**.

The following items are not included in the DCP for Mundijong Road:

- Any upgrades to Mundijong Road West of Kargotich Road; and
- Any intersection treatment with Tonkin Highway. Tonkin Highway is a Primary Regional Road under the MRS and is a responsibility of Main Roads.

2.2.2 Kargotich Road – Local Road

Kargotich Road is located to the west of the West Mundijong DSP area, providing a north south connection and linking in with the West Mundijong DSP. Kargotich Road is a Shire controlled road and is not reserved under the MRS. The existing state of Kargotich Road is rural in nature, with a narrow single carriageway allowing for one lane in either direction.

The width of Kargotich Road will be 30m.

The upgrade of Kargotich Road will occur between Mundijong Road reserve and the railway crossing to the north.

In accordance with SPP 3.6, the following items are included in the DCP for Kargotich Road:

- Land required over and above a standard 20m road reserve, to achieve 30m wide road reserve
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices including intersection treatments incorporating slip lanes and associated works;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design, administration, and management.



A detailed breakdown of the costs is contained within a spreadsheet at **Appendix B**.

The following items are not included in the DCP for Kargotich Road:

- Minor intersections treatments into Kargotich Road from the adjoining subdivisional road network. These will be subject to a standard subdivisional truncation requirements; and
- Modifications to the current railway crossing configuration; as this may change in the future when detailed planning is undertaken by the Department of Transport for the future freight rail realignment out of the existing Mundijong and proposed Whitby town sites.

2.2.3 Bishop Road – Local Road

Bishop Road is located in the northern portion of the DSP area, running east-west between Kargotich Road and Soldiers road. Bishop Road is a Shire controlled road and is not reserved under the MRS.

The existing state of Bishop Road is rural in nature, with a narrow single carriageway allowing for one lane in either direction. Changes to the alignment of the road are proposed towards Tonkin Highway and the road is proposed to connect into Tonkin Highway.

The width of Bishop Road will be 30m.

The upgrade and construction of Bishop Road will occur between the Tonkin Highway MRS Primary Regional Road reserve and Kargotich Road.

In accordance with SPP 3.6, the following items are included in the DCP for Bishop Road:

- Land required over and above a standard 20m road reserve, to achieve 30m wide road reserve;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices including one set of traffic lights, intersection treatments incorporating slip lanes and associated works;
- Shared paths;
- Utility removal, relocation and insertion; and
- Associated costs including design, administration, and management.

A detailed breakdown of the costs is contained within a spreadsheet at **Appendix C**.

The following items are not included in the DCP for Bishop Road:

- Minor intersections treatments into Bishop Road from the adjoining subdivisional road network. These will be subject to a standard truncation requirement; and
- Any intersection treatment with Tonkin Highway. Tonkin Highway is a Primary Regional Road under the MRS and is a responsibility of Main Roads.

2.2.4 North South Spine Road – Local Road

The North South Spine Road bisects the developable land between Bishop Road to the north and Mundijong Road to the south. The road will be a Shire road and is not reserved under the MRS. The width of the road will be 30 metres.

The construction of the new road will occur between Mundijong Road reserve and the Bishop Road reserve to the north.

In accordance with SPP 3.6, the following items are included in the West Mundijong Industrial DCP for the North South Spine Road:

- Land required over and above a standard 20m road reserve, to achieve a 30 metre wide road reserve;
- Earthworks for the whole road reserve;
- Complete road construction based on a single lane split carriageway with central median;
- Associated drainage works including water sensitive urban design measures;
- Traffic control devices including intersection treatments incorporating slip lanes and associated works;
- Shared paths;
- Associated costs including design, administration and management.

A detailed breakdown of the costs is contained within a spreadsheet at **Appendix D**.

The following items are not included in the DCP for the North South Spine Road:

- Minor intersections treatments into the North South Spine Road from the adjoining subdivisional road network. These will be subject to standard subdivisional truncation requirements.
- Land required to achieve a standard 20m road reserve, which will be ceded free of cost as part of the subdivision process.

2.3 Land for Drainage

A significant amount of land will be provided within the West Mundijong DSP area for drainage purposes. This land includes:

- A mix of multiple-use and ecological corridors forming a drainage function; and
- Land purely for drainage purposes.

All land required for drainage is included in the DCP, this will ensure compliance with Clause 9.3.6 of TPS 2, containing the guiding principles for development contribution plans. This will ensure transparency and equity in terms of land required for district benefit. Without the provision of district level drainage the development of the area holistically could not proceed.

2.3.1 Estimated amount of land for drainage

A significant amount of water planning has been completed for the West Mundijong DSP area including a District Water Management Strategy (DWMS) and associated studies. This level of planning allows for the specific identification of land areas required for regional drainage purposes.



Based on the information contained in the DWMS, West Mundijong DSP and associated studies the estimated amount of land to be provided, and associated cost, is detailed in **Appendix G**.

2.3.2 Estimated cost of land for drainage

Based upon the land value detailed in section 2.1 of this report, the total estimated cost of creditable public open space and drainage in the West Mundijong Industrial DCP is detailed in **Appendix G**.

2.4. Land for Roads

Additional road reserve land is required for Mundijong Road (40 metre reserve), Kargotich and Bishop Roads (30 metre reserve). The new North South Spine Road requires an additional 5m to be acquired over and above the subdivisional 20m provided by adjoining landowners. This only applies to the section of road width wider than 20m i.e. if the road is 30m wide, only 10m will be compensated for through this Development Contribution Plan.

2.4.1 Estimated amount of land for roads

The total estimated amount of creditable land required for road improvements is detailed in **Appendix E**.

2.4.2 Estimated cost of land for roads

The total estimated cost of creditable land required for road improvements is detailed in **Appendix E**.

2.5. Items not included

Land identified as having purely a conservation value, for example Bush Forever sites and conservation category wetlands, are excluded from the DCP unless they form part of the district drainage network. Foreshore reserves are also excluded from the DCP in accordance with Liveable Neighbourhoods, which states that they will be ceded free of cost.

Whilst the DCP includes land for drainage purposes, it does not include drainage works themselves (i.e. earthworks, drainage infrastructure such as piping, pits, mechanical treatments, water sensitive design treatments or similar). These are considered to be subdivisional works, generally required by local water management strategies and urban water management plans, and are also very difficult to calculate given the varying nature of drainage infrastructure provided and proposed throughout West Mundijong. The drainage works contained within the proposed roads as depicted within the DCP are permitted to be included in accordance with SPP 3.6.

2.6 Total Cost

A summary of the total cost for all infrastructure, land and other items within the DCP is included within **Appendix H**.



Note: The Shire expended \$265,392 since 2011 towards the rezoning of the Mundijong West Industrial Estate and including the preparation of the Mundijong West Development Contribution Plan and District Structure Plan including associated Traffic Studies as discussed with the Mundijong West Industry Reference Group. This value has been added to the 1% administration costs which relate to the ongoing management of the DCP.

3. Development Contribution Methodology

This section sets out the methodology for determining the development contributions applicable within the West Mundijong Industrial development contribution area.

The formula for equating cost contributions on a per metre basis is as follows:

Total Cost / Total Developable Area = Rate per metre squared

Utilising information contained within the West Mundijong DCA, the total developable area for the site is as follows:

General Industry Core	269,000 m2
Light Industry Precinct	109,000 m2
Total	378,000 m2

Utilising the above formula the initial per metre cost contribution rate is detailed in **Appendix I**.

3.1. Exemptions

Clause 9.3.13.3 of TPS 2 details various situations in which a development contribution is not required.

3.2 Calculating the Contribution Rate for Landowners / Developers

At any point in time, the contribution rate/metre will vary according to number of days since the last Cost Review.

The contribution rate is adjusted after each cost review in terms of contributions received, expenditure, cost estimates for each cost item and number of metres with paid contributions.

To ensure costs are current during the time between cost reviews, all costs will be escalated on a daily basis calculated from an annual escalation rate. Escalation rates will separately apply to infrastructure costs, land costs and administration costs. The escalation rates will be set at each cost review. The starting point for daily escalation is the approval date for the prevailing cost review.

Three cost escalators are used:

 <u>Administration escalation rate (AER)</u>: The Administration Escalation Rate (AER) is the rate used for wages and salaries in the Local Government Cost Index based on WA State Treasury forecasts.



- <u>Infrastructure escalation rate (IER)</u>: The Infrastructure Escalation Rate (IER) is taken from a cost series produced by the WA Local Government Association (WALGA). The Road and Bridge Construction forecast is seen as the most appropriate index for infrastructure costs. This index is based on Construction Forecasting Council forecasts.
- <u>Land value escalation rate (LVER)</u>: The Land Value Escalation Rate (LVER) is a forecast provided by the land valuer who assessed the englobo land value rate for this Report.

The rates associated with each escalator are detailed within **Appendix J**.

Given that each cost entail a different bundle of items, it is necessary to calculate a weighted escalation rate as follows:

DCA ER = (%IC/TC x IER) + (%LV/TC x LVER) + (%AC/TC x AER) Where for each DCA:

ER - is the weighted Escalation Rate;

DER - is the daily escalation rate (ER/365);

IC - is the estimated Infrastructure Cost;

LV - is the estimated Land Value;

AC - is the estimated Administration Cost

TC - is the Total Cost being IC + LV + AC;

IER - is the Infrastructure Escalation Rate;

LVER - is the Land Value Escalation Rate;

AER - is the Administration Escalation Rate; and

D - is the number of days since the last cost review.

4 Priority and Timing of Provision

The priority and timing of provision shall be guided by the following key principles:

- Minimising financial risk to the Shire This can be achieved through the early acquisition of land required for public purposes (public open space, roads etc.).
- Ensuring a constant turnover of funds By ensuring the continuous spending of development contributions collected, the Shire minimises the negative consequences of inflation.
- Prioritising the purchase of land identified for public purposes which encompasses all of, or a substantial portion of one landholding – Many of these landholdings are essentially "quarantined" from subdivision and/or development and would be difficult to sell to a private buyer.
- Constructing infrastructure on an "as needs" basis This is especially apparent in the context of road upgrades.



 Undertaking works and land acquisition in areas of fragmented ownership – This assists in the successful and coordinated development of these areas. In areas of consolidated ownership, most infrastructure and land is provided by the developer in lieu of providing cost contributions.

The identification of priorities will be undertaken on an annual basis as a minimum, in parallel with forward financial planning and annual budgeting processes. The following items have been determined by the Shire as current priority items in the order shown:

- i. North South Spine Road
- ii. Kargotich Road
- iii. Bishop Road
- iv. Mundijong Road

5. Period of Operation and Review

The DCP will operate for a period of 10 years from date of gazettal of the related scheme amendment to incorporate the Scheme DCP into TPS 2.

The DCP will be reviewed not less than annually, allowing for more frequent reviews to be completed on an as-required basis having regard to cost increases, the rate of subsequent development in the area since the last review and the degree of development potential still existing.

The estimated costs will be reviewed at least annually to reflect changes in funding and revenue sources and indexed based on the Building Cost Index or other appropriate index as approved by the qualified person undertaking the certification of costs referred to in clause 9.3.11.3 of TPS 2.

Where the costing and details of the DCP report are:

- indexed on a standard basis;
- revised based on construction cost increases/decreases;
- revised based on land value increases/decreases; and
- revised based on revisions to the likely lot/dwelling outcome.

6. **Operational Matters**

This section of the DCP report addresses various operational matters associated with the West Mundijong Industrial DCP.

6.1. Estimation of Costs

This matter is dealt with in Clause 9.3.11 of TPS 2.

6.2. Land Valuation

This matter is dealt with in Clause 9.3.12 of TPS 2.

6.3 Liability and Timing for Contributions

This matter is dealt with in Clause 9.3.13 of TPS 2

6.4 Payment of Contributions

This matter is dealt with in Clauses 9.3.14 of TPS 2.

6.5 Arbitration

This matter is dealt with in Clause 9.3.19 of TPS 2.

6.6 Implementation

Development contributions may be calculated and applied as conditions of subdivision, strata subdivision and development.

6.7 Form of Contributions

Pursuant to Clause 9.3.14 of TPS 2, conditions relating to development contribution requirements can, to the satisfaction of the Shire, be satisfied by:

- cheque or cash;
- transferring to the local government or a public authority land in satisfaction of the cost contribution;
- the provision of physical infrastructure;
- some other method acceptable to the local government; or
- any combination of these methods.

6.8. PRE-FUNDING OF INFRASTRUCTURE ITEMS

6.8.1. CONTEXT

The Shire will support pre-funding and delivery of the infrastructure, provided there are good reasons for doing so and in instances where:

- The Developer wishes to undertake works specified in Appendix 10;
- The works are necessary for the progression of an approved subdivision; and,
- The Shire does not hold sufficient West Mundijong Industrial Development Contribution Plan funds to undertake the works and/or has not prioritised such works.

6.8.2. PRE-FUNDING AGREEMENT

By way of an exchange of letters, the Shire and the Developer will agree the extent, composition and timing of the infrastructure works to be pre-funded. Once agreed, the works become the Approved Works. The Approved Works must be identified sufficiently to ensure the cost and quantities of remaining works in that item can be quantified. This is particularly relevant where linear rates are involved.



6.8.3. PRINCIPLES FOR COST RECOUPMENT

The recoup is to be based on the Current Cost Estimate in Accordance with TPS 2 clause 9.3.11 whereby:

- The current cost estimate (excluding contingency allowance) as described in the prevailing West Mundijong Industrial Development Contribution Plan report shall constitute the claimable amount for the completed Approved Works;
- The cost estimate will be subject to escalation at the rate prescribed from time to time in the West Mundijong Industrial Development Contribution Plan report up to the time of agreed practical completion of the works;
- The cost estimate may be revised due to the periodic Cost Review in which case the updated cost estimate will prevail;
- If the actual cost of the works exceeds the escalated cost estimate, the developer may claim an additional amount not exceeding the contingency allowance provided for this item of work. Such a claim shall be independently substantiated to the satisfaction of the Shire;
- Credit for land will be at valuation in accordance with 9.3.12 of TPS 2 where the valuation is current at time of transfer.

Note: Grants or other external Funding shall be deducted from any recoup or credit to the account of the developer.

6.8.4. ACCEPTANCE OF WORKS

The developer shall ensure the works are:

- Undertaken in a proper and workmanlike manner;
- In accordance with plans and specifications constituting the Approved Works; and
- Completed within the agreed period.

Following written notification from the Developer that the Approved Works are complete as above, the Shire will confirm the delivery of the Approved Works to its satisfaction.

The Shire can modify, accept or reject the claim where justified, following review of compliance with standards and the cost. Referral to the Mundijong Industry Reference Group for comment should be made where rejection of the claim is proposed.

6.8.5. ACCOUNTING FOR RECOUPMENT

On acceptance of the approved Works by the Shire, the cost of the works shall be credited to the West Mundijong Industrial Development Contribution Plan account of the Developer and escalated by the prevailing borrowing rate. The balance in this account may be used to offset any cost contribution liabilities owed by the Developer. Any balance owed to the Developer on completion of all subdivision on land held by the Developer within the Development Contribution area, shall be paid to the Developer within 90 days of the condition clearance of the final subdivision in the Development Contribution area, subject to:

- There being sufficient funds available in the West Mundijong Industrial Development Contribution Plan account; and
- Having regard to the business plan by the Shire for delivery of outstanding West Mundijong Industrial Development Contribution Plan works.



Continued

Appendices

- Appendix A Mundijong Road Costing Spreadsheet
- Appendix B Kargotich Road Costing Spreadsheet
- Appendix C Bishop Road Costing Spreadsheet
- Appendix D North South Spine Road Costing Spreadsheet
- Appendix E Land for Roads
- Appendix F Land Values
- Appendix G Drainage Land
- Appendix H Total Costs
- Appendix I Contributions
- Appendix J Escalation Rates



Total Including Contingency

Appendix A - Mundijong Road

Cost Estimate Mundijong Road between Kargotich Road to Tonkin Highway

July 2016 Assumptions = Length 1527m, pavement 1/7.0m, 1/3.00m shared path Quantity Unit Rate (\$) Amount (\$) Item Description Comments Establishment/Preliminaries General Condition of Contract, Specification, documentation, design, plans QA General Requirements BCITF Levy, Insurance Community Consultation and Notification. Management Requirements Mobiisation & Establish, Supervision and Overheads, (0.15% Provisional Sum) Survey, QA, Demoblisation & cleanup; Includes Engineering fees TMP,CMP & DMP; Excludes PU item \$4 828 039 0.150 \$724,206 Works (Increased costs due to stage construction) Local Gov. Supervision item \$4,828,039 0.015 \$72,421 1.5% Road Costs \$796.627 Subtotal Establishment/Preliminaries Earthworks Site clearing 20,850.00 \$79,595 ha 3.82 Stripping 100 mm topsoil and stockpile for ha respreading (assuming 60% of earthwork 10,660.00 \$40,69 3.82 area) Excavation and removal of unsuitable m3 \$197.650 7.347.60 26.90 material Backfilling unsuitable material excavations m3 with site excavated material or imported 38,175.00 25.50 \$973,463 Average1000mm of fill lenght of road. material Subgrade preparation for pavement m2 15.270 \$3.65 \$55.73 Stablisation and Mulsh(Provisional Sum) \$4,475.00 ha 2.0 \$8,88 Subtotal Earthworks \$1,038,081 Drainage Surface drainage, storm water drainage, drainage structures (Provisional Sum) 762,000.00 \$762,000 item Water Sensitive Landscape (Provisional Sum) 507,500.00 \$507,500 item \$1,269,500 Subtotal Drainage Pavement & Surfacing 4 Supply and place 300mm thick limestone sub-base compacted to 95% MMDD 15270 \$24.40 \$372,588 Pavement 7.0mx1 m^2 Supply and place 150mm crushed rock base m2 15270 \$18.30 \$279,441 course compacted to 98% MMDD Apply 10rnm thick primer seal to base course 12216 \$5.30 m2 \$64,745 2.5m sealed shoulders Construct 40mm compacted depth dense graded asphalt (7mm nominal granite aggregate size) m2 10689 \$18.10 \$193,47 Semi Mountable Kerbing \$52.00 \$(m (Brick paving units on and including 30mm sand bedding (in medians) m2 1800 \$76.10 \$136,980 Intersection paving-nibs only Construct 100mm thick, class N20 concrete broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres m2 3818 \$71.0 \$271,233 path 3.0m No \$250,000.00 \$250,000 Intersection channelisation Subtotal Pavement & Surfacing \$1,568,458 Traffic Facilities Signal Intersection (Provisional Sum) No \$300,000,00 \$600,000 Signs (Provisional Sum) item \$16,000.00 \$16,000 Pavement Marking (Provisional Sum) item \$16,000.00 \$16,000 Traffic Management 100 \$2,700.00 \$270,000 days Subtotal Traffic Facilities \$902,000 Public Utilities 6 Western Power - Roadway Lighting (Provision \$783.500 \$783.500.00 Sum) item Western Power - Underground Existing item \$82,100.00 \$82,100 1 Western Power - Underground Distribution item Telstra \$195.000.00 \$195,000 item Water Corporation item ŚC WestNet Energ Śſ iten Subtotal Public Utilities \$1,060,600 Miscellaneous As constructed \$50,000.00 \$50,000 item Land Subtotal Miscellaneous \$50,000 Total Cost Estimate \$6,685,266 Contingency @ 10% \$156,846 Road Pavement \$864,036 Eathworks , Drainage + PUs Contingency @ 20%

\$7,706,148



Appendix B - Kargotich Road

Cost Estimate Kargotich Road- Mundijong Road to the railway line July 2016 Assumptions = Length 3330m, pavement 2/5.50m, 1/2.5m shared paths

ltem	Description	11-21	0	Date (A)	Ama	6
	Description Establishment/Preliminaries	Unit	Quantity	Rate (\$)	Amount (\$)	Comments
1	Establishment/Preliminaries	1	I I			[
	General Condition of Contract , General Requirements					Specification, documentation, design, plans QA Splitting Design and Contractual Prelin BCITF Levy, Insurance
	General Requirements					Derri Levy, insurance
	Management Requirements (15% Provisional Sum)					Community Consultation and Notification, Mobilisation & Establish, Supervision and Overheads, Survey, QA, Demobilisation & cleanup; Includes Engineering fees TMP,CMP & DMP; Excludes PU Works (Increased costs du
		item	\$7,463,903	0.150		to stage construction)
	Local Gov. Supervision Subtotal Establishment/Preliminaries		\$7,463,903	0.015	\$11,939 \$1,231,544	1.5% of Road Costs
2					\$1,251,544	
2	Earthworks	1				[
	Site clearing (assuming 60% area of earthwork area)	ha	1.5	\$15,225	\$22,815	
	Stripping 100 mm topsoil and stockpile for	ha	1.0	\$10,220	\$22,010	
	respreading (assuming 60% of earthwork area)		1.5	\$7,611	\$11,405	
	Excavation and removal of unsuitable	m3	0 740 0	62(00	62/2 012	300mm excavation
	material Backfilling unsuitable material excavations	m3	9,740.3	\$26.90	\$262,013	500mm excavation
	with imported material	1115	24,975.0	\$25.50	\$636.863	1000mm import
	Subgrade preparation for pavement	m2	24,975.0	\$3.65	\$91,159	*
			2.,575.0	<i>\$5.05</i>	ψ/1,139	
	Stablisation and Mulsh(Provisional Sum)	ha	3.0	\$4,475	\$13,412	for hydromulch only
	Subtotal Earthworks				\$1,037,665	
3	Drainage					
	Surface drainage, storm water drainage, drainage					
	structures (Provisional Sum)	item	1	\$1,774,475	\$1,774,475	
	Water Sensitive Landscape (Provisional Sum)	item	1	\$676,000	\$676,000	
	Subtotal Drainage				\$2,450,475	
4	Pavement & Surfacing					
	Supply and place 300mm thick limestone sub- base compacted to 95% MMDD	m2	24975	\$24.40	\$609,390	
	Supply and place 150mm crushed rock base					
	course compacted to 98% MMDD	m2	24975	\$18.30	\$457,043	
	Apply 7rnm thick primer seal to base course	m2	21645	\$5.30	\$114,719	
	Construct 40mm compacted depth dense graded asphalt (7mm nominal granite		21043	\$5.50		
	aggregate size)	m2	40245	610.10	6331 503	1/5 50
			18315	\$18.10		1/5.50m carriageway
	Semi Mountable Kerbing	m	3330	\$52.00	\$173,160	
	Semi Mountable Kerbing Flush kerb					
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm	m m	3330 3330	\$52.00 \$61.00	\$173,160 \$203,130	
	Semi Mountable Kerbing Flush kerb	m	3330	\$52.00	\$173,160 \$203,130 \$143,829	
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation	m m m2	3330 3330 1890	\$52.00 \$61.00 \$76.10	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000	intersection nib paving only 1/2.5m paths 3330m
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing	m m2 m2	3330 3330 1890	\$52.00 \$61.00 \$76.10 \$71.05	\$173,160 \$203,130 \$143,829 \$591,491	intersection nib paving only 1/2.5m paths 3330m
5	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation	m m2 m2	3330 3330 1890	\$52.00 \$61.00 \$76.10 \$71.05	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000	intersection nib paving only 1/2.5m paths 3330m
5	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection	m m2 m2	3330 3330 1890	\$52.00 \$61.00 \$76.10 \$771.05 \$250,000 266,500	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$0	intersection nib paving only 1/2.5m paths 3330m
5	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum)	m m2 m2 item	3330 3330 1890 8325 4	\$52.00 \$61.00 \$76.10 \$71.05 \$250,000 266,500 15,750	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$0 \$15,750	intersection nib paving only 1/2.5m paths 3330m N/A
5	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum)	m m2 m2 item item item	3330 3330 1890 8325 4 4	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 266,500 15,750 15,750	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$00 \$15,750 \$15,750	intersection nib paving only 1/2.5m paths 3330m N/A
5	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management	m m2 m2 item	3330 3330 1890 8325 4	\$52.00 \$61.00 \$76.10 \$71.05 \$250,000 266,500 15,750	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$1,000,000 \$1,000,000 \$1,000,000 \$1,5,750 \$15,750 \$270,000	intersection nib paving only 1/2.5m paths 3330m
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities	m m2 m2 item item item	3330 3330 1890 8325 4 4	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 266,500 15,750 15,750	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$00 \$15,750 \$15,750	intersection nib paving only 1/2.5m paths 3330m
5 6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities	m m2 m2 item item item	3330 3330 1890 8325 4 4	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 266,500 15,750 15,750	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$1,000,000 \$1,000,000 \$1,000,000 \$1,5,750 \$15,750 \$270,000	intersection nib paving only 1/2.5m paths 3330m
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision	m m2 item item item days	3330 3330 1890 8325 4 1 1 1 1 00	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$0 \$15,750 \$15,750 \$15,750 \$270,000 \$301,500	intersection nib paving only 1/2.5m paths 3330m N/A
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision	m m2 m2 item item item days	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$10 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$1,026,800	intersection nib paving only 1/2.5m paths 3330m N/A Street lighting
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing	m m2 m2 item item item item item item	3330 3330 1890 8325 4 1 1 1 1 00	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$0 \$15,7500\$100\$100\$100\$100\$100\$100\$100\$100\$100\$	intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution	m m2 item item item item item item item	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700 \$1,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$0 \$15,7500\$1500\$1500\$1500\$1500\$1500\$1500\$100\$10	intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$ 3,624,263 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$171,800 \$301,500 \$303,300	intersection nib paving only intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Existing Subtotal Pavernerground Existing Western Power - Under	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700 \$1,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$0 \$15,750 \$15,750 \$15,750 \$15,750 \$10,26,800 \$1,026,800\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,0	I/2.5m paths 3330m I/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Management Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestNet Energy	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700 \$1,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$15,750 \$15,750 \$15,750 \$270,000 \$301,500 \$301,500 \$1,026,800 \$171,800 \$303,300 \$303,300 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$	I/2.5m paths 3330m I/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A
6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signal Intersection Signal Intersection Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestNet Energy Subtotal Public Utilities	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700 \$1,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$0 \$15,750 \$15,750 \$15,750 \$15,750 \$10,26,800 \$1,026,800\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,000\$\$1,0	I/2.5m paths 3330m I/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A
	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Subtotal Pavement & Surfacing Traffic Facilities Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestNet Energy Subtotal Public Utilities Miscellaneous	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800 \$11,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$11,026,800 \$1171,800 \$301,300 \$303,300 \$0 \$303,300 \$0 \$0 \$1,501,900	intersection nib paving_only intersection nib paving_only 1/2.5m paths_3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A
6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Waster Corporation WestNet Energy Subtotal Public Utilities Miscellaneous As constructed	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 2,700 \$1,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$11,026,800 \$1171,800 \$301,300 \$303,300 \$0 \$303,300 \$0 \$0 \$1,501,900	I/2.5m paths 3330m I/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A
6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestNet Energy Subtotal Public Utilities Miscellaneous As constructed	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800 \$11,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$ 3,624,263 \$15,750 \$15,750 \$15,750 \$15,750 \$10,26,800 \$301,500 \$303,300 \$305,300	intersection nib paving only intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A two stages
6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestNet Energy Subtotal Public Utilities Miscellaneous As constructed Land	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800 \$11,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$591,491 \$1,000,000 \$3,624,263 \$0 \$15,750 \$15,750 \$15,750 \$10,26,800 \$1,026,800 \$1,026,800 \$1,026,800 \$1,501,900 \$50,000	intersection nib paving only intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A two stages
6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signal Intersection Signal Intersection Subtotal Pavement & Surfacing Pavement Marking (Provisional Sum) Traffic Facilities Subtotal Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestVet Energy Subtotal Public Utilities Miscellaneous As constructed Land Subtotal Miscellaneous Total Cost Estimate	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800 \$11,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$0 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$10,26,800 \$171,800 \$301,500 \$303,300 \$10,197,347	intersection nib paving only intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A two stages
6	Semi Mountable Kerbing Flush kerb Brick paving units on and including 30mm sand bedding (in medians) Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm wide expansion joints at 5m centres Intersection Channelisation Subtotal Pavement & Surfacing Traffic Facilities Signal Intersection Signs (Provisional Sum) Pavement Marking (Provisional Sum) Traffic Facilities Public Utilities Western Power - Roadway Lighting (Provision Sum) Western Power - Underground Existing Western Power - Underground Distribution Telstra Water Corporation WestNet Energy Subtotal Public Utilities Miscellaneous As constructed Land	m m2 item item item item item item item item	3330 3330 1890 8325 4 1 1 1 100 100	\$52.00 \$61.00 \$76.10 \$76.10 \$250,000 15,750 15,750 15,750 2,700 \$1,026,800 \$11,026,800 \$171,800	\$173,160 \$203,130 \$143,829 \$143,829 \$143,829 \$1,000,000 \$3,624,263 \$0 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$15,750 \$2720,000 \$301,500 \$301,501,900 \$50,000 \$10,197,347 \$501,343	intersection nib paving only intersection nib paving only 1/2.5m paths 3330m N/A Street lighting Existing power supply lines N/A Relocate existing cable N/A N/A two stages



Appendix C - Bishop Road

Cost Estimate

Bishop Road between Kargotich Road and Tonkin Hwy

July 2016 motions = Length 1175m, pavement 2/5,50m, 1/3.0m shared paths

Item	Assumptions = Length 1175m, pavement 2/5.50m, Description	Unit	Quantity	Rate (\$)	Amount (\$)	Comments
1	Establishment/Preliminaries				/	
	General Condition of Contract ,					Specification, documentation, design, plans QA Splitting Design and Contractual Prelims
	General Requirements					BCITF Levy, Insurance
						Community Consultation and Notification,
	Management Requirements					Mobiisation & Establish, Supervision and
	(15% Provisional Sum)					Overheads, Survey, QA, Demoblisation &
						cleanup; Includes Engineering fees TMP,CMP & DMP; Excludes PU Works
		item	\$3,371,361	0.150	\$505,704	(Increased costs due to stage construction)
	Local Gov. Supervision		\$3,371,361	0.015	\$50,570	
2	Subtotal Establishment/Preliminaries Earthworks				\$556,275	
2	Site clearing (assuming 60% area of		<u> </u>			
	earthwork area)	ha	1.62	\$20,850	\$33,808	
	Stripping 100 mm topsoil and stockpile for	ha				
	respreading (assuming 60% of earthwork area)		1.62	\$10,660	\$17,285	
	Excavation and removal of unsuitable	m3				
	material	m 0	3,172.5	\$26.90	\$85,340	300mm excavation
	Backfilling unsuitable material excavations with imported material	m3	35,250.0	\$25.50	\$898.875	1000mm import
	Subgrade preparation for pavement	m2	15,275.0	\$3.65	\$55,754	· ·
	Stablisation and Mulsh(Provisional Sum)					
		ha	2.0	\$4,475	\$8,939	for hydromulch only
2	Subtotal Earthworks				\$1,100,001	
3	Drainage Surface drainage, storm water drainage, drainage					
	structures (Provisional Sum)	item	1	\$626,128	\$626,128	
					· ·	
	Water Sensitive Landscape (Provisional Sum)	item	1	\$238,525	\$238,525	
	Subtotal Drainage				\$864,653	
4	Pavement & Surfacing Supply and place 300mm thick limestone					
	sub-base compacted to 95% MMDD					
		m2	15275	\$24.40	\$372,710	
	Supply and place 150mm crushed rock base	m2	15275	\$18.30	\$279,533	
	course compacted to 98% MMDD	IIIZ	15275	\$18.30	\$279,555	
	Apply 7rnm thick primer seal to base course	m2	14805	\$5.30	\$78,467	
	Construct 40mm compacted depth dense					
	graded asphalt (7mm nominal granite aggregate size)	m2	12925	\$18.10	\$233,943	2/5.50m
	Semi Mountable Kerbing	m	2350	\$52.00	\$122,200	
	Flush kerb	m	2350	\$61.00	\$143,350	
	Brick paving units on and including 30mm		(20	07610	047.042	i kana ki ana ita ani ana ka
	sand bedding (in medians)	m2	630	\$76.10	\$47,943	intersection nib paving only
	Construct 100mm thick, class N20 concrete, broom finished dual use pathway With					
	control joints at 1.25m centres and 12mm					
	wide expansion joints at 5m centres	m2	2938	\$71.05	\$208 709	1/2.5m paths 1175m
	Intersection Channelisation	item	0	\$210,000		At Kargotich
	Subtotal Pavement & Surfacing				\$834,611	
5	Traffic Facilities					
	Signal Intersection	item	1	266,500		At N-S Spne Road
	Signs (Provisional Sum) Pavement Marking (Provisional Sum)	item item	1	10,425 10,270	\$10,425 \$10,270	<u> </u>
	Traffic Management	days	90	2,610	\$234,900	
	Subtotal Traffic Facilities				\$522,095	
6	Public Utilities					
	Western Power - Roadway Lighting (Provision	;+		¢ 261.000	62/7 220	Street lighting \$209/m
	Sum) Western Power - Underground Existing	item item	1	\$ 361,900 \$ 364,000		Street lighting \$308/m Existing WP power lines
	Western Power - Underground Distribution	item	1	÷ 304,000	\$307,900	N/A
	Telstra	item			\$0	N/A
	Water Corporation	item				N/A
	WestNet Energy	item			\$0	N/A
	Subtotal Public Utilities				\$737,288	
7	Miscellaneous					
	As constructed	item	2	\$25,000.00	\$50,000	two stages
	Land Subtotal Miscellaneous		ļl		\$50,000	
	Total Cost Estimate				\$30,000	
						Roads and balance
	Contingency @ 10%					
	Contingency @ 10% Contingency @ 20%				\$320,388 \$5,235,982	Drainage and Pus



Appendix D - North South Spine Road

Cost Estimate N-S Sprine Road - Mundijong Road to Bishop Road July 2016

	Assumptions = Length 3280m, pavement 2/5.50m,	1/2.5m sha	July 2016 ared paths			
ltem	Description	Unit	Quantity	Rate (\$)	Amount (\$)	Comments
1	Establishment/Preliminaries		1			
	General Condition of Contract ,					Specification, documentation, design, plans QA Splitting Design and Contractual Prelims
	General Requirements					BCITF Levy, Insurance
	Management Requirements (15% Provisional Sum)	item	\$8,190,976	0.150	\$1,228,646	Community Consultation and Notification, Mobiisation & Establish, Supervision and Overheads, Survey, QA, Demoblisation & cleanup; Includes Engineering fees TMP,CMP & DMP; Excludes PU Works (Increased costs due to stage construction)
	Local Gov. Supervision Subtotal Establishment/Preliminaries		\$8,190,976	0.015	\$122,865 \$1,351,511	1.5% of Road Costs
2	Earthworks				\$1,351,511	
2	Site clearing (assuming 60% area of					
	earthwork area) Stripping 100 mm topsoil and stockpile for respreading (assuming 60% of earthwork	ha ha	4.9	\$15,225.00	\$74,907	
	area) Excavation and removal of unsuitable	m3	4.9	\$7,612.00	\$37,451	
	material Backfilling unsuitable material excavations	m3	16,629.6	\$26.90	\$447,336	300mm excavation
	with imported material		82,000.0 42,640.0	\$25.50 \$3.65		1000mm import
	Subgrade preparation for pavement Stablisation and Mulsh(Provisional Sum)	m2			\$155,636	
	Subtotal Earthworks	ha	3.9	\$4,475.00	\$17,614 \$2,823,944	for hydromulch only
3	Drainage					
	Surface drainage, storm water drainage, drainage structures (Provisional Sum)	·.		61 747 020	¢1 747 020	
	Water Sensitive Landscape (Provisional Sum)	item	1	\$1,747,830 \$665,840	\$1,747,830 \$665,840	
	Subtotal Drainage	nem		\$005,640	\$2,413,670	
4	Pavement & Surfacing				<i><i>(</i>1), 120,010</i>	
	Supply and place 300mm thick limestone		1 1			
	sub-base compacted to 95% MMDD Supply and place 150mm crushed rock base	m2	42640	\$24.40	\$1,040,416	
	course compacted to 98% MMDD	m2	42640	\$18.30	\$780,312	
	Apply 7rnm thick primer seal to base course	m2	41328	\$5.30	\$219,038	
	Construct 40mm compacted depth dense graded asphalt (10mm nominal granite					
	aggregate size) Semi Mountable Kerbing	m2	36080	\$18.10	\$653,048	2/5.50m
	Flush kerb	m m	6560 6560	\$52.00 \$61.00	\$341,120 \$400,160	
	Brick paving units on and including 30mm sand bedding (in medians)	m2	1260	\$76.10		intersection nib paving only
	Construct 100mm thick, class N20 concrete, broom finished dual use pathway With control joints at 1.25m centres and 12mm					
	wide expansion joints at 5m centres	m2	8200	\$71.05		1/2.5m paths 3280m
	Intersectional treatments Subtotal Pavement & Surfacing	item	2	\$210,000.00	\$420,000	Scott and Sparkman
5	Traffic Facilities				+_,, ,,ou	
	Signs (Provisional Sum)	item	1	\$15,750.00	\$15,750	
	Pavement Marking (Provisional Sum)	item	1	\$15,750.00	\$15,750	
	Traffic Management Subtotal Traffic Facilities	days	90	\$1,500.00	\$135,000 \$166,500	
6	Public Utilities				\$100,50U	
~	Western Power - Roadway Lighting (Provision					
	Sum)	item	1	\$1,025,400	\$1,025,400	
	Western Power - Underground Existing	item			\$0	N/A
	Western Power - Underground Distribution Telstra	item			60	N/A N/A
	Vater Corporation	item			\$0	N/A N/A
	WestNet Energy	item			\$0	N/A
	Subtotal Public Utilities				\$1,025,400	
7	Miscellaneous					
	As constructed Land	item	3	\$25,000.00	\$75,000	three stages
	Subtotal Miscellaneous				\$75,000	
	Total Cost Estimate				\$10,567,887	
	Contingency @ 10%				\$577,731	Roads and balance
_	Contingency @ 20%	_				Drainage and Pus
	Total Including Contingency				\$11,833,432	

Road	Length	Width	Area		Land Cost	NOTE
Mundijong Road				m2	\$24	
	814	20	16280			
	204	20	1000			
	204	20	4080			
	204	7.5	1530			
		7.0	1000			
			21890	m2	\$525,360	
Kargotich						
	625	10	6250			
	1135	10	11350			
	1133	10	11550			
	460	10	4600			
	700	10	7000			
	120	10	1200			
	120	10	1200			
	154	10	1540			
	134	3	444			
			32384	m2	\$777,216	
Bishop Road						
	1164	10	11640			
	121	5	605			
			12245	m2	\$293,880	
N-S Sprine	3280	5	16400			
	5280	3	16400			
			16400	m2	\$393,600	
TOTAL			82919	m2	\$1,990,056	

Appendix E - Land for Roads

Appendix F - Land Values

Valuation Date	Per m2 Non-
	Residential
1/03/2018	\$30.00
1/03/2019	\$24.00
1/03/2020	\$24.00

Appendix G - Land for Drainage

Land for Drainage for West Mundijong Non-Residential

ype of land	M2	Cost	of land
Ecological corridors	210000	\$	5,040,000
Drainage corridors	140000	\$	3,360,000
Multiple use corridor	250000	\$	6,000,000
Total	600000	\$	14,400,000

Appendix H - Total Costs

Item	Total
Mundijong Road	\$7,706,148
Kargotich Road	\$11,489,165
Bishop Road	\$5,235,982
North-South Spine Road	\$11,833,432
Land for Roads	\$1,990,056
Land Requirement for drainage	\$14,400,000
Administration costs (approx 1%)*	\$791,940
Total	\$53,446,723

No GST has been included.

Appendix I - Contributions

DCP Revision #:	2	IER	0.60%
Gazettal Date/Last Revision:	TBA	LVER	0.00%
Financial Year end (28th Feb)	#VALUE! 7	AER	2.25%

ER = (%IC/TC x IER) + (%LV/TC x LVER) + (%AC/TC x AER)

					PRECINCT Units						PRECINCT Contribution per <u>Additional</u> Lot (\$)					Land Value		
ltem	Infra/Land/Admin	Cost (\$)	MRWA or Shire Contribution	Net Total	A					Contributing m2	Contribution per m2 (\$)	А					Residential	Non- Residential
											Daily ER (DER)	\$0.0002					\$0.000	\$0.000
Total (Gross)		53,446,723	-	53,446,723							Total per unit	\$14.14					\$0.00	\$24.00
Mundijong Road	IC	\$ 7,706,148		\$ 7,706,148	3,780,000					3,780,000	\$2.04	\$2.04						
Kargotich Road	IC	\$ 11,489,165		\$ 11,489,165	3,780,000					3,780,000	\$3.04	\$3.04						
Bishop Road	IC	\$ 5,235,982		\$ 5,235,982	3,780,000					3,780,000	\$1.39	\$1.39						
North-South Spine Road	IC	\$ 11,833,432		\$ 11,833,432	3,780,000					3,780,000	\$3.13	\$3.13						
Land for Roads	IC	\$ 1,990,056		\$1,990,056	3,780,000					3,780,000	\$0.53	\$0.53						
Total Infrastructure Costs		\$ 38,254,783		\$ 38,254,783						-		\$10.12						
Land Requirement for drainage	LV	\$14,400,000		\$14,400,000	3,780,000					3,780,000	\$3.81	\$3.81						
Total Land Value		\$14,400,000		\$14,400,000								\$3.81						
Administration costs (approx 1%)*	AC	\$791,940		\$791,940	3,780,000					3,780,000	\$0.21	\$0.21						
Total Administration Costs		\$791,940		\$791,940								\$0.21						
Reconciliation		\$0		\$0	3,780,000					3,780,000	\$0.00	\$0.00						

APPENDIX J

ESCALATION RATES <u>https://walqa.asn.au/Policy-Advice-and-Advocacy/Economic-Development/Economic-Briefing</u> Land Value escalation rates are provided yearly from an independent land valuer and updated accordingly at each yearly review.

Publication	IER	AER	LV	DCP	Link to reference doc	
Date						
Feb-19	1.25%	2.75%	0.50%	DCP1	https://walga.asn.au/getattachment/62ee816a-a3d9-44da-be1b-9fd5f8204cfb/Economic-Briefing-2019-Update.pdf	
Feb-20	0.60%	2.25%	0.00%	DCP2	https://walga.asn.au/getattachment/a2e6d669-439a-4060-a1af-f8a16626843c/WALGA-EB-February-2020-(Final).pdf	