

CITY OF ARMADALE

AGENDA

OF THE TECHNICAL SERVICES COMMITTEE TO BE HELD IN THE COMMITTEE ROOM, ADMINISTRATION CENTRE, 7 ORCHARD AVENUE, ARMADALE ON MONDAY, 5 FEBRUARY 2018 AT 7.00PM.

A meal will be served at 6:15 p.m.

PRESENT:

APOLOGIES:

OBSERVERS:

IN ATTENDANCE:

PUBLIC:

“For details of Councillor Membership on this Committee, please refer to the City’s website – www.armadale.wa.gov.au/your_council/councillors. ”

DISCLAIMER

The Disclaimer for protecting Councillors and staff from liability of information and advice given at Committee meetings to be read.

DECLARATION OF MEMBERS' INTERESTS

QUESTION TIME

Public Question Time is allocated for the asking of and responding to questions raised by members of the public.

Minimum time to be provided – 15 minutes (unless not required).

Policy and Management Practice EM 6 – Public Question Time has been adopted by Council to ensure the orderly conduct of Public Question time and a copy of this procedure can be found at <http://www.armadale.wa.gov.au/PolicyManual>.

It is also available in the public gallery.

The public's cooperation in this regard will be appreciated.

DEPUTATION

CONFIRMATION OF MINUTES

RECOMMEND

Minutes of the Technical Services Committee Meeting held on 4 December 2017 be confirmed.

ITEMS REFERRED FROM INFORMATION BULLETIN

- **Outstanding Matters and Information Items**

Various Items.

- **Monthly Departmental Reports**

Technical Services Works Programme.

If any of the items listed above require clarification or a report for a decision of Council, this item to be raised for discussion at this juncture.

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5 FEBRUARY 2018

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****1.1 - SKELETAL PATH PLAN - AMENDMENTS**

WARD : HILLS
FILE No. : M/4/18
DATE : 3 January 2018
REF : MC/WO/EV/YA
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- The implementation of the 2017/18 footpath program is well advanced, however a number of issues have been identified during the detailed design stages which require that the program be amended.
- Complex physical construction constraints have been identified with the proposed construction of the Brookton Highway, Urch Road and Soldiers Road footpaths.
- A number of amendments to the program have been recommended, with associated budget amendments in order to implement a revised works program.

Recommend:

That Council:

1. Approve amendments to the footpath works program as detailed in this report.
2. Approve the associated budget amendments.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

2.3 Well Managed Infrastructure

2.3.1 Apply best practice design and construction methodologies for the provision of infrastructure

2.3.1.1 Implement a best practice project management approach to the planning and delivery of infrastructure

2.3.2 Ensure maintenance activities address required levels of service

2.3.2.2 Ensure balance is maintained between Levels of Service and affordability

Legislative Implications

General assessment of relevant legislation (eg Local Government Act) has not revealed any restrictions).

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

All budget implications associated with the adoption of the recommendation can be accommodated in the 2017/18 Budget and Long Term Financial Plan estimates.

Consultation

- Main Roads Western Australia.
- Ward Councilors.
- Intra Directorate.

BACKGROUND

At its meeting of 13 February 2017, Council gave consideration to the installation of a footpath along Angelo, Grealis and Townsend Streets resolving as follows (T1/2/17):

“That Council:

- 1. Note that Angelo Street is already included in the Armadale Path Network Development Plan – Skeletal Path Plan – Stage 2, with likelihood that construction will be possible during the 2019/20 Financial year at current levels of funding.*
- 2. Note that installation of a footpath on Grealis Street has not been included in the Armadale Path Network Development Plan – Skeletal Path Plan – Stage 2, but that it will be reassessed for inclusion in Stage 3 of the Skeletal Path plan when this is compiled at the conclusion of Stage 2.*
- 3. That a review of the Skeletal Path Network Plan Stage 2 be reviewed by September 2017.*
- 4. That the footpath for the whole of Angelo Street, Townsend Street and Grealis Street, be included for Budget consideration for the 2017/18 financial year.”*

Part 4 of this resolution was considered during the 2017/18 budget deliberations however, additional funding was not allocated at that time and is addressed in this report.

During the consideration of the 13 February 2017 report by the Technical Services Committee, the following Committee discussion comment was noted:

“Additional discussion followed regarding alternate funding sources for footpath installations. The Executive Director Technical Services advised that this would be investigated.”

The matter of alternative funding sources has since been investigated and is detailed subsequently in this report. In addition, at its meeting of 16 October 2017, when considering the Review of the Armadale Path Network Development Plan – Skeletal Path Plan- Stage 2 (Skeletal Path Plan) - T75/10/17 refers; Council resolved as follows:

“That Council endorse the amended Armadale Path Network Development Plan – Skeletal Path Plan – Stage 2 as presented at Attachment 2.2.1 of this report.”

The amended Skeletal Path Plan, endorsed by Council, included a revised set of priorities for the annual allocation of available funding for the construction of new footpaths throughout the City.

This report details recommendations relating to the reallocation of funding of footpaths aligned with the recently endorsed Skeletal Path Plan for Council’s consideration.

ANALYSIS

The 2017/18 Budget made provision for the construction of footpaths on Brookton Highway and Urch Road as well as for the design of a footpath on Soldiers Road. The detailed design of these footpaths has however revealed significant technical difficulties in the constructability of these footpaths. In general, these related to safety requirements (particularly on Brookton Highway), steep slopes above and below the location of the proposed footpaths and underground services implications.

Concept design drawings have been prepared showing layouts, cross-sections and photographic images indicating the physical construction constraints and safety concerns. Senior officers from the City attended an on-site meeting with the Ward Councilors on 11 December 2017 to discuss all three projects in greater detail, highlighting constructability and associated issues.

An independent Road Safety Audit (RSA) was also carried out on a section of the Brookton Highway between Hawkstone Road and Mount Street in 2017 to identify potential road safety issues and recommend actions/options to address these issues.

Brookton Highway footpath (Soldiers Road to Croyden Road)

(Refer to Attachment 1 – Brookton Highway footpath (Soldiers Road to Croyden Road) Drawing Numbers E17-111-SK1, E17-111-SK2 and E17-111-SK3)

Topography, embankments, existing infrastructure, the slope of existing access driveways and lack of sufficient verge area make this section of the footpath costly to construct to standard specifications.

The independent RSA emphasises the need for footpaths along Brookton Highway that adequately cater for pedestrian traffic.

Urch Road Footpath (Contour Road to house number 42)

(Refer to Attachment 2 – Urch Road footpath (Contour Road to house number 42) Drawing Numbers E17-18-1 and E17-18-2)

Topography, embankments, existing infrastructure, the slope of existing access driveways and a lack of sufficient verge area make this section of the footpath costly to construct to standard specifications. Horizontal alignment of the footpath and the resulting construction constraints would also require the path to cross from one side of the road to the other at several locations which is not conducive to a safe pedestrian environment.

Soldiers Road Footpath (Brookton Highway to Roley Pool/Bridge)

(Refer to Attachment 3 – Soldiers Road footpath (Brookton Highway to Roley Pool/Bridge) Drawing Numbers E17-24-1 and E17-24-2)

Topography, embankments, existing infrastructure, the slope of existing access driveways and lack of sufficient verge area along Soldiers Road and on the path alignment of the proposed footpath prohibits construction to the required standards in terms of cross fall and width behind the existing kerblines. However, there is an existing one meter wide painted centre median which could possibly be replaced with double barrier white lines along this part of the road. This could possibly provide additional space for construction of the footpath to the required standards.

The abovementioned existing infrastructure comprises mainly of power poles, drainage infrastructure - open drains, pipes and headwalls, junction pits, crossovers and retaining walls. Other infrastructure on private property that would be affected by the path works as well as trees and other underground services compound the issue.

DETAILS OF PROPOSAL

Brookton Highway footpath (Soldiers Road to Croyden Road)

The independent RSA identified the need for a footpath to be considered along Brookton Highway to enhance the safety of pedestrians. This route, East and North-East of the Canning River, is under the full authority of Main Roads Western Australia (MRWA) and as such it is recommended that the City refer the RSA to MRWA and request MRWA plan, fund and construct a footpath from the Canning River Bridge to Hawkstone Road, on the Northern side of Brookton Highway.

The 2017/18 Budget allocation for this section of footpath is \$321,300. Given the above, it is proposed that this funding be reallocated.

Urch Road footpath (Contour Road to house number 42)

The benefit of constructing a footpath along this section of Urch Road is restricted to a limited number of local residents in the rural area of Roleystone. Given the physical construction constraints discussed above, constructing this footpath to minimum standards will also require reconstructing access driveways to properties and construction of significant retaining walls, significantly reducing the cost-benefit ratio of this project.

From a value for money point of view, it is proposed that this project be deferred yet retained in the Skeletal Path Plan for future consideration and that the 2017/18 Budget allocation of \$106,070 be reallocated.

Soldiers Road footpath (Brookton Highway to Roleypool/Bridge)

The 2017/18 Budget allocation for this project is \$6,000 for the design of the footpath only. Construction is currently scheduled for the 2018/19 financial year. Although there are physical construction constraints along this road, options exist that could accommodate the design and construction of a footpath along this section of the road to appropriate standards within the 2017/18 financial year if sufficient funding becomes available.

It is therefore proposed that the existing budgeted amounts totaling \$433,370 (\$6,000 - design of Soldiers Road, \$321,300 - Brookton Highway, \$106,070 - Urch Road) be redistributed for the construction of the next priorities listed in the Skeletal Path Network as detailed in Table 1 below and as endorsed by Council at its meeting of 16 October 2017.

Table 1:

Road	From	To	Costs
Soldiers Road	Brookton Highway	Roleypool/Bridge	\$150,000
Andreas Road	Jarrah Road	Cul-de-Sac end	\$21,600
Terrigal Way	Cordelia Road	Seventh Road	\$46,800
Brookside Avenue	Opposite house #32	Clifton Street	\$27,600
Westborne Road	Northward Road	Holden Road	\$54,400
*Blackwood Drive (partial)	Carawatha Avenue	Paterson Road	\$132,970
TOTAL			\$433,370

*The Blackwood Drive footpath is 920m long with a total estimated construction cost of \$172,500. An amount of \$132,970 can be reallocated to the partial construction of this footpath during the 2017/18 financial year and the remaining \$34,530 would need to be considered for allocation during Council’s 2018/19 budget deliberations.

In addition, an amount of \$90,000 for the construction of the Angelo Street footpath (Werndley St to existing footpath opposite #21) is recommended to be funded from the contributing developer’s Footpath Cash-In-Lieu Trust Fund. This Fund has been specifically created to contain funds collected as part of the implementation of City’s Planning Policy 3.1 – Residential Density Development and Clause 4.2 of the City’s Town Planning Scheme. To facilitate improvements to the City’s footpath network development, taking advantage of the higher code in dual coded areas and development within areas Coded R40 are required as a condition of planning approval to make a contribution to the City’s footpath fund on the basis of the estimated cost of constructing 5m of footpath for every additional unit proposed for the site.

Angelo Street falls within the zone where these funds can be expended and its priority ranking on the Skeletal Path Plan results in the footpath being listed for construction within the same timeframe as those pathways listed in Table 1 above.

OPTIONS

The options for Council to consider are:

1. Approve the recommended budget amendments as detailed above.
2. Not approve the recommended budget amendments.

Option 1 is recommended.

RECOMMEND

That Council:

1. Approve the cancellation of the Brookton Highway footpath project, noting that this project is to be referred to Main Roads Western Australia for their implementation.
2. Approve the cancellation of the Urch Road footpath project due to construction difficulties, noting that this footpath is to remain on the Skeletal Path Network Plan, for consideration in the future.
3. Approve the cancellation of the Soldiers Road design project, noting that this aspect will be included in the funding allocation for the construction of the pathway.
4. Approve the reallocation of the \$433,370 available resulting from the cancellation of the above projects.
5. Approve the construction of the Angelo Street footpath listed in Table 1 of this report, at an estimated cost of \$90,000 funded from the Footpath Cash-in-Lieu Trust Fund.
6. Pursuant to Section 6.8 of the *Local Government Act 1995*, authorise construction of the following footpaths for inclusion in the 2017/18 Annual Budget:

Soldiers Road (Brookton Highway/Roleypool/Bridge)	150,000
Andreas Road (Jarrah Road/Cul-de-Sac end)	21,600
Terrigal Way (Cordelia Road/Seventh Road)	46,800
Brookside Avenue (opposite house #32/Clifton Street)	27,600
Westborne Road (Northward Road/Holden Road)	54,400
Blackwood Drive (Carawatha Avenue/Paterson Road)	132,970
Angelo Street (Werndley Street/existing/opposite #21)	90,000
Total	\$523,370

And;

Amend the 2017/18 Budget as follows:

EXPENDITURE

Increase:

Soldiers Road (Brookton Highway/Roleypool/Bridge)	150,000
Andreas Road (Jarrah Road/Cul-de-Sac end)	21,600
Terrigal Way (Cordelia Road/Seventh Road)	46,800
Brookside Avenue (opposite house #32/Clifton Street)	27,600
Westborne Road (Northward Road/Holden Road)	54,400
Blackwood Drive (Carawatha Avenue/Paterson Road)	132,970
Angelo Street (Werndley Street/Existing/opposite #21)	90,000
Total	\$523,370

Decrease:

Brookton Highway (Peet/Croyden)	321,300
Urch Road (Contour/house No. 92)	106,070
Soldiers Road (Design only)	6,000
Total	\$433,370

INCOME

Increase:

Transfer from Trust Fund (ex Footpath Cash-In-Lieu Trust Fund)	\$90,000
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***ABSOLUTE MAJORITY RESOLUTION REQUIRED**

ATTACHMENTS

1. [↓](#) Brookton Highway Footpath
2. [↓](#) Urch Road Footpath
3. [↓](#) Soldiers Road Footpath

***1.2 - PETITION - INSTALLATION OF A FOOTPATH ALONG WHITELEY ROAD,
HILBERT***

WARD : RANFORD
FILE No. : M/51/18
DATE : 31 January 2018
REF : AO/KA
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- A petition was presented at the Ordinary Council Meeting of 29 January 2018, the prayer of which requested a footpath be installed along Whiteley Road, Hilbert, and that refuge islands be installed on Chadwick Parade and Powell Crescent.
- Installation of a footpath along Whiteley Road has been included in the City's *Armada Path Network Development Plan – Skeletal Path Plan – Stage 2*, with construction expected to commence during the 2019/20 Financial Year.
- The City will conduct an assessment and investigation of both Chadwick Parade and Powell Crescent to determine if the installation refuge islands or an alternative traffic calming treatment is warranted.

Recommend:

That Council:

1. Support the proposed assessment and investigation to determine whether the installation of refuge islands or an alternative traffic calming treatment at Chadwick Parade or Powell Crescent is warranted.
2. Note that installation of a footpath along Whiteley Road has been included in the City's *Armada Path Network Development Plan – Skeletal Path Plan - Stage 2* with construction expected to commence during the 2019/20 Financial Year.
3. Inform the petition convener accordingly.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

2.3 Well Managed Infrastructure

2.3.1 Apply best practice design and construction methodologies for the provision of infrastructure

2.3.1.1 Implement a best practice project management approach to the planning and delivery of infrastructure

2.3.2 Ensure maintenance activities address required levels of service

2.3.2.2 Ensure balance is maintained between Levels of Service and affordability

Legislative Implications

General assessment of relevant legislation (eg Local Government Act) has not revealed any restrictions).

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

All budget implications associated with the adoption of the recommendation can be accommodated in the 2017/18 Budget and Long Term Financial Plan estimates.

Consultation

- Intra Directorate.

BACKGROUND

A petition was presented at the Ordinary Council Meeting of 29 January 2018 with 101 signatories, which requested a footpath be installed along Whiteley Road, Hilbert. The petition also raised concerns alleging that vehicles are travelling along Powell Crescent at excessive speeds and requested that consideration be given to the installation of refuge islands along Powell Crescent (at the junction with Whiteley Road) and along Chadwick Parade at the junction with the footpath heading towards Gwynne Park Primary School and Dale Christian School. Council received the petition and referred it to the Technical Services Committee.

A copy of the prayer of the petition is included below:

“We the undersigned respectfully request that the Council:

Build a footpath along Whiteley Road to connect the new Stockland Estate with the old suburb. Also to redesign the junction of Whiteley/Powell to make it safer to cross Powell Crescent at the junction with taking into account traffic travelling from the North along Powell are traversing around a long curve and tend to travel at speeds exceeding the speed limit. We also respectfully request that refuge islands be constructed at the above junction and at the junction with the footpath going towards Gwynne Park School and Dale Christian School at Chadwick Parade to help Children cross this junction as well as the junction Powell/Whiteley.”

The City has reviewed the requests submitted within the petition and the following information is provided for Councillors’ consideration.

COMMENT

The *Armada Path Network Development Plan – Skeletal Path Plan – Stage 2*, which was endorsed at the Ordinary Council meeting of 16 October 2017 (recommendation number T75/10/17 refers), includes installation of a footpath along Whiteley Road between Powell Crescent and Ninth Road. Construction of the footpath is expected to commence during the 2019/20 financial year.

The existing footpath on Chadwick Parade referred to in the petition connects both ends of Powell Crescent and provides access to Gwynne Park Primary School. The footpath crosses Chadwick Parade where traffic calming measures are installed in the form of a differentiation in the road pavement texture, taking the form of brick paving where the footpath intersects with the road as depicted in the below photograph.



DETAILS OF PROPOSAL

The City will conduct a technical assessment and investigation at both locations (Powell Crescent and Chadwick Parade), to determine whether traffic calming measures (including the potential installation of refuge islands) are warranted and if warranted, will investigate available options to determine the most appropriate treatment. In light of the concerns raised in the petition regarding vehicles travelling at alleged excessive speeds along Powell Crescent, the assessment and investigation will include the installation of traffic counters along the road to determine vehicle volumes and speeds.

The City has corresponded with the petition convener previously on 24 January 2018 and advised of the inclusion of a footpath along Whiteley Road in the City's *Armada Path Network Development Plan – Skeletal Path Plan - Stage 2* and of the City's intention to carry out an assessment and investigation into potential traffic calming measures. The City will contact the petition convener again once the outcome of the assessment and investigation is known.

CONCLUSION

A petition has been received requesting consideration be given to the installation of a footpath along Whiteley Road, Hilbert and the installation of refuge islands on Powell Crescent and Chadwick Parade.

Installation of a footpath along Whiteley Road has been included in the City's *Armada Path Network Development Plan – Skeletal Path Plan - Stage 2* with construction expected to commence during the 2019/20 financial year. The City will carry out a technical assessment and investigation to determine whether the installation of refuge islands or an alternative traffic calming treatment at Chadwick Parade or Powell Crescent is warranted.

RECOMMEND

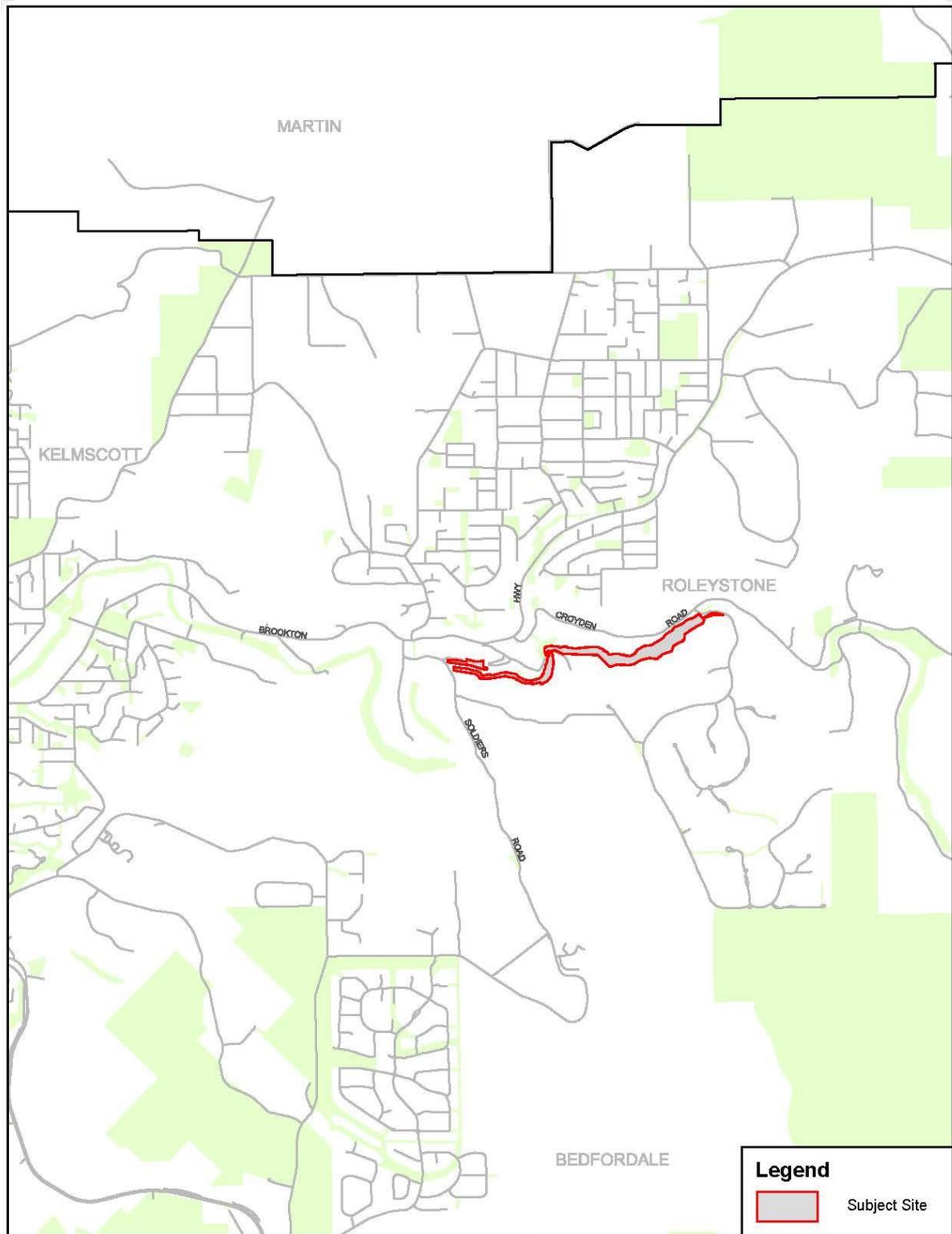
That Council:

- 1. Support the proposed investigation to determine whether the installation of refuge islands or an alternative traffic calming treatment at Chadwick Parade or Powell Crescent is warranted.**
- 2. Note that installation of a footpath along Whiteley Road has been included in the City's *Armada Path Network Development Plan – Skeletal Path Plan - Stage 2* with construction expected to commence during the 2019/20 Financial Year.**
- 3. Inform the petition convener accordingly.**

ATTACHMENTS

There are no attachments for this report

.



LOCATION PLAN

Roley Pools Heritage Walk Trail
Management Plan



SCALE 1 : 50000

Based on information provided to the City of Armadale by the Western Australian Planning Authority's Planning and Land Use Group. Aerial photographs supplied by Landgate, reproduced by permission.

DATE 6 January 2018 - REVISION 1801
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2.1 - ROLEY POOLS - HERITAGE WALK TRAIL MANAGEMENT PLAN

WARD : HILLS
FILE No. : M/824/17
DATE : 22 December 2017
REF : CO/DH
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- A draft management plan has been prepared for the Roley Pools Reserve and the Thompson/Araluen Walk Trail in Roleystone.
- The draft management plan provides a strategic approach to management of these reserves over a ten year timeframe.
- It is recommended that Council advertise the Draft Roley Pools Management Plan for a four (4) week public consultation period.

Recommend:

That Council:

1. Release the Draft Roley Pools - Heritage Walk Trail Management Plan, for a four (4) week public consultation period.
2. Include the following high priority annual maintenance and capital works items for consideration in the 2018/19 budget deliberations:

Annual maintenance:

- \$12,000 for weed control
- \$15,000 for revegetation
- \$5,000 for feral animal control
- \$2,500 for fauna habitat
- \$9,000 for track maintenance

Capital:

- \$22,000 for once off surface improvements
- \$58,000 for a recreational strategy and signage upgrades

Tabled Items

1. Draft Roley Pools – Heritage Walk Trail Management Plan

Officer Interest Declaration

Nil.

Strategic Implications

- 2.1 The natural environment is valued and conserved
 - 2.1.1 Preserve and improve natural areas
 - 2.1.1.2 Deliver habitat/fauna sanctuary projects in natural areas
 - 2.1.2 Manage the interface between natural areas and the built environment
 - 2.1.2.2 Implement periodic reviews of the City's Natural Areas Program, including vegetation mapping

Legislative Implications

General assessment of relevant legislation (eg Local Government Act) has not revealed any restrictions).

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

The Draft Roley Pools - Heritage Walk Trail Management Plan (hereafter referred to as the Draft Management Plan) provides a strategic approach to management of a number of reserves vested in the City of Armadale, located along the Canning River in Roleystone (refer to Attachment 1 – Roley Pools Trails Location Plan).

The Draft Management Plan contains opinions of probable cost for management proposals for the reserve. In many cases these proposals are aspirational. To consider the management recommendations in an achievable framework, the City has considered the aspirational programs and estimated a cost for their partial implementation annually.

Integration of the programs in the context of existing natural area management budgets is further considered in the Analysis section of this report.

Consultation

- Roley Bushcare.
- Armadale Gosnells Landcare Group.
- Riverine and Estuaries Branch of the Department of Biodiversity, Conservation and Attractions.
- Intra Directorate.
- Rangers and Emergency Services (Bushfire Management)

BACKGROUND

The City's five year plan includes action B6h "*Prepare and implement management plan for Roley Pools Reserve*". In 2016, the City commissioned environmental consultants Ecoscape Pty Ltd to prepare a draft management plan for the area known as Roley Pool Reserve and an adjacent area known as Araluen Walk Trail and Thompson Track.

Key elements of the scope of works in preparing the document included:

- field based surveys of vegetation structure, cover and condition
- weeds
- fuel load
- cultural significance
- infrastructure, recreation and safety
- key environmental features
- habitat
- plant disease and dieback
- pests
- native fauna

The preparation of a ten year Roley Pools - Heritage Walk Trail Management Plan draft document is now complete and has been provided separately to this report (Tabled item 1).

DETAILS OF PROPOSAL

Roley Pools Reserve and the Thompson/Araluen Walk Trail are a series of City vested reserves located along the Canning River in Roleystone (refer to Attachment 1).

The reserve stretches from Soldiers Road in Roleystone for 2.6km to Heritage Drive, Roleystone. There is a series of walk trails and access tracks that follow the Canning River through the reserve, with a number of key destinations along the journey.

The reserves have been identified as:

- Having high value to the local community
- Being widely used for recreation, education and as a place to interact with the natural environment
- Containing key environmental features and areas of conservation value
- Having locally significant European and Aboriginal heritage values

Summary of Recommendations

The draft management plan divides the reserves into four zones, each with similar environmental features, community or recreational value and subsequent management approach. Briefly summarised, these zones include:

1. Roley Pools Walk Trails – a high usage area with key destinations for recreation and with considerable revegetation efforts already undertaken
2. Thompsons Road Cascades and Natures Spa – a high use recreational area with two rocky pool areas but with minimal existing infrastructure
3. Roley Pools Natural Bushland – lower level of access by the community but existing historical environmental improvement and key environmental values
4. Thompsons/Araluen Walk Trail – more open trail network with large grassy areas surrounding the trail

Photographs of the key locations are provided for reference – (refer to Attachment 3).

The following sections provide a brief summary of the survey findings and proposed management recommendations.

Weed Control, Revegetation and Fauna Management

Sixty seven weed species across the area were comprehensively mapped using GPS. This mapping was used to inform a prioritised weed control management plan for the reserves.

Priorities for weed control consider the protection of environmental values such as habitat, the zones of the reserve with their intended use and invasiveness of the weed.

A revegetation management plan is proposed for the site in order to improve environmental value and visual amenity. The priorities of the revegetation plan are complementary to the weed control plan. Revegetation priorities are grouped into three key areas including reinstating understory habitat for species such as Quenda (Revegetation Priority Area 1); and the reintroduction of the tree canopy (stands of large trees such as Marri) across some of the open spaces as a first measure to returning the area to a more natural state (Revegetation Priority Areas 2 and 3).

The weed control and revegetation plans provide an aspirational prioritised ten year approach, without consideration of funding limitations that may apply.

Management recommendations associated with protection of fauna include:

- Revegetation and weed control efforts (detailed in previous sections)
- Retention of areas of dense habitat
- Retention of habitat features such as large logs
- Feral animal control
- Establishment of artificial boxes as supplementary habitat

Access and Recreation Recommendations & Concept Drawings for Key Locations

Access and recreation concept drawings have been developed for the site in consideration of current use and further development of the area for its environmental, heritage and community use values.

Map series 05A, 05B and 05C Trails and Infrastructure Assessment, in the Draft Management Plan, outline the location of the existing infrastructure in the reserve with photographs of each item provided in Appendix Ten of the Draft Management Plan.

Specific recommendations for new, or upgrading of existing infrastructure, are provided in Table 18 (page 60) of the Draft Management Plan and labelled as high, medium or low priority. Full opinions of probable costs for the items are provided in Appendix 13 Table 34 of the Draft Management Plan.

Concept Drawings for key locations illustrate these recommended upgrades and are attached to this report (refer to Attachment 2). The key elements of the concept drawings include the following:

- Upgrading Soldiers Road lower car park to define it as the primary entry point for visitors
- Upgrading tracks for the establishment of the riverside picnic area as a Disability Discrimination Act 1992 compliant destination (refer to Map 05A and Table 18 Recommendation B2 of the Draft Management Plan)
- Improving amenity and access to the Roley Pools picnic destination
- Providing water crossings at key locations
- Upgrade and re-profiling of tracks
- Upgrade to wayfinding and interpretation signage
- Undertake a risk assessment, emergency access and safety assessment of the reserve
- Undertake a pedestrian safety audit for all trails and infrastructure
- Upgrading road signage
- Establish Thompsons Road Cascades as a destination, including formalising parking amenities and signage

Consideration of the feasibility of implementing priorities is further discussed below.

High Priority Items

Actions include maintenance to areas where tracks require works such as re-profiling, undertaking minor repairs required to damaged infrastructure and removing dumped materials. The largest expense is for installing a retaining wall at the Cascades car park and the reconfiguration of car parks for emergency access.

Medium Priority Items

Medium priority infrastructure and access recommendations include further upgrades to surfaces, seating and signage, stairs, furniture and shelters. It is also proposed to install two river crossings, one at the Soldiers Road Bridge to allow safe passage across the watercourse without using the traffic bridge and one at the ‘water pipe crossing’ destination.

The Draft Management Plan identifies that connectivity on either side of the Canning River is a key restriction in effective recreational use of the Roley Pools area. Currently people use rocky areas to cross the river to the north and south, but this is not possible in the wetter months due to water levels.

The establishment of two new river crossings is recommended in this zone to provide a ‘round circuit’.

The first crossing, situated near the Soldiers Road Bridge (refer to Attachment 2), provides a looped walk trail without the need for pedestrian traffic to cross the Soldiers Road Bridge. The second crossing point is proposed to be developed at a historic pipe line which crosses the river (refer to Attachment 2). The retention of the historic water pipes (which cross the Canning River at three locations in the reserve) is recommended in the Draft Management Plan for heritage values (see Figures 1 to 4 below).



Figures 1 (left) & 2 (right): Roley Pools pipe crossing (northern bank)



Figure 3: Roley pools pipe crossing (southern bank)



Figure 4: Cascades pipe crossing

Low Priority Items

Low priority infrastructure and access recommendations include seating, signage, a viewing platform at the 'Lower access track and riverside destinations' and the replacement of the timber boardwalk at the 'Boardwalk, rock outcrop and Roley Pools trail start' destination.

Bushfire Management

The Draft Management Plan includes an assessment of bushfire management issues relevant to the reserve (Appendix 12 of the Draft Management Plan – Lush 2016), with recommendations of the Lush 2016 report integrated into Section 4.7 of the main document.

Key elements of the report include:

- Fuel load mapping for the reserves identifying that a number of areas within the reserve exceed the City's recommended average of 7.5 tonnes per hectare fuel loading
- Recognition of steep slopes within the site with broken rocky outcrops which constrain the ability to provide access (including firebreaks and access to undertake maintenance works)
- Current public access points that may be unsuitable for emergency access in terms of design, turning areas and capacity

The Draft Management Plan bushfire risk management recommendations (including prevention measures, preparedness measures and response measures) are summarised below:

Recommended Prevention Measures

The bushfire management report (refer to Appendix 12 of the Draft Management Plan) identifies the need for the preparation of fuel management mitigation programs, especially for the northern boundary between Soldiers Road and Thompsons Road and around the Water Corporation Pumping Station.

To address these recommendations, Map 4 of the Draft Management Plan (refer to Maps Appendix of the Draft Management Plan) identifies future control burning areas, in consideration of the fuel mapping undertaken in 2016.

Details of the recommendations can be found in the Executive Summary implementation schedule on Page 7 of the Draft Management Plan.

Current practice for hazard assessment and mitigation works in natural areas includes:

- Regular fuel load assessment is undertaken by the City's Ranger Services.
- Proposals for risk reduction are then annually developed in consultation between the City's Ranger Services and Parks Services departments. Environmental Services are consulted in relation to regulatory approval. On-ground works then follow, coordinated by the Bushcare Supervisor.

Ongoing implementation of these recommendations can be integrated into normal City hazard assessment and fuel reduction programs.

Specifically, this property will have a fire management plan with scheduled mitigation work and will be compliant with the requirements of the Bush Fire Risk Management Plan (BRMP). This is compliant with the State legislative requirements.

Recommended Preparedness Measures

The bushfire management report identifies the need for all public access points and car parks to be upgraded to provide suitable turning opportunities and provision for emergency access.

The Draft Management Plan recommendations include improving the vehicle access along tracks through general maintenance and minor upgrading to provide passing points, upgrading infrastructure at car parks (to minimise parked vehicles restricting access) and new signage to ensure access gates identify maintenance tracks and fire access tracks. These recommendations are included in the infrastructure and access implementation plan and have been incorporated into Table 18 of the Draft Management Plan.

The Draft Management Plan recommends that the City consider the level of information relating to bushfire risk that should be provided to visitors. This can be integrated into actions related to the development of signage messages.

Recommendations to conduct surveillance within the reserve to discourage antisocial behaviour are proposed to be addressed as a part of general operational practice.

Recommended Response Measures

The Draft Management Plan includes a recommendation that the City considers developing a plan to define the actions required to remove visitors and prevent access based on 'DFES Advice, Watch and Act, Emergency Warning and All Clear ratings in the event of a fire in the area.'

The City's preparedness and response measures will be compliant with the City's Bush Fire and Risk Management Plan.

Nomenclature

Various names apply to the trail network in the reserves. For clarity and consistency a revision of the reserves nomenclature is recommended in the Draft Management Plan. It is proposed, as part of the process of advertising the management plan for public comment, to seek public comment on the naming of the trails.

Existing and commonly used names of locations in the reserves include the following key destinations:

- Roley Pools picnic area
- Nature's Spa
- The Cascades

No change to these names is recommended.

Changes to the names of the following trails are recommended, with locations shown on the Trails Location Plan (refer to Attachment 1).

- Boardwalk Trail on the south side of the river stretching from the Soldiers Road lower car park to the Thompsons Road lower car park. This area is sometime referred to as part of Thompsons Track.
- Roley Pools Walk Trail on the north side of the river stretching from the Soldiers Road upper car park to the Roley Pools picnic area (key destination).
- Heritage Walk Trail (also known as Thompsons Trail, Thompsons Track and Araluen Walk Trail) from the Thompsons Road upper car park to Heritage Drive.

Modification to recommendations

A number of changes to the document submitted by the consultant (Ecoscape 20/1/2017) were made by City officers following internal review. A summary of the changes made to the document, and a rationale for these changes, is provided in the Executive Summary of the draft management plan.

COMMENT

The Draft Management Plan provides a strategic guide to management of the reserves. The management actions are aspirational and do not consider any budgetary restrictions nor consider the priority of the proposed works comparative to priorities for management of other natural areas.

To consider the recommendations in a context of achievable works, the Environmental Services department has further reviewed the Draft Management Plan recommended actions and programs, with the view to implementing an achievable ten year works program. This has resulted in the development of an implementation strategy, which is contained within the Executive Summary of the Draft Management Plan. Further discussion relating to the development of the implementation plan follows.

Implementation Plan for Weed Control

The weed control program estimates that the control of Priority 1, 2a, 2b, 3 and 4 weeds will cost an estimated \$124,186 over a five year period. In terms of achievability (and the need to couple some of the actions with revegetation), this schedule of works would be more achievable over a ten year period with an expenditure of \$12,418 annually.

Topic	Draft Management Plan Recommendation	Proposed Implementation Strategy	Estimated cost (annual) in addition to current budget allocation
Weed management	As funding permits implement Strategic Weed Control Plan that is provided in Map 6 and Tables 10 to 14.	Integrate weed control program into existing natural areas works programs.	\$12,418 annually for ten years.

Implementation Plan for Revegetation

The aspirational revegetation program recommends the expenditure of \$1,300,000 across three revegetation areas. However, the recommended program is limited in its application as it only provides a lump sum costing and does not consider costs other than original installation. The estimate is also limited in that it does not consider existing vegetation which occurs in the Priority 1 area (existing vegetation reduces estimates of plant numbers required).

In consideration of the recommended revegetation priority areas, the City recommends that the proposed quantity of revegetation be significantly reduced to a level reflective of the investment into weed control. This will ensure the program can be implemented and maintained from a resource perspective.

An annual allocation of \$15,000 for revegetation will allow approximately 3,000 plants to be planted each year in the three priority areas.

Topic	Draft Management Plan Recommendation	Proposed Implementation Strategy	Estimated cost (annual)
Revegetation	As funding permits, implement revegetation priorities as shown in Map 7.	Integrate (in part) revegetation priorities into existing natural areas works programs.	\$15,000 annually for ten years.

Implementation Plan for Fauna Management

As well as the benefits to fauna management that are associated with the weed control and revegetation programs, fauna management actions that require resource investment include the implementation of a feral animal control program and the establishment of artificial nesting boxes as supplementary habitat. Feral animal control is recommended twice annually at a total cost of \$5,000 per annum.

As an outcome of an audit of potential habitat/bird nesting trees across the reserves, 24 potential nest box locations are identified in the plan. The installation of nest boxes is recommended in the document but no cost estimate is provided. City officers have amended the report to include a costing of \$2,500 annually.

Topic	Draft Management Plan Recommendation	Proposed Implementation Strategy	Estimated cost (annual) in addition to current budget allocation
Fauna management - native fauna conservation	Implement weed control and revegetation in an incremental fashion, with weeds being removed from a small section at a time prior to replanting with native species to replace habitat.	Implemented as part of Strategic Weed Control and Revegetation Plans.	N/A
	Increase the density of existing revegetation understory to provide better habitat.	Implemented as part of Strategic Weed Control and Revegetation Plans.	N/A
	Plant species known to provide feeding habitat for cockatoo species should be planted preferentially in appropriate locations.	Implemented as part of Strategic Weed Control and Revegetation Plans.	N/A
	Existing natural vegetation should be retained.	Operational action.	N/A
	Retain fallen logs for their habitat value.	Operational action.	N/A
	Install and maintain habitat boxes in locations shown in Appendix 9.	Implemented as part of existing habitat supplementation program.	\$2,500 annually for ten years
	Report any issues to City or Fisheries department.	As funding permits, recommendations to be integrated into existing reserve management frameworks.	N/A
	Implement a feral cat and feral fox control program (physical removal) in the reserves.	Integrate into existing feral animal management programs in natural areas.	\$5,000 annually for ten years
	Remove European honey bee nests as they are located.	Integrate into existing feral animal management programs in natural areas.	Included in action above
	Develop and implement a community awareness program outlining the impacts of dogs to the bushland and wetland ecosystems and about dog ownership responsibilities to assist in the conservation of these important areas. The program should employ effective mechanisms to inform the public such as the City's website, social media and appropriate signs on site.	Integrated as part of proposed signage upgrades recommended in the trails, access and infrastructure plan.	

Implementation Plan for Water Management, Bushfire Management, Dieback Management and Cultural Heritage Management

Recommended actions for the management of water flows, bushfire management, dieback management, and cultural heritage management have not been rationalised and are provided in the Executive Summary implementation plan of the Draft Management Plan.

Implementation Plan for Infrastructure and Access

Costed infrastructure and access recommendations are provided comprehensively in Table 18 of the Draft Management Plan and are summarised in discussion below:

High Priority Items

The estimated costs for high priority infrastructure works in the reserve are \$101,050. This estimate is comprised of:

- \$2,200 in surface maintenance (works to re-profile and upgrade existing tracks)
- \$2,100 in capital investment (upgrades to surfaces/tracks)
- \$96,750 in new infrastructure

Of the proposed capital items, a large component of this is the upgrade of the Cascades carpark (estimated at a cost of \$84,000).

This is required to ensure that both safe car parking and emergency access can be achieved. This estimate of probable cost is likely able to be refined through alternative material selection and design.

Medium Priority Items

The estimated costs for medium priority infrastructure works in the reserve are \$390,245 which is comprised of:

- \$73,120 in surface maintenance (includes works to re-profile and upgrade to existing tracks to DDA compliant area between Soldiers Road upper car park and Roley Pool Picnic Area)
- \$3,900 in existing infrastructure maintenance
- \$9,350 capital investment into improving surfaces
- \$303,875 in capital infrastructure

The most costly of these items include the following proposals:

1. For the purpose of providing a link walk north and south of Canning River at the Roley Pools destination:
 - Install a river crossing at the 'water pipe crossing' destination, retaining the water pipe for historical purposes at an estimated cost of \$225,000 (Recommendation D3)
 - Install a footbridge at Soldiers Road car park at an estimated cost of \$37,500 (Recommendation A7)
2. For the purpose of establishing the Cascades as a destination and preservation of historical features of the reserve:
 - Retention and development of the Cascades water pipe as a viewing platform at an estimated cost of \$28,000 (Recommendation N4)

The retention of the Natures Spa water pipe with no change is recommended.

Currently, there is a Water Corporation proposal before the City to remove these decommissioned water pipes at the Water Corporations cost. In the instance that the City wishes to retain and upgrade the pipes, the Water Corporation has indicated they could contribute some funding that was dedicated to the removal program to the upgrade of the facility. The value of contribution funds in 2016/17 was estimated at \$30,000. This is below the anticipated required costs for modification of the location to a bridge of \$225,000.

City officers revised a cost estimate for Recommendation D3, by changing the location of the proposed bridge to a narrower point of the river (and not utilising the water pipe structure). In this scenario, the value of the project could be as low as \$60,000 for the bridge without the historical preservation of the water pipe, which the City could choose to allow the Water Corporation to remove at their cost.

The City is yet to respond to the Water Corporations proposal and is seeking Council's position on the proposal to retain the water pipes for heritage values.

Low Priority Items

The estimated costs for low priority infrastructure works in the reserve are \$87,285. This is comprised of:

- \$15,685 in surface maintenance (works to re-profile and upgrade existing tracks)
- \$1,200 in existing infrastructure maintenance
- \$10,800 surface capital investment into improving surfaces
- \$59,600 in capital infrastructure

Low priority capital infrastructure items include seating, signage, a viewing platform at the “Lower access track and riverside destination”, and the replacement of the timber boardwalk at the “Boardwalk, rock outcrop and Roley Pools trail start” destination.

Topic	Draft Management Plan Recommendation	Proposed Implementation Strategy	Estimated cost (annual) in addition to current budget allocation
Access and Recreation	Implement trails, access and infrastructure recommendations as summarised in Table 18.	Integrate into existing natural areas works programs.	Total cost of this item is further considered in the Analysis section of this report.
	Develop a recreational strategy of the reserve which develops a standard signage style across the area to present it as a regional destination.	As funding permits, recommendations to be integrated into existing natural areas works programs.	\$25,000 estimate – strategy only \$58,000 – strategy and signage
	Undertake a pedestrian safety audit for all trails and infrastructure.	Integrated into item above.	Included in item above.
	Continue maintenance of tracks and infrastructure – inspection, repair damage, pruning vegetation.	Integrated as part of proposed signage upgrades recommended in the Trails, access and infrastructure plan.	N/A
	Consider re-routing track where it strays into private property.	Integrated as part of proposed signage upgrades recommended in the trails, access and infrastructure plan.	Integrated as part of proposed signage upgrades recommended in the trails, access and infrastructure plan.

ANALYSIS

The implementation plan for the Draft Management Plan rationalises aspirational works programs. The following tables make the distinction between ongoing operational costs considered imperative for the maintenance of the area (refer Table 1); and significant capital investment initiatives that may be considered as unique stand-alone project initiatives (refer Table 2).

Funding of items in Table 2 may be considered separately to management plan implementation, as part of the City’s budget review process. Using this approach allows for the opportunity to review these initiatives in the context of other priority strategic projects as well as their level of importance outlined in the management plan.

Table 1: Annual ongoing operational costs considered imperative for the maintenance of the area.

Management Plan Operational Component	Annual cost (estimate)	Project Component
Weed Control	\$12,000	
Revegetation	\$15,000	
Feral Animal Control	\$5,000	
Fauna Habitat	\$2,500	
Track Upgrades	\$9,000	Provide for firebreak maintenance and recreational access
Total Ongoing Annual Operating Cost	\$43,500	

Table 2: Significant capital investment initiatives that may be considered as unique stand-alone project initiatives.

Management Plan Initiatives for budget consideration.	Once off cost (estimate)	Project Component
One-off Surface Improvements	\$22,000	New drainage swales, Track upgrades and realignments to achieve reduced grade.
Recreational Strategy and Signage upgrades	\$58,000	Development of a signage strategy for the reserves and installation of signage infrastructure.
Cascades car park upgrade (Thompsons Road)	\$112,050	Provides safer car parking and emergency access by reconfiguring car park.
Two river crossings/bridge	\$262,000	At Roley Pools destination, crates lopped walk trail and safe river crossing.
New viewing platform	\$28,000	At riverside destination "water pipe crossing".
Replace boardwalk location	\$18,000	At "Boardwalk, rock outcrop and Roley Pools trail start"
Overall total for year 1 of budget	\$500,050	

Consequently, the annual additional operational budget requirement is \$43,500 in Years 1 to 10 of the plan. It is proposed to include this item amount in the long term financial plan.

The Year 1 capital project budget is proposed to be \$80,000 as a result of the one-off surface upgrades and the recreational strategy and signage upgrade. It is recommended that these items are funded in Year 1 and other items in Table 2 be considered separately to management plan implementation, as part of the City's budget review process.

Car park upgrades will be considered as part of the Civil Works Budget.

OPTIONS

Option 1:

That Council advertise the Draft Roley Pools – Heritage Walk Trail Management Plan and Implementation Plan for a four (4) week public comment period with specific comment sought on the nature of the aforementioned funding mechanisms. In addition, reserve nomenclature should be highlighted for consideration.

Option 2:

That Council request the modification of the Draft Roley Pools – Heritage Walk Trail Management Plan and/or the aforementioned funding mechanism prior to release for public consultation.

The draft Roley Pools - Heritage Walk Trail Management Plan provides a strategic approach to management of a number of reserves vested in the City of Armadale, located along the Canning River in Roleystone.

It is recommended that Council release the Draft Roley Pools - Heritage Walk Trail Management Plan for a four (4) week public consultation period. Following the consideration of public comment, the document will be resubmitted to Council for endorsement.

RECOMMEND

That Council:

- 1. Advertise the Draft Roley Pools Heritage Walk Trail Management Plan, for a four (4) week public consultation period.**
- 2. Include the following annual maintenance and capital works funding considerations in the 2018/19 budget deliberations:**

Annual maintenance:

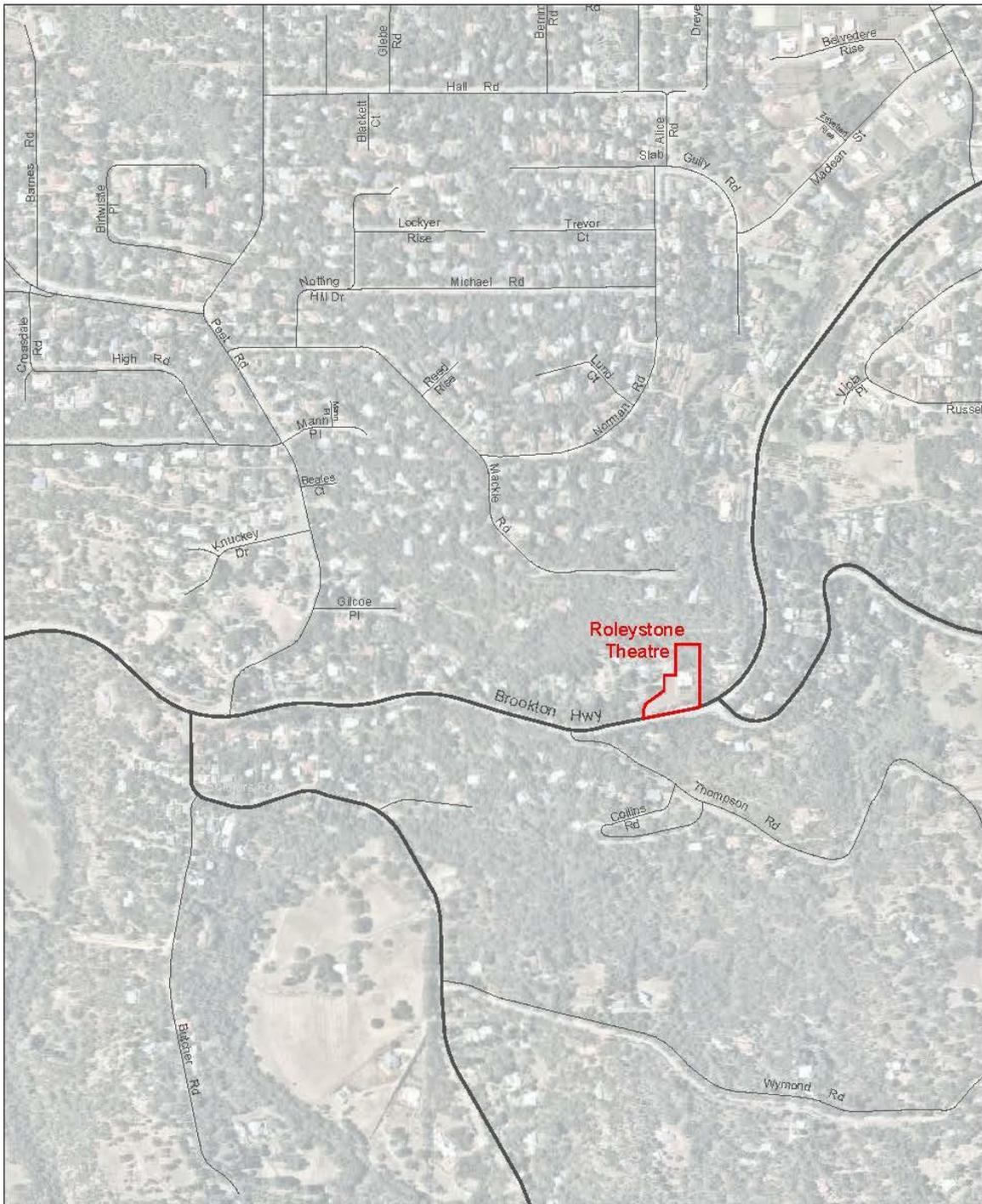
- **\$12,000 for weed control**
- **\$15,000 for revegetation**
- **\$5,000 for feral animal control**
- **\$2,500 for fauna habitat**
- **\$9,000 for track maintenance**

Capital:

- **\$22,000 for once off surface improvements**
- **\$58,000 for a recreational strategy and signage upgrades**

ATTACHMENTS

- [1.↓ Roley Pools Trails Location Plan](#)
- [2.↓ Concept Drawings - Roley Pools Management Plan](#)
- [3.↓ Roley Pools - Key Location Photographs](#)



Roleystone Theatre

587 Brookton Highway
ROLEYSTONE

Location Plan



3.1 - ROLEYSTONE THEATRE WORKS

WARD : RIVER
FILE No. : M/818/17
DATE : 22 December 2017
REF : SG/AO
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- Provision was made in the 2017/18 Budget for the removal of asbestos and the replacement of the Roleystone Theatre roof.
- As part of the investigations into the removal of the asbestos and the replacement of the roof, a general structural assessment was commissioned. This report identified a number of significant faults with the structure, which has recommended that urgent structural rectification works to be undertaken.
- The structural report also recommended that a detailed structural review be undertaken to determine what structural rectification works would be required to ensure the serviceability of the building in the longer term.

Recommend:

That Council, with regard to the planned improvement works to the Roleystone Theatre facility:

1. Approve that the proposed works relating to asbestos removal and roof replacement be placed on hold, pending the outcome of a detailed structural report.
2. Approve structural remedial works to a value of approximately \$100,000 to ensure the facility is safe for occupancy.
3. Be presented with a report at a future Technical Services Committee meeting on the findings and recommendations of a detailed structural report on the Roleystone Theatre building.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

- 1.2 Active community life that is safe and healthy
 - 1.2.1 Recognise, value and support for everyone
 - 1.2.1.2 Implement the City of Armadale Access and Inclusion Plan
 - 1.2.1.4 Facilitate delivery of children and family programs
- 2.2 Attractive and Functional Public Places
- 2.3 Well Managed Infrastructure
 - 2.3.2 Ensure maintenance activities address required levels of service

Legislative Implications

Any Building works associated with the project would need to be carried out in accordance with the Building Code of Australia (BCA) and any other relevant legislation and or Australian Standards.

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

The costs to undertake the recommended urgent works can be accommodated within the 2017/18 Property Services Budget and Long Term financial Plan Allocations.

Consultation

- Quion Consulting (Building Surveyors).
- Intra Directorate.

BACKGROUND

The Roleystone Theatre located at 587 Brookton Highway Roleystone was originally constructed as a public hall in 1922 and has been used as a theatre since the formation of the Roleystone Choral and Dramatic Society in 1933. Over the years, the main structure has been added to and in the mid-1970s, the City embarked on a program to upgrade the building. The building is included in the City of Armadale Municipal Heritage Inventory and any works to the building need to be carried out in conjunction with the *Australia International Council of Monuments and Sites Charter for the Conservation of Places of Cultural Significance*.

In July 2013 a lease was entered into by the City and the Roleystone Theatre Club (the tenant) for a term of five (5) years expiring on 30 June 2018; with an option for the lease to be extended for a further five (5) years expiring 30 June 2023.

During their tenure, the tenant has made a range of unauthorised modifications and alterations to the premises in the course of carrying out productions. These modifications have become increasingly extensive due to the larger and more technical productions that have been presented at the theatre. These modifications have not been approved by the City and were not brought to the attention of the City.

The City, during a routine asbestos inspection of the building during 2016/17, identified that elements of the building comprising asbestos were becoming friable, which were recommended for removal before these elements became a risk to users of the facility. Provision was subsequently made in the 2017/18 Capital Works Budget for the removal of asbestos in the backstage area and for replacement of the roof.

It was however observed that some of the asbestos elements planned for removal, constituted structural elements of the building. Specialist structural consulting engineers were therefore commissioned to undertake a structural review of the facility to determine a strategy to remove the asbestos and replace the roof accordingly.

The preliminary structural report however identified a number of previously unknown structural issues which required, on the consultant's recommendation, immediate attention prior to the removal of the asbestos or roof structures. These works related mainly to bracing the current structure which is already showing signs of leaning. The preliminary structural report highlighted the need for a further in-depth review to be undertaken to identify options for future long term works to the building.

COMMENT

The preliminary structural report identified a number of concerns in the main relating to the fly tower. The tower requires external bracing to assist in supporting the current structure.

The issues identified that require rectification in the immediate term are detailed as follows:

Issue	Action	Priority
Original stumps shortened and timber bearers not seated adequately on the beams to fit on the concrete wall.	Provide bracing to the structure including the cut off stumps and beams.	High
No structural tie down connections.	Remove part of the external cladding, brace and check the structure.	High
Stage walls, asbestos lined walls, evidence of sheets moving due to stress from frame work.	Remove asbestos sheeting if not performing a structural purpose.	Medium
Gallery above the stage, asbestos lined walls evidence of sheets moving due to stress from frame work.	Provide bracing to structure including the cut off stumps and beams.	High
The timber rafters above the stage also support the walkway, report notes unsafe to access.	Close off, advise parties of issue, rectification to be included as part of building review.	High – Actioned/Completed
Lateral support to the fly tower. During high winds the structure does not have the capacity to resist calculated loading.	Remove part of the external cladding brace and check the structure.	High
External fibre sheeting is providing some lateral bracing, there may be some bracing that could not be identified behind sheeting that couldn't be removed.	Remove internal cladding to the main auditorium. This would allow access to the trusses and then strengthening by way of tie rods could be undertaken, together with flitch plates to the top and bottom of the roof members.	Medium to High
At the skillion roof to the workshop/store area, the column is not adequately fixed at the base nor rafters.	Review and address the column and provide adequate footing and connections to roof at workshop/store area.	High

Given the above observations and advice, some of the above actions have commenced by either addressing or further investigating the issues identified in the structural report.

The cost to undertake all of the works outlined above is estimated at \$100,000.

The City is currently awaiting the results of a detailed structural report to identify the works required to maintain/upgrade/renew the building in the longer term. It is expected that these works will be of a significant scale and related to rectification of the structural elements of the building. Once the detailed report is available, a further report on this matter will be presented to Council outlining the available options for consideration. The removal of the asbestos and the replacement of the roof are therefore not recommended to proceed until the scope of the structural rectification works is identified.

CONCLUSION

It is expected that further structural rectification works will be required to maintain/upgrade/renew the Roleystone Theatre over the longer term. Given that the City is still awaiting the outcome of the detailed report outlining the rectification works required and their associated impacts, proceeding with the removal of the asbestos and the replacement of the roof at this time is not practicable. Works are to be carried out in the immediate term as detailed in this report to assist in bracing the current structure and a report outlining available options in the longer term will be presented for Council's consideration once the detailed report has been received and analysed.

RECOMMEND

That Council, with regard to the planned improvement works to the Roleystone Theatre facility:

- 1. Approve that the proposed works relating to asbestos removal and roof replacement be placed on hold, pending the outcome of a detailed structural report.**
- 2. Approve structural remedial works to a value of approximately \$100,000 to ensure the facility is safe for occupancy.**
- 3. Be presented with a report to a future Technical Services Committee meeting on the findings and recommendations of a detailed structural report on the Roleystone Theatre building.**

ATTACHMENTS

There are no attachments for this report.



Champion Centre

Champion Drive
SEVILLE GROVE

Location Plan



**3.2 - CHAMPION CENTRE AND SEVILLE GROVE LIBRARY UPGRADES - PUBLIC
OPEN SPACE CASH-IN-LIEU EXPENDITURE**

WARD : HERON
FILE No. : M/820/17
DATE : 22 December 2017
REF : SG/AO/SW
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- Upgrades to the Champion Centre and Seville Grove Library have been approved and are to primarily be funded through a Lotteries West Grant, to an amount of \$4,450,000.
- The landscaping elements associated with that project are proposed to be separately funded through the application of Public Open Space Cash-in-Lieu (CIL) funds.

Recommend:

That Council:

1. Approve the proposed reserve improvement capital works (totalling \$450,000) for the Champion Centre Precinct and Bob Blackburn Reserve being listed for consideration for inclusion in the 2018/19 Annual Budget, noting that these capital works will be fully funded from the POS Cash-In-Lieu - A14 Structure Plan Account if approved by the Minister.
2. Pursuant to Section 154 of the Planning and Development Act 2005, request the Minister's approval via the Western Australian Planning Commission to spend \$450,000 of Public Open Space Cash-in-Lieu funds held by Council in Trust, from past subdivision applications (124827, 128522 and 131991), towards the improvements to the Champion Centre Precinct and Bob Blackburn Reserve as described in the report.
3. Note that the Public Open Space Cash-in-Lieu funds cannot be spent until the approval has been granted by the Minister of Planning.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

- 1.1 A strong sense of community spirit
- 1.2 Active community life that is safe and healthy
 - 1.2.2 Provide opportunities to improve health outcomes for everyone
 - 1.2.3 Encourage initiatives to improve perceptions of safety
 - 1.2.3.2 Activate local spaces to improve local safety
- 1.3 The community has the services and facilities it needs
 - 1.3.4 Promote services and facilities available in the community
- 2.2 Attractive and Functional Public Places
 - 2.2.1 Deliver attractive and functional streetscapes, open spaces, City buildings and facilities
 - 2.2.1.1 Deliver new and upgraded facilities that are multi-purpose where appropriate
- 2.5 Quality Development Outcomes
 - 2.5.1 Implement and administer the City's Town Planning Scheme and Local Planning Strategy to deliver quality development outcomes
 - 2.5.1.3 Deliver key strategic planning projects and strategies

Legislative Implications

Assessment of legislation indicates that the following apply:

- Planning and Development Act, 2005

Council Policy/Local Law Implications

Assessment of Policy/Local Law indicates that the following are applicable:

- Parks and Facilities Strategy, 2013

Budget/Financial Implications

An amount of \$4,450,000 has been included in the 2017/18 Capital Works Budget for improvements to the Champion Centre and the Seville Grove Library.

Landscaping elements of this project, which extend into Bob Blackburn Reserve, are proposed to be separately funded from the Public Open Space CIL – A14 Structure Plan Account.

Consultation

- Community User Groups.
- Architectural consultants.
- Landscape designers.
- Inter Directorate.

BACKGROUND

Overview of Facility

The Champion Centre and the Seville Grove Library are located adjoining each other in Champion Drive, Seville Grove, and they form part of the broader Champion Centre Precinct on Bob Blackburn Reserve. The Champion Centre is a facility which hosts a range of community based programs and is also available for hire.

Previous Funding Allocation for Upgrade

Council approved funding in the 2017/18 Annual Budget to an amount of \$4,450,000 for improvements to the Champion Centre and Seville Grove Library.

Guidelines for Public Open Space CIL

The Planning and Development Act 2005 provides the basis for Local Government to obtain Public Open Space Cash-in- Lieu (CIL) through the subdivision of land, the maintenance of those funds in Trust and their subsequent expenditure. The Western Australian Planning Commission's Planning Bulletin No. 21 provides more detail, including the following list of acceptable uses for expenditure of Public Open Space CIL Funds:

- clearing
- seating
- earthworks
- spectator cover
- grass planting
- toilets
- landscaping
- change rooms
- reticulation
- lighting
- play equipment
- pathways
- fencing
- walk trails
- car parking
- signs relating to recreational pursuits

The approval of the Minister for Transport, Planning and Lands is required prior to carrying out works which are proposed to be funded by Public Open Space CIL.

DETAILS OF PROPOSAL

Landscape Design/Scope

One of the main elements of the upgrade project is the improvement of the aesthetics and usage of both structures and the surrounding area, with a particular emphasis on the space between the two buildings. At present that area is barren and void of any greenery, which is quite unwelcoming.

That area is proposed to be landscaped and incorporated into the activities of the Champion Centre and the Library, with access to and from this area; as well as to and from both facilities. The landscaping is proposed to include both soft and hard elements, which will serve functional and recreational roles. These improvements are intended to allow for improved service delivery in both facilities as a primary aim; and as a secondary aim, to link the two facilities operationally in order to generate synergies between the two.

Aboriginal Elders associated with the Champion Centre and users of both facilities have been consulted with in regard to the proposed design. All groups are in agreement that the included elements address the community requirements, particularly those related to the Champion Centre.

The major elements of the landscaping works, which are estimated to cost \$450,000, include the following:

Site clearing, service location and preparation for earthworks	\$25,000
Earthworks/ preparation for landscaping	\$35,000
Seating, public seating, benches	\$20,000
Shade structure over the seating benches	\$10,000
Grass planting to open and play areas	\$5,000
Landscaping /planting	\$180,000
Reticulation of site	\$15,000
Lighting to complement the landscaping	\$60,000
Play equipment to complement the premises	\$25,000
Pathways through the landscaping area	\$15,000
Fencing as part of the landscape design	\$15,000
Walk trails through the existing nearby bushland	\$5,000
Modification of car parking area to accommodate pedestrian link	\$40,000
TOTAL (excl. GST)	\$450,000

Items not identified on the landscape plan but listed above, are due to these plans only being at concept stage. However these will be included in the final detailed drawings and included in the contracted works.

COMMENT

The landscaping works listed in the table above are consistent with the permitted elements for Public Open Space CIL, as listed in Planning Bulletin No. 21. It is expected that the Minister's consent should be forthcoming, however it will be necessary to obtain that approval before any works/funding can be actioned.

If Ministerial consent is received, it is proposed that the following funds be drawn down upon, from the POS Cash-In-Lieu – A14 Structure Plan Account:

- \$234,035 (which includes interest) from subdivision 131991
- \$158,418 (which includes interest) from subdivision 124827
- \$57,547 from subdivision 128522

OPTIONS

Council could:

1. Request the Minister's approval to spend \$450,000 of Public Open Space CIL funds in the A14 Structure Plan Account the on improvements to the Champion Centre Precinct and Bob Blackburn Reserve, and approve listing of that expenditure for consideration in its 2018/19 Annual Budget.
2. Modify the proposed works or allocation of funding for the proposed landscaping works associated with the upgrading of the Champion Centre and the Seville Grove Library.
3. Recommit the allocation of funds for use at a later date.

Option 1 is recommended.

CONCLUSION

The proposed works reflect a collaborative approach towards the development of the proposals, which are a sustainable and equitable use of Public Open Space CIL funds. Upgrades are appropriate to the character of the local area and the City's asset management strategies. The proposals foster both active and passive community needs and support recommendations within a number of City policies.

It is recommended that Council support the proposal to allocate Public Open Space CIL funds to the landscaping works in support of the upgrade to the Champion Centre/Seville Grove Library Precinct and Bob Blackburn Reserve.

RECOMMEND

That Council:

- 1. Approve the proposed reserve improvement capital works (totalling \$450,000) for the Champion Centre Precinct and Bob Blackburn Reserve being listed for consideration for inclusion in the 2018/19 Annual Budget, noting that these capital works will be fully funded from the POS Cash-In-Lieu – A14 Structure Plan Account if approved by the Minister.**
- 2. Pursuant to Section 154 of the Planning and Development Act 2005, request the Minister’s approval via the Western Australian Planning Commission to spend \$450,000 of Public Open Space Cash-in-Lieu funds held by Council in Trust, from past subdivision applications (124827, 128522 and 131991), towards the improvements to the Champion Centre Precinct and Bob Blackburn Reserve as described in the report.**
- 3. Note that the Public Open Space Cash-in-Lieu funds cannot be spent until the approval has been granted by the Minister of Planning.**

ATTACHMENTS

- 1. [↓](#) Champion Centre & Seville Grove Library Redevelopment - Concept Landscape Design**

3.3 - KELMSCOTT HALL - SHORT TERM WORKS

WARD : RIVER
FILE No. : M/821/17
DATE : 22 December 2017
REF : SG/AO
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- This report provides an update on the delivery of the redevelopment of the Kelmscott Hall Upgrade project, following on from Council's recent decision to consider the upgrades to the Hall as part of the existing master plan project assessments during the 2018/19 budget deliberations.

Recommend:

That Council:

1. Accept that the most cost effective and practical method for the completion of the Kelmscott Hall Upgrades would be for the project to be completed in one stage, as opposed to the completion in two stages, which would result in increased costs of approximately 18%.
2. Not proceed with any improvements to the Kelmscott Hall until the funding for the full scope of works of the project, estimated at \$2,100,000 has been approved in a future budget.
3. Include the consideration of the funding of the entire upgrade of the Kelmscott Hall at an estimated cost of \$2,100,000 in the 2018/19 budget deliberations.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

- 1.2 Active community life that is safe and healthy
 - 1.2.1 Recognise, value and support for everyone
 - 1.2.1.2 Implement the City of Armadale Access and Inclusion Plan
 - 1.2.1.4 Facilitate delivery of children and family programs
- 2.3 Well Managed Infrastructure
 - 2.3.1 Apply best practice design and construction methodologies for the provision of infrastructure
 - 2.3.1.1 Implement a best practice project management approach to the planning and delivery of infrastructure
 - 2.3.1.2 Apply the latest technological advancements and optimal energy reduction strategies, in design criteria of facilities

Legislative Implications

Any Building works associated with the project will need to be carried out in accordance with the Building Code of Australia and any other relevant legislation and or Australian Standard.

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

There are no immediate financial or budget implications associated with the acceptance of the recommendation in this report for the 2017/18 financial year. The inclusion of additional funds, if approved, are to be included in a future budget programme.

Consultation

- Community User Groups.
- Architectural consultants.
- Intra Directorate.

BACKGROUND

The Kelmscott Hall upgrade was initially proposed in 2014/15 and was envisaged to include an upgrade to only the toilets and kitchen areas. However, after consideration of an expanded scope of works to ensure that the building was upgraded in all respects Council on 13 June 2016 (Resolution 170/6/16 refers) allocated additional funding initially earmarked for the Master Planning Projects, to this project, with an expanded scope of works which included:

- New entrance/reception
- Upgrade toilets
- Additional lesser hall
- New meeting room
- Internal painting throughout
- Upgraded kitchen and equipment
- Upgraded change rooms
- New lighting
- Air conditioning
- Front external veranda
- Ceiling replacement
- Flooring upgrade

Subsequent to this, during the process of finalising the detailed design, the architect performed a number due diligence processes to confirm the major elements of the project. These investigations however, led to a number of additional findings which are considered essential to be addressed as part of the Kelmscott Hall Upgrade Project. Council considered these additional elements and the resultant budget implications at its meeting of 18 December 2017 (recommendation T100/12/17 refers) and resolved as follows:

“That Council:

- 1. Request a report to Technical Services Committee on essential short term works funded and required as part of original budget allocation.*
- 2. Refer Kelmscott Hall to be included as a project in the full Master Plan Assessment and Prioritisation report, noting its assessment may change existing project rankings; and*
- 3. Refer the balance of current funding from Master Planning for Kelmscott Hall to 2018/19 Budget, to be allocated to highest ranking next unfunded project after part 2 of this recommendation is complete.”*

In line with Part 1 of Council’s resolution above, this report serves to detail the additional works required, and accordingly presents options for Council’s consideration in the staging of the project delivery.

COMMENT

The additional elements are as follows:

Roof Structure

The roof cladding was examined for structural integrity and found to be lacking in that:

- The roof sheeting has been damaged and has depressed areas which results in the roof sheeting not being water tight at the overlaps. This is due to the installation of domestic sheeting installed in a commercial environment. This roof sheeting needs to be replaced with an appropriate commercial/industrial material suitable for the situation.
- The truss structures on the side buildings are insufficient for the design load and require replacement.
- The purlins are under-designed and are required to be replaced with an appropriately specified design material.
- All associated guttering and drainage elements require replacement due to brackets being damaged and minimal infrastructure (drainage).
- Flashing to the roof and surrounding capping is not of a sufficient standard and will need to be removed and replaced.
- The existing ceiling is fixed to the roof rafters and purlins by way of horse hair and plaster slurry. This is an old practice, has age cracks and there is evidence of it coming away from the rafters. Any work to the roof will risk the ceiling being further damaged.

Main Hall Floor

The floor is unsealed from below and has been subject to moisture damage and a claim has been submitted to the insurers in this respect. The insurers have however not accepted the claim and are only prepared to partially contribute to the repair of a small damaged area. The floor must however be protected from water ingress and then replaced in full. Sub-soil drainage external to the building on the southern side must also be installed to minimise the probability of a recurrence of damp ingress.

Asbestos Removal

As Councillors would be aware, when a building is being upgraded or renovated, it is the City's practice to remove all asbestos that is exposed, unsealed or possibly disturbed during the upgrade works. While the City was aware of the presence of asbestos in the building, the scale of the asbestos was far in excess of the anticipated amount. Upon inspection of all elements of the building and the testing of samples, the following additional materials were found to contain asbestos.

- Ceiling structure – while the ceiling acoustic boards were scheduled for replacement due to the presence of asbestos it has now been discovered that the complete ceiling structure has been found to contain asbestos and requires replacement in full.
- Toilet and existing River Road entrance floor tiles.
- Façade and eaves to the building's elevation at various locations around the building.
- Electrical mounting board to the kitchen and Main Hall fuse boards.
- Under sink membrane to each of the current sinks in the building.
- Various areas (x 5) of infill panels around the building.
- Male toilets.
- Skirting boards around the premises.

Considerations

The items indicated above are areas that will require attention due to their nature and where each are situated. These items form an integral part of the building structure and building fabric. Advice received confirms that any works to the building will have either a direct impact or will suffer further damage to those areas indicated if not included as part of the redevelopment.

The new design reflects a modern design and an increase in floor area. The improved entrance and glassed foyer will give the building a new entrance statement that will be able to serve any function to be held in the building.

The design, which has a veranda that encompasses the whole building and gives the facility a more modern appearance, has taken into account the setting in which the building is located and the proposed materials and colour scheme reflect this. The combination of rendered elevations, Colorbond sheeting together with glass and the proposed colour scheme, will ensure that the building will be able to meet the needs of the community and sporting groups as well as being a noticeable community landmark for the future.

This modern design has also been reflected internally with new lighting and air conditioning. All areas are to be improved including the kitchen, change rooms and toilets, with modern, durable fittings which meet BCA (Building Code of Australia) compliance.

The new design will also enable the facility to hold multiple, simultaneously occurring events at the premises without interference.

ANALYSIS

If the works were to be staged, the following, details the pragmatic breakdown of each stage of the works to be undertaken.

Stage 1

Implement all works in the main hall, including the following:

- Floor replacement
- Asbestos removal in main hall only
- Ceiling replacement
- Roof replacement
- New improved lighting installation
- Air conditioning installation
- Change room upgrade
- Back of stage improvements

Stage 2

Implement all works associated with the side building to the main hall including the following:

- Removal of asbestos in areas outside the main hall
- Construction of the side hall
- Construction of the new entrance
- Kitchen upgrades
- Toilet upgrades
- Construction of a new meeting room
- Installation of a new veranda
- Drainage upgrades
- Completion of external wall treatments
- Completion of landscaping, hard and soft

It is possible to complete each stage independently, however the two areas are interlinked and additional temporary works would be required if the works were to be staged.

Examples of the linkages between the works are:

The interlinking doors must, out of necessity, be constructed to suit the revised design, specifically:

- The door between the main hall and the proposed new side hall
- The new entrance into the main hall and the closure of the existing entrance where the meeting room is being proposed

Similarly with the floor of the main hall recommended for replacement, the floor levels are designed to change and there will be level differences should the project not be completed in one stage.

The toilet upgrade also cannot be considered in isolation, as these works include the relocation of walls to create an improved kitchen area as well as the improved new main access to the building.

The roof replacement will also impact on the asbestos removal and the air conditioning works.

It is acknowledged that these difficulties could be accommodated for a short period, but it would be recommended that such interim arrangements not be considered to be in place for any length of time. Staging of the works would also come at a higher cost and would require some duplication and ultimately abortive works. The preferred option would be to complete all the works with one closure of the facility delivering a full, complete, and desirable outcome for the community.

In consideration of the above analysis and in light of the detailed design of the proposed upgrade, it would seem difficult to consider any of the elements in isolation, as they are largely interdependent.

Any works undertaken would need to be completed prior to the Kelmscott Agricultural Society (KAS) Show which is scheduled for late October 2018. Consequently, with consideration of the funding of the project being deferred to the 2018/19 budget deliberations (with the budget scheduled to be adopted during July/August 2018) it is not possible to commence and complete the works prior to November 2018 irrespective of whether a staged approach is taken.

In essence, there are no advantages in staging these works, for the following reasons:

- Services such as the hydraulic, electrical and mechanical works overlap between the main hall, kitchen, and amenities and toilet areas.
- Fragmentation of the works will result in increased total costs for the works.
- Duplication of professional fees will result.
- There will be dual disruption for the community as the full facilities will not be accessible to the community for two periods of time.
- Undertaking the staged approach will certainly result in abortive temporary works which will not be aligned with the intended final finish of the project.

From a technical and project management perspective, the completion of the project in one stage is the preferred option for the following reasons:

- Improved cost efficiencies and value for money
- Asbestos can be removed from the whole site as one project and a contaminantfree site can be handed to a contractor
- Single tender process
- One contractor will be responsible for the full scope of works and will be accountable for all aspects of the project
- Community groups will only be disrupted once
- Site can be a construction zone allowing the builder to work on several areas at once
- Builder's construction time frame will be shortened overall

COMMENT

Each of these options are possible to be completed independently. However, the two areas are interlinked in that the interpleading doors must, out of necessity, be constructed to suit the revised design. Examples of this are:

- the door between the main hall and the proposed new side hall
- the new entrance into the main hall and the closure of the existing entrance where the meeting room is being proposed

Similarly with the floor of the main hall recommended for replacement, the floor levels are designed to change and there will be level differences should the project not be completed in one stage.

It is acknowledged that these difficulties could be accommodated for a short period but it would be recommended that such interim arrangements not be considered to be in place for any length of time.

Temporary works that would be required in the above case come at a higher cost and the preferred option would be to complete all the works with one closure of the facility and completion of all the works together to deliver a full, complete and good outcome for the community.

The possibility of commencing either of these two options before November 2018 has effectively been removed with the consideration of the funding of this project being moved to the 2018/19 budget deliberations, which is scheduled to be adopted in July/August 2018. Consequently, with the Kelmscott Agricultural Society (KAS) Show scheduled for late October 2018, there is insufficient time for the completion of either of these options before this date.

Therefore, should any funding be allocated to this project or elements of this project in the 2018/19 Budget, the works could only commence after the KAS Show, most likely in November 2018 at the earliest.

In essence, there are no advantages in staging these works, for the following reasons:

- Services such as the hydraulic, electrical and mechanical works overlap between the main hall, kitchen and amenities and toilet areas.
- Fragmentation of the works will result in increased total costs for the works.
- Duplication of professional fees will result.
- There will be dual disruption for the community as the full facilities will not be accessible to the community for two periods of time.
- Commencing with either one of the above options will certainly result in abortive temporary works which will not be aligned with the intended final finish of the project.

From a technical and project management perspective, the completion of the project in one stage is the preferred option for the following reasons:

- Improved cost efficiencies and value for money
- Asbestos can be removed from the whole site as one project and a contaminant-free site can be handed to a contractor
- Single tender process
- One contractor will be responsible for the full scope of works and will be accountable for all aspects of the project
- Works can be programmed for after the KAS Show in late October 2018
- Community groups will only be disrupted once
- Site can be a construction zone allowing the builder to work on several areas at once
- Builder's construction time frame will be shortened overall

OPTIONS

The options for Council to consider are:

Option 1:

Undertake the works in a two stage approach as follows:

Stage 1

Implement all works in the main hall, including the following:

- Floor replacement
- Asbestos removal in main hall only
- Replace ceiling and associated structures
- Replace roof and associated structures
- Install new improved lighting
- Install air conditioning
- Change room upgrade
- Back of stage improvements

The estimated cost to complete this stage of the works in isolation is approximately \$940,000.

Stage 2

Implement all works associated with the elements outside the main hall, including the following:

- Asbestos removal in areas outside main hall
- Construction of the side hall
- Revision of the new entrance
- Upgrade kitchen
- Upgrade toilets
- New meeting room
- New veranda all round
- Drainage around the building
- External treatments to walls
- Landscaping, hard and soft

The estimated cost to complete this stage of the works in isolation is approximately \$1,540,000.

Option 2:

That the works outlined in Stages 1 and 2 above be completed together in one stage pending available funding, to be considered during the 2018/19 budget deliberations.

The estimated cost of this option is \$2,100,000.

The total estimated cost of scheduling the works in two separate stages is \$2,480,000 – 18% greater than completing the works in one stage.

Option 2 is therefore recommended.

CONCLUSION

With regard to these available options, the case for a one stage completion, as outlined in Option 2, to avoid the financial and community costs associated with a multi-stage project is the more practical and preferred option. Undertaking a staged approach, as outlined in Option 1, would result in higher construction costs and longer disruption periods for the hall's user groups.

Should funding not be available following the 2018/19 budget deliberations, it is recommended that the project be postponed until sufficient funding is available to complete the project in one stage.

RECOMMEND

That Council:

- 1. Accept that the most cost effective and practical method for the completion of the Kelmscott Hall Upgrades would be for the project to be completed in one stage, as opposed to the completion in two stages, which would result in increased costs of approximately 18%.**
- 2. Not proceed with any improvements to the Kelmscott Hall until the funding for the full scope of works of the project, estimated at \$2,100,000 has been approved in a future budget.**
- 3. Include the consideration of the funding of the entire upgrade of the Kelmscott Hall at an estimated cost of \$2,100,000 in the 2018/19 budget deliberations.**

ATTACHMENTS

- 1. [↓](#) Kelmscott Hall - Proposed Floorplan (2018)**
- 2. [↓](#) Kelmscott Hall - Exterior Elevations (2018)**

4.1 - TENDER 31/17 - MEMORIAL PARK PLAYGROUND RENEWAL AND ASSOCIATED WORKS

WARD : MINNAWARRA
FILE No. : M/816/17
DATE : 21 December 2017
REF : BS/DH
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- Tender 31/17 was recently advertised for Memorial Park Playground Renewal and Associated Works.

Recommend:

- That Council, in regard to Tender 31/17 for Memorial Park Playground Renewal and Associated Works:

Accept the tender from Sanpoint Pty Ltd T/A LD Total for a period of 10 months commencing 1 March 2018 and expiring 31 December 2018 in accordance with:

- The Lump Sum consideration as presented in Confidential Attachment 1
- Council's contract documentation, 2017/18 Budget and Long Term Financial Plan estimates

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

2.2 Attractive and Functional Public Places

2.2.1 Deliver attractive and functional streetscapes, open spaces, City buildings and facilities.

2.2.2 Protect and enhance the character of the City's spaces and places.

2.3 Well Managed Infrastructure

2.3.2 Ensure maintenance activities address required levels of service.

2.3.2.2 Ensure balance is maintained between Levels of Service and affordability.

Legislative Implications

Assessment of legislation indicates that the following apply:

- Section 3.57 *Local Government Act 1995* – Tenders for providing goods or services
- Division 2 *Local Government (Functions and General) Regulations 1996* – Tenders for providing goods or services

Council Policy/Local Law Implications

Assessment of Policy/Local Law indicates that the following is applicable:

- Council Policy ADM 19 – Procurement of Goods or Services

Budget/Financial Implications

The proposed expenditure can be accommodated in the 2017/18 Budget and Long Term Financial Plan estimates commensurate with the successful tenderer recommended in this report.

Consultation

- Intra Directorate.

BACKGROUND

Tender 31/17 for Memorial Park Playground Renewal and Associated Works was advertised in the 22 November 2017 edition of the West Australian newspaper, on the City's website and in a notice which was displayed on the Administration Centre, Armadale, Kelmscott and Seville Grove Libraries public notice boards.

The works contained within the Tender are being undertaken as part of the renewal of Memorial Park. A key aspect of the works is the protection of the significant existing trees.

The proposed works include the demolition and removal of existing playground equipment and surfaces and the provision of the specified materials, labour, traffic management, equipment and cartage for the completion of the landscape hardworks, softworks and irrigation comprising of:

- Playground equipment
- Various paving materials
- Walling
- Fencing
- Signage
- Planting
- Irrigation

Works on site are scheduled to commence on 27 April 2018 (after the ANZAC Day function). A communications strategy (including signage) will be put in place to ensure members of the public are informed of the works.

DETAILS OF PROPOSAL

Council approval is sought to award Tender 31/17 Memorial Park Playground Renewal and Associated works for a period of 10 months commencing 1 March 2018 and expiring 31 December 2018, inclusive of 13 weeks consolidation maintenance.

COMMENT

Analysis

Tender 31/17 for Memorial Park Playground Renewal and Associated Works closed at 2.00 pm on 8 December 2017. Five (5) tenders were received from:

	Tenderer's Name
1.	Le Grove Landscaping
2.	Sanpoint Pty Ltd T/A LD Total
3.	Albra Investments Pty Ltd T/A Horizon West Landscape Construction
4.	Environmental Industries Pty Ltd
5.	D.B. Cunningham Pty Ltd T/A Advantearing Civil Engineers

All tenders were assessed against compliance criteria and all were conforming.

An evaluation process was undertaken having specific regard to the following Qualitative Criteria:

Relevant Experience (20% weighting)

This criterion required tenderers to describe their experience in completing/supplying similar requirements, including:

- Details of similar contracted works
- The scope of the tenderer's involvement including details of outcomes
- A project reference sheet

Sanpoint Pty Ltd T/A LD Total and Environmental Industries Pty Ltd provided the most informative tenders which established their experience in past landscape works of relevant scale and nature.

Key Personnel (15% weighting)

This criterion required tenderers to provide information describing the operational personnel to be allocated to this project, including:

- Their role in the performance of the contract
- Their qualifications and curriculum vitae

Sanpoint Pty Ltd T/A LD Total and Environmental Industries Pty Ltd provided the clearest lists of project team personnel, demonstrating depth of experience, qualifications and knowledge.

Tenderers Resources (15% weighting)

This criterion required tenderers to demonstrate their ability to undertake the works outlined, including noting:

- A comprehensive list of equipment, plant and vehicles
- Any contingency measures or back-up resources including personnel
- Resources commitment schedule
- Availability to commence works in the timeframe outlined

There was very little difference between the tenderers under this criterion. Le Grove Landscaping and D.B. Cunningham Pty Ltd T/A Advantearing Civil Engineering scored marginally higher than Sanpoint Pty Ltd T/A LD Total.

Demonstrated Understanding (20% weighting)

This criterion required tenderers to detail the process they intend to use to achieve the requirements of the project, including noting:

- The process for the delivery of the goods/services including response timeframe
- A schedule of works

D.B. Cunningham Pty Ltd T/A Advantearing Civil Engineering and Sanpoint Pty Ltd T/A LD Total each provided a thorough description of their construction methodology which was reflected in their draft construction schedule of works. In each case, the methodology reflected an appreciation of the site's features and constraints.

Pricing (30 % weighting)

This criterion required tenderers to submit prices for the works as outlined in the tender specification and drawings. The tendered prices were structured as a lump sum. The weighted cost method was used in the evaluation of the tender.

The ranking of the compliant tenders as determined by the evaluation panel is as follows:

Tenderer	Relevant Experience	Key Personnel	Resources	Demonstrated Understanding	Price	Total	Ranking
	20%	15%	15%	20%	30%		
Le Grove Landscaping	13.33	8.50	9.50	10.00	28.06	69.39	2
Sanpoint Pty Ltd T/A LD Total	14.67	10.00	9.00	13.33	30.00	77.00	1
Albra Investments Pty Ltd T/A Horizon West Landscape Construction	14.00	8.00	8.50	5.67	27.29	63.46	5
Environmental Industries Pty Ltd	14.67	9.25	8.50	11.33	25.47	69.22	3
D.B. Cunningham Pty Ltd T/A Advantearing	11.33	6.50	9.50	13.67	27.58	68.58	4

Based on the panel's evaluation, using a combination of the above qualitative criteria, the tender from Sanpoint Pty Ltd T/A LD Total represents the most advantageous tender to the City.

CONCLUSION

Tenders for Memorial Park Playground Renewal and Associated Works were recently invited with five (5) tenders being received and assessed by an evaluation panel against compliance and qualitative criteria.

The result was that the tender received from Sanpoint Pty Ltd T/A LD Total represented the most advantageous tender to the City.

The evaluation panel therefore recommends that the contract be awarded to Sanpoint Pty Ltd T/A LD Total for a period of 10 months inclusive of 13 weeks of consolidation maintenance, commencing 1 March 2018 and expiring 31 December 2018.

NB: The Confidential Attachment to this report detailing the recommended tenderer's price/consideration will be made public when Council has accepted the successful tender.

RECOMMEND

That Council, in regard to Tender 31/17 for Memorial Park Playground Renewal and Associated Works:

Accept the tender from Sanpoint Pty Ltd T/A LD Total for a period of 10 months commencing 1 March 2018 and expiring 31 December 2018 in accordance with:

- **The tenderer's submitted lump sum as presented at Confidential Attachment 1**
- **Council's contract documentation, 2017/2018 Budget and Long Term Financial Plan estimates**

ATTACHMENTS

1. Confidential Attachment - Price Schedule - Tender 31/17 - *This matter is considered to be confidential under Section 5.23(2) (c) of the Local Government Act, as it deals with the matter relates to a contract entered into or which may be entered into by the City of Armadale*

4.2 - TENDER 42/17 - SANCTUARY PARK PATHWAY LIGHTING

WARD : Minnowarra
FILE No. : M/805/17
DATE : 18 December 2017
REF : BS/DH
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- Tender 42/17 was recently advertised for Sanctuary Park LED Pathway Lighting.

Recommend:

- That Council, in regard to Tender 42/17 for Sanctuary Park LED Pathway Lighting:

Accept the tender from Future Power WA Pty Ltd for a period of six (6) months commencing 1 March 2018 and expiring 31 August 2018 in accordance with:

- The Lump Sum consideration as presented in Confidential Attachment 1
- Council's contract documentation, 2017/18 Budget and Long Term Financial Plan estimates

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

2.2 Attractive and Functional Public Places

2.2.1 Deliver attractive and functional streetscapes, open spaces, City buildings and facilities

2.2.2 Protect and enhance the character of the City's spaces and places

2.2.3 Revitalise existing neighbourhoods whilst retaining the character of places

2.3 Well Managed Infrastructure

2.3.2 Ensure maintenance activities address required levels of service

Legislative Implications

Assessment of legislation indicates that the following apply:

- Section 3.57 *Local Government Act 1995* – Tenders for providing goods or services
- Division 2 *Local Government (Functions and General) Regulations 1996* – Tenders for providing goods or services

Council Policy/Local Law Implications

Assessment of Policy/Local Law indicates that the following is applicable:

- Council Policy ADM 19 – Procurement of Goods or Services

Budget/Financial Implications

The proposed expenditure can be accommodated in the 2017/18 Budget and Long Term Financial Plan estimates commensurate with the successful tender recommended in this report.

Consultation

- Intra Directorate.

BACKGROUND

Sanctuary Lake is a significant park located within/adjoining the Armadale City Centre. It forms a key part of the pathway network branching out from the Armadale Regional Centre into the adjoining residential areas, and is a high focal park opposite one of the City's other significant parks, Minnawarra Park, which is currently in the process of being upgraded.

At its meeting of 26 June 2017, Council resolved to allocate \$289,000 of the Public Open Space – Precinct G funds to the installation of path lighting within Sanctuary Lake (Resolution D26/6/17 refers).

Accordingly, Tender 42/17 Sanctuary Park LED Pathway Lighting was advertised in the 11 November 2017 edition of the West Australian newspaper, on the City's website and in a notice which was displayed on the Administration Centre, Armadale, Kelmscott and Seville Grove Libraries public notice boards.

The works contained within the tender are being undertaken as part of the City's Public Open Space Strategy - Precinct G.

DETAILS OF PROPOSAL

Council approval is sought to award the tender for Sanctuary Park LED Pathway Lighting for a period of six (6) months commencing 1 March 2018.

The Scope of Works calls for the supply and installation of LED pathway lighting to Australian Standards throughout Sanctuary Park in accordance with the lighting design and specification documents. Works included in the tender comprise the following:

- Supply and install forty seven (47) Minnawarra Park-style 65Watt 3000K Bega PT1 LED Light fittings on 5m high powder coated poles (supply light fittings, lamps and control gear)
- Supply and install one 124 Watt LED spot light assembly at the Centenary of Federation Memorial Fountain
- Lighting control system
- Liaison with the client and design team
- Existing switchboard modifications to suit new lighting system
- Supply and install final circuit cabling
- Supply and install cable containment (conduits and cable pits)
- Transient protection equipment
- Testing and commissioning
- 'As Built' drawings and maintenance handbooks
- Maintenance during the 12 months defects period

The lighting style specified within the specification matches the existing pole top luminaire and color palette as installed throughout Minnawarra Park.

COMMENT

Analysis

Tender 42/17 for Sanctuary Park LED Pathway Lighting closed at 2.00pm on 28 November 2017. Eight (8) tenders were received by the close of deadline from:

	Tenderer's Name
1.	City Bling Pty Ltd T/A Boyan Electrical Services
2.	Anser Group Pty Ltd T/A Anser Technical
3.	Hender Lee Electrical and Instrumental Contractors Pty Ltd
4.	Fredon WA Electrical Pty Ltd
5.	Nites Electrical
6.	Wired West Electrical Contracting Pty Ltd
7.	Insight Electrical Technology
8.	Future Power WA Pty Ltd

The tenders were assessed against compliance criteria and were found to be conforming.

Two (2) additional tenders were received after the close of deadline and in accordance with Regulation 18(1) of the *Local Government (Functions and General) Regulations 1996* were rejected.

An evaluation of the eight (8) compliant tenders was undertaken having specific regard to the following Qualitative Criteria:

Relevant Experience (20% weighting)

This criterion required tenderers to provide details of similar work, provide the scope of the tenderer's involvement including details of outcomes, provide details of issues that arose during the project and how these were managed and provide a project reference sheet.

Future Power WA Pty Ltd and Hender Lee Electrical and Instrumental Contractors Pty Ltd best demonstrated relevant experience in similar passive pathway lighting systems, detailing their extensive list of previous lighting projects, their involvement in the project scope of works, outcomes achieved and resolution of issues encountered.

Key Personnel Resources (20% weighting)

This criterion required tenderers to detail human resources and their roles in the implementation of the project, proposed plant and equipment and contingency measures.

Future Power WA Pty Ltd and Hender Lee Electrical and Instrumental Contractors Pty Ltd best demonstrated appropriate human resources through the provision of a detailed organisational chart comprising senior design and engineering resources as well as on-ground technical staff dedicated to the operational aspects of the project.

Future Power WA Pty Ltd provided a superior tender in this criterion, detailing the extensive list of plant and equipment dedicated specifically to this project as well as a commitment schedule identifying capacity to undertake the works in the required timeframe.

Demonstrated Understanding (30% weighting)

This criterion required tenderers to provide a project schedule/timeline, the process for the delivery of the goods/services, a demonstrated understanding of the scope of work and Occupational Health and Safety and Environmental considerations.

Nites Electrical and Future Power WA Pty Ltd best demonstrated project understanding commensurate with the requirements to undertake the works in a busy, high value amenity parkland such as Sanctuary Park. All criteria were addressed and specific Draft Project Execution and Quality Management Plans were provided, detailing a specific breakdown of proposed methodology for each element of the lighting supply and installation.

Future Power WA Pty Ltd included specific details such as the potential need for pumping out pole footings in the 'heavy ground', trowel finishing concrete footing foundations and importantly, the need to undertake turf reinstatement of trench lines on a daily basis to take advantage of nightly parkland watering regimes. Nites Electrical best addressed specific site safety throughout their tender.

Pricing (30% weighting)

This criterion required tenderers to submit prices for the works as outlined in the tender specification and drawings. The tendered prices were structured as a lump sum. The weighted cost method was used in the evaluation of the tenders to determine the tender that is most advantageous to the City.

The ranking of the compliant tenders as determined by the evaluation panel is as follows:

Tenderer	Relevant Experience	Key Personnel Resources	Demonstrated Understanding	Price	Total	Ranking
	20%	20%	30%	30%		
City Bling Pty Ltd T/A Boyan Electrical Services	9.00	8.67	12.50	29.64	59.81	8
Anser Group Pty Ltd T/A Anser Technical	9.67	8.67	17.00	30.00	65.34	6
Hender Lee Electrical and Instrumental Contractors Pty Ltd	13.33	12.67	17.50	25.41	68.91	3
Fredon WA Electrical Pty Ltd	12.67	10.67	15.50	26.59	65.43	5
Nites Electrical	12.33	12.00	17.50	24.60	66.43	4
Wired West Electrical Contracting Pty Ltd	9.67	10.33	14.50	29.80	64.30	7
Insight Electrical Technology	12.33	12.00	16.50	28.66	69.49	2
Future Power WA Pty Ltd	15.00	14.00	20.50	27.35	76.85	1

Based on the panel's evaluation using a combination of the above qualitative criteria, the tender from Future Power WA Pty Ltd represents the most advantageous tender.

CONCLUSION

Tenders for Sanctuary Park LED Pathway Lighting were recently invited with eight (8) tenders being received by the close of deadline and assessed by an evaluation panel against compliance and qualitative criteria.

The result was that the tender received from Future Power WA Pty Ltd represented the most advantageous tender to the City.

The evaluation panel therefore recommends that the contract be awarded to Future Power WA Pty Ltd, commencing 1 March 2018 for a contract period of six (6) months.

NB: The Confidential Attachment to this report detailing the recommended tenderer's price/consideration will be made public when Council has accepted the successful tender.

RECOMMEND

That Council, in regard to Tender 42/17 for Sanctuary Park LED Pathway Lighting:

Accept the tender from Future Power WA Pty Ltd for a period of six (6) months commencing 1 March 2018 and expiring 31 August 2018 in accordance with:

- **The tenderer's submitted Lump Sum consideration as presented at Confidential Attachment 1**
- **Council's contract documentation, 2017/18 Budget and Long Term Financial Plan estimates**

ATTACHMENTS

1. Confidential Attachment - Price Schedule - Tender 42 17 - *This matter is considered to be confidential under Section 5.23(2) (c) of the Local Government Act, as it deals with the matter relates to a contract entered into or which may be entered into by the City of Armadale*

5.1 - PAW SIGNAGE - NEERIGEN BROOK (REFERRAL ITEM)

At the Council meeting held on Monday, 18 December 2017, Cr Wielinga referred the following matter to the Technical Services Committee.

That the matter of a sign on the PAW in Neerigen Brook be referred to the Technical Services Committee.

Comment from Cr Wielinga

Residents have expressed grievance at the difficulty of walking along the Neerigen Brook and a request was received for the erection of a sign on the public road/bridge stating it was public. I seek support for a small City sign noting the public way.

Officer Comment

The matter of access into the Neerigen Brook Reserve has been ongoing since as early as 2004. It should be noted that Neerigen Brook Reserve currently has five designated sign posted Public Access Ways for pedestrian access to the Reserve. (refer Attachment 1).

This Councillor referral item specifically requests and seeks support for the erection of a sign on the public road/bridge located at PAW 3 stating it is a public thoroughfare.

In 2008, the owners of Lots 144, 145, 146 and 147 attempted to refuse public entry and public access onto or across their conjoined battleaxe driveway to all persons including pedestrians, walkers, runners, cyclists and motor vehicles.

In 2009 the City sought legal advice for securing public access to Neerigen Brook Reserve specifically on land adjacent to PAW 3.

In brief, it was determined that:

- The residents have no greater right to proceed across the Reserve than any other member of the public
- The Reserve constitutes public open space (POS)
- The Reserve is POS vested in the City of Armadale
- The City, as having the management of the Reserve, is entitled to erect or paint signs on any part of the Reserve which it considers appropriate or necessary
- No resident, whether living near the Reserve or not, has the right to interfere in the management of the Reserve being conducted by the City
- It is immaterial whether the construction (bridge) was made by the developer or by the residents themselves; any work carried out on a Reserve which is of a fixed or permanent nature becomes public property and within the control of the City of Armadale under its management order

The Reserve is public open space vested in the City of Armadale for management purposes. The City therefore has legal control of the Reserve and the fact that there are some improvements to the Reserve, which may have been constructed by the residents of adjoining land, does not affect the legal position. The residents do not have any legal right to obstruct City officers going about their business on the Reserve. The City has a right and duty to manage the Reserve.

The residents of house numbers 86 – 92 Amethyst Crescent also have the right to access the Reserve, as members of the public utilising a public open space. The City has no intention or authority to prevent the residents from doing so.

The residents were advised in September 2009 that, *“there is absolutely no intention on the part of the City to make any changes, alterations or put up any signs on the presently existing roadway and bridge on the Reserve”*. There is no desire on the part of the City to prevent the residents from utilising that roadway and bridge freely as they have done in the past.

The bridge is located on public property and the public has the full right to utilise the bridge to access the Reserve. It is the City’s view that in such cases there is no need for a sign to be erected. If the bridge were located on private property, then the City would be supportive of the owners erecting a sign to this effect.

It is therefore recommended that no further action be taken in this regard.

The following recommendation is suggested for consideration:

“That Council note the existing and planned signage at Neerigen Reserve as depicted in Attachment 1 and not erect any signage at the bridge at PAW 3 adjoining Neerigen Reserve.”

RECOMMEND

To be considered.

ATTACHMENTS

1. [↓](#) PAW mapping

5.2 - TREE FINES (REFERRAL ITEM)

At the Council meeting held on Monday, 18 December 2017 Cr Wielinga referred the following matter to the Technical Services Committee.

That the matter of tree fines for removal or damage to street trees be referred to the Technical Services Committee.

Comment from Cr Wielinga

Other local governments impose fines for the damage or removal of the local government's street trees; using a system of scoring and evaluating their trees based on the age, species, etc. I would like to see a similar process imposed at the City to protect and enhance our green leafy suburbs and those areas we are trying to improve.

Officer Comment

The City adopted Policy and Management Practice *ENG 6 – Street Trees* following a report to Council on 12 September 2016 (T53/9/16 refers).

The rationale of the policy is *“To ensure the City of Armadale becomes a truly leafy City through the appropriate development and management of its street tree urban forest.”*

This policy refers to the development and management of trees on street verges including their promotion, valuation, retention, protection, planting, maintenance, pruning, removal and mapping.

As per the Management practice, the City uses the Helliwell tree valuation system, which is an industry accepted method of valuing amenity trees. The basic approach of the Helliwell system is to allocate point scores under a number of different factors such as tree size, life expectancy and suitability to setting. These scores are then combined to give an overall comparative score for a tree. It is then possible to attach an asset value to this point score by use of a monetary conversion factor.

To assist in ensuring the City's existing street trees are protected, tree protection zones are created and maintained around existing street trees prior to the commencement of any earthworks or construction. Street tree bonds are paid in accordance with the City's Fees and Charges and are refundable upon completion of construction and satisfactory implementation of all tree protection measures imposed by the City.

The existing Management practice does make provision for the City to recover the asset value of a street tree from an individual and/or organisation found to be responsible for the decision to remove or to detrimentally affect the health of a tree. The City's preference however, is to work with the community with regard to the protection of the trees by promoting community awareness of the substantial benefits street trees provide. The City continues to promote the benefits of street trees via the delivery of the City's Urban Forest Strategy. The City has therefore not yet had to impose penalties for the removal or damage to trees, and prefers to work with the community and educate individuals on the benefits of trees to the overall well-being of the community. Consultation with other local government bodies in Perth has confirmed that this approach applies in most other council areas.

The following recommendation is suggested for consideration:

"That Council note the application practices of the City's adopted Policy/Management Practice ENG 6 – Street Trees."

RECOMMEND

To be considered.

ATTACHMENTS

There are no attachments for this report.

5.3 - VEGETATIVE SCREENING - SOUTH WESTERN HIGHWAY (REFERRAL ITEM)

At the Council meeting held on Monday, 18 December 2017 Cr Wielinga referred the following matter to the Technical Services Committee.

That the matter of vegetative screening along South Western Highway between Dickens Place and Stone Streets be referred to the Technical Services Committee.

Comment from Cr Wielinga

Adjacent to the brickworks in the small industrial estate south of Armadale (surrounded by houses), there is a thick vegetated screening that can act to visually screen the industrial activity and to reduce potential dust emissions to the residential estates.

It is requested that some vegetative screening be placed along the highway continuing south from the brickworks to the end of the industrial estate. The verge along the highway is deep, allowing plenty of room from the road and adjacent buildings. It would be proposed a cost effective treatment would be seedling stock in winter of eastern and western gums (eg *E.maculata*, *C.calophylla*), densely planted 3m deep allowing for natural attrition. It would be proposed this is a one off planting of seedlings, with no watering, to reduce costs etc.

Officer Comment

The South Western Highway verge frontage between Dickens Place and Stone Street of the South Armadale Industrial area is managed by the City within Specified Area Rate – D.

The wide verge is a future Main Roads Western Australia (MRWA) road restoration and would require MRWA's permission to plant any vegetation. There are a number of public services/utilities located within the verge requiring service checks and adjoining local business would not wish to be adversely impacted, requiring some level of consultation. There is agreement that appropriate vegetation planted in this area would act as screening to industrial activity and create an improved visual amenity along the highway.

The following recommendation is suggested for consideration:

“That Council request that a detailed report be presented at a future Technical Services Committee meeting on the opportunities for vegetative screening to be planted along the South West Highway at the frontage of Dickens Place and Stone Street, Armadale.”

RECOMMEND

To be considered,

ATTACHMENTS

There are no attachments for this report.

5.4 - IPWEA 2018 STATE CONFERENCE: THE CHANGING FACE OF PUBLIC WORKS

WARD : ALL
FILE No. : M/826/17
DATE : 22 December 2017
REF : AO
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- The Institute of Public Works Engineering Australia (IPWEA) State Conference will be on 21-23 March 2018.
- The theme of the Conference for 2018 is The Changing Face of Public Works. A summary of proceedings for the 2018 IPWEA State Conference is outlined in this report.

Recommend:

That Council:

1. Nominate Councillors and as delegates to the 2018 IPWEA State Conference: The Changing Face of Public Works to be held at the Esplanade Hotel, Fremantle WA on 21-23 March, 2018.

OR should no nomination be received, then the recommendation is as follows:

Make no nomination for attendance at the 2018 IPWEA State Conference: The Changing Face of Public Works.

2. Note the attendance of Officers as delegates to the 2018 IPWEA State Conference: The Changing Face of Public Works, to be held at the Esplanade Hotel, Fremantle WA on 21-23 March 2018.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

4.1 Visionary Civic leadership and sound governance

4.1.3 Support the role of the elected body

- 4.1.3.3 Advocate and support Councillor engagement in outside bodies and events to maintain awareness and enhance the City's knowledge base

Legislative Implications

General assessment of relevant legislation (eg. Local Government Act) has not revealed any restrictions.

Council Policy/Local Law Implications

Assessment of Policies/Local Laws indicates that the following are applicable:

- Council Policy ADM3 – Conferences and Training
- Council Policy EM1 – Reimbursement of Councillor's Expenses

Budget/Financial Implications

Allowances for Officer and Councillor attendance at conferences have been made within the 2017/18 Budget.

Consultation

- Intra Directorate.

BACKGROUND

The 2018 IPWEA Annual State Conference is the leading public works engineering event on the Western Australian calendar and is attended by participants from all areas of public works including local government.

The Conference theme revolves around the evolution of traditional methods versus current methods and the ever evolving new technologies and trends, and the differences they have in the public works sector between the older and younger generations.

Nominations are required at this Technical Services Committee Meeting, to be presented to the Ordinary Council Meeting of 12 February 2018, in order to facilitate timely registrations.

Being a local conference, it is recommended that two (2) Councillors be nominated to attend.

COMMENT

The title of the 2018 Conference is '*The Changing Face of Public Works*' and includes the following themes:

- | | |
|---------------------------|---------------------------------|
| ▪ New Technologies | ▪ Traditional Methods |
| ▪ Road Safety | ▪ Urban Development |
| ▪ Parks & Environment | ▪ Roads |
| ▪ Build Environment | ▪ Road Safety |
| ▪ Asset Management | ▪ Research & Projects |
| ▪ Coastal Issues | ▪ Stormwater & Drainage |
| ▪ Regional Issues | ▪ Levels of Service |
| ▪ Major Projects | ▪ Transport & Infrastructure |
| ▪ Leisure & Recreation | ▪ Enterprise Project Management |
| ▪ Leadership & Innovation | ▪ Emotional Health & Wellbeing |

Keynote presenters include:

- **Professor Peter Klinken AC** - Chief Scientist of WA
- **Richard Sellers** - Director General, Department of Transport
- **Dr Keith O'Shea** - President, Australian Institute of Planning Management WA

The conference topics cover engineering, parks, and environmental functions performed by the Technical Services Directorate and Councillors will benefit from the technical papers and discussion documents presented. A copy of the full conference program is attached to this report for Councillors Information.

Attendance costs for full conference registration are approximately \$1,850 per person.

RECOMMEND

That Council:

- 1. Nominate Councillors and as delegates to the 2018 IPWEA State Conference: The Changing Face of Public Works to be held at the Esplanade Hotel, Fremantle WA on 21-23 March, 2018.**

***OR* should no nomination be received, then the recommendation is as follows:**

Make no nomination for attendance at the 2018 IPWEA State Conference: The Changing Face of Public Works.

- 2. Note the attendance of Officers as delegates to the 2018 IPWEA State Conference: The Changing Face of Public Works, to be held at the Esplanade Hotel, Fremantle WA on 21-23 March 2018.**

ATTACHMENTS

- 1. [↓](#) 2018 IPWEA State Conference - Program**

5.5 - DEPARTMENTAL ACTIVITY REPORT - CIVIL WORKS

WARD : ALL
FILE No. : M/15/18
DATE : 10 January 2018
REF : LM/JN
RESPONSIBLE : Executive Director
MANAGER : Technical Services

In Brief:

- A series of Departmental Activity reports have been prepared for Council to provide an overview of the functions of each of the Departments within the Technical Services Directorate.
- The attached report provides an overview of the functions of the Civil Works Department.

Recommend:

- That Council note the content of the attached Civil Works Departmental Activity Report.

Tabled Items

Nil.

Officer Interest Declaration

Nil.

Strategic Implications

2.3 Well Managed Infrastructure

2.3.1 Apply best practice design and construction methodologies for the provision of infrastructure

2.3.1.1 Implement a best practice project management approach to the planning and delivery of infrastructure

2.3.2 Ensure maintenance activities address required levels of service

2.3.2.1 Review best practice maintenance activities

2.3.2.2 Ensure balance is maintained between Levels of Service and affordability

Legislative Implications

General assessment of relevant legislation (eg Local Government Act) has not revealed any restrictions.

Council Policy/Local Law Implications

General assessment has not revealed any applicable Policies/Local Laws.

Budget/Financial Implications

The adoption of the recommendation contained in this report has no financial implication.

Consultation

- Intra Directorate.

BACKGROUND

With the evolution of systems, functions and practices in the Technical Services Directorate over the past few years, it can be appreciated that not all Councillors would be familiar with the details of all the activities of each Department within the Technical Services Directorate.

In order to raise the level of awareness, a series of reports will be submitted to Council via the Technical Services Committee. The attached report provides a comprehensive overview of the services delivered by the Civil Works Department.

CONCLUSION

The attached report provides a comprehensive overview of the services provided by the Civil Works Department within the Technical Services Directorate. The Civil Works Department is providing valuable services to the Directorate to assist in achieving key strategic outcomes, providing a high level of service to both internal and external customers.

RECOMMEND

That Council note the content of the attached Civil Works Departmental Activity Report.

ATTACHMENTS

1. [Civil Works TS Departmental Activity Report](#)

COUNCILLORS' ITEMS

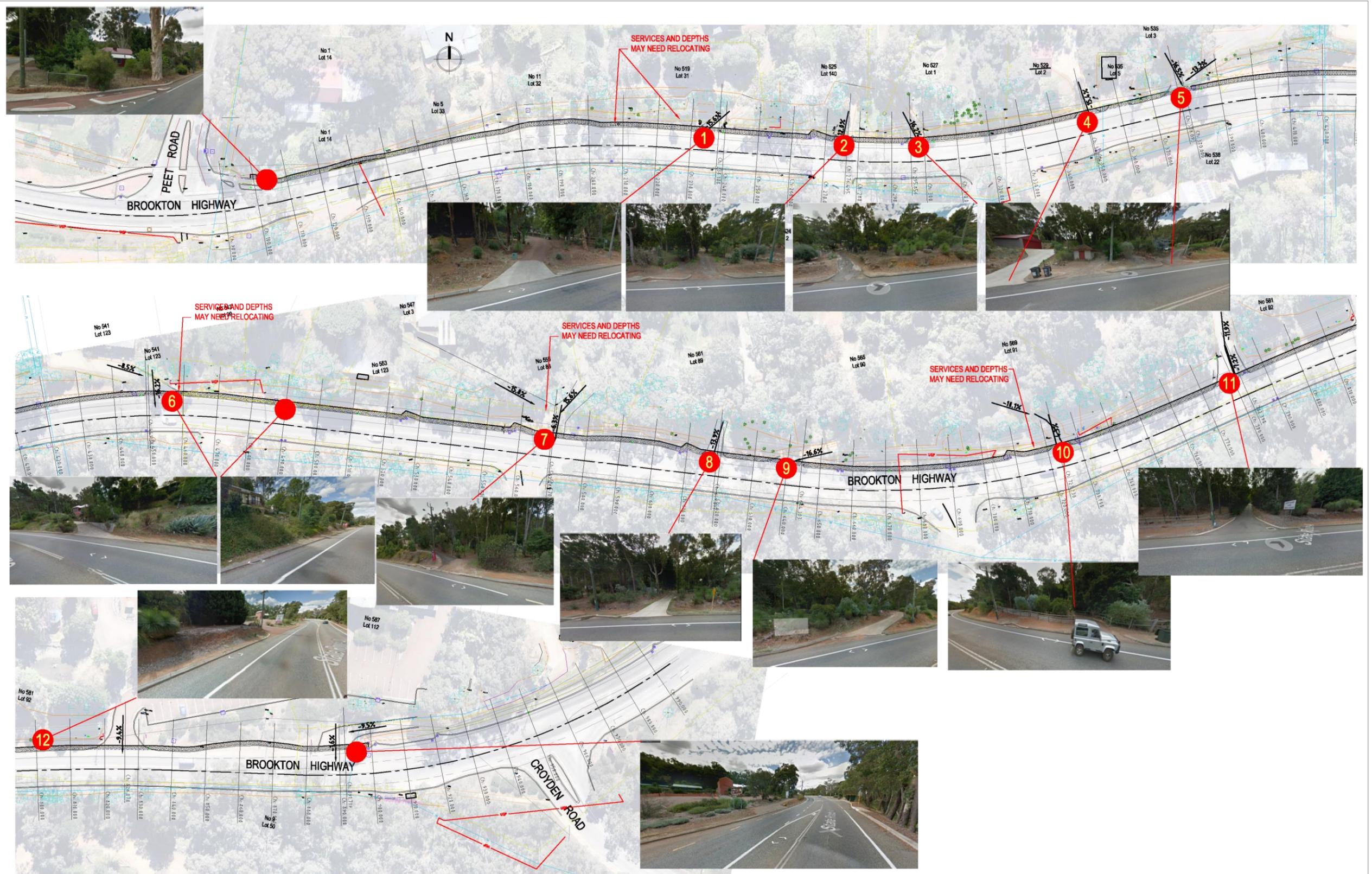
To be submitted.

EXECUTIVE DIRECTOR TECHNICAL SERVICES REPORT

Nil.

MEETING DECLARED CLOSED AT _____

TECHNICAL SERVICES COMMITTEE		
SUMMARY OF ATTACHMENTS		
5 FEBRUARY 2018		
ATT NO.	SUBJECT	PAGE
1.1 SKELETAL PATH PLAN - AMENDMENTS		
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1.1.2	Urch Road Footpath	90
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2.1 ROLEY POOLS - HERITAGE WALK TRAIL MANAGEMENT PLAN		
2.1.1	Roley Pools Trails Location Plan	94
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3.2 CHAMPION CENTRE AND SEVILLE GROVE LIBRARY UPGRADES - PUBLIC OPEN SPACE CASH-IN-LIEU EXPENDITURE		
3.2.1	Champion Centre & Seville Grove Library Redevelopment - Concept Landscape Design	100
3.3 KELMSCOTT HALL - ESSENTIAL SHORT TERM WORKS		
3.3.1	Kelmscott Hall - Proposed Floorplan (2018)	101
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5.4 IPWEA 2018 STATE CONFERENCE: THE CHANGING FACE OF PUBLIC WORKS		
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5.5 DEPARTMENTAL ACTIVITY REPORT - CIVIL WORKS		
5.5.1	Civil Works TS Departmental Activity Report	128



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 Amendments
 A 19/09/17 DRAFT FOR REVIEW BV
 No Date Revision By Approved

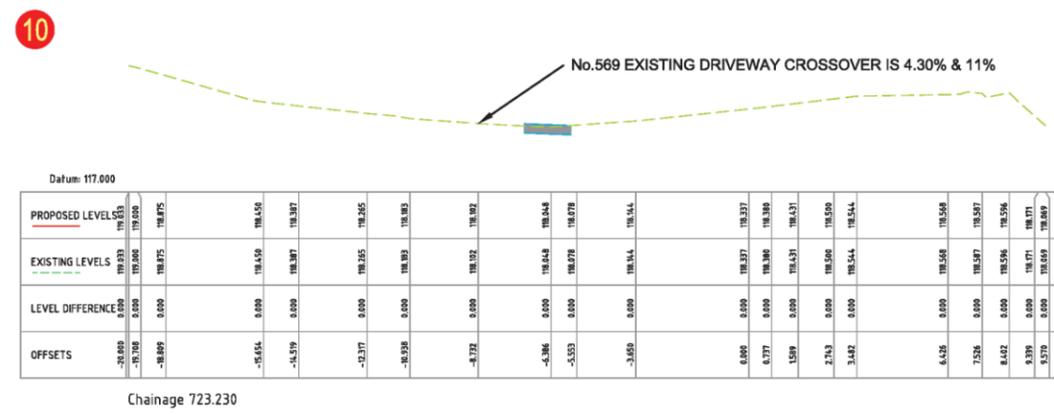
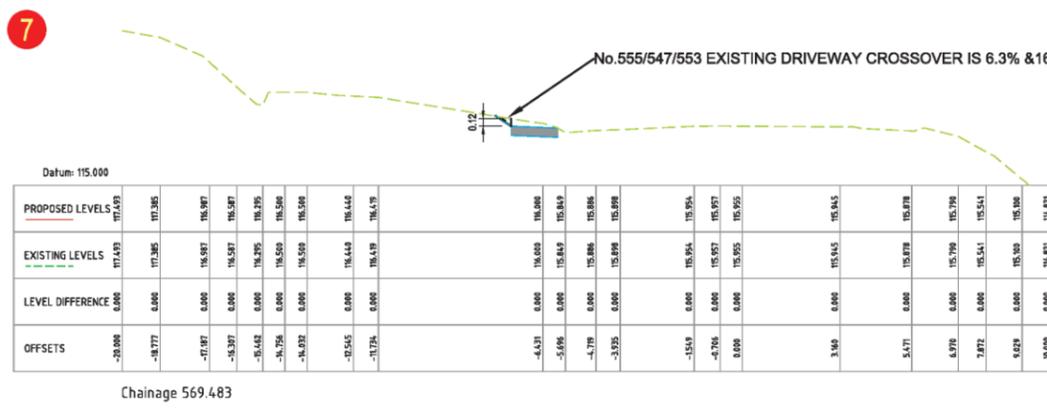
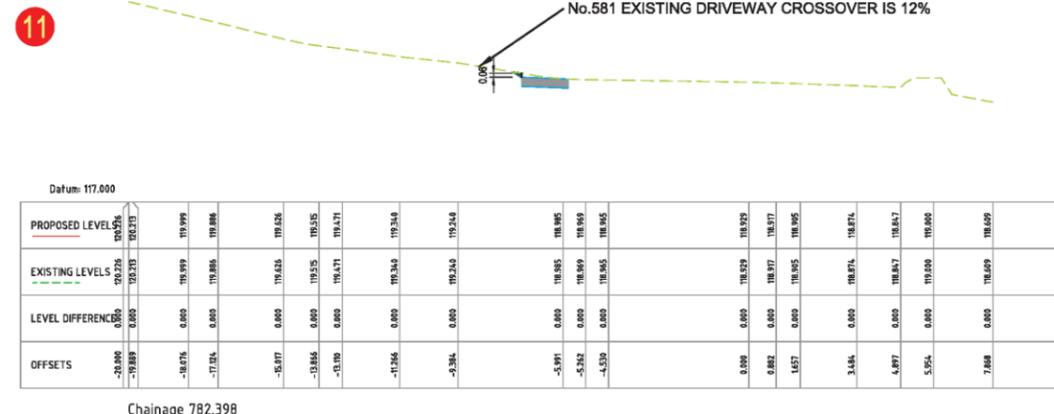
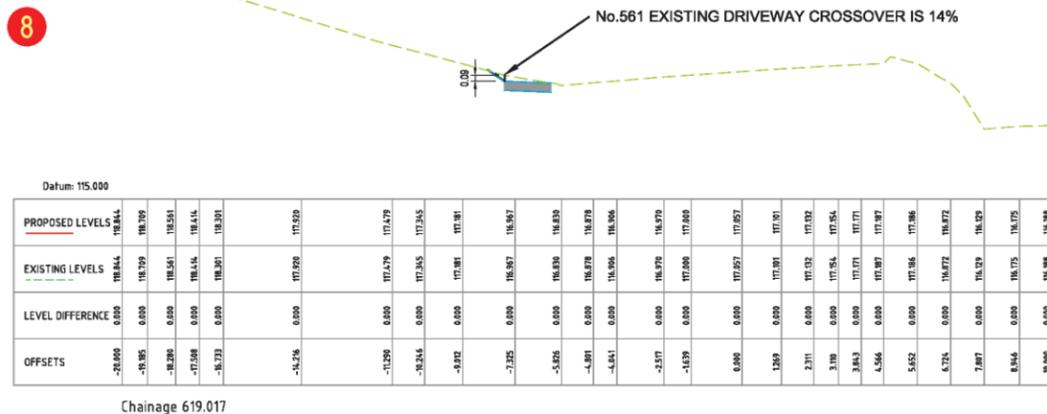
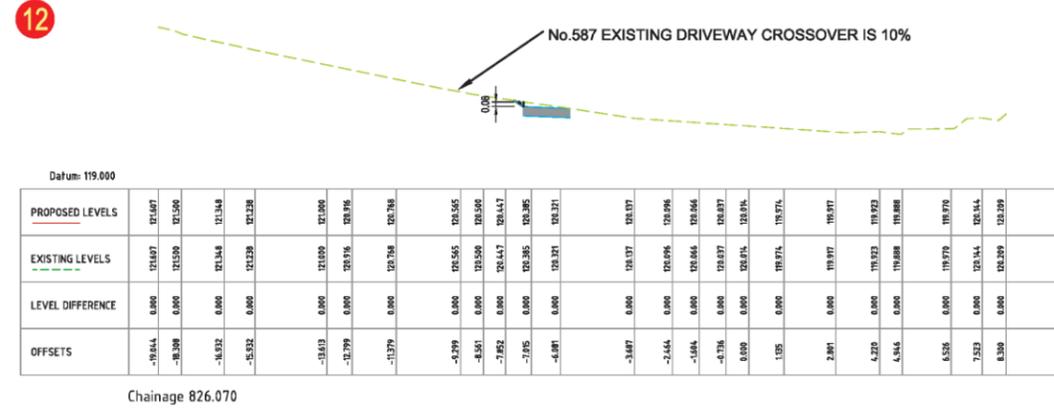
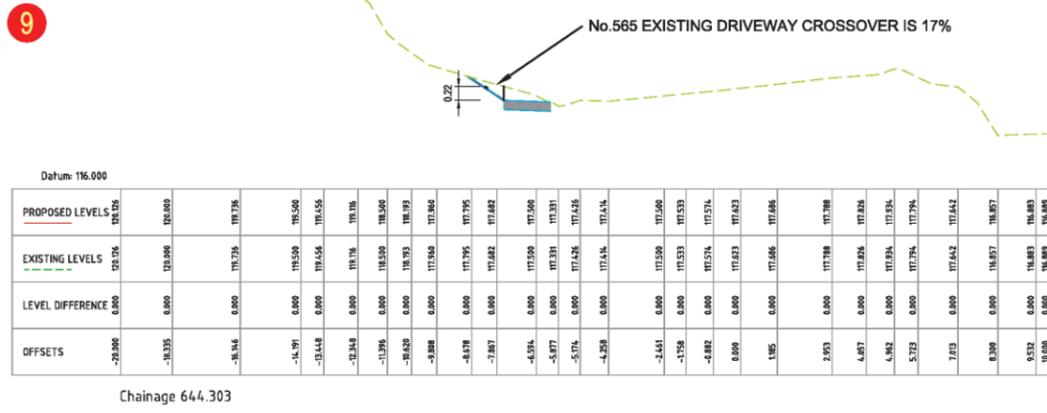
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Design:	BV	Date:	19/09/17	Signed:	
Checked:	WO	Date:		Signed:	
Executive Manager:		Date:		Signed:	
Technical Services:		Date:		Signed:	

Project:	BROOKTON HIGHWAY PEET ROAD TO CROYDEN ROAD
Title:	PROPOSED FOOTPATH
PC No:	
CMR No:	
Sheet No:	1 of 3
Revision No:	A
DWG No:	E17-111-SK1



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No	Date	Revision	By	Approved
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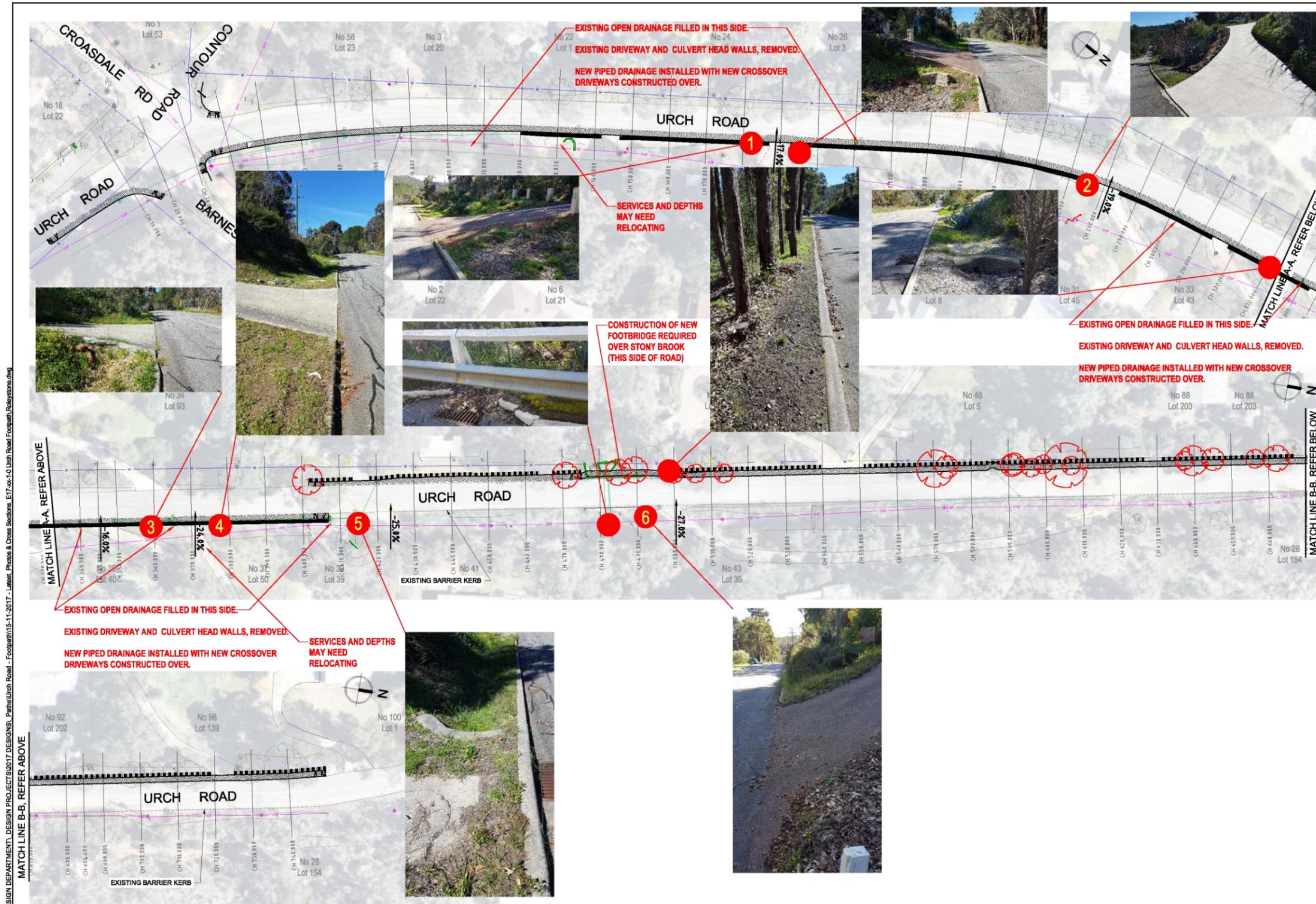
CITY OF Armadale
7 ORCHARD AVENUE, ARMADALE, WA 6112

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Drawn: BV Date: 18/09/17
Designed: BV Date: 18/09/17
Checked: WO Date: 18/09/17
Executive Manager: Technical Services

Project: BROOKTON HIGHWAY PEET ROAD TO CROYDEN ROAD
Title: PROPOSED FOOTPATH

PC No:	
CMR No:	
Sheet No:	3 of 3
Revision No:	A
DWG No:	E17-111-SK3



- ### GENERAL NOTES
1. ALL CONSTRUCTION AND INSTALLATION TO BE IN ACCORDANCE WITH CITY OF ARMADALE STANDARD DRAWINGS.
 2. REFER COA STANDARD DRAWINGS FOR THE CONSTRUCTION OF FRAM RAMP/TACTILE PAVERS AND HAND RAILS.
 3. FOOTPATH SUBGRADE IS TO BE COMPACTED TO NOT LESS THAN 8% MDD TO A MINIMUM DEPTH BELOW THE SURFACE OF 300mm.
 4. ALTERNATIVE CAPPING METHODS 'A' & 'B' TO BE INSTALLED USING 'LOOK JOINT AUSTRALIA' GUIDELINES.
 5. LOCK JOINTS SPACINGS TO BE AT 1.5 TIMES THE WIDTH OF PATH (MAX. 2 TIMES IF LAID ON SAND).
 6. EXPANSION JOINTS TO BE PLACED EVERY 50m IN A STRAIGHT UNHINDERED PATH OR AT THE START OF A DEVIATION OF A CURVE IN PATH AND TO HAVE 10mm OF COMPRESSIBLE FILLER WITH SEALANT.
 7. CONCRETE STRENGTH TO ALL PATHWAYS TO BE 25 MPa MIN. AT 28 DAYS WITH 14mm STONE. 75 SLUMP.
 8. CADASTRAL INFORMATION APPROXIMATE ONLY.
 9. EXISTING SERVICE LOCATIONS DIAGRAMMATIC ONLY. CONTACT SERVICE AUTHORITIES FOR EXACT IN GROUND LOCATIONS.
 10. ALL TRAFFIC MANAGEMENT TO BE UNDERTAKEN IN LINE WITH MAIN ROADS DOCUMENT ENTITLED 'TRAFFIC MANAGEMENT REQUIREMENT FOR ROADWORKS'.
 11. ALL EXISTING INFRASTRUCTURE TO BE REINSTATED TO ITS ORIGINAL STATE.
 12. SUPERVISOR TO CONFIRM ALL SERVICES PRIOR TO ANY CONSTRUCTION. EXPOSED SERVICES TO BE PROVIDED WITH ADEQUATE SUPPORT OR PROTECTION.
 13. CLEAN FILL MATERIAL TO BE USED WHERE REQUIRED. THIS MATERIAL SHALL BE FREE FROM ROOTS, ROCKS, DEBRIS OR OTHER DELETERIOUS MATERIALS.

- ### LEGEND
- NEW 1.5m WIDE CONCRETE PATH
 - EXISTING KERB
 - EXISTING FOOTPATH/CROSSOVER
 - NEW 2.4m WIDE FRAM RAMP/TACTILE PAVERS/HAND RAIL
 - NEW RETAINING WALLS
 - NEW PEDESTRIAN SAFETY FENCE
 - EXISTING OVERHEAD POWER LINE/POLE
 - EXISTING TELSTRA CABLE/ COMMUNICATIONS PIT
 - EXISTING WATER LINE
 - EXISTING DRAINAGE LINE
 - EXISTING TREES TO REMOVE
 - EXISTING DRIVEWAY AND GRADE
- NOTE:**
(NEW DRIVEWAY GRADE WOULD BE SUBSTANTIALLY INCREASED AND POTENTIALLY IN DESIGN REQUIRE NEW CONSTRUCTION UP TO THE RESIDENCE CARPORT/GARAGE)

PLAN VIEW
SCALE 1:500

No	Date	Issued For	By	Approved
0	28-03-17	ISSUED FOR REVIEW	BV	APR_BY

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Date:	28-03-17



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Designed:	BV	Date:	28-03-17
Checked:	W.O	Date:	DD-MM-YY
Director Engineering Services:		Signature:	

URCH ROAD, ROLEYSTONE
CONTOUR ROAD TO HOUSE No. 92

PROPOSED 1.5m WIDE CONCRETE FOOTPATH AT URCH ROAD

PC No:	Job Account No
Trim No:	TRIM_NO
Sheet No:	1 of 2
Revision No:	0
DWG No:	E17-18-1

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PLAN VIEW
SCALE 1:250

GENERAL NOTES

1. ALL WORKS WITHIN THE ROAD RESERVE DELEGATED TO THE COMMISSIONER OF MAIN ROADS TO COMPLY WITH MAIN ROADS 'WORKS AND SERVICES' (TDP) SPECIFICATIONS SERIES 100-900.
2. ALL TRAFFIC MANAGEMENT TO BE UNDERTAKEN IN LINE WITH MAIN ROADS DOCUMENT ENTITLED 'TRAFFIC MANAGEMENT REQUIREMENT FOR ROADWORKS'.
3. INSTALLATION OF TEMPORARY ROAD SIGNAGE AND PAVEMENT MARKINGS (I.E. TAPE OR REFLECTIVE ROAD FLAPS) IS REQUIRED UNTIL PERMANENT SIGNAGE AND PAVEMENT MARKINGS HAVE BEEN INSTALLED; AND THE ROAD PAVEMENT TO BE SWEEPED CLEAN OF ALL DEBRIS AND SPOTTED TO MAIN ROADS SPECIFICATION PRIOR TO THE INSTALLATION OF PERMANENT ROAD SIGNAGE AND PAVEMENT MARKINGS.
4. KEEP SITE SAFE AND ACCESSIBLE FOR WORKERS, PEDESTRIANS, CYCLISTS AND ROAD USERS AT ALL TIMES. PROVIDE ALTERNATE ROUTES TO MEET SAFETY REQUIREMENTS.
5. ALL PRE-EXISTING INFRASTRUCTURE TO BE REINSTATED TO ITS ORIGINAL STATE.
6. SUPERVISOR TO CONFIRM ALL SERVICES PRIOR TO ANY CONSTRUCTION. EXPOSED SERVICES TO BE PROVIDED WITH ADEQUATE SUPPORT OR PROTECTION. CLEAN FILL MATERIAL TO BE USED WHERE REQUIRED. THIS MATERIAL SHALL BE FREE FROM ROOTS, ROCKS, DEBRIS OR OTHER DELETERIOUS MATERIALS.
- 7.

LEGEND

- NEW 1.5m WIDE CONCRETE PATH
- EXISTING KERB
- EXISTING FOOTPATH/CROSSOVER
- NEW 2.4m WIDE PRAM RAMP/TACTILE PAVERS/HAND RAIL
- NEW RETAINING WALLS
- EXISTING OVERHEAD POWER LINE/POLE
- EXISTING TELSTRA CABLE / COMMUNICATIONS PIT
- EXISTING WATER LINE
- EXISTING DRAINAGE LINE
- EXISTING TREES TO REMOVE
- EXISTING DRIVEWAY AND GRADE

NOTE:
NEW DRIVEWAY GRADE WOULD BE SUBSTANTIALLY INCREASED AND POTENTIALLY IN DESIGN REQUIRE NEW CONSTRUCTION UP TO THE RESIDENCE CARPORT/GARAGE



V:\ENGINEERING & DESIGN\DESIGN DEPARTMENT\DESIGN PROJECTS\2017\DESIGNS\Road Resurfacing\Soldiers Road - Road Resurfacing\Soldiers Road - Road Resurfacing\15-11-2017_Latest_Photos & Cross Sections_E17.docx:10 Soldiers Road_Roleystone.dwg

No	Date	Issued For	By	Approved
0	11-04-17	ISSUED FOR REVIEW	BV	APR_BY

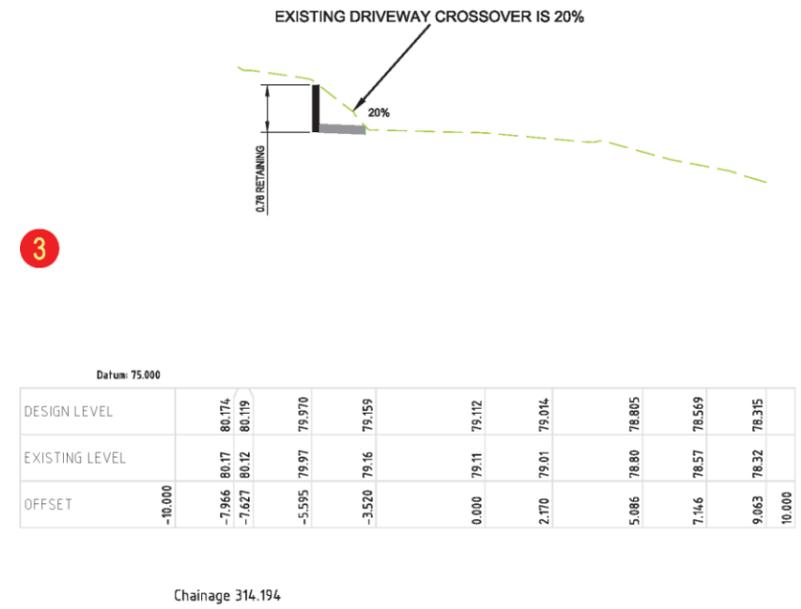
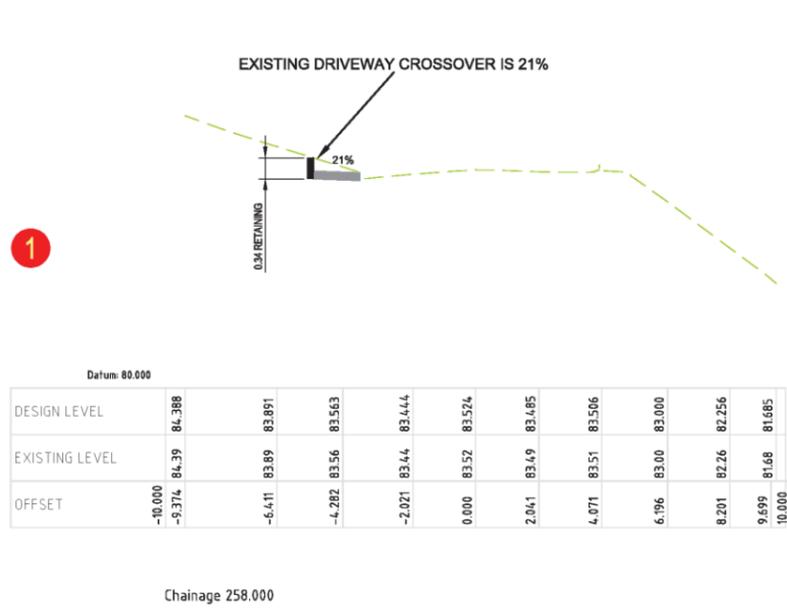
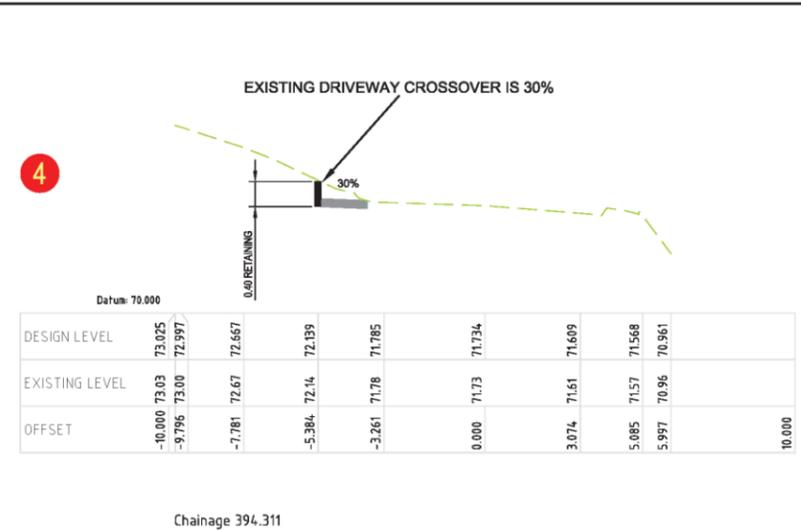
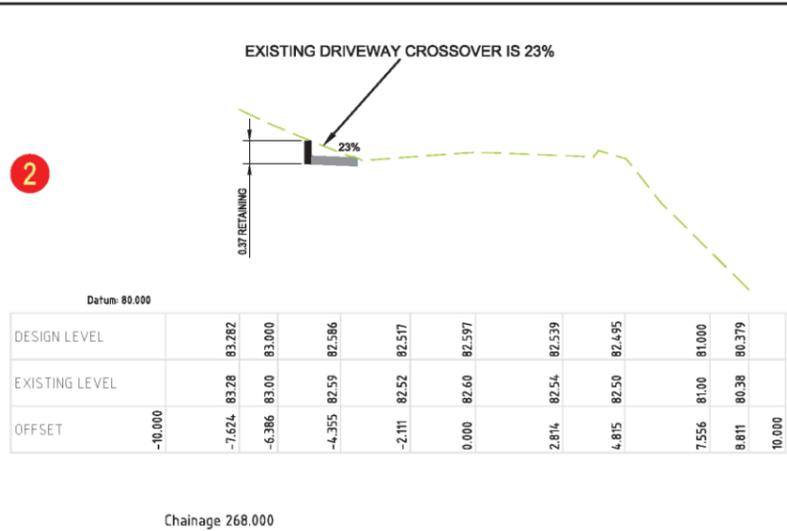
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Drawn:	BV	Date:	11-04-17
Designed:	BV	Date:	11-04-17
Checked:	W.O	Date:	DD-MM-YY
Director Engineering Services:		Signature:	

SOLDIERS ROAD, ROLEYSTONE		PC No:	Job Account No:
BROOKTON HIGHWAY TO CANNING RIVER BRIDGE		Trim No:	TRIM_NO
PROPOSED 1.5m WIDE CONCRETE FOOTPATH AT SOLDIERS ROAD		Sheet No:	1 of 2
		Revision No:	0
		DWG No:	E17-24-1



- GENERAL NOTES**
- ALL WORKS WITHIN THE ROAD RESERVE DELEGATED TO THE COMMISSIONER OF MAIN ROADS TO COMPLY WITH MAIN ROADS 'WORKS AND SERVICES' (TDP) SPECIFICATIONS SERIES 100-800.
 - ALL TRAFFIC MANAGEMENT TO BE UNDERTAKEN IN LINE WITH MAIN ROADS DOCUMENT ENTITLED 'TRAFFIC MANAGEMENT REQUIREMENT FOR ROADWORKS'.
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Scale:	H=1:100, V=1:50
Datum:	Grid
Surveyed:	AHD PCG 94
Date:	11-04-17
TOPO	
BY:	APR_BY
By:	Approved



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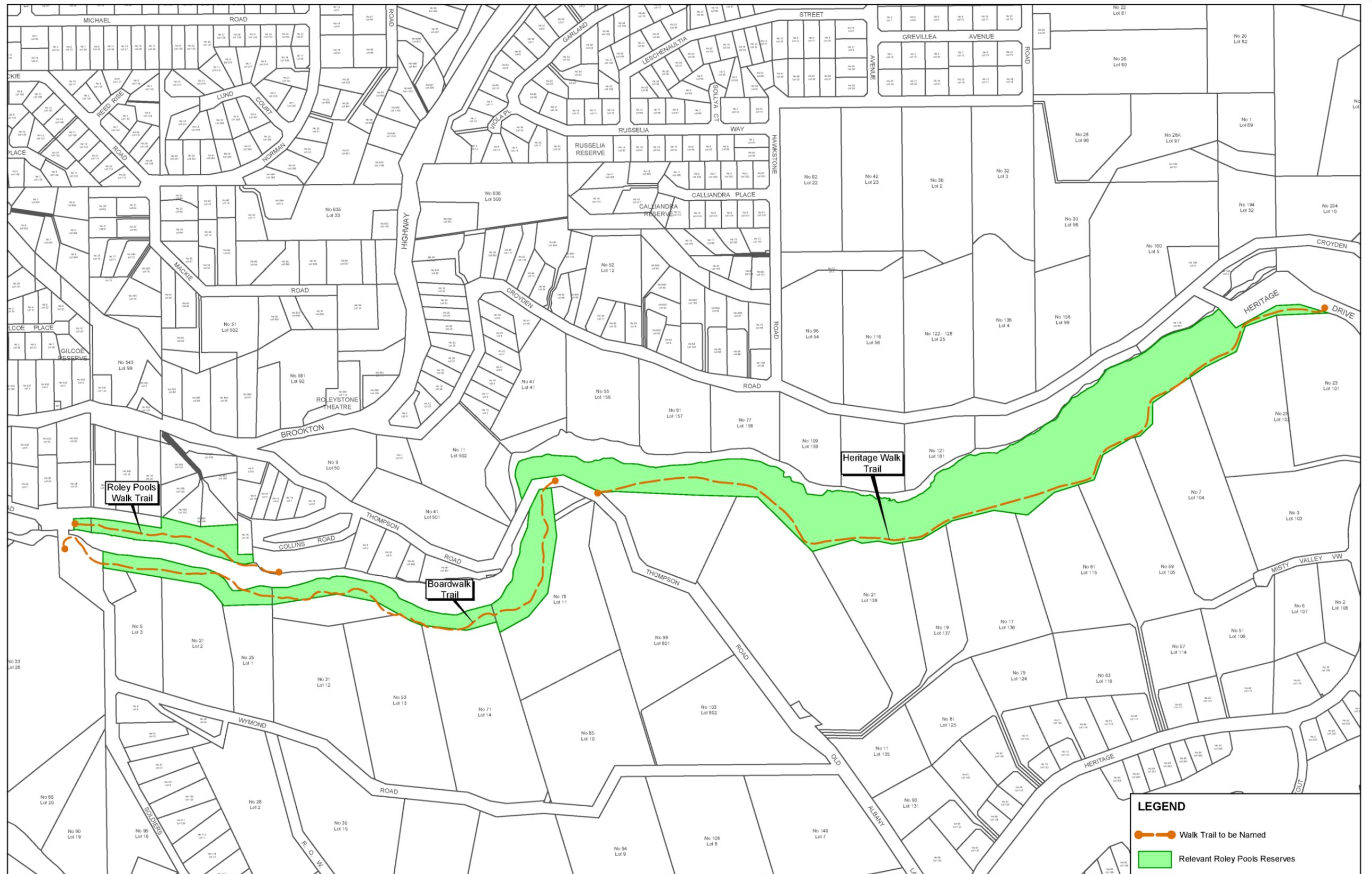
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Checked:	W.O	Date:	DD-MM-YY	Signed:	
Director Engineering Services:					

**SOLDIERS ROAD, ROLEYSTONE
BROOKTON HIGHWAY TO CANNING RIVER BRIDGE**

PROPOSED FOOTPATH CROSS SECTIONS - SOLDIERS ROAD



PC No:	Job_Account_No
Trim No:	TRIM_NO
Sheet No:	2 of 2
Revision No:	0
DWG No:	E17-24-2



Roley Pools Heritage Walk Trail Management Plan Location Plan and Proposed Nomenclature

DATE 5 January 2018 - REVISION 1801
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Based on information provided by and with the permission of the
Western Australian Land Information Authority trading as Landgate (2012).
Aerial photograph supplied by Landgate, Photomaps by NearMap.



Concept drawing for new infrastructure at Soldiers Rd Carpark – lower and upper and Soldiers Road Bridge Crossing locations



Legend	
Existing elements	Key locations
Gravel access track	① Soldiers Rd upper carpark
Proposed elements	② Soldiers Rd lower carpark
Bridge crossing	③ Soldiers Rd bridge crossing
Barrier logs/ seating	
Parking bays	
Road signage	
Wayfinding signage	
Interpretation signage	
Signage shelter	

Concept drawing for new infrastructure at Pipeline bridge crossing, Roley Pools Picnic Area and Roley Pools Carpark locations



Legend

Existing elements	Proposed elements
<ul style="list-style-type: none">  Access track  Trail  Stairs  Boardwalk  Picnic shelter with seating  Bench seat 	<ul style="list-style-type: none">  Bridge crossing  Bench seat  Road signage  Wayfinding signage  Interpretation signage

Key locations
<ul style="list-style-type: none">  Pipeline bridge crossing  Roley Pool picnic area  Roley Pool carpark

Concept drawing for new infrastructure at Thompson Rd Picnic Area and Thompsons Road Car Park locations



Legend	
Proposed elements	Key locations
Access path	① Thompson Rd picnic area
Stairs	② Thompson Rd carpark
Picnic shelter with seating	③ New stairs
Stone retaining wall	
Car bays	
Road signage	
Wayfinding signage	
Interpretation signage	
Signage shelter	

Attachment 3 – Photographs of key locations in the Roley Pools-Heritage Walk Trail



Figure 1 & 2: Soldiers Road upper car park and under bridge track– the western end of the trail.



Figure 3 & 4: Roley Pools Picnic area (key destination) and Boardwalk structure between Roley Pools key destination Thompsons Road.



Figure 5: Over-storey vegetation adjacent to the Canning River

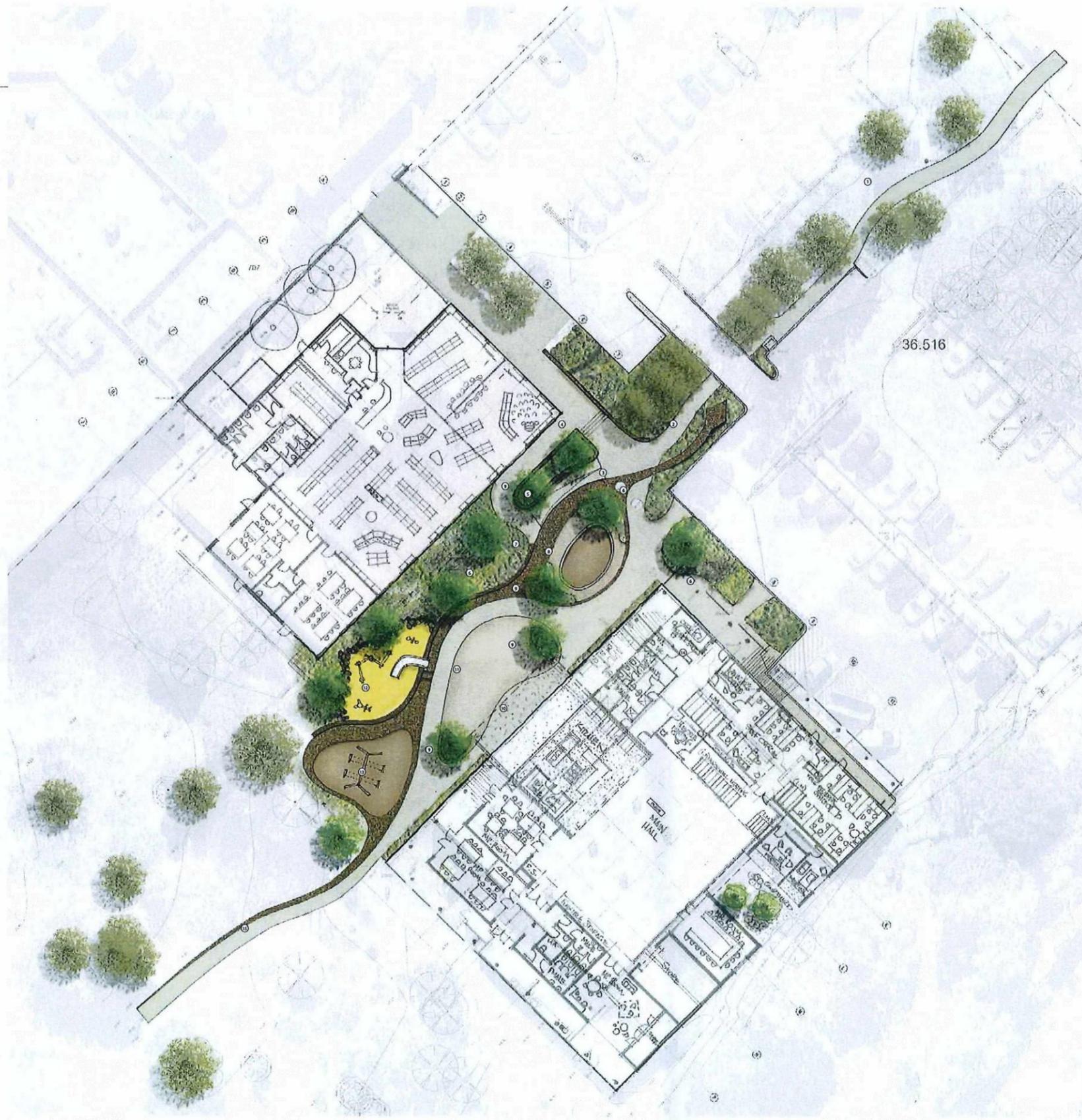


Figure 6: Cascades (key destination)



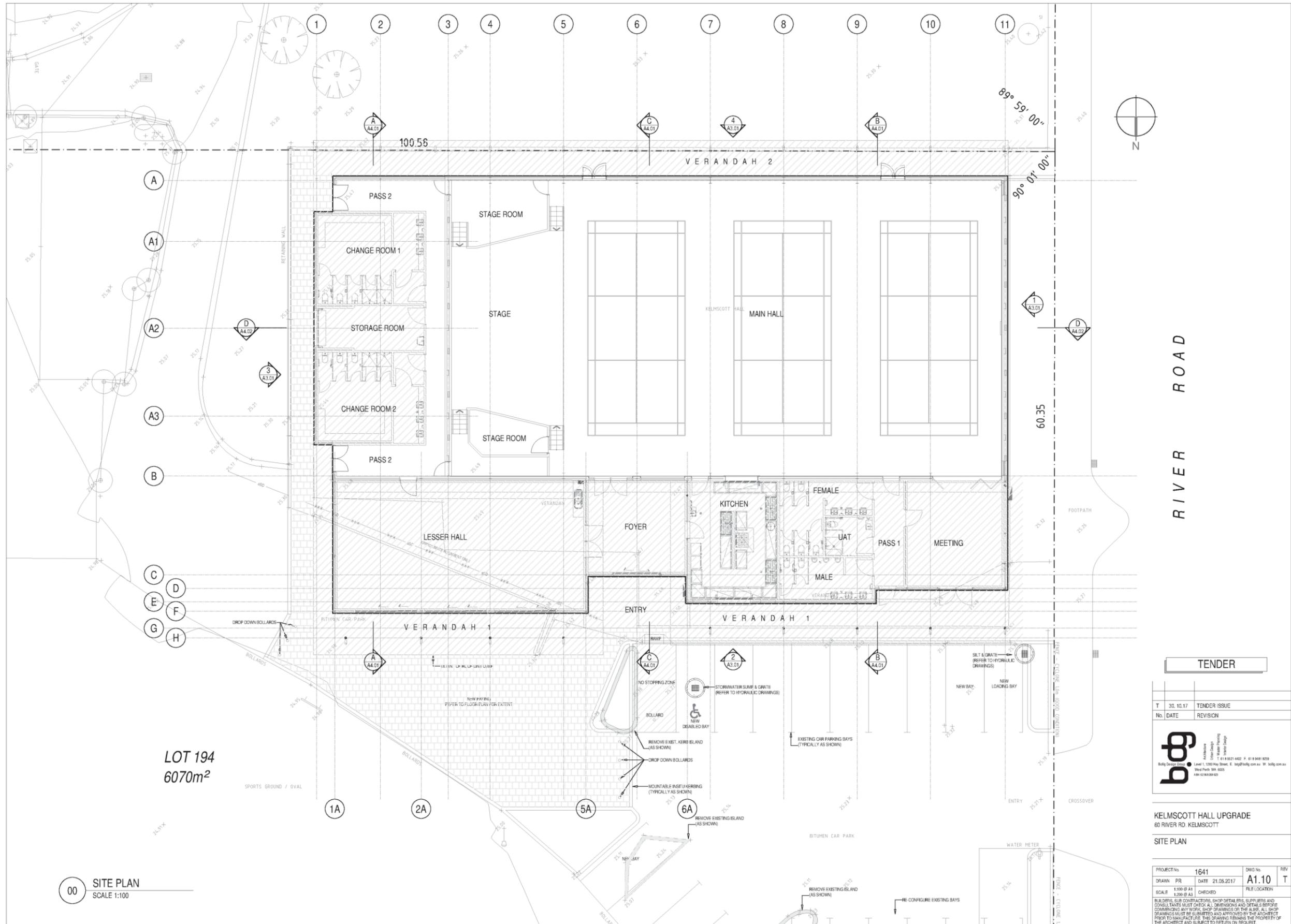
Figure 6 – track winding through open grassland.

**Concept
3.1 Plan**



LEGEND

- ① New defined entry path
- ② Sculptural Wagyl entry gesture - new & recycled earth block
- ③ Wagyl gesture at path level
- ④ Main entry to Library
- ⑤ Ramped path to Library
- ⑥ Sunken planting area
- ⑦ Sculptural earth block retaining wall & path
- ⑧ Yarning circle - sunken concrete seating & gravel ground
- ⑨ Garden beds with endemic native ground covers and shade trees
- ⑩ Main entry to community centre
- ⑪ Flexible use open space - textured insitu concrete
- ⑫ Sunken sand play with recycled slide & boulder surround
- ⑬ Bush play ground
- ⑭ Secondary managed access entry to community centre
- ⑮ Path connection to Reserve



00 SITE PLAN
SCALE 1:100

TENDER

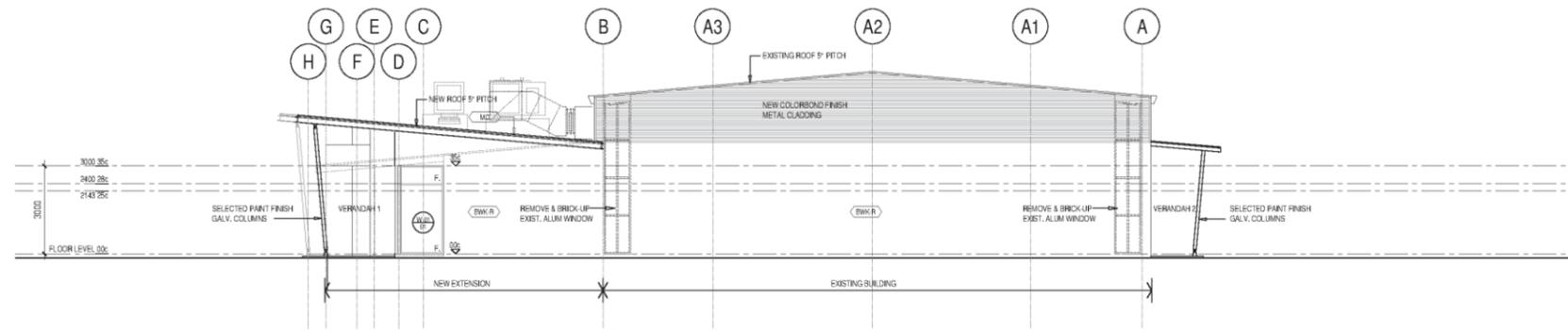
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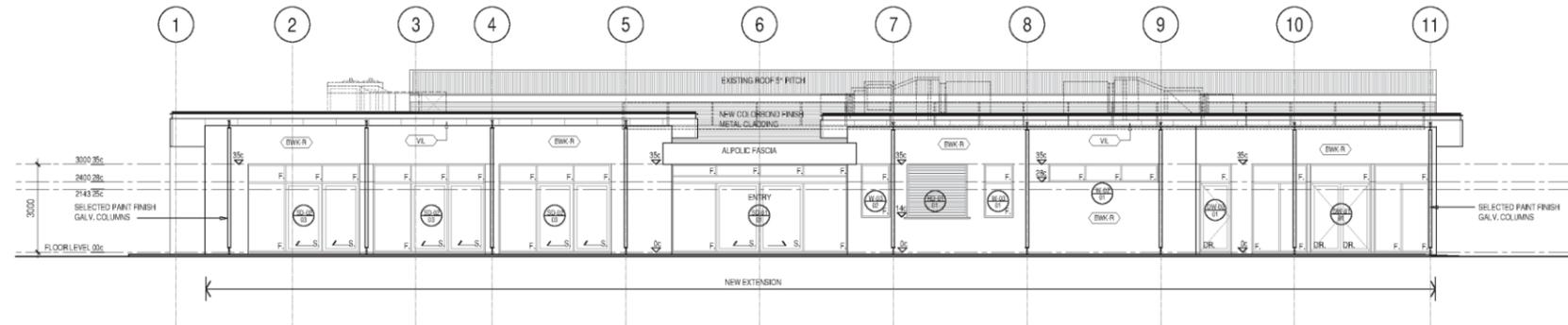
bbg
 Building Design Group
 Level 1, 1280 Hwy Street, E. bbg@bbg.com.au W. bbg.com.au
 Head Office: 194 4020
 Brisbane: 429 584 021

KELMSCOTT HALL UPGRADE
60 RIVER RD, KELMSCOTT
SITE PLAN

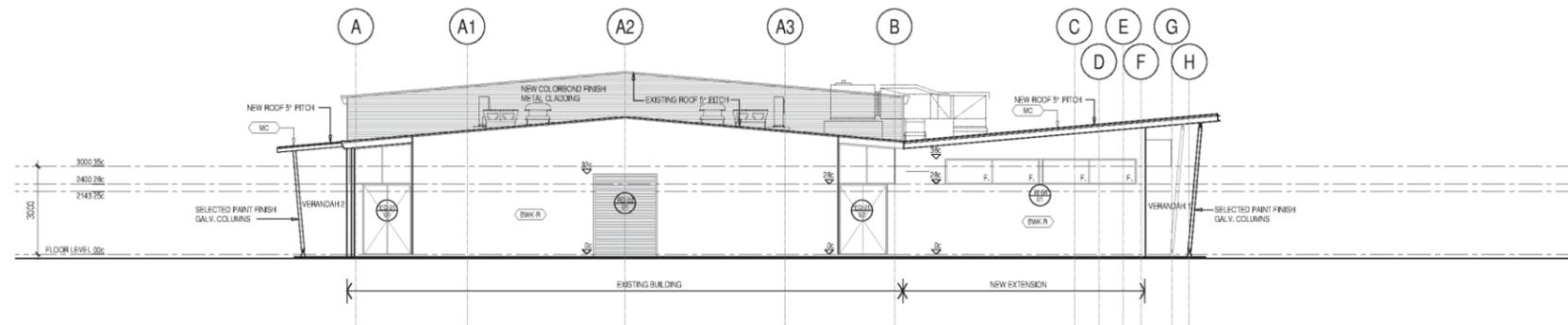
PROJECT No.	1641	DWG No.	REV
DRAWN	PR	DATE	21.06.2017
SCALE	1:100 @ A1	CHECKED	A1.10
<small> BUILDERS, SUB CONTRACTORS, SHOP DETAILERS, SUPPLIERS AND CONSULTANTS MUST CHECK ALL DIMENSIONS AND DETAILS BEFORE COMMENCING ANY WORK. SHOP DRAWINGS OF THE ALUMI. ALL SHOP DRAWINGS MUST BE SUBMITTED AND APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE. THIS DRAWING REMAINS THE PROPERTY OF THE ARCHITECT AND SUBJECT TO RETURN ON REQUEST. </small>			



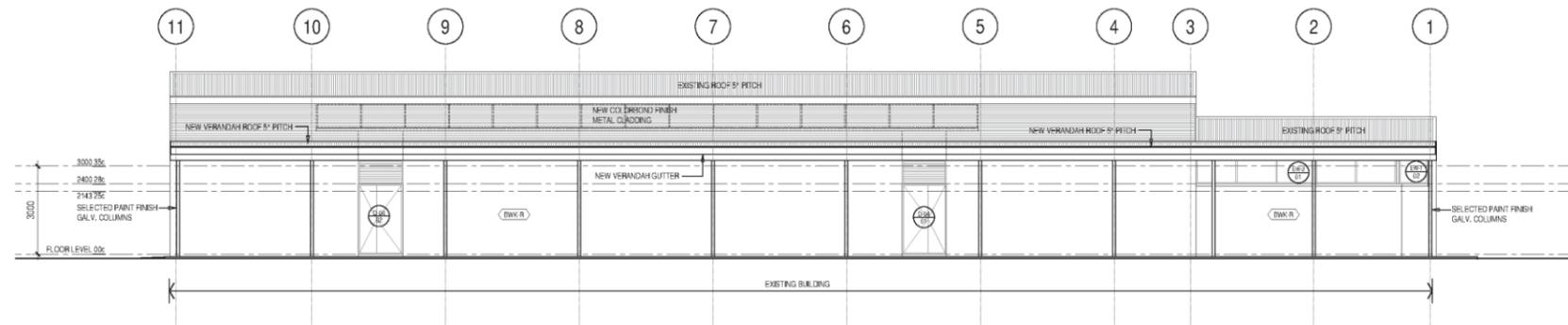
01 ELEVATION 1 - WEST ELEVATION - RIVER RD
SCALE 1:100



02 ELEVATION 2 - NORTH ELEVATION
SCALE 1:100



03 ELEVATION 3 - EAST ELEVATION
SCALE 1:100



04 ELEVATION 4 - SOUTH ELEVATION
SCALE 1:100

LEGEND

- WALL TYPES:**
- EXISTING MASONRY WALL CONSTRUCTION
 - 13mm NEW EXTERNAL SAND FINISHED RENDER
 - 13mm NEW HARD WALL PLASTER + 2mm SET COAT INTERNAL ROCKWOOL® WALL CAVITY INSULATION AS SHOWN HATCHED
 - NEW CAVITY MASONRY WALL CONSTRUCTION
 - 13mm NEW EXTERNAL SAND FINISHED RENDER
 - 13mm NEW HARD WALL PLASTER + 2mm SET COAT INTERNAL PERIMETER CAVITY WALL INSULATION TO NEW CAVITY WALLS
 - NEW INTERNAL MASONRY WALL CONSTRUCTION
 - 13mm NEW HARD WALL PLASTER + 2mm SET COAT
 - NEW INTERNAL STUD FRAMED WALL
 - C51 STEEL STUDS + 13mm AQUACREK™ PBOARD LINING
 - EXISTING MASONRY WALL MASONRY WALL CONSTRUCTION
 - NEW ROCKWOOL® TOP HAT INSULATION 150mm
 - NEW 13mm IMPACTCREK™ PLASTERBOARD LINING

FINISHES LEGEND:

- WALLS:**
- EWKR MASONRY - ACRATEX® RENDER EXT. PAINT FINISH
 - MWC REVOLUTION ROOFING® - EXT WALLS TRUE OAK DEEP 21™
 - HWP HARDWALL PLASTER - PAINT FINISH
 - PE FLUSH PLASTERBOARD - PAINT FINISH
 - PEM FLUSH PLASTERBOARD - IMPACTCREK™ - PAINT FINISH
 - EXIST. TIMBER FLOOR MAIN WALL MASONRY WALLS
- FLOORS:**
- CM CONCRETE - MONO SEALED.
 - EM ENTRY MATT - REFER TO SPEC.
 - VN VINYL - REFER TO SPEC.
 - VP VINYL PLANK - REFER TO SPEC.
 - CP CARPET - REFER TO SPEC.
 - FRD PARQUETRY FLOORING - EXISTING
 - CT CERAMIC TILES; (30mm SLAB SETDOWN IN WET AREAS, 70mm SLAB SETDOWN IN SHOWER RECESSES.)
 - PAV SELECTED PAVERS; (NOTE NEW PAVERS TO SUIT NEW AREAS)

- CEILING:** (REFER TO CEILING PLAN LEGEND ON A1 & A2 DWG.)
- RI-3 BATTIS INSULATION - INTERNAL CEILING AREAS
 - FLUSH PLASTERBOARD - PAINT FINISH
 - WATER PROOF SHEETING IN WET AREAS
 - ACST ACOUSTIC CEILING - EXISTING REPLACED WITH ARMSTRONG® ACOUSTIC FISSURED SYSTEM
 - VL VILLBOARD CEILING LINING EXPRESSED JOINT SELECTED PAINT FINISH
- ROOFS:** (REFER TO ROOF PLAN LEGEND ON A1 & A2 DWG.)
- RI-3 ANTI CON POL FACED INSULATION BLANKET
 - MDS 5° PITCH REVOLUTION ROOFING® - TRUE OAK DEEP 21™
 - MDS 2° PITCH REVOLUTION ROOFING® - REVOLUT™
 - LAST DIGIT INDICATES APPROX ROOF PITCH.
 - MWC REVOLUTION ROOFING® - TRUE OAK DEEP 21™
 - MC METAL CAPPING FLASHING, COLORBOND FINISH TO MATCH ADJACENT ROOF FINISH.

DOOR - WINDOW LEGEND

- IDENTIFIES WINDOW OR DOOR TYPE:
- D = DOOR
 - FD = FIRE DOOR
 - GR = GRILLE
 - GT = GATE
 - W = WINDOW
 - DW = DOOR ALUMIN FRAME
 - IDENTIFIES OPENING NUMBER
 - A AWNING (TOP HUNG)
 - DG ALUMINUM DOOR GRILLE
 - REFR MEDICAL DWGS.
 - F FIXED GLAZING
 - GD GLASS DOOR HINGED.
 - GL GLASS LOUVER.
 - LK LOCKSET
 - L ALUM. LOUVERS
 - S SLIDING
 - SD SLIDING GLAZED DOOR
 - BF BIFOLDING DOOR

ABBREVIATIONS

- AC - AIR CON CONDENSING UNIT
- COL - STRUCTURAL COLUMN, REFER STRUCT. ENGS DWGS
- PW - FLOOR WASTE, REFER TO HYDRAULIC DWGS.
- MBS - METR ROD, REFER TO ELEC. DWGS.
- HMU - HOT WATER UNIT, REFER TO HYDRAULIC DWGS.
- RWP - RAW WATER PIPES, REFER TO HYDRAULIC DWGS.
- TSC - TO BE CONFIRMED ON SITE WITH ARCHITECT.
- CJ - WALL CLADDING CONTROL JOINTS AS SPECIFIED

GENERAL NOTES

1. ALL DIMENSIONS ARE IN METRIC MILLIMETERS.
2. WRITTEN DIMENSIONS SHALL TAKE PREFERENCE OVER SCALED DIMENSIONS.
3. LARGER SCALE DRAWINGS SHALL TAKE PREFERENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CARRY OUT THE WORK IN ACCORDANCE WITH THE I.C.A. & LOCAL AUTHORITY REQUIREMENTS.
5. ALL MATERIAL SHALL BE OF NEW, GOOD QUALITY & CONFORM TO WHAT IS SHOWN ON THE DRAWINGS.
6. THE CONTRACTOR SHALL CHECK & VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
7. SITE VISIT - THE CONTRACTOR SHALL BE REQUIRED TO VISIT & ACCOUNT HIMSELF WITH ALL VISIBLE SITE CONDITIONS & ACCESS TO THE SITE.
8. FIXED FURNITURE LAYOUT REFER TO FIXED FURNITURE DRAWINGS.
9. FINISH LAYOUT REFER TO LANDSCAPE DRAWING.
10. INTERNAL DOOR OPENINGS POSITIONED 100mm FROM INTERSECTING WALLS (CORNERS) UNLESS OTHERWISE DIMENSIONED.

T 30.10.17 TENDER ISSUE

No. DATE REVISION

KELMSCOTT HALL UPGRADE
60 RIVER RD, KELMSCOTT

ELEVATIONS

PROJECT No.	1641	DWG No.	A3.01	REV	T
DRAWN	PR	DATE	21.06.2017	FILE LOCATION	
SCALE	1:100 @ A1	CHECKED			

BUILDERS, SUB CONTRACTORS, SHOP DETAILERS, SUPPLIERS AND CONSULTANTS MUST CHECK ALL DIMENSIONS AND DETAILS BEFORE COMMENCING ANY WORK. SHOP DRAWINGS OF THE WORK SHALL BE SUBMITTED AND APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE. THIS DRAWING BEING THE PROPERTY OF THE ARCHITECT AND SUBJECT TO RETURN ON REQUEST.

TENDER



IPWEA STATE CONFERENCE 2018

THE
CHANGING
FACE OF **PUBLIC
WORKS**



PROGRAMME

Corporate Partners:



21 – 23 MARCH
ESPLANADE HOTEL
FREMANTLE

WA State Conference 2018

21-23 March 2018

The Esplanade Hotel

Fremantle by Rydges



Invitation from the IPWEA (WA) Deputy President and Conference Chair

It is my great pleasure to invite you to register for our 2018 State Conference "The Changing Face of Public Works".

The Conference Theme – **The Changing Face of Public Works** – revolves around the evolution of traditional methods vs current methods and the ever evolving new technologies and trends, and the differences they have in the public works sector between the "older" generations and the "younger" generations.

The State Conference also offers the opportunity to create and strengthen relationships between people and organisations.

The Program will deliver very full and engaging days of keynote speakers, concurrent technical presentations, covering a wide range of public works and services, panel discussions and includes numerous networking opportunities. The event will help busy professionals identify ideas for future focus, collect knowledge and practical measures that can be applied straight away to make a real difference in the workplace.

It is well known that one of the most important benefits derived from attending conferences is what we learn from our colleagues in one on one interaction, and this has always been, and will always remain, a focus of the conference committee.

Day one opens with a Keynote Presentation by Dr Alan Klinken, the Chief Scientist of WA, who will focus on Science, Technology, Engineering & Mathematics (STEM) and how science can be a critical factor to ensure that the overall industry stays at the forefront of emerging technologies together with remaining sustainable with the imminent retirement plans of some of the more experienced and longer term members in the Industry.

Presentations from your colleagues from across a range of industries will embrace the theme of **The Changing Face of Public Works** and will outline what has impacted on them and their organisations.

Richard Sellers, Director General of the Department of Transport, will update us on Current Infrastructure Projects and Planning and Dr Keith O'Shea, President of the Australian Institute of planning Management WA will provide an interactive session on Project Management...and what you don't know.

Young IPWEA will be taking an active part in the program, providing an interactive plenary session focussing on technology and inclusion. Come and hear what they have to say!

As well as the technical and educational presentations the conference includes numerous social and networking activities, including a speed networking session, the Networking Dinner on Thursday evening and the Gala Dinner on Friday evening, and an opportunity to speak with exhibitors from a range of industries.

MC Gerry Gannon will play an important role at this event. His strong personal interest in public works engineering, ability to ask the right questions and spontaneous wit will ensure an entertaining Conference. In addition, Gerry will be hosting 2 lots of interviews with people across the industry.

The State Conference also provides opportunities for grants from the Public Works Engineering Foundation for financially-constrained members, especially those from regional and remote local governments. Please see the website (www.ipwea.asn.au) for details, or contact foundation@ipwea.asn.au.

I look forward to seeing you there!

Kimberly Brosztl

Deputy President & 2018 Conference Committee

CONFERENCE COMMITTEE:

Ian Thew
Opus

Taryn King
City of Wanneroo

Tom Stacey
Downer Mouchel

Peter Rimpas
Pavement Technology

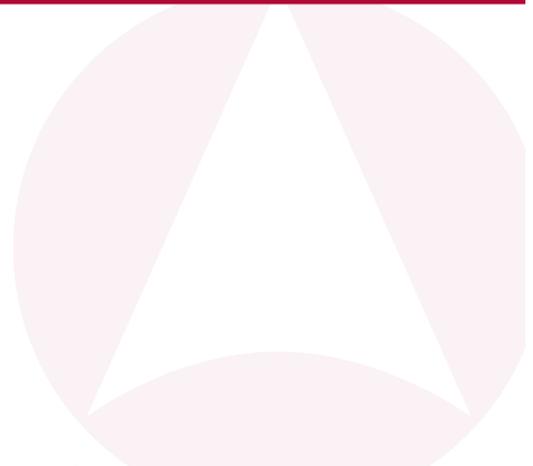
Kimberly Brosztl
City of Melville

Sasanka Gunasekera
City of Melville

Ross Moody
Consultant

Peter Pikor
Executive Manager
IPWEA Western Australia

Cathy Higgs
Conference Organiser
IPWEA Western Australia



Keynote

Presenters



Professor Peter Klinken AC

CHIEF SCIENTIST OF WA

In June 2014 I was appointed as the Chief Scientist of Western Australia, after stepping down as Executive Director of the Harry Perkins Institute of Medical Research (formerly the Western Australian Institute for Medical Research - WAIMR) in March 2014. I was honoured to be recognised as a Companion of the Order of Australia (AC) in June 2017 for contributions to medical research and for promoting science and innovation in Western Australia.

I obtained my PhD in Biochemistry from The University of Western Australia in 1982 and was a Fogarty International Fellow at the US National Institutes of Health in Washington, between 1984 and 1986. From there I returned to work at the Walter and Eliza Hall Institute in Melbourne as an NHMRC Postdoctoral Fellow between 1987 and 1988. In 1989, I became a Lecturer in Biochemistry at the University of Western Australia, then Senior Lecturer before being appointed Professor in Clinical Biochemistry in 1994. Between 2000 and 2002 I was the Director of Research at Royal Perth Hospital.

My research interests encompass the regulation of red blood cell formation and ability of leukemic cells to develop different features and functions. I also have a long-standing interest in identifying genes which can cause cancer or leukemia.



Richard Sellers

MANAGING DIRECTOR, DEPARTMENT OF TRANSPORT

Mr Sellers was appointed Director General of the Department of Transport in Western Australia in September 2016. He came to the position from the Department of Mines and Petroleum where he held the position of Director General.

Mr Sellers holds a Bachelor of Applied Science Biology, a Graduate Diploma in Education and Master of Public Policy and Management.

Mr Sellers has extensive experience in the public sector. His work on reform is widely recognised and in his previous position he took a lead role in improving WA's approval process and encouraging exploration to ensure WA's ongoing development.

His stewardship of DMP during the busiest growth period of Western Australia's resources industry was marked by innovations and significant reforms in a number of areas, including safety, the environment, approvals and administration.

Mr Sellers' contribution to DMP and Western Australia's resources sector has been recognised by the Institute of Public Administration Australia (IPAA), which awarded him the 2014 WA Patron's Award, and nationally by IPAA who also announced him a National Fellow at its annual conference in 2014.

The Patron's Award is the highest honour in public administration given annually to an individual who has made a significant contribution to the State and the National Fellow accolade recognises outstanding contribution to the practice and study of public administration.



Dr Keith O'Shea
AIPM PRESIDENT, WA CHAPTER

Dr Keith O'Shea is the managing director of QTC Consulting Pty Ltd, a specialist program and project management consulting and training company. He has a wide and varied background in program and project management, from an early beginning in the construction field and in later years, in business change and technology projects. Dr O'Shea obtained a Master of Project Management from RMIT University in Melbourne and completed his PhD 'An Examination of the Theory and Practice of Project Management Knowledge and its Transferability in Western Australia' at Curtin University. Dr O'Shea is a past National Director of the Australian Institute of Project Management (AIPM), holds Certified Practicing Project Director status and is a senior assessor of project management competencies for the institute, he also holds PMP status with the Project Management Institute (USA), is a qualified PRINCE2 Practitioner and the author of 'Project Managers: what do they really do and need to know?' ISBN: 978-3-639-20304-2.

Dr O'Shea is also a Graduate of the Australian Institute of Company Directors and a regular contributor and lecturer at Curtin University and Edith Cowan University (ECU) in their Master of Project Management programs and a past member of the ECU School of Management Consultative Committee.

Opening Address



The Hon. David Templeman
MLA, MINISTER FOR LOCAL GOVERNMENT; HERITAGE; CULTURE AND THE ARTS.
LEADER OF THE HOUSE

PARLIAMENTARY SERVICE

Elected to the Thirty-Sixth Parliament for Mandurah on 10 February 2001 in succession to Roger Keith Nicholls. Re-elected 2005, 2008, 2013, 2017.

MC



Gerry Gannon

One of Ireland's finest exports, Gerry Gannon has been a journalist, broadcaster, MC and media trainer in Australia for the last 30 years and is now one of the best known speakers and facilitators in Australia.

After a decade with ABC radio in Western Australia, Gerry left to pursue a career that would bring him closer to audiences and allow him to explore parts of the world he couldn't do from the inside of a radio studio. He established Indonesia's first English language radio station in Bali, served on the council, and as President, of the Royal Flying Doctor Service and on the board of the Tourism Council of WA. Gerry is committed to community and non-profit organisations and has also been a board member of Access 31 Television, Kids Help Line and is a Fellow of the Australian Institute of Company Directors.

A specialist conference MC, facilitator and media expert, Gerry is renowned for his wit, passion, easy-going nature and commitment to those he works with. He has worked extensively in both Australia and overseas and provides media skills training to government, not-for-profit organisations and industry entities, as well as conducting speech and presentation training courses.

Gerry's real passion is people; whether it is helping them reach their potential through training and support, MC at an event or providing valuable perspective and advice, Gerry's easy humour and experience provides a refreshing opportunity for growth and knowledge for everyone he meets.

Day 1

Wednesday 21 March 2018

7:00am REGISTRATION AND COFFEE
8:00am

8:00am WELCOME & OFFICIAL OPENING
9:30am

Introduction by MC
Welcome to Country
Welcome & Conference Chair Address: Kimberly Brosztl, Deputy President
Presidents Address: Ian Daniels, IPWEA President
Ministerial Address: The Hon. David Templeman MLA, Minister for Local Government; Heritage; Culture and the Arts. Leader of the House

9:30am KEYNOTE PRESENTATION
10:30am

THE CHANGING FACE OF SCIENCE, AND THE IMPACT ON PUBLIC WORKS

Presenter: Professor Peter Klinken AC, Chief Scientist of WA

10:30am
11:00am

MORNING TEA

CONCURRENT SESSION ONE

Theme

INFRASTRUCTURE

TECHNOLOGY

11:00am
11:30am

Transformation "Town to City": Karratha City of the North
Presenter: Brian Wall, Manager Infrastructure Services, Strategic Projects & Infrastructure, City of Karratha

The presentation will present the impacts to maintenance of existing infrastructure and the increased maintenance standards of new City infrastructure assets as a result of such a significant development/transformation over a short development period of only seven years.

In 2010 City of Karratha (formally the Shire of Roebourne) set out with the State Government to transform Karratha from a mining town into a major regional city and destination of choice for people wanting to work, live, do business and bring up families.

To make that vision become a reality the City had to overcome a significant range of development and infrastructure challenges.

The presentation will provide information on what changes have recently been adopted by Council to establish a maintenance Level of Services to appropriate standards expected of a City as a result of the transformation. The cost of these improvements and budget implications. The support and smarts of Council being aware of the importance of increased service delivery and maintenance to sustain the City as it has developed.

The transformation of the Town to a City included over \$700 million of development, financed across State and Federal Governments, City of Karratha and Industry Stakeholders.

This presentation will focus mainly on a small area of the project but in terms of significance arguably the most noticeable transformation, the Town Centre, including the Karratha Central Business District and City Centre Infrastructure development.

It's fair to say that with the focus on development and growth, maintenance to existing infrastructure, whilst not forgotten, did take a back seat and only the minimum general maintenance undertaken.

Whilst Council will continue to develop the City, Infrastructure Services will need to evolve and develop to ensure it's in a position to effectively and efficiently maintain the infrastructure to a standard now expected of a City in the Pilbara.

From Log Book to Super Computer – Five Decades in Public Works Engineering

Presenter: Andrew Bruce BE MBA CPEng(Reg) FIEAust FIPWEA FAIM

In a fifty-year career in and out of Public Works Engineering, I have observed changes of great magnitude. The foundations and principles upon which Engineering has built it into an enduring essential power in the delivery of Public Works have underpinned these changes. The very nature of long-lived principles is that they are immutable in intent but also adaptive to the evolutionary forces – scientific, social, political – acting on them to bring about change, innovation and growth.

Changes which have occurred include the passage from log books through to big and small fast computers – even our smart phones were once super computers. The power of the using the underlying mathematics of materials, complex internal and external forces, better explored and researched complexities, better control and organizational practices and scenario testing and sensitivities have all emerged on the back of our greatly increased computational power. The economic climate and techniques have changed and the retreated back to where they started.

The skills which all people involved in Public Works Engineering stay the same. These skills are enshrined in the core of the engineering profession and in all those who practice engineering activities of any nature and any size. Numeracy because we do not work in the abstract. Literacy because we must communicate and persuade if our concepts, designs and works are to be achieved. The development of logical and disciplined thinks must be worked on and continually honed if effective efficient solutions are to be created and analyzed to the level that approval for funding can be gained. Cost analysis from project initiation to completion and the development of robust indications of value, including non-quantifiable costs, and controls for achievement remain an essential component of the engineer's tool kit of skills and techniques.

The paper will discuss these essential elements of Public Works Engineering.



Theme	INFRASTRUCTURE	TECHNOLOGY
<p>11:30am 12:00pm</p>	<p>Community Infrastructure Planning - An Informed Approach Presenter: Wayne Stuart, Facilities Planner, City of Swan</p> <p>The City of Swan is the largest metropolitan local government area within Perth, covering approximately 1,044km² and has a current population of 133,000. The City is expected to experience rapid population growth, with the residential population predicted to double in size over the next 15 years, as a result of new urban development and infill. This growth will occur at a more rapid rate than ever previously experienced in the City and as a result, a planned approach to ensure that the City's communities are provided with adequate and fit-for-purpose open space and community buildings is required. The mechanism for achieving this is the Standards of Provision: Open Space and Community Buildings (Standards).</p> <p>The Standards were developed through an evidence-based approach which addressed key knowledge gaps in previous versions of the document. The Standards now act as an overarching document that informs all other open space and community building focussed policies, strategies, design guidelines and specifications. The Standards together with all subsequent documents provide a detailed facility planning process.</p> <p>A number of case studies of the types of public open spaces and community buildings will be presented, demonstrating the impact of the implementation of the Standards. It will demonstrate how a wider approach using both benchmarks and criteria with specific Place measures creates better outcomes for communities.</p> <p>The presentation will also outline the progress of the City's Strategy for the Provision of Open Space and Community Buildings. The Strategy includes a number of key projects including the development of a suite of interactive maps that show population and distance catchments and the City-wide application of the benchmarks and criteria set out in the Standards of Provision: Open Space and Community Buildings.</p>	<p>Title TBC Presenters: Peter Jamieson, Managing Director, Anditi & Gavin Taylor, Business Development Manager, McMullen Nolan</p> <p>Anditi Pty Ltd and McMullen Nolan Group have worked closely over several years in the transition from traditional methods of measuring, analysing and reporting on the built landscape we live to modern, scalable innovative methods. Projects we have undertaken have focused on capturing and analysing high resolution LIDAR and imagery across a range of built and natural environments to accurately locate, define and describe the environment and key features of interest with great precision.</p> <p>The rapidly increasing precision and availability of remote sensing information such as airborne LIDAR, mobile or terrestrial LIDAR and high resolution imagery combined with decreasing capture and analysis costs has transformed how we measure, analyse, record, report and display the natural and developed environments that we live in. It has also dramatically changed the scale at which this data can be analysed facilitating whole of city or catchment based analysis in fine detail and at high precision.</p> <p>Fusion of this data with a multitude of field based measurements, GIS information and usage information creates a rich multi-dimensional geospatial data set that can be interrogated to generate an enormous range of detail and insight including: catchment, drainage and overland flow paths for flooding assessment; solar potential of roofs and degree of shading; road and linear infrastructure details such as centreline and edge, horizontal and vertical alignment, size and proximity of structures such as fences and poles, vegetation characteristics and encroachment detail.</p> <p>This paper will provide a case studies of work undertaken by Anditi and MNG demonstrating some of the information of relevance to Road Safety, Urban Development, Parks & Environment, Roads, Built Environment, Coastal Issues, Stormwater & Drainage, Regional Issues, Major Projects, Transport and infrastructure, Leisure & Recreation that can be obtained from fusing and analysing high resolution LIDAR and imagery with a range of other data sources.</p>

Theme	INFRASTRUCTURE	TECHNOLOGY
12:00pm 12:30pm	<p>Coastal Access for All – Mind the Gap Presenter: Clint Doak, Principal Coastal Engineer, M P Rogers & Associates</p> <p>Access to the coastal reserve is generally easy. It's the last 100 metres that can be the challenge and in a sense we need to "Mind the Gap". Remember we are looking for access for all - pedestrians, disabled access, life-saving patrol vehicles, and emergency vehicles.</p> <p>The ocean coasts just don't stay still. They are dynamic. And sometimes very dynamic. This throws up four main challenges. First, shoreline erosion can undermine ramps, paths, or stairs. This can lead to the second challenge – public safety concerns associated with unsafe drop-offs at erosion scarps or even waves hitting stairs in storms. The third challenge occurs when the beach is accreting, not eroding, and wind-blown sand needs to be addressed. The design of coastal access needs to adequately respond to each of these challenges to ensure the solution meets the fourth challenge – being sustainable.</p> <p>The paper will show a range of case studies from around WA. These will include sand paths, concrete ramps, timber and concrete stairs, and even the promenading jetty at Palm Beach in Rockingham. Different design solutions will be presented together with the site constraints and the beach dynamics. The paper will share many simple but effective lessons learnt and "tricks of the trade". Yet again in coastal engineering, one solution does not fit all. Experience counts.</p>	<p>Utilising Drones for Asset Inspections Presenter: Joel Newman, Founding Director, Elevo</p> <p>The adoption of drones as tools to perform various tasks in the public sector has grown in the last few years, but many engineers still do not understand if or how drones can help their organisation. .</p> <p>In this presentation I will focus on asset inspections, which are the simplest way for an organisation to start integrating drones in their day to day work. Using drones for level 1 roof condition inspections is faster, safer and cheaper than the traditional options of Elevated Work Platforms or working at heights.</p> <p>I will outline two case studies where drones were used to gather visual data on roof and gutter conditions for industrial buildings at Fremantle Ports, and school buildings for the Department of Finance. The presentation will discuss the planning, execution and outputs from the inspections. I will also discuss a case study where drone images were used to remotely assess and measure the extent of storm damage to an asbestos clad roof, and map the debris field from the dislodged roof panels to aid the clean-up.</p> <p>The regulations controlling commercial drone operations are complex and often changing. I will outline some of the key issues that need to be addressed when engaging a drone operator to protect your organisation and your stakeholders from potential harm or liability.</p> <p>Finally, I will highlight some of the other current and future technologies that may be relevant to engineers in the public sector.</p>
12:30pm 1:30pm	LUNCH	

CONCURRENT SESSION TWO

Theme	INFRASTRUCTURE	SUSTAINABILITY
1:30pm 2:00pm	<p>Wanneroo: A City on the Move! Presenters: Harminder Singh, Director Assets, City of Wanneroo Mark Little, Project Manager Major Buildings, City of Wanneroo</p> <p>In March 2014 the City embarked on \$26.8M Major Project comprising: Design and construction of a three storey Extension to the Wanneroo Civic Centre; and Implementation of a separate interior fitout project for the Extension and refurbishment of the Civic Centre.</p> <p>This presentation discusses the project objectives and challenges, along with some of the intangible advantages a Major Project has provided the City of Wanneroo, including: Delivery of a new WCC extension building and fitout, and the refurbishment of the existing Civic Centre on time and on budget using two different contractors; Logistical planning and phased relocation of 500 staff from the existing Civic Centre into the extension building whilst maintaining operations; Sustainability and use of materials that reduce environmental impact, as well as implementing opportunities for reuse and recycling; Provision of design outcomes that lead to increased staff collaboration, productivity and engagement; Implementing contemporary Information and Communication Technology (ICT) to facilitate improved customer service delivery, staff mobility, communication and efficiency; Enhance the City's Information Management (IM) practices in creating a more paper appropriate environment and reduction in use of resources; Provide the City of Wanneroo with an asset that has possible alternative uses up to the year 2031.</p> <p>The presentation provides an insight into how the successful delivery of a Major Project for the City of Wanneroo has not only provided an asset for the City, but also provides an enhancement of City operational and customer focused practices for the next 20 years.</p>	<p>From Cradle to Perpetual Life Presenter: Con Rimpas, Director, Pavement Analysis</p> <p>When one carries out a Life Cycle Cost Analysis, the evaluation also takes into consideration the cost of decommissioning the asset in other word the evaluation is known as "from cradle to grave". Good pavement Engineers say there is no grave and it is "From Cradle to Perpetual Life"</p> <p>Perth has grown in population and length of roads and unfortunately with this comes the aging of roads that have to withstand heavier traffic with large loads on tyres pumped to high pressures, creating a huge increase in strain on the pavement structure. Perth now has a network of road pavements that have had 3 or more asphalt overlays without any structural improvement to support layers, and there is evidence that there is some money being wasted on rehabilitations that are not providing satisfactory lives.</p> <p>It is not possible or economical to continue to just resurface road pavements forever without stiffening the support.</p> <p>It is important to try and recycle as much of the existing pavement materials as possible. The government is aware of this and are encouraging the use of recycled materials.</p> <p>Asphaltech, in collaboration and support from the French experts, have developed a process which makes it possible to 100% recycle and strengthen pavements with minimal disruption to traffic and exposure of workers to the safety aspects of working on live roads.</p>

Theme	INFRASTRUCTURE	SUSTAINABILITY
2:00pm 2:30pm	<p>Travel Plans and Parking Management Plans for Large Shopping Centres – A Case Study of Westfield Carousel Presenter: Alix Oakes, Senior Transport Planner, Cardno</p> <p>Cardno has produced a Travel Plan and a Parking Management Plan for the redevelopment of Westfield Carousel, in Cannington. These documents represent some of the first of their kind under the recently produced guidelines on travel planning and parking for large shopping centres by the Department of Transport and are likely to be used as test cases for future similar documents.</p> <p>This presentation will outline:</p> <p>The context for the redevelopment, including planning conditions; externalities; collaboration with stakeholders; objectives; existing mode share; Existing transport initiatives and current parking supply; establishing relevant and achievable mode share targets; Managing the parking demand of employees across multiple tenancies; Potential parking controls; The agreed final initiatives and strategies and how they were selected; Planned implementation of agreed initiatives; The importance of monitoring and review; travel planning and parking issues specific to large shopping centres such as: obtaining buy in from developers regarding proposed initiatives and rolling out plans and initiatives across multiple operations; The importance of the relationship between Green Travel Plans and Parking Management Plan; and The potential impact of transport disrupters on the provision of parking.</p> <p>Despite not being a pre-requisite of the planning process, Travel Plans and Parking Management Plans are being requested on a much more regular basis, particularly in the case of larger developments. This paper will demonstrate the importance of securing Green Travel Plans and Parking Management Plans through the Planning process; in ensuring that consideration of proposals for the surrounding area is given, and how to future proof investments in transport and parking provision.</p>	<p>Western Australian Developments in the Use of Recycled Rubber in Asphalts Presenter: Steve Halligan, Bituminous Products Consultant in the Materials Engineering Branch of the Planning and Technical Services Directorate, Main Roads WA</p> <p>Millions of tyres in Western Australia that have reached the end of functional life are incinerated or sent to landfill every year. This practice has a significant environmental impact and wastes high-value resources including rubber and carbon black. When granulated and combined with bitumen, crumb rubber-modified (CRM) binders provide better performance compared to unmodified bitumen and have a reduced cost compared to similar polymer-modified binder (PMB). Benefits of CRM binder include improved durability and increased resistance to rutting, cracking and fatigue.</p> <p>Bitumen refined from crude oil has been used in WA for over 100 years and with increasing demands from road use necessitating property changes to achieve requisite performance. In WA, a range of special bitumen and PMB are currently used, including CRM binders. The use of CRM binder is part of Main Roads' focus on delivering a sustainable transport network, including both economic and environmental sustainability. Main Roads has a long history of utilising CRM binder in sprayed seals with 650 tonnes of crumb rubber incorporated in seals during 2016/17. Main Roads is exploring greater use of CRM binder in both spray seal and asphalt with the aim to facilitate perpetual consumption of rubber from recycled WA vehicle tyres.</p> <p>This paper documents the objectives, approach and early findings of two projects undertaken by Main Roads to advance the use of CRM binder in WA asphalt. The projects include development of specifications for open-graded asphalt with CRM binder, investigation of compatibility with warm mix technologies and lower CRM binder spraying temperatures, in addition to a joint endeavour with Tyre Stewardship Australia and Queensland Department of Transport and Main Roads to develop specifications for gap-graded asphalt with CRM binder. Main Roads is embracing sustainability and the community expectation that waste materials become resources in its pursuit of greater CRM binder utilisation.</p>

Theme	INFRASTRUCTURE	SUSTAINABILITY & WATER MANAGEMENT
3:30pm 4:00pm	<p>Gascoyne Junction Bridge <i>Presenters: John King, Director, & Colin Leek, Principal Engineer Pavements and Drainage, Talis Consultants</i></p> <p>On 16 December 2010 the small town of Gascoyne Junction was virtually wiped out by the largest flood in its history. The town was split in two by the swollen Gascoyne River. Most of the town's buildings were affected, with the famous Gascoyne Junction pub destroyed.</p> <p>To rebuild and grow it would be necessary to replace the existing crossing of the Gascoyne River which only had a low level causeway without culverts. Talis Consultants were commissioned by the Shire to provide consultancy services for the funding, procurement and construction supervision of the project to build a low level bridge crossing to replace the causeway. For this to have any chance of funding, the Shire needed to get the project "shovel ready" by early 2016.</p> <p>The bridges were to be built through one main contract. All of the ancillary works were to be undertaken by the Shire's work force and local sub-contractors. This required a high level of cooperation to ensure that the job would be finished before Christmas 2016, to avoid disruption from river flows that occur from then through to March/April.</p> <p>Despite its many challenges, the project was completed on time and within budget. The Killili Bridge crossing was officially opened on 16 December 2016, on the sixth anniversary of the flood.</p> <p>This paper will outline the many unique challenges faced and overcome in the successful delivery of this piece of public infrastructure which is a critical part of plans to transform the east Gascoyne region of Western Australia.</p>	<p>Hartfield Park Waterproofing Project <i>Presenter: Karen Johnston & Daniel Nelson, Coordinator Project Delivery, City of Kalamunda</i></p> <p>The establishment of a municipal-scale Aquifer Storage and Recovery (ASR) site at Hartfield Park, Forrestfield, provides a template for developing a stormwater harvesting scheme in the Perth region.</p> <p>The City of Kalamunda, with the assistance of an experienced hydrogeologist, faithfully followed the staged approach for establishing a Managed Aquifer Recharge (MAR) scheme as set out in the 2009 Australian MAR guidelines, to successfully implement an ASR trial and prove up the potential of this burgeoning water resource management technology within a Water Sensitive Urban Design framework.</p>



Theme	INFRASTRUCTURE	SUSTAINABILITY & WATER MANAGEMENT
4:00pm 4:30pm	<p>A Different Type of Road Presenters: <i>John King, Director, & Colin Leek, Principal Engineer Pavements and Drainage, Talls Consultants</i></p> <p>The Kennedy Ranges are a seldom visited icon in the Western Australian national parks system, but visitor numbers are slowly growing. They contain some of the most majestic sites to be seen in Western Australia, but only 4 small gorges are currently generally accessible to all but the most hardened 4WD. The town of Gascoyne Junction is a small town approximately 170km east of Carnarvon, and the Shire of Upper Gascoyne is very keen to increase tourism in the area to create a more vibrant community.</p> <p>There is an existing track which crosses the Gascoyne River on the west side of the Kennedy Ranges and crosses over the Kennedy Ranges providing spectacular view of small springs and massive expanses of high red and white cliffs. However this road links only to a private station track on the east side and the station owners wish this track to be closed to the public. In order to increase visitors to the region, a new iconic 4WD track to create a loop road around the Kennedy Ranges was agreed by DBCA and the Shire of Upper Gascoyne, but concerns were raised by DBCA about the route and maintenance issues.</p> <p>Talls Consultants were contracted by the Shire to explore a potential route and to design a minimum standard 4WD track that would remain challenging; attracting enthusiasts to the region to explore the ranges and increase tourism in the area.</p> <p>This paper describes the methods used to explore a route, set the standards and negotiate an outcome that would bring this project to fruition.</p>	<p>Biofilters in Parks – How Much is Enough? Presenter: <i>Helen Brookes, Director, Urbaqua</i></p> <p>The integration of water sensitive urban design into public open spaces is a significant opportunity to avoid sterilisation of land for drainage whilst providing high quality, high amenity multi-functioning spaces for the community to enjoy. Recent experiences in several local government areas have demonstrated that the desired outcome may not be being achieved and water sensitive urban design systems are being created that spatially dominate or otherwise compromise the function of public open spaces.</p> <p>This project reviewed a number of case studies to provide an evidence based understanding of the land use efficiency and water quality treatment efficacy of at-source and end-of-pipe water quality systems. Consideration was then given to the application of criteria and assessment processes to identify approaches which facilitate optimal sizing and design of water quality treatment systems embedded within public open space to achieve water quality objectives and facilitate community enjoyment of the space.</p> <p>This presentation will explore some of the reasons for poor integrated public open space outcomes using some case studies in the Cities of Swan and Wanneroo. The discussion will consider a number of water sensitive urban design strategies and review the application of criteria and the decision-making process from local water management strategies, through urban water management plans, to detailed design and construction. Some recommendations will be made to assist decision makers in the application of criteria in the future, as well as facilitating the consideration of holistic planning and urban design objectives to facilitate the improved delivery of water sensitive cities.</p>
4:30pm 5:00pm	<p>KEYNOTE PRESENTATION</p>	<p>CURRENT INFRASTRUCTURE PROJECTS AND PLANNING: Presenter: <i>Richard Sellers, Director General, Department of Transport</i></p> <p>Richard will provide an update on his 2017 presentation and discuss the raft of projects underway and those being planned for the future.</p>
5:00pm	<p>CLOSE OF SESSIONS</p>	
5:00pm 6:00pm	<p>SUNDOWNER & OFFICIAL OPENING OF THE INDUSTRY EXHIBITION</p>	

Day 2

Thursday 22 March 2018

8:00am
8:30am **REGISTRATION AND COFFEE**

8:30am
8:45am **WELCOME & OPENING**

Welcome & Announcements

8:45am
10:15am **KEYNOTE PRESENTATION**

PROJECT MANAGEMENT: WHAT YOU DON'T KNOW WILL KEEP YOU AWAKE AT NIGHT!

Presenter: Dr Keith O'Shea, President, Australian Institute of Planning Management WA

This presentation will cover;

- A brief summary of the key elements of effective project management
- Some testing of the audience (by way of question and answer), to get some understanding of the project management challenges in delivering public works (and indeed non-capital projects) and some idea of the skill gaps.
- AIPM to outline how we can assist the IPWEA members in improving their project management abilities. Will include the AIPM Project Manager Certification program, which can be tailored to the individual needs.

10:15am
10:45am

MORNING TEA

CONCURRENT SESSION THREE

Theme	LEADERSHIP & INNOVATION	TRANSPORT
10:45am 11:15am	<p>Graduates & the Indigenous Trainee Program at the City of Swan Presenters: Michael Cook, Supervisor of Bush Regeneration and Indigenous Trainees & Jim Coten, Executive Manager, Operations, City of Swan</p> <p>Local Governments have traditionally focused on delivery of the 3 'R's: Roads, Rates and Rubbish. However, the scope of these basic services has expanded due to community demand and requests, and now Local Government supports a wide variety of community activities such as sporting venues, aged care programs and childcare to service the community in new and better ways.</p> <p>One expanding area of development within many Local Governments involves offering opportunities to the community to develop their skills, whether for future paid employment or in a volunteering capacity. Training can provide the stepping stone for further career and social opportunities, from young people completing traineeships that lead to careers and employment or volunteers developing skills to help them help others and the wider community.</p> <p>In this presentation, the City of Swan aims to showcase some of its programs and demonstrates how the City develops skills within the community for young people and aboriginal people.</p>	<p>Transport Planning and Design for Activity Centres and Corridors Presenter: Emmerson Richardson, Transport Specialist, City Planning, City of Stirling</p> <p>The WAPC is requiring local governments in inner areas of Perth to increase their population through urban infill as part of its strategic planning to reduce urban sprawl, as Perth's population grows to 3.5 million by 2050. To maintain accessibility, improve liveability and avoid widespread congestion, a much higher proportion of travel will need to be made by public and active transport.</p> <p>This paper examines how activity corridors and centres can be planned and designed to accommodate future travel by all modes of transport. It draws on experience in planning activity centres and corridors in the City of Stirling.</p> <p>The WAPC's growth target for the City of Stirling by 2050 is 160,000 more residents, an increase of 70%. It is proposed that 75% of these new residents will be housed in activity centres and corridors. These centres and corridors have been planned to accommodate mixed use residential, commercial and retail development that will make walking and cycling an option for more trips. Also, they have been planned in locations that can be served by quality public transport. Finally, a demand management strategy will be employed for car travel to ensure it does not grow beyond the capacity of the planned road network.</p>

Theme	LEADERSHIP & INNOVATION	TRANSPORT
11:15am 11:45am	<p>Mount Everest and SHERPA: Leadership Insights Abstract Presenter: Michael Hayward, <i>Manager Asset Management, City of Swan</i></p> <p>In March and April 2016 I embarked on a challenging, three week, high altitude Everest High Passes trek in the Himalaya region. The Big Five Goals included the high elevations of Everest Base Camp and Kala Patar (5545m), Gokyo Peak (4720m), Cho La Pass (5420m) and Renjo Pass (5360m).</p> <p>The scenery was breathtaking, while on reflection the experience of the journey offered some invaluable insights and learnings around life, work and leadership.</p> <p>An unexpected, lasting impression was immersion and appreciation of the Nepalese culture and their associated spiritual beliefs. In particular the local Sherpa who reside in the mountainous region and willingly became our faithful guides and porters. They demonstrated their hardiness, resilience, expertise and experience at very high altitudes, guiding us safely, but at all times remained humble.</p> <p>This presentation will provide an overview of the trip inclusive of the personal background drivers, the physical and mental challenges, along with the associated risks; inclusive of the drama which unfolded amongst our trekking group on the trail. The Himalaya is an alluring yet indiscriminate and harsh environment where there is an ever present fine line between the consequences of success and failure.</p> <p>In addition I will share my acronym and mantra of SHERPA as I see it applying to Leadership lessons (life and work perspectives).</p> <p>I shall look forward to sharing my story.</p>	<p>Creating a Colourful Bicycle Plan for the City of Kalamunda Presenter: Doug Bartlett, <i>Manager Asset Planning and Management, City of Kalamunda</i></p> <p>The Perth hills currently attract pelotons of colour as lycra-clad cyclists ride up and down hills on training routes. There is very little cycling infrastructure to support this demand, and although it is the most visible, it does not show the need for the wider cycling community, such as commuter cyclists riding to Perth, children riding to school, and recreational riders within the City of Kalamunda.</p> <p>In February 2017 the City (then Shire) commenced preparing a bicycle plan with the assistance of Cardno Consultants. The first phase was a thorough community consultation, involving a survey, workshops, and using manual and online distribution. The survey included cycling behaviours and a chance to draw improvements on a map, and the workshops provided more direct feedback.</p> <p>Cardno then analysed the results, and using their experience and knowledge, prepared the Bicycle Plan. The plan identified the types of improvements such as strategic, training and local routes, Safe Active Streets (aka Bike Boulevards), and shared paths. A program of works was provided to meet two possible funding levels by the City: \$500,000 per year, and \$1,000,000 per year.</p> <p>The Bicycle Plan has identified \$40.3 million in cycling infrastructure, extending over 20 years and including federal and state funding. At the end of the works and subject to funding, the City will have strong strategic connections and training routes for the speedsters, and a great network of neighbourhood cycling paths with Safe Active Streets, supported by cycling awareness programs, that will fill our suburbs with colourful families cycling for health, enjoyment, and to school and work (lycra optional).</p> <p>This IPWEA conference presentation will be the last chance for feedback on the Bicycle Plan, before it is given to the Council for endorsement.</p>
11:45am 12:15pm	<p>Intelligent Highways This presentation is to be confirmed.</p>	<p>TITLE TBC Presenter: Sam Laybutt, <i>Team Leader Transport Engineering and Road Safety, Senior Road Safety Auditor, Cardno</i></p> <p>Speed limits are one of the primary tools used by roads authorities to manage the level of road safety risk especially on the rural road network. There has been much discussion in Western Australia about reducing the default rural speed limit from 110km/h to 100km/h and whether this would have any measurable impact on the fatal and casualty crash rates, for example this has actually been actioned on the Indian Ocean Drive in response to a perception of the causes of the recent spate of crashes along that length of road. Similarly, there has been some discussion about implementing higher rural speed limits or even open speed limits on remote rural roads to reduce travel times and account for the increases in safety resulting from modern vehicle standards and minimising risks due to fatigue. The available data supporting either position is either anecdotal or based on predictive models which have limited reliability.</p> <p>In January 2007 the Northern Territory introduced a default rural speed limit of 110km/h, with a speed limit of 130km/h for certain major highways, to replace the previous open speed limit on the rural road network. This paper examines historical fatality and casualty crash data to understand the impacts that the introduction of rural speed limits has had on the fatality and casualty crash rates in the Northern Territory. The available data is analysed in multiple ways to identify road safety trends which can be correlated to the introduction of default rural speed limits, and the results interpreted to identify outcomes which could inform the development of rural speed limit policy elsewhere in Australia.</p>

Theme	LEADERSHIP & INNOVATION	TRANSPORT
12:15am 12:45pm	<p>Automation Through The Years OR Robotics & the Impact on Public Works</p> <p>Presenter: Matthew Coleman, Executive General Manager - Advisory & Innovation, Calibre Consulting</p> <p>Synopsis to come</p>	<p>Can We Design for 30km/H Streets in WA?</p> <p>Presenter: Tim Judd, Director, GTA</p> <p>Current research shows that 30km/h speed limits on local roads can improve the safety and pedestrian amenity on local suburban roads – Safe Neighbourhood Streets. So why are they not more common place in WA?</p> <p>While there is likely to be opposition to the introduction of lower speed limits in local neighbourhood streets, this paper provides evidence that such opposition is not justified and looks at what tools designers could use to achieve this outcome.</p> <p>The Department of Transport over the last year or so have started to develop the Safe Active Street program which has as one of its core objectives the requirement to ensure slow speeds with an aim to achieve 30km/h – the program has a focus for cycling. Some local councils have implemented 30km/h streets (such as Oxford Street in Vincent, and Market Street in Fremantle) driven by wanting to create an increase in pedestrian amenity for those visiting these commercial strips. City of Stirling have looked to take this a step further by implementing a Self-Explaining Roads trial within a suburban area in Innaloo.</p> <p>Reducing speeds within local suburban roads to 30km/h means we can return 'roads back to streets' to be enjoyed by the people who live and play there.</p> <p>So – what tools do we have to design 30km/h streets? This paper will delve into what design parameters LGA designers can explore to achieve lower speeds. This will include: Reducing road widths – what does best practice tell us; Restricting forward visibility – how often? what does research suggest?; Speed controlling devices – the good and the bad; Intersection design – not over designing for that one delivery vehicle that may need access at one time; Continuous footpaths; Safe Active Street design – lessons learned; Pedestrian and Bicycle Friendly roundabouts – yes it can be achievable.</p>
12:45pm 1:45pm	LUNCH BREAK	
1:45pm 2:30pm	<p>YOUNG IPWEA PLENARY SESSION</p>	<p>TECHNOLOGY & INCLUSION</p> <p>Join the Young IPWEA committee as they discuss the challenges they face in this fast moving environment, and how they balance keeping "old" practices alive while embracing new practices made possible by the shift in technology.</p>
2:30pm 3:00pm	AFTERNOON TEA	
3:00pm 3:30pm	<p>PLENARY SESSION</p> <p>Interviews with Gerry Gannon</p> <p>Panel consisting of: Ian Daniels, IPWEA President; Belinda Stopic, Director Major Projects, Main Roads WA; and Alan Rimmer, Regional Director WA, WSP</p>	
3:30pm 4:15pm	<p>PLENARY SESSION</p> <p>Title TBC Something Transport Based</p> <p>Presenter: Craig Wooldridge, Director Network Planning - Moving People, Department of Transport</p>	
4:15pm 5:00pm	<p>SPEED NETWORKING</p>	<p>Meet the Sponsors, Exhibitors and the other delegates in this fast paced and fun networking session. Based on the concept of Speed Dating, you will have the opportunity to meet a large number of people in a short period of time and then have the opportunity follow up with them at the Networking Sundowner, and throughout the conference, to strengthen the initial connections made. Don't forget your business cards!</p>
CLOSE OF SESSIONS		
5:00pm 6:00pm	NETWORKING SUNDOWNER	
6:00pm 9:00pm	NETWORKING DINNER	

Day 3

Friday 23 March 2018

8:00am	REGISTRATION AND COFFEE	
8:30am	WELCOME & OPENING	Welcome & Housekeeping by MC
8:30am	PANEL DISCUSSION	Registration of Professional Engineers – Why? What? When?
8:45am		Hear from an Industry Panel on:
8:45am		<ul style="list-style-type: none"> • What does the likely model mean for the professional individual to be able to become registered; • How does it affect those in Technical Managers and Directors roles; • How will it impact on small and large organisations; • What about Clients – consultants.
9:30am		This is an interactive session so come with your questions.
9:30am	PLENARY SESSION	
10:00am	Interviews with Gerry Gannon	
	Panel consisting of: Kimberly Brosztl, IPWEA WA Deputy President; and Andy Robinson, NS Projects	
10:00am		MORNING TEA
10:30am		

CONCURRENT SESSION FOUR

Theme	ASSET MANAGEMENT	GROUNDWATER & PUBLIC OPEN SPACES
10:30am	Asset Management Plans: Kalamunda Experience	Urban Subsurface Drainage: Post Development Hydrology Changes
11:00am	Presenters: Lalinda Karunaratne, Asset Engineer & Craig Fitzgerald, Asset Management Coordinator, City of Kalamunda	Presenter: Carl Davies, Principal Hydrogeologist Water Management Australia Asia Pacific, RPS
	<p>The purpose of this paper is to present experiences and learnings of City of Kalamunda (the City) from the internal Asset Management Plan (AMP) development process undertaken in 2016/17. This will provide an understanding of challenges encountered and accomplishments made during the process and offer useful inputs to other similar organizations in developing and reviewing AMPs.</p> <p>The City has embarked on a process of reviewing and updating AMPs for all its' infrastructure asset classes namely pathways, parks, roads, buildings and drainage. In 2016/17 AMPs for Pathways and Parks have been completed and adopted by the Council. The responsibility of this process lies with the City's Asset Planning and Management team and utilises other internal departments as required.</p> <p>The current infrastructure AMP reviewing and updating process mainly focused on: Documenting asset inventory and condition information; Understanding current levels of service; Assessing current life cycle management activities and their respective expenditure levels; Projecting future renewal demand and predicting funding gaps through detailed life cycle modelling and analysis; Provide AM improvement plan for each asset class with links to City's strategic business plans, AM Policy and AM Strategy.</p> <p>The resulting AMP documents are presented in a unique fit-for-purpose template for easy reading and understanding across many levels of stakeholders. Having this process undertaken internally has enabled the City to obtain a first-hand understanding of the gaps in current AM practices.</p> <p>The paper also discusses some of the preceding activities and AM enablers which provided positive inputs to the AMP development process.</p>	<p>Urban development in low lying land generally causes groundwater levels to rise due to increased groundwater recharge. The typical measure to control groundwater rise includes importing sand fill and installing subsurface drainage beneath road verges. The fill required to control groundwater rise results in serious concerns for sustainable development including clearing of native land for sand fill supply and the impact on housing affordability. The volume of fill required depends on an accurate estimation of post development groundwater levels, including the mound between subsurface drainage lines. Post development groundwater levels have been measured at two urban sites in Perth, Western Australia. The monitoring has encompassed up to three annual groundwater peaks at Whiteman Edge in Brabham, a site underlain by natural sand, and two annual peaks at The Rivergums in Baldivis, a site underlain by natural clay. Monitoring bores were installed across the site, including within bioretention areas and at the midpoint between subsurface drains. Groundwater mounding of up to 0.9 m has been measured between subsurface drains within road verges that are located ~80m apart. The Whiteman Edge site has a smaller groundwater mound (generally < 0.5m), compared to The Rivergums (~ 0.9m), despite similar fill properties and urban density. In general, the annual post development groundwater fluctuation across the site is ~0.5m, which is significantly less than the pre-development fluctuation (>1m). As part of the research project, modelling and analysis is being undertaken to assess the factors that affect post development groundwater level changes. Some of the factors that are being investigated include fill properties, regional groundwater flow regime, underlying geology, subsurface drain grade and urban density. The modelling and analysis will inform developers and practitioners of the pros and cons of various methods to estimate post development groundwater levels.</p>

Theme	ASSET MANAGEMENT	GROUNDWATER & PUBLIC OPEN SPACES
<p>11:00am 11:30am</p>	<p>Strategic Enterprise Asset Management With Large Portfolios Presenter: Hein Aucamp, Asset Consultant & Director, WA Integrated Asset Management</p> <p>While at Rio Tinto between 2014 and 2016, Hein Aucamp assisted with the strategic asset management of Rio Tinto's non process building infrastructure.</p> <p>The portfolio replacement cost is estimated at several billion dollars, and when represented in the SPM Asset Management System contains over 32,000 property entries and over 1 million components. The asset management information is distributed throughout several enterprise systems (including SAP), for which Hein developed synchronisation quality techniques and exception reporting. The amount of data required the use of exception reports and confidence levels rather than verifiably precise information.</p> <p>The asset management included a rental management aspect as well as providing some buildings to local government for community use. The approach included desktop software and mobile devices.</p> <p>Rio Tinto has stringent legislative compliance standards and also provides a best practice safety environment. One aspect was asbestos risk management by OHS specialists. The Six Sigma environment promotes an awareness of process improvement and eliminating waste. Hein promoted some Six Sigma techniques such as Pareto Charts to provide exception reporting while presenting the overall data situation.</p> <p>A strategic aspect of the asset management work is that Hein supported the Service Improvement Project outsourcing by providing asset information for tender responses, while also developing reports to allow measuring of service provider performance and of the portfolio quality changes under the care of the service provider.</p>	<p>Planning for Public Open Space with Limited Water and a Rapidly Growing Population Presenter: Wayne Stuart, Facilities Planner, City of Swan</p> <p>The City of Swan is situated on the north eastern edge of the Perth metropolitan area and is forecast to experience growth at a more rapid rate than ever experienced within the municipality. The City is forecast to absorb around 80,000 people over the next 20 years, which equates to approximately 16 per cent of the growth of the entire Perth Metropolitan Area in that same time period. The City is responsible for the provision of public open space, and is faced with a complex issue of rapid population grow and the very limited amount of groundwater availability for the irrigation of public open space. It is likely that there will be further reductions to groundwater availability and by 2030 (when the City's population is forecast to reach 204,263) there will be potential reductions to existing groundwater licensed entitlements.</p> <p>The City, through a number of measures, has developed an integrated approach to address the issue of supplying public open space with little to no availability of groundwater to a growing population.</p> <p>This presentation provides an insight to the mechanisms which the City has adopted to create an integrated approach to the provision of open space, moving from the provision of public open space in isolation to a more holistic approach. The presentation will outline the City's approach to design guidelines for landscaping, the provision of synthetic sporting open spaces, creating strong working relationships with State Government Agencies and more effective management practices of public open space.</p> <p>The City has challenged the status quo and generated positive outcomes for the provision of public open space, along the way many lessons - both good and bad - have been learnt, this presentation provides the opportunity for others to take away the City's experience.</p>
<p>11:30am 12:00am</p>	<p>How to Achieve 'Best-Practice' Asset Management Systems through Implementing ISO55000 Presenter: Shane Daniel, Principal Consultant, Lycapodium</p> <p>To improve your asset management performance and at the same time to reduce operation and maintenance costs; implementation of ISO55000 is considered by many to be the way of the future, allowing asset and facilities managers to take advantage of the opportunity to create 'a whole lifecycle approach' to managing and delivering value from assets. ISO 55000 is a strategic approach (as opposed to tactical) and encompasses Organisation, Leadership, Planning, Support, Operations, Performance Evaluation, and Continuous Improvement.</p> <p>It provides definition to the standards to be achieved, a route to certification, a methodology to support the future ongoing investment in your organisation, a 'best-practice' methodology that will allow you to 'improve' your operations. The following benefits can be realised: Improved financial performance (short-term and long-term / CAPEX and OPEX); Managed risk reducing losses and liabilities; Improved HSEQ; Improved services and outputs; Demonstrated social responsibility; Demonstrated compliance with legal, insurance, and regulatory requirements; Enhanced reputation through improved customer satisfaction and stakeholder confidence; Improved organisational sustainability; Improved effectiveness and efficiency. It is widely believed that for government and pseudo-government organisations, ISO55000 is the way of the future.</p> <p>Although not 'mandatory' at this time, with the increased focus on budgets and expenditure at all government levels, it is reasonable to considered that in the not too distant future, it will become mandatory. To meet the requirement to be compliant, certified and auditable (in order to meet the 'transparency', 'accountability' and 'justifiability' expectations of your stakeholders, and to ensure continues financial support), the 'journey' must begin somewhere. Why not now?</p>	<p>Enviro-scape Master Planning Processing: David Cruikshank Reserve Presenter: City of Nedlands</p> <p>This operational strategic process combines hydro-zoning and Eco-zoning with Managed Aquifer Recharge and all ability access to redefine public open space. The process with extensive consultation with all affected parties future proofs City facilities to ensure they are best placed to perform during climate change and an ageing population.</p>

12:00pm
1:00pm

LUNCH

CONCURRENT SESSION FIVE

Theme	ASSET MANAGEMENT	STORMWATER & DRAINAGE
1:00pm 1:30pm	<p>Asset Management: How to Turn Your Passive Documentation into an Active System That Can Save You Money <i>Presenter: Henk de Graaf, Managing Director, Industrial Automation Group</i></p> <p>For most organisations asset management involves the valuation of a variety of assets spread across the many departments within a local government organisation. In addition, there may be a collation of documents related to these assets which provides a snapshot of the assets at that particular point in time.</p> <p>Unfortunately, more often than not, this activity has started with a lot of enthusiasm by one or two people in the organisation to be then left alone when "the job is done". The result is that the information collated is not being updated regularly and after a number of years the whole job needs to be done again, this time with very little enthusiasm.</p> <p>There is a cost-effective and simple alternative – System Information Modelling (SIM)</p> <p>Using object oriented technology, it is now possible to turn your asset information into a tool for end users and contractors to allow efficient management of your assets, with the emphasis on management. Object oriented technology refers to a System Information.</p> <p>The SIM based asset management solution provides: Low cost implementation and ownership; Simple but complete description of assets. i.e. What you own and how it works; Planning and recording tools for work on the asset; Change management and audit tools; Simple low-cost techniques to visualize asset information in applications like Google Earth, Maps, 3D models, photo based applications.</p>	<p>PC Sump Revisited: Model For Stormwater Infiltration Basins & Swales <i>Presenter: Jim Davies, Director / Principal Hydrologist, JDA Consultant Hydrologists</i></p> <p>PCSUMP is used for sizing of infiltration basins for stormwater runoff on roads, housing developments, commercial and industrial estates and is currently specified by Main Roads Western Australia for the design of soakage basins that serve their roads.</p> <p>A new Version 6 of PCSUMP is being developed by JDA following transfer of distribution rights from Coffey. The new version is prompted by the release in 2016 by Engineers Australia of "Australian Rainfall & Runoff: A Guide to Flood Estimation" which is referred to in the IPWEA (2016) Guidelines for Subdivision Development, as well as changing technology.</p> <p>The paper will describe major revisions to the model being completed by JDA including: Incorporation of Australian Rainfall & Runoff (ARR) 2016 new intensity frequency duration (IFD) data; Inclusion of ARR 2016 rainfall temporal patterns; Inclusion of ARR 2016 climate change impact on IFD; Inclusion of swales option upstream of infiltration basins.</p> <p>The paper will include a discussion on the importance of stormwater infiltration to the management of both small and large rainfall events in Western Australia and the importance of using appropriate modelling technologies. Specifically the paper will discuss the traditional methods embedded in previous versions of PCSUMP and the current methods highlighting the evolution of stormwater management over the years.</p>
1:30pm 2:00pm	<p>Maintaining Vegetated Stormwater Assets <i>Presenter: Shelley Shepherd, Director, Urbaqua</i></p> <p>Integrating water quality and quantity management into the urban landscape is the focus of Water Sensitive Urban Design (WSUD) and major components of WSUD are the assets that provide water quality treatment to stormwater. These WSUD assets provide multiple benefits to the community beyond the improvement of water quality, including reducing peak stormwater flows, increasing public amenity, creating habitat and biodiversity, and encouraging urban cooling through shading and evapotranspiration from vegetation.</p> <p>Regular inspections and scheduled maintenance is required to ensure WSUD assets perform their required functions effectively. It is noted that the cost of regular maintenance is generally substantially less than the cost of rectifying a failed asset. Implementation of a maintenance plan which helps to avoid the need for rectification of failed assets from a lack of maintenance will therefore lead to better financial, social and environmental outcomes for the community.</p> <p>This paper will present the findings of the Stormwater Infrastructure Improvement Project undertaken by Urbaqua for the City of Busselton. The project was supported by the South West Catchments Council through the Australian Government's National Landcare Program. It will provide an outline of the operation and maintenance needs of vegetated water sensitive urban design (WSUD) assets, highlighting opportunities for improved delivery.</p> <p>The paper will also explore solutions beyond the role of the asset manager. This includes building whole-of-agency commitment to the delivery of water sensitive urban design and integrating actions and responsibilities across all divisions of local government.</p>	<p>Spatially Varying Stormwater Soakage Calculator Development <i>Presenters: : Kanwal Singh, Principal Engineer, City of Subiaco and Nimal Gamage, GHD</i></p> <p>A new approach with 'Water Sensitive Urban Design' (WSUD) was developed in the late 1980s to describe the philosophy about total water cycle management in the context of urban landscape. These WSUD methods gained wide recognition in Australia since the late 1990's especially with the use constructed wetlands for water quality management, success achieved with urban ASR (aquifer storage and recovery), and acceptance of storm water-based urban water cycle management schemes using sustainability principles.</p> <p>However some of the residential areas developed prior to these urban design criteria's came into effect are facing storm water management issues with additional development pressures because of revised higher density zonings.</p> <p>This paper presents methods used to develop a spatially varying calculator to estimate on-site soakage requirement for the developers, builders and including property owners within the City of Subiaco. The processes involved replacing the conventional calculation method of using Excel spread sheets with spatially varying soil infiltration data using geographic information systems (GIS) and integrating it with information technology to present a web page to the customers as a user friendly calculator.</p>

Theme	ASSET MANAGEMENT	STORMWATER & DRAINAGE
2:00pm 2:30pm	<p>Ranford Pool Restoration: Delivering Outcomes with the Boddington Community <i>Presenter: Ross Perrigo, Senior Engineer, Urbaqua</i></p> <p>Ranford Pool on the Boddington River, Western Australia is located approximately 120 km south east of Perth. The pool is a perennial water body that is used by the community for recreation, particularly in the hotter summer months. Riverbanks in the vicinity of the pool were degraded, particularly from erosion associated with vehicle access and trampling. The aim of the project was to restore the riverbanks and ensure ongoing protection by formalizing access through landscaping treatments.</p> <p>River restoration is a resource and time intensive undertaking, requiring an intersection of engineering understanding and local knowledge. Owing to the significance of Ranford Pool to the local community, a framework for the restoration was prepared that relied on community involvement in both the design and on-ground works. With support from the Peel-Harvey Catchment Council (PHCC), funding was obtained by the Friends of Reserves Boddington (FORB). FORB and Urbaqua signed a memorandum of understanding in 2017 to deliver restoration designs. Rather than a standard consultancy approach, the MOU allowed for a community lead approach.</p> <p>The design process included consultation with the Shire and local community groups to understand the community goals for the site. The consultation revealed the significance of aboriginal heritage in the region which was acknowledged and incorporated into the works for the site.</p> <p>The restoration design undertaken by Urbaqua focused on soft-engineering with work capable of being delivered by volunteers. The restoration design includes fencing, replanting and installation of semi-formal paths to restrict access for vehicles and stabilized river banks.</p> <p>The work will be undertaken by volunteers in March 2018 on a community day organized by the Shire and PHCC. The project demonstrates an alternative delivery of restoration that can serve as a model for future projects.</p>	<p>Getting the most out of Urban Water Management Plans <i>Presenters: Mathew Tapscott, Senior Subdivision Engineer, City of Armadale & Carl Done, Shire of Serpentine Jarrahdale</i></p> <p>Urban Water Management Plans (UWMs) are the last station of the Water Management documentation train line before Civil works start. Formally a the detailed design step in the process, UWMs are often bloated with too much information already provided in the Local Water Management Strategy, and not nearly enough detail.</p> <p>This paper gives a perspective from a Local Government assessing UWMs, in addition to presenting some common mistakes and pitfalls of UWMs, why they matter to local Government and how to avoid them.</p> <p>Finally the paper will deliberate how water management planning can be better integrated into the WA planning system, and how Local Governments can step up to the challenge of Delivering WSUD.</p>
2:30pm 2:45pm	CONFERENCE WRAP	
	IPWEA State President	
2:45pm	CLOSE	
6:00pm 6:30pm	PRE-DINNER DRINKS	
6:30pm Midnight	GALA DINNER AND AWARD NIGHT	

Social Program

Networking

Wednesday 21 March 2018

Networking Drinks in the Exhibition Area
5.00pm – 6.00pm

Join us for drinks and refreshments in the Exhibition Area. See the products and services available in the industry from leading suppliers to our industry.

Thursday 22 March 2018

Networking Drinks in the Exhibition Area
5.00pm – 6.00pm

Poolside BBQ Networking Dinner
6.00pm – 9.00pm

After a long day of conferencing, you are invited to join us for a BBQ dinner.

Unwind and relax in the pool area with a drink and BBQ dinner. Take a dip in the pool or relax in the spa and catch up with your colleagues in an atmosphere designed for good yet relaxed networking opportunities.

Tickets for partners the BBQ dinner are available for purchase at \$82.50 per person (including GST).

Friday 23 March 2018

Pre-dinner Drinks
6.00pm – 6.30pm

Join us before the Gala Dinner for pre-dinner drinks and networking between 6.00pm and 6.30pm.

Gala Dinner
6.30pm – Midnight
Gala Dinner Attire: Formal

Put on your best outfit and your dancing shoes to join us for the annual Gala Dinner at 6.30pm.

Finish the Conference with this opportunity to catch up with colleagues and industry leaders over a delicious three course meal and drinks while listening to a range of beautiful background music.

The Awards Night to honour individuals within the industry will also be included as part of the Gala Dinner.

Once the formalities of the evening are over, be prepared to dance the night away.

The Gala Dinner is the perfect way to end the 2018 State Conference so be sure to book early so you don't miss out.

Tickets for partners the Gala dinner are available for purchase at \$165 per person (including GST).

IPWEA WA Engineering Excellence Awards

Awards will be presented during the gala dinner on Friday 23 March 2018 and can include:

THE FJ BRYANT OUTSTANDING SERVICE AWARD

This award recognises outstanding service to the Institute of Public Works Engineering (WA) on behalf of an individual or organisation.

THE GK WATTERS LOCAL GOVERNMENT ENGINEERING EXCELLENCE AWARD

This award recognises excellence in the design and construction of local government engineering projects and is one of the few opportunities local government engineering has to achieve peer recognition in Western Australia.

THE GEOFF DUTTON BEST PAPER AWARD

Awarded to the best conference paper presented at the annual conference. The paper is assessed on technical merit, contribution to the advancement of knowledge for IPWEA members and presentation.

THE SARKIS PETROSSIAN AWARD FOR INNOVATIVE PRACTICE IN TRAFFIC SAFETY MANAGEMENT

This award is to recognise the use of innovative practices in the field of traffic safety and management on behalf of an individual or organisation. Innovation and cost effectiveness are major determinants in the judging of this award.

General

Information

VENUE INFORMATION

The conference will be held in the Southern Cross Ballroom at The Esplanade Hotel Fremantle by Rydges on the corner of Marine Terrace and Essex Street, Fremantle. Plenary sessions will be held in the Orion Room of the Southern Cross Convention Centre. The Exhibition will be held in the Sirius and Pleiades Rooms.

REGISTRATION DESK

The registration desk will be serviced each day of the conference at the times shown in the program.

SPEAKER PREPARATION

All speakers are reminded to check through their presentations in advance of their time slot. Please check with the registration desk for room locations or technical assistance.

DRESS CODE

Smart casual is suggested for all conference sessions.
Formal attire is suggested for the Gala Dinner.

MESSAGES

A notice board will be in the registration area for messages to delegates. Urgent messages may be telephoned to the registration desk on 9432 4000, extension 510.

SMOKING POLICY

For the comfort and health of all attendees, The Esplanade Hotel Fremantle by Rydges is a non-smoking venue.

MOBILE TELEPHONES

As a courtesy to speakers, mobile telephones are to be turned off within the lecture rooms during all sessions.

NAME BADGES

Each attendee of the conference will be issued a name badge at registration. The badge is the official pass and must be worn at all times.

TAXIS

Swan Taxis 13 13 30

TRANSPORT

Trains depart from the Fremantle Station, a short walk from The Esplanade Hotel Fremantle by Rydges approximately every 15 minutes. Bus and timetable information can be obtained by telephoning 13 62 13

PARKING INFORMATION

Low cost parking is available at the Italian Club across the road from the hotel, and street parking is also available. Discounted parking is also available to conference delegates in the Colle Street Carpark immediately behind the hotel. Ask for a discount pass from the Concierge Desk.

ACCOMMODATION

Delegates will need to make accommodation bookings directly with the hotel over the phone as per the details below.

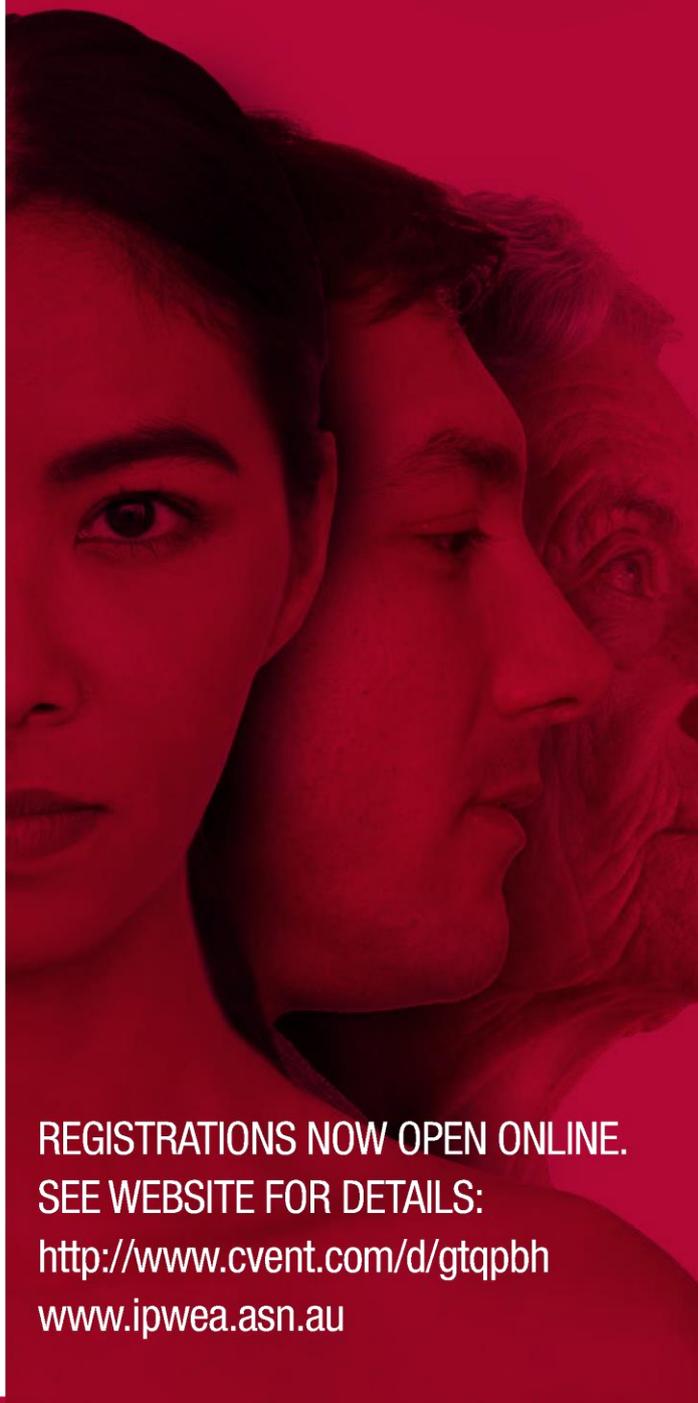
Please remember to mention that you will be attending the IPWEA 2018 State Conference so that you receive the **discounted accommodation rate**.

Please be aware that a credit card is required at the time of booking and will be debited for the accommodation.

BOOKINGS CAN BE MADE DIRECT WITH THE HOTEL BY:

Phone: (81) 9432 4000

Email: reservations_esplandefremantle@rydges.com



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<http://www.cvent.com/d/gtqpbh>
www.ipwea.asn.au

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THE FOLLOWING STANDS HAVE BEEN RESERVED FOR POSSIBLE MACHINERY EXHIBITIONS:

5/6; 7/8; 9/10; AND 11/12

Booth layout subject to change



For more information on any IPWEA events, please contact our Office & Events Manager via

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Western Australia



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Civil Works

Departmental Activity Report

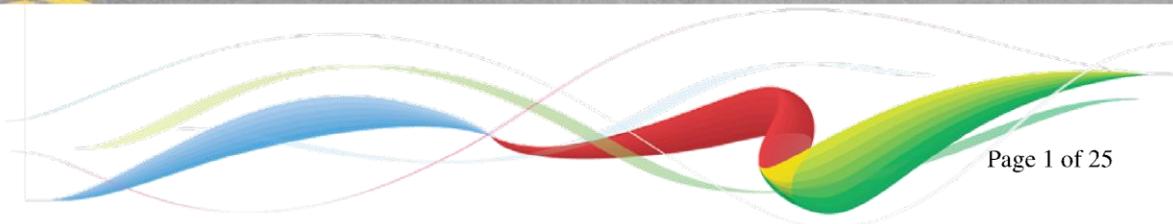


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1. INTRODUCTION

The intent of this report is to provide Council with detailed information regarding the services and outcomes delivered by the Civil Works Department.

1.1 REGULATORY FRAMEWORK

The Department is governed by the following acts and regulations:

- Local Government Act 1995
- Local Government (Administration) Regulations 1995
- Local Government (Financial Assistance) Act 1995
- Local Government (Functions and General) Regulations 1996
- Local Government (Rules of Conduct) Regulations 2007
- Dangerous Goods Safety Act 2004
- Dangerous Goods Safety (General) Regulations 2007
- Environment Protection and Biodiversity Conservation Act 1986
- Equal Opportunity Act 1984
- Freedom of Information Act 1992
- Occupational Safety and Health Act 1984
- Occupational Health and Safety Regulations 1996
- Planning and Development Act 2005
- Rights in Water and Irrigation Act 1914
- Wildlife Conservation Act 1950

Construction and maintenance work is guided by numerous technical specifications and Australian standards including (but not limited to) the following:

- Austroads Guide to Road Design – Series
- Austroads Guide to Pavement Technology – Series
- Austroads Guide to Bridge Technology – Part 7: Maintenance and Management of Existing Bridges
- Main Roads Supplement to Austroads Guide to Road Design Series
- Main Roads Specifications
- Main Roads Guidelines
- Main Roads Standard Drawings

- ISO 9001 Quality Management Systems
- AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines
- SA/SNZ HB 436:2013 Risk Management Guidelines – Companion to AS/NZS ISO 31000:2009
- AS/NZS 4801 Occupational Health and Safety Management Systems
- AS/NZS 4804 Occupational Health and Safety Management Systems – General Guidelines on Principles, Systems and Supporting Techniques

1.2 STRATEGIC IMPLICATIONS

The services delivered by the Civil Works Department serve to meet the Corporate Business Plan requirements as follows:

2.3 *Well Managed Infrastructure*

2.3.1 Apply best practice design and construction methodologies for the provision of infrastructure

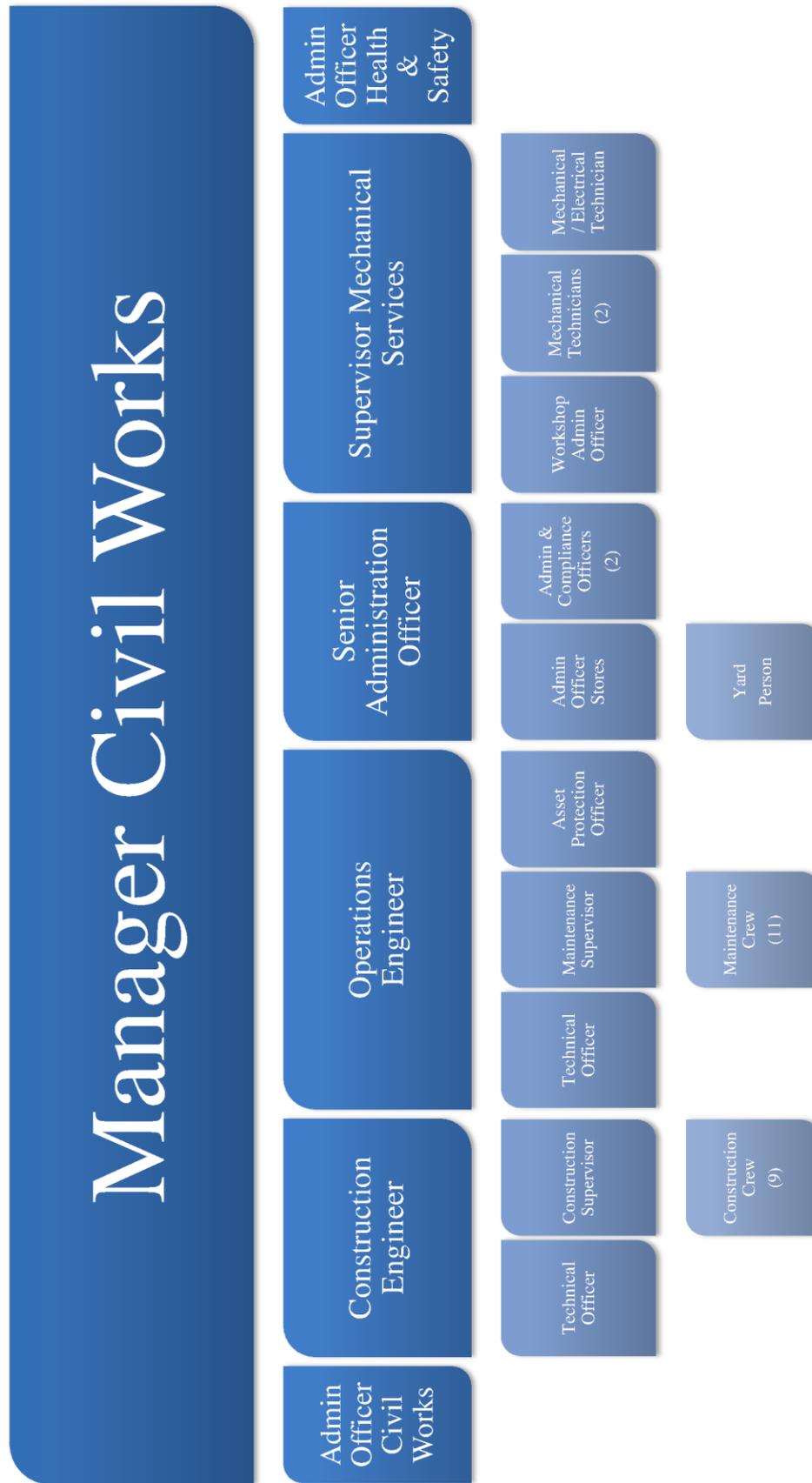
2.3.1.1 Implement a best practice project management approach to the planning and delivery of infrastructure

2.3.2 Ensure maintenance activities address required Levels of Service

2.3.2.1 Review best practice maintenance activities

2.3.2.2 Ensure balance is maintained between Levels of Service and affordability

1.3 ORGANISATIONAL STRUCTURE



2. OVERVIEW OF CIVIL WORKS FUNCTIONS

The Civil Works Department is based at the City's Owen Road Depot in Kelmscott and is responsible for the administration, regulation, maintenance and construction of roads, bridges, pathways, drainage and associated components, under the City's control. Additionally, the Manager Civil Works oversees the daily operations of the Depot and the Departments housed therein. The Department currently operates with 40 full-time employees, divided into four operational areas:

- Civil Works and Depot Administration
- Construction
- Maintenance
- Mechanical Services

2.1 CIVIL WORKS AND DEPOT ADMINISTRATION

The Administration team operates under the direction of the Manager Civil Works to facilitate the effective and efficient administration of Civil Works and Depot operations and is comprised of the following members:

- Manager Civil Works
 - Senior Administration Officer
 - Administration and Compliance Officers x 2
 - Administration Officer Stores
 - Yard Person
 - Administration Officer Civil Works
 - Administration Officer Health and Safety

2.1.1 ADMINISTRATION

- Provision of outstanding customer service and management of customer requests through the City's CRM module
- Management of inventory, stock control, receiving deliveries and issuing of PPE to field staff
- Issuing of tenders and RFQ's in line with Council Policy ADM 19 – Procurement of Goods and Services
- Administrative and OHS management of all Contractors
- Periodic statistical reporting to government bodies

2.1.2 OCCUPATIONAL HEALTH AND SAFETY

- Compliance with relevant health and safety legislation and others (i.e. dangerous goods)
- Development of qualitative risk assessments
- Develop, review and control JSA and SOP documents
- Undertake GAP analysis for documentation and training requirements
- Develop and construct training programs and associated documents for field staff

2.1.3 COMPLIANCE

- Processing of new crossover and crossover subsidy applications
- Processing of verge bond applications and refunding of verge bonds
- Protection of City assets

2.1.4 FINANCIAL MANAGEMENT

- Monitoring of the Civil Works Capital, Civil Works Operations and Depot Support budget (which incorporates the Mechanical Services budget)
- Submission of prefunding and interim claim applications for projects that qualify for the Northern Forrestdale Development Contribution Plan No. 3
- Monthly financial reporting to the Executive Director Technical Services

2.1.5 PROJECT MANAGEMENT

- Supporting the Construction team to successfully deliver the Capital Works Program on schedule and within budget.

2.1.6 SERVICE DELIVERY SUPPORT

- Supporting the Maintenance team to ensure that Levels of Service are met in line with City strategy and within budget.

2.1.7 DEPOT BUILDINGS AND GROUNDS

The Depot buildings and grounds are the operational hub of the City of Armadale and encompass an area of 44,725 m². The facility enables 110 employees from six different Departments to deliver vital services to our community each and every day.

DEPOT EMPLOYEES BY DEPARTMENT	
Civil Works	40
Parks Operations	38
Property Services	19
Waste Services	9
Human Resources	3
Ranger Services	1
TOTAL	110

2.1.7.1 ADMINISTRATION BUILDING

- Visitor reception area
- Open plan office space
- Meeting and training rooms
- Corporate library
- Kitchen

2.1.7.2 STORES

- Centre of inventory control operations
- Receives all Depot deliveries
- Storage and issue of PPE and other safety equipment
- Storage of stationary, office and cleaning supplies

2.1.7.3 AMENITIES BLOCK

- Lunch room with kitchen facilities
- Disability accessible toilet and shower/locker room
- Male and female toilets

2.1.7.4 WORKSHOP

- Visitor reception area
- Office space
- Lunch room with kitchen facilities
- Underground fuel tanks (diesel and ULP) servicing the Citywide fleet
- Mechanical workshop equipped to service small plant and equipment through to light vehicles and heavy plant
- Welding station
- Wash down bay

2.1.7.5 ANIMAL MANAGEMENT FACILITY

- Office
- Animal pound
- Incinerator

2.1.7.6 PLANT NURSERY AND GREENHOUSE

- Nursery with a capacity to store up to 700 trees, tube stock and pot plants in a variety of sizes housing Urban Forest tree stock, Natural Areas stock and general plant stock

2.1.7.7 BUILDINGS AND WORKSHOPS

- Communications shed housing ICT infrastructure
- Leased premises to SES as local headquarters
- “George’s” shed for the storage of construction and maintenance materials, vehicles and signage
- Archive building for the storage of City records
- Paint, chemical and hazardous substance/dangerous goods storage shed
- Carpenters workshop and storage shed
- Parks machinery shed for the housing of tractors and spraying vehicle as well as fertiliser storage
- “A” shed for the storage of cylinder mowers, herbicides and wetting agents
- Landcare shed providing storage for Natural Areas and Armadale Gosnells Landcare Group
- “Bob’s” shed for the fabrication of specialised carpentry work, metal fabrication and storage of tools
- Parks maintenance shed housing materials for capital projects
- Parks pipe shed for the storage of irrigation parts and materials
- Parks storage shed for general storage
- History House storage shed providing storage space leased to external entity
- Events shed for the storage of events equipment and promotional materials for Community Services

2.1.7.8 DEPOT GROUNDS

The Depot grounds are used to store a wide range of construction, drainage and landscaping materials.

- Road base 400 ton
- Crushed limestone 400 ton
- Fill sand 400 ton
- Gravel 250 ton
- White sand 50 ton
- Brickies sand 50 ton
- Natural mulch 150 m3
- Green waste 150 m3
- Top dressing soil 75 m3
- Organic fertiliser 75 m3
- Pine bark mulch 75 m3
- Organic soil improver 75 m3
- Manhole covers and bases
- Concrete pipes, soak wells and well liners
- Side entry frames and lids
- Kerb adaptors (barrier and mountable)

2.2 CONSTRUCTION

The Construction team is responsible for the delivery of capital works projects and activities in accordance with the Capital Works Program and is comprised of the following members:

- Manager Civil Works
 - Construction Engineer
 - Technical Officer
 - Construction Supervisor
 - Construction Crew x 9

Many of the projects undertaken in recent years have been key infrastructure projects designed to improve the City's road infrastructure asset and increase local access and safety outcomes. The size and scope of projects can range greatly, from the construction of a small car park to a significant dual lane road pavement upgrade on a high capacity District Distributor road.

Capital projects delivered by the construction team include:

- Roads
- Drainage
- Roundabouts
- Intersections
- Street lighting
- Car parks
- Kerbing
- Bridges and culverts
- Footpaths, cycle paths and pathways
- Bus shelters and street furniture
- Pedestrian access ways
- Cul-de-sacs

Projects are classified into one of three categories:

1. **NEW** – creation of a new asset that did not previously exist.
2. **RENEWAL** – restoration or rehabilitation of an existing asset to its original service potential.
3. **UPGRADE** – works which improve an asset beyond its existing capacity.

2.2.1 NICHOLSON ROAD UPGRADE

The section of Nicholson Road in Piara Waters from Piara Drive through to the intersection with Armadale Road was upgraded from single lanes to a dual carriageway and included:

- Construction of an eastern and western carriageway including drainage crossings,
- Construction of a central drainage line, and
- Construction of two new roundabouts

The project cost \$5.25 million and was fully funded by the Northern Forrestdale Development Contribution Plan No 3.

2.2.2 BALANNUP DRAIN REALIGNMENT

The Northern Forrestdale Development Contribution Plan No 3 funded the \$1.3 million project that saw the team construct a new 580 metre swale drain between Balannup Road and Skeet Road in Harrisdale including box culvert crossings underneath Balannup Road and Skeet Road.

2.2.3 BALANNUP ROAD, REILLY ROAD AND GRACEFIELD BOULEVARD ROUNDABOUT

The project required the upgrade of the intersection, new roundabout construction, drainage construction including a gross pollutant trap, kerbing and concrete footpath installation.

2.2.4 RIVER ROAD STREETSCAPES UPGRADE

The upgrade to River Road saw the road widened and resurfaced installation of median islands and pedestrian crossings, construction of new footpaths and upgrades to stormwater drainage.

2.2.5 WESTFIELD ROAD STREETSCAPES UPGRADE

The upgrade to Westfield Road saw the road resurfaced, installation of median islands and pedestrian crossings, new footpaths and kerbing, as well as upgraded street parking.

2.3 MAINTENANCE

The Maintenance team is responsible for maintaining the City's infrastructure assets in accordance with the Maintenance Levels of Service document, details of which are outlined below. The team is made up of the following members:

- Manager Civil Works
 - Operations Engineer
 - Technical Officer
 - Asset Protection Officer
 - Maintenance Supervisor
 - Maintenance Crew x 11

2.3.1 ROAD SURFACING AND PAVEMENT

The City's road inventory is made up of 1,852 roads with a network length totalling 756 km – a distance further than Perth to Esperance. This consists of 140 km of high-risk roads and 616 km of low-risk roads.

High-risk roads provide a high degree of connectivity to Primary and/or other Distributor roads. Their predominant purposes are:

- High capacity traffic movements between industrial, commercial and residential areas (8,000+ vpd)
- Reduced capacity but high traffic volumes travelling between industrial, commercial and residential areas (6,000+ vpd)
- Roads linking significant destinations and designed for efficient movement of people and goods between and within regions (100+ vpd)

High-risk roads include Nicholson Road, Lake Road, Railway Avenue, Streich Avenue, Champion Drive, Westfield Road and Croyden Road.

Low-risk roads provide a medium to low degree of connectivity. Their main purposes being:

- The movement of traffic within local areas and the connection of access roads to higher order distributor roads (max 6,000 vpd)
- The provision of vehicle access to properties (max 3,000 vpd)

Low-risk roads include Braemore Street, Third Avenue, Strawberry Drive, Commerce Avenue, Fifth Road and Hobbs Drive.

The City conducts scheduled and reactive inspections, road sweeping, crack sealing, patching, edge repairs, grading and obstruction removal.

2.3.2 ROAD SHOULDERS AND VERGES

The City maintains a length of gravel road shoulders and verges totalling 273 km. Maintenance activities include visual inspections, grading, vegetation, litter and material control.

2.3.3 ROUNDABOUTS

The City conducts maintenance on 133 roundabouts including safety and maintenance inspections, run over area repairs and kerbing repairs.

2.3.4 KERBING

The City maintains kerbing with a length totalling 1,168.8 km, approximately the distance from Perth to Newman. Safety and maintenance inspections are conducted in addition to operational and reactive inspections to identify repair requirements.

2.3.5 STORMWATER DRAINAGE

The City's stormwater drainage network is made up of:

- 27,278 pipes equalling 739.2 km of piping
- 23,614 drainage pits
- 12,283 manholes
- 251 culverts
- 209 compensating/retention basins
- 124 open drains and swales
- 67 gross pollutant traps
- 57 drainage infiltration chambers

The City carries out pipe educting and repairs, repairs to fencing, pitching and walls, vegetation control, silt removal, scour control, pit educting and pit lid repairs.

2.3.6 BRIDGES AND CULVERTS

In order to keep 20 bridges and 32 major culverts well maintained, the City carries out structure repairs and maintenance such as bolt tightening, termite treatment, vegetation control and reactive patching.

2.3.7 BUS SHELTERS

The City has a bus shelter maintenance program to keep the 116 bus shelters within the City in a safe and useable condition. The team works to maintain and repair structures, signage and seating.

2.3.8 CAR PARKS

In relation to car parks, the team maintains 69 car parks of varying sizes around the City through a combination of sweeping, vegetation control and repairs to asphalt, paving and lighting.

2.3.9 PATHS

The City has constructed and continues to maintain 1,018 km of mainly concrete pathways by conducting planned path sweeping, graffiti removal, vegetation control and repairs to concrete, asphalt and paving.

2.3.10 TACTILE PAVING AND GRAB RAILS

Tactile paving is a ground surface indicator, designed to give warning of hazards, and directional information to pedestrians who are visually impaired. Grab rails are a short tubular railing that is used to indicate the presence of a kerb crossover. These ensure that City infrastructure best meets the needs of all road and pathway users.

The City has tactile indicators installed at 700 locations within the City, primarily around high volume pedestrian areas (e.g. shopping malls), kerb ramps, mid-block crossing points and bus shelters.

2.3.11 MALLS

The high volume of pedestrian traffic in the Armadale CBD requires the City to provide higher levels of service consisting of frequent path sweeping and debris removal to ensure hygiene and cleanliness, path surface, paving and street lighting repairs, ongoing inspections and infrastructure maintenance.

The City also controls access to the mall and adjacent parking facilities and coordinates activities within the mall.

2.3.12 PEDESTRIAN ACCESS WAYS

A pedestrian access way (PAW) is usually a narrow strip of land that provides cycle and pedestrian accessibility both within neighbourhoods and to local and district facilities, including public transport, schools, shops, parks and community facilities. PAWs may also contain essential utility services such as gas, electricity, telephone and water as well as drainage infrastructure.

The City currently maintains PAWs at 234 locations through measures including vegetation control, pest control, graffiti removal, path sweeping and lighting repairs

2.3.13 SIGNAGE

The City has a total inventory of 2,960 advisory, parking and school signs. The City conducts inventory and condition inspections, cleaning, graffiti control and repairs.

2.4 MECHANICAL SERVICES

The Mechanical Services team is based at the Depot Workshop and is responsible for maintaining the entire citywide fleet of vehicles, plant and equipment in addition to providing 7 day back up for all City vehicles. An emergency call out procedure is in place 365 days of the year.

The Workshop carries out an essential and fundamental function within our organisation as they provide services which facilitate the delivery of outcomes across all City directorates. Additionally, they enable external government agencies such as the State Emergency Services to provide critical aid to the community following emergency situations and natural disasters.

LIGHT VEHICLES BY DIRECTORATE

Technical Services	61
Community Services	25
Development Services	22
Chief Executive's Office	9
Corporate Services	4

LIGHT VEHICLES – EXTERNAL

State Emergency Services (SES)	8
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The Mechanical Services team is comprised of the following members:

- Manager Civil Works
 - Supervisor Mechanical Services
 - Workshop Administration Officer
 - Mechanical Technicians x 2
 - Mechanical and Electrical Technician

2.4.1 VEHICLE, PLANT AND EQUIPMENT INVENTORY

LIGHT VEHICLES	121
Sedan, Hatch and Wagon	58
Ute, Van and 4X4	63
HEAVY PLANT	59
Trucks	19
Mowers	9
Waste Collection Vehicles	8
Tip Trucks	8
Rollers	4
Loaders	3
Tractors	3
Road Sweeper	1
Skid Steer Loader	1
Backhoe	1
Water Cart	1
Landfill Compactor	1
SES VEHICLES	8
Sedan, Hatch and Wagon	6
Ute, Van and 4X4	2
PLANT AND EQUIPMENT	300
Small Plant and Equipment	256
Trailers	26
Minor Plant	18

2.4.2 TYRES AND SERVICING

Annually, the Mechanical Services Team completes approximately:

- Plant and Vehicle Services 1,080
- Tyre Changes 220

2.4.3 FUEL AND OIL

Annual fuel and oil consumption is approximately:

- Diesel 437,000 L
- ULP 82,000 L
- Motor Oil 8,500 L

3. FINANCIAL MANAGEMENT

3.1 EXPENSE BUDGET (ADOPTED)

2017/18 Financial Year

Civil Works - Capital Expense	\$	18,620,100
Civil Works - Operating Expense	\$	4,903,750
Depot Support – Expense	\$	3,519,910
Total	\$	27,043,760

2016/17 Financial Year

Civil Works - Capital Expense	\$	24,106,715
Civil Works - Operating Expense	\$	4,425,600
Depot Support – Expense	\$	3,697,300
Total	\$	32,229,615

2015/16 Financial Year

Civil Works - Capital Expense	\$	19,056,600
Civil Works - Operating Expense	\$	4,150,948
Depot Support - Expense	\$	3,649,500
Total	\$	26,857,048

3 Year Average

Civil Works - Capital Expense	\$	20,594,472
Civil Works - Operating Expense	\$	4,493,433
Depot Support - Expense	\$	3,622,237
Total	\$	28,710,142

3.1.1 ITEMS FOR CARRY FORWARD (CAPITAL EXPENSE)

Each year, despite the best endeavours of the Department, works are unable to be completed within the timeframe of the Annual Budget. When this occurs, an amount may be carried forward from one Financial Year into the next year when the works will be completed. This treatment also applies to revenue (see 3.2.1, page 22).

2017/18 Financial Year

<i>Civil Works – Capital Expense</i>		
Roads	\$	3,180,240
Drainage	\$	584,150
Pathways	\$	806,150
Total	\$	4,570,540

3.2 REVENUE BUDGET (ADOPTED)

2017/18 Financial Year

<i>Civil Works - Operating Revenue</i>	
Grants / Contributions	\$ (594,600)
Capital Funding	\$ (11,289,630)
Fees and Charges	\$ (337,200)
Total Budget	\$ (12,221,430)

2016/17 Financial Year

<i>Civil Works - Operating Revenue</i>	
Grants / Contributions	\$ (1,238,000)
Capital Funding	\$ (15,940,535)
Fees and Charges	\$ (107,200)
Total Budget	\$ (17,285,735)

2015/16 Financial Year

<i>Civil Works - Operating Revenue</i>	
Grants / Contributions	\$ (679,171)
Capital Funding	\$ (13,532,068)
Fees and Charges	\$ (107,200)
Total Budget	\$ (14,318,439)

3 Year Average

<i>Civil Works - Operating Revenue</i>	
Grants / Contributions	\$ (837,257)
Capital Funding	\$ (13,527,411)
Fees and Charges	\$ (183,867)
Total Budget	\$ (14,548,535)

3.2.1 ITEMS FOR CARRY FORWARD (CAPITAL FUNDING)

2017/18 Financial Year

<i>Civil Works - Operating Revenue</i>	
Capital Funding	\$ (1,459,510)
Total Budget	\$ (1,459,510)

3.3 REVENUE SOURCES

To facilitate the delivery of the annual Civil Works Capital Works Program, the Department receives a contribution of approximately \$2,300,000 in municipal funding. The remainder of the funding is sourced through a variety of grant programs and contribution plans including (but not limited to) the following:

3.3.1 ROADS TO RECOVERY (R2R)

The R2R Program supports the maintenance of the nation's local road infrastructure asset which facilitates greater access for Australians and improved safety, economic and social outcomes.

• 2017/18 Financial Year	\$1,171,995
• 2016/17 Financial Year	\$1,388,072
• 2015/16 Financial Year	\$1,696,752

3.3.2 LOCAL GOVERNMENT FINANCIAL ASSISTANCE GRANTS

Direct funding to local councils is distributed according a formula based on population and road length. Each council's allocation is fixed for the life of the program and the grants are untied, allowing councils to spend the grants according to local priorities.

• 2017/18 Financial Year	\$ 175,417
• 2016/17 Financial Year	\$ 297,323
• 2015/16 Financial Year	\$ 216,300

3.3.3 BLACK SPOT PROGRAM (FEDERAL AND STATE)

Black Spot Programs directly target improvements to the safety of roads with proven crash history or high-risk locations. Funding for the program is mainly focused on cost-effective treatment of hazardous road locations. The Black Spot Program makes an important contribution in reducing the national road toll under the National Road Safety Strategy and Action Plan 2015-2017.

The Australian Government is providing \$60 million per year from the 2021/22 financial year onwards. The current investment from the 2013/14 to 2020/21 financial year is \$684.5 million.

• 2017/18 Financial Year	\$ 716,184
• 2016/17 Financial Year	\$1,233,592
• 2015/16 Financial Year	\$1,453,356

3.3.4 DCS CONTRIBUTIONS

The City's North Forrestdale Development Contribution Plan No. 3 (DCP No. 3), adopted under Town Planning Scheme No. 4, is a comprehensive model for the equitable management and provision of a wide range of common infrastructure required to facilitate the urban development of Harrisdale and Piara Waters.

This includes standard infrastructure provisions such as roads and drainage, and broader infrastructure items such as multi-use community/sporting facilities and urban water management initiatives.

• 2017/18 Financial Year	\$3,839,980
• 2016/17 Financial Year	\$5,091,061
• 2015/16 Financial Year	\$2,037,093

3.3.5 GRANTS COMMISSION AND LOCAL GOVERNMENT ROAD FUND GRANTS (INCLUDING MRRG / MRWA / MRA)

The State Road Funds to Local Government Agreement is a formal agreement between the State Government of Western Australia and the Western Australian Local Government Association.

The Agreement is intended to ensure that funds available from State Government sources for local roads are allocated to the areas of greatest need where they will provide maximum benefit to all road users and the Western Australian community.

Under the provisions of the Agreement, the State Government has pledged \$194.2 million in funding for local roads in the 2017/18 financial year.

Funding is also provided for approved Road Rehabilitation Projects and Road Improvement Projects.

• 2017/18 Financial Year	\$4,936,331
• 2016/17 Financial Year	\$2,001,420
• 2015/16 Financial Year	\$1,436,253

4. CONCLUSION

This report has provided a comprehensive overview of the services provided by the Civil Works Department within the Technical Services Directorate. The Civil Works Department is providing valuable services to the Directorate to assist in achieving key strategic outcomes, providing a high level of service to both internal and external customers.

5. RECOMMENDATION

That Council note the contents of this report.