

Specification for Crossover Construction



A crossover is the driveway from the edge of the road surface to the boundary of the property. A Lot Owner wanting to construct a crossover must submit an application and ensure that the crossover is constructed according to the following specifications.

The Lot Owner may seek a contribution from the City towards the cost of the crossover in certain circumstances.

1. APPLICATION FOR CROSSOVER

In accordance to Schedule 9.1, Clause 7 of the Local Government Act 1995 and Regulation 12, 13 and 15 of the Local Government (Uniform Local Provisions) Regulations 1996, an application to the Local Government must be made by the landowners to request approval to construct a crossover. No crossover works shall start until a Crossover Application has been approved by the City. The Crossover Application consists of:

1. A Crossover Application Form
2. A scaled site plan, showing:
 - a. The overall lot, all trees and vegetation, access ways, buildings, and any existing crossover position(s).
 - b. The proposed new crossover with dimensions
 - c. Minimum spacing of three metres from the outside of any existing tree to the crossover
 - d. Demonstration that the new crossover will not impact trees and vegetation and will not impact tree roots within the tree's protection zone.
 - e. How trees will be protected during the works in accordance with AS 4970 Protection of Trees on Development Sites.
 - f. Any drainage infrastructure, location, types, culvert crossing length, and dimensions
 - g. Need to relocate drainage infrastructure where applicable.

An application fee may be charged to crossover applications to cover the City's costs in lodgement of the application, assessment of the application and inspections. The fee is classified as a "service fee" set under section 6.16 of the Local Government Act 1995 and may be adopted through the City's Budget process in future.

Submit the Crossover Application Form and Site Plan to the City's Asset Services team on enquiries@kalamunda.wa.gov.au, or by post to PO Box 42, Kalamunda WA 6926.

2. APPROVAL BY OTHER STATUTORY AUTHORITY

Where a crossover connects a property with Primary Regional Road (known as "red" roads) and Other Regional Road (known as "blue" roads) as defined by the Metropolitan Region Plan, approval for the crossover shall be sought from Western Australia Planning Commission (WAPC) through the Department of Planning in conjunction with the City of Kalamunda to issue joint approval for the crossover.

3. EXISTING CROSSOVERS

In accordance with Local Government Act 1995, maintenance of the existing crossover is the sole responsibility of the adjacent property owner to ensure it remains in a safe and trafficable condition once constructed.

No contributions are available to repair or reconstruct crossovers.

4. CROSSOVERS FOR DEVELOPMENT APPLICATIONS AND SUBDIVISIONS

Crossovers that are being constructed as part of a development application or subdivision are to be constructed to the following minimum standard:

(The number in brackets [x] is the Type of treatment, for internal reference)

Lot type	Title type	Subdivision	Development
Residential Urban	Green title (no common access, no battleaxe)	[4] Lot access to road, no formation required	[1] Access way fully sealed and drained, full crossover of Asphalt, Concrete, or Brick/Paver.
Residential Urban	Green title, common access	[1] Access way fully sealed and drained, full crossover of Asphalt, Concrete, or Brick/Paver.	[1] Access way fully sealed and drained, full crossover of Asphalt, Concrete, or Brick/Paver.
Residential Urban	Green title, battleaxe subdivision	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.	Usually no DA applies. Type [1] recommended with building application.
Residential Urban	Strata subdivision	[1] Access way fully sealed and drained, full crossover of Asphalt, Concrete, or Brick/Paver.	[1] Access way fully sealed and drained, full crossover of Asphalt, Concrete, or Brick/Paver.
Residential Rural and Semi-Rural	Green title (no common access, no battleaxe)	[4] Lot access to road, no formation required	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.
Residential Rural and Semi-Rural	Green title, common access	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.
Residential Rural and Semi-Rural	Green title, battleaxe	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.	Usually no DA applies. Type [1] recommended with building application.
Residential Rural and Semi-Rural	Strata subdivision	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.	[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.
Commercial Urban	Any title type		[1] Access way fully sealed and drained, full crossover of Asphalt, Concrete, or Brick/Paver.

Commercial Rural and Semi-Rural	Any title type		[2] Access way trafficable and drained, full crossover of Asphalt, Concrete, Brick/Paver, or Chip seal.
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The term “trafficable” requires that the construction process outlined below has been completed up to and including the base course, as a minimum. The access way or crossover therefore has a compacted base course surface for vehicles to use until a finished surface is provided from the development.

The term “drained” means that stormwater drainage is effectively managed through the use of v-drains, swales, soakwells, detention basins and similar, designed to meet the required Average Rainfall Intensity (ARI) levels.

Outstanding crossover works can not be bonded for subdivisions or building applications. The minimum standard must be completed prior to clearance.

Outstanding crossover works may be bonded for development applications. In determining the value of the outstanding works the minimum standards are to be applied.

5. CROSSOVERS FOR COMMON ACCESS WAYS AND STRATA

For the purpose of access rights and maintenance responsibilities:

1. A crossover serves as a common access way where it leads to a common access way within private lots.
2. A crossover serves a strata function where it leads to a strata plan lot.

Regardless of whether a crossover serves for common access, strata, or single lot access, the dimensions must comply with these specifications.

Crossovers that have been or are constructed adjacent to each other are not considered to be “shared”. Where the side splay (wing) of the crossovers overlap, lot owners are to provide fair and free access as would be provided had the crossovers not overlapped.

In the event that a crossover is being used by two separate lot owners, the owners must make arrangements between themselves for independent access should they require it.

6. PROTECTION OF VEGETATION

It is an offence to remove or damage the City’s property and unauthorised street tree removal or pruning may result in prosecution under regulation 5 of the of the Local Government (Uniform Local Provisions) Regulations 1996. Refer to www.kalamunda.wa.gov.au and:

- C-AS-06 Street Tree and Streetscape Policy
- CM-AS-03 Street Tree Preservation – Management Procedure

Trees and other vegetation within the road verge must be identified on the relevant development application, building licence application or Crossover Application. The Lot Owner must demonstrate how they will ensure the retention and protection of verge vegetation.

It is prohibited to clear naturally occurring vegetation. In some circumstances a clearing permit may be obtained from the Department of Water and Environmental Regulation (DWER) under the Clearing Regulations of Part V of the Environmental Protection Act (WA) 1986, or the clearing may

be of a kind exempt in accordance with Schedule 6 of the Environmental Protection Act 1986 or Regulation 5 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

No work shall proceed involving removal of vegetation until written authority to do so is provided by the City. The Lot Owner must make every effort to seek alternatives that will not involve the removal of vegetation, and must demonstrate in their application that no alternative is available. Subject to receiving the written authorisation for removal of vegetation, the Lot Owner will pay all costs associated with the removal of vegetation.

The City relies on the Lot Owner to maintain their verge neat and free of hazards. Refer to www.kalamunda.wa.gov.au and:

- CM-AS -04 Streetscape Planting – Management Procedure
- CM- AS-05 Verge Development – Management Procedure
- CM-AS-06 Roadside Fire Mitigation – Management Procedure

7. DRAINAGE

As the crossover is located in the road verge, stormwater drainage from rain falling on the crossover and verge may flow onto the road or be channelled to existing drainage infrastructure. Drainage from within the lot boundary must be managed and detained to 100 year Average Rainfall Intensity (ARI) critical duration events. Discharge of stormwater is to be limited to pre-development flow calculated at five year ARI critical duration, and must be distributed and not a point discharge. This means that rain or overland flow that comes along or over the lot access way must be intercepted. It must not be allowed to run straight onto the crossover or verge.

Where the crossover crosses a swale or v-drain in the road reserve, pipes of class 2 or 4 RCP and headwalls may be provided and installed by the City to protect the drainage function, at the cost of the City. The pipes may require a cover of clean fill (installed by the City), and the lot owner will need to ensure the final grades of the crossover are designed to be higher than the resulting pipe and fill material.

Lot owners should consider the location of existing drainage infrastructure when designing and locating the crossover. Where the crossover impacts on drainage infrastructure other than a new v-drain crossing, the lot owner will be responsible for arranging for adjustments by the City and paying for costs incurred by the City.

8. UTILITY SERVICES AND PUBLIC TRANSPORT

Where the crossover impacts on utility services or public transport infrastructure, the lot owner will be responsible for arranging for adjustments by the relevant authority, and paying for costs incurred by the authority.

Contact Dial Before You Dig by calling 1100 or registering on <http://www.1100.com.au>, before starting any excavation. This service will advise of potential utility services in the ground including electricity and gas. Follow the instructions received from the service providers.

9. POSITION, LEVELS AND DIMENSIONS

Crossovers shall be designed and constructed in accordance with the City's Engineering Standard Drawings. These are available at <http://www.kalamunda.wa.gov.au/Services/Engineering-Services/Documents>

Crossover locations, grades and positions are to comply with AS 2890: 2004 Parking Facilities, and with the WALGA Guidelines and Specifications for Residential Crossovers (WALGA, 2017), in particular sections: 3.3.1 Prohibited locations, 3.3.2. Sightlines to path users, 3.3.3 Distance to obstructions, 3.3.4 Sight distance to roadway traffic, and 4.1.4 Grades and levels.

For residential properties, crossover width shall be as follows:

- A minimum of 3m for all developments widening to a minimum of 6m at the road edge by the addition of two equal 1.5m x 1.5m wings.
- A maximum of 3m for lots with a frontage of 12.5m or less, except where the R-codes allows the construction of a double garage, in which case a maximum width of 4.5m applies.
- A maximum width of 6.0m for lots with a frontage in excess of 12.5m
- In regards to battle-axe developments; for a single battle-axe lot, the minimum driveway width is 3.0m (with provision of 0.5m garden bed for services) whereas for adjoining battle-axe lots, the combined driveway width shall be 6m.

Standard crossings shall be aligned at 90 degrees to the road. Crossovers should be positioned in approved locations, and such that vehicles exiting the crossover have unobstructed sightlines for pedestrians and road traffic.

In special circumstances where the standard wing width cannot be achieved, an absolute minimum of 1.0m may be adopted.

Primary Crossover

Wider connections to the road, such as for high speed road environments, are subject to demonstrated need and require approval by the City.

For commercial properties, the width of the crossover at the property boundary should be between 5 metres and 11 metres wide. Commercial crossovers must be positioned at least 1.5 metres from any side boundary.

Commercial crossovers should not be joined to or shared with residential crossovers.

Secondary Crossover

A second crossover is permitted when all of the following conditions are met:

- The lot boundary facing the road is over 20 metres wide. For corner lots, the width can include both sides that face the road(s).
- All other requirements for the crossover are met as defined in the specification, including:
 - All crossovers are located a minimum of 6.0 metres from the tangent point of the intersection.
 - There is no impact to trees and naturally occurring vegetation.

Should a culvert be required for the secondary crossover, the construction and cost will be the responsibility of the lot owner.

The Total combined width of primary and secondary crossover shall not be wider than 9m at the property boundary and 15m at the road kerb as per the Residential Design Codes of Western Australia.

Footpaths

Constructed paths have priority through crossovers, and the new crossover is to meet flush with the path and not replace or cover it. If the existing path is in poor condition it may be replaced to City standard dimensions, at the approval of the City.

10.CONSTRUCTION

Only the following materials may be used in the construction of a crossover's sealed surface:

- Asphalt,
- Concrete,
- New bricks or block paving,
- Cleaned recycled bricks or block paving, and
- Two-coat chip seal.

Excavation

Contact Dial Before You Dig by calling 1100 or registering on <http://www.1100.com.au>, before starting any excavation. This service will advise of potential utility services in the ground including electricity and gas. Follow the instructions received from the service providers.

The excavation, also known as box-out, should remove unsuitable materials from the crossover area and reveal the subgrade to the required construction levels. Roots should be cleanly cut and not ripped. Vegetation is not to be removed unless approval has been provided as outlined in "Protection of Vegetation".

The crossover should be constructed to meet and use existing mountable kerb (MK). Barrier kerb (BK) and semi-mountable kerb (SMK) must be removed and replaced with the crossover. Refer to the City's Engineering Standard Drawings for dimensions.

Subgrade

The subgrade is the material at the base of the excavation. This material should be compacted before placing the base course layer. The desired compaction level is 95% MDD. If the subgrade material contains a lot of clays or organic materials, the applicant should consider excavating further and constructing a thicker base course to support the crossover.

Base Course

The base course (the layer on the subgrade that supports the surfacing or kerb) is to be a minimum 150mm depth of material compacted to 95% MDD. The base course material is to consist of good quality, laterite gravel, crushed limestone or crushed rock road base, free of organic matter and free of lumps of clay. The material shall not contain excessive quantities of pyrites or foreign material.

If a kerb is to be installed, the kerb will require a base course layer under it.

For more detail on the ideal material properties and construction standards refer to the IPWEA *Local Government Guidelines for Subdivisional Development* available at <https://www.planning.wa.gov.au/publications/6439.aspx>

Asphalt Surfacing

Construct the asphalt surface on the compacted base course. A tack coat may be needed. The asphalt surfacing is to consist of a minimum of 25mm thick of asphaltic concrete.

If recycled asphalt is desired, it must include fresh binder to ensure the material binds.

Constructed paths have priority through crossovers, and the new asphalt surfacing is to meet flush with the path and not replace or cover it. If the existing path is in poor condition it may be replaced to City standard dimensions, at the cost of the lot owner, and at the approval of the City.

Concrete Surfacing

Construct the concrete surface on either the base course layer or suitably compacted and prepared subgrade. The concrete shall have a minimum thickness of 100mm and compressive strength of 32MPa. Commercial crossings shall be a minimum of 150mm thick reinforced with F62 mesh or equivalent, with concrete compressive strength minimum 32MPa.

The concrete crossing is to be ruled with a jointing tool in approximately 1.8 to 2.0 metre sections. Concrete may be trowelled, broomed, coloured, stamped, or otherwise treated provided the surface is non-slip and does not create trip hazards.

Two expansion joints are required as a minimum, one at the property boundary and another between the road kerb and the crossover.

Constructed paths have priority through crossovers. The new concrete crossover must clearly delineate the constructed path through the crossover by means of colour variation or jointing. The crossover must be flush with the path. If the existing path is in poor condition it may be replaced to City standard dimensions, at the cost of the lot owner, and at the approval of the City.

Brick or Paver Surfacing

Construct brick or paver surfacing on the compacted base course. Sand may be used to aid paving levels. Provide haunching around the edges to support the edge of the surfacing. The minimum depth of haunching is 100mm extending 200mm under the header course of paving. Paving blocks or bricks are to be designed for the purpose of carrying vehicular traffic.

Where bricks or pavers are used as an edge feature (header) to any crossover, the header must be haunched.

Constructed paths have priority through crossovers, and the new brick or paver surfacing is to meet flush with the path and not replace it. If the existing path is in poor condition it may be replaced to City standard dimensions, at the cost of the lot owner, and at the approval of the City.

Two-coat Chip Seal

Construct a two-coat chip seal on the compacted base course. Use materials suited to road surfacing.

Ensure loose chip is prevented from spreading on the road and paths, and regularly clean loose chip and dispose it.

Edging

Edging consists of edge restraints including side kerbing. Edging is recommended on the sides of asphalt crossovers to provide definition of the crossover, to assist drainage, and to provide support to the edge of seal.

Edging can be constructed in concrete (such as a kerb), brick pavers, timber or similar. Raised edging must direct surface drainage to a designed drainage structure (soakwell or detention basin). Raised edging must not be constructed across a path. Flush edging permits free drainage. The overall design of the crossover and surrounding area needs to consider the drainage needs.

Edging must be constructed with a minimum 150mm thickness of base course material under the kerb. The recommended specification for edging is 200mm wide by 150mm deep, 25MPa concrete. For asphalt crossovers, as an alternative to edging, the asphalt edge may be 'rolled over' using a suitable steel roller to creating an edge support.

Kerbing

Kerbing is the road edge formation and is usually one of: mountable kerb, semi-mountable kerb, barrier kerb, or just edge of seal (no kerb). The crossover should be constructed to meet and use existing mountable kerb. Other kerbing is to be removed using a masonry saw.

Where either a semi-mountable or barrier kerb exists along the road:

- Concrete crossovers are to replace the kerb. At the edge of road seal the crossover is to provide a 20mm lip above the seal height.
- Asphalt crossovers and brick or paver crossovers will require a concrete beam installed at the edge of the road way. The concrete beam is to provide a 20mm lip above the road seal height.

Where no kerb exists along the road:

- Asphalt crossovers are to join flush with the edge of road seal
- Concrete crossovers are to join the edge of road seal, providing a 20mm lip above the road seal height.
- Brick and Paver crossovers must have a concrete beam installed between the road seal and brick paving to crossover.

Where a mountable kerb exists along the road:

- All crossovers are to join flush with the mountable kerb.

Completion of Work

On completion of work, all surplus materials and construction debris is to be removed and the site of the works left clean and tidy.

If the work qualifies for a contribution from the City, the applicant may now request the contribution.

11. FINANCIAL CONTRIBUTION

Upon completion of the crossover, the lot owner pays their contractors and suppliers. The lot owner may then submit an application in writing to the City requesting the crossover contribution, using the attached form.

Applications for a crossover subsidy must be received within 12 months of the completion of the crossover.

A copy of the contractor's receipt (for the section from the front boundary to the edge of the road) must be attached to the application for audit requirements.

On receipt of the application, the crossover will be inspected by the City. If the crossover conforms to these specifications, the City will issue payment for the amount of the contribution.

The contribution amount is the lesser of:

1. Half the cost of the crossover works, and
2. The maximum amount of \$428 as listed in the 2018/2019 Schedule of Fees and Charges for constructing a standard 3m wide grey concrete crossover as per Local Government Act 1995 and Local Government (Uniform Local Provisions) Regulations 1996.

The contribution relates only to the first crossover to service the property. The City will not provide a contribution towards construction of a second crossover on the same lot. Crossover works for development applications and subdivisions are not eligible for financial contribution.

12. COMPLIANCE

Any new crossovers constructed from 1 January 2018, and found to be not in compliance with this Specification will need to be rectified at the Lot Owner's expense.

Please refer to City of Kalamunda's Verge Landscaping Conditions for Verge landscaping treatments.

13. ENQUIRIES

Enquiries may be directed to the Asset Services team by calling the City on 9257 9999 or emailing enquiries@kalamunda.wa.gov.au.

14. REFERENCES

- Cardno, 2016, *WALGA Crossover Guidelines*. Available at <http://walga.asn.au/getattachment/Policy-Advice-and-Advocacy/Seeking-Feedback-Consultation/CW948700-TR-R001-D-TR-V1EH-JHM.PDF.aspx?lang=en-AU>
- Cardno, 2017, *WALGA Guidelines and Specifications for Residential Crossovers*. Available at <https://www.walga.asn.au/getattachment/Policy-Advice-and-Advocacy/Infrastructure/Roads/WALGA-Crossover-Guidelines-rev1-1.pdf.aspx?lang=en-AU>
- City of Kalamunda, 2017, *Engineering Standard Drawings*. Available at <http://www.kalamunda.wa.gov.au/Services/Engineering-Services/Documents>
- Institute of Public Works Engineering Australasia (IPWEA), 2012, *Local Government Guidelines for Subdivisional Development* available from www.ipwea.asn.au.
- Main Roads WA, 2015, *Driveways*. Available at <https://www.mainroads.wa.gov.au/BuildingRoads/StandardsTechnical/RoadandTrafficEngineering/GuidetoRoadDesign/Pages/Driveways.aspx>
- Western Australian Planning Commission, 2015, *State Planning Policy 3.1 Residential Design Codes*. Available at <https://www.planning.wa.gov.au/residential-design-codes.aspx>

Request for Crossover Contribution



Please Note: copies of invoices relating to the crossover construction must be included with this form, to allow for the application process to commence.

Lot Owner's Name:	
Phone:	
Email:	
Postal Address:	
Address of property being claimed for:	
Lot Owner's Signature:	
Date:	
For EFT, please supply:	
Bank:	
BSB and Account Number:	
Account Name:	
Please ensure these details are provided, as payments can only be provided via direct credit.	

OFFICE USE ONLY

Inspector's Report:	
Sign and Date for Authorisation of Payment:	

Enquiries may be directed to the Asset Services team by calling the City on 9257 9999 or emailing enquiries@kalamunda.wa.gov.au.
Please allow three weeks for the processing of this application.

Crossover Application



This form is required for all crossovers, and must be completed by the Lot Owner.

Lot Owner's Name:	
Phone:	
Email:	
Postal Address:	
Address of property requiring a crossover:	
Estimated construction date:	
Development or building application number (if applicable)	
<i>By signing this the Lot Owner declares that they will construct the crossover in accordance with the Specification for Crossover Construction and will ensure the protection of trees and vegetation in the verge.</i>	
Lot Owner's Signature:	
Date:	
Please attach a site plan, clearly dimensioned and showing all details required in the Specifications.	
Number of attachments:	

OFFICE USE ONLY

Assessment Notes:	
Sign and Date for Authorisation of Crossover Construction:	

Enquiries may be directed to the Asset Services team by calling the City on 9257 9999 or emailing enquiries@kalamunda.wa.gov.au.

Please allow three weeks for the processing of this application.