



# A.

## **Paving and Surface Materials**

## Kerbs

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### Diamond Sawn Basalt (Bluestone)

#### Function

- Bluestone for kerbs is the standard for significant works in Bondi Junction.

#### Supplier

Contractor to nominate based on below specifications.

#### Product

- Kerbs: Straight, transition, lintel, radial length varies x 300 x 150mm
- W 300mm
- All outdoor surfaces must meet Australian Standards for slip resistance in outdoor spaces.
- Australian basalt containing less than 5% secondary materials

#### Installation

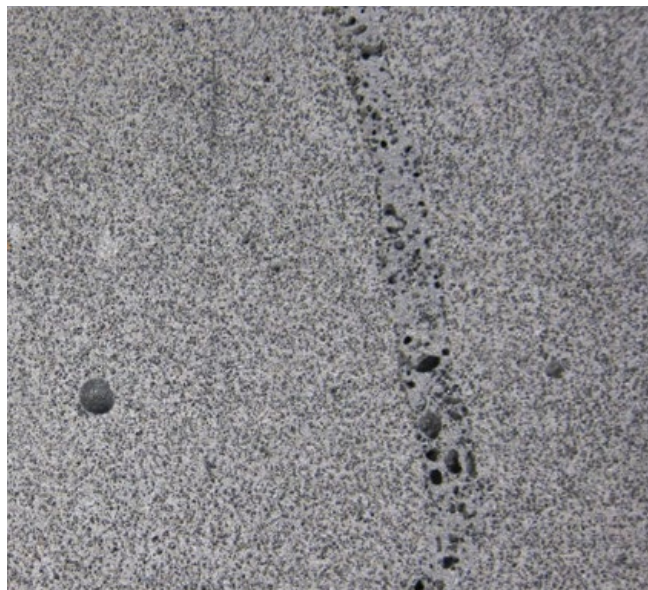
- under review

#### Maintenance

- under review

#### Also refer to

- Waverley Council Standard Road Drawings - R7



Australian basalt - Bamstone



Basalt kerb and concrete channel - Redfern



Scale 1:20



Scale 1:20

### BLUESTONE KERB UNITS LENGTH DISTRIBUTION TABLE

SEGMENT LENGTH	% OF TOTAL LENGTH OF WORK
600 – 800 (mm)	20 MAX
800 – 1000 (mm)	25 MAX
1000 – 1250 (mm)	55 MIN

## Kerb & Gutter

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### Concrete

#### *Function*

- Concrete kerb and Gutter in grey cement is the standard for Local Centres, Neighbourhood Centres and reinstated kerbs in Bondi Junction

#### *Product*

- 100mm Depth.
- Sulphate Resisting Cement to AS 3972.
- Synthetic Fibre Reinforcement (SFR)
- Recycled concrete aggregate.
- All outdoor surfaces must meet Australian Standards for slip resistance in outdoor spaces.

#### *Installation*

- Finish in-situ concrete flush with surrounding surface level.

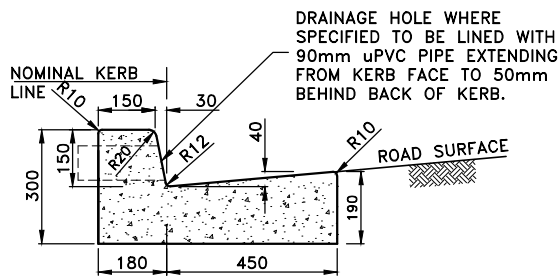
#### *Also refer to*

- Waverley Council Standard Road Drawings - R1

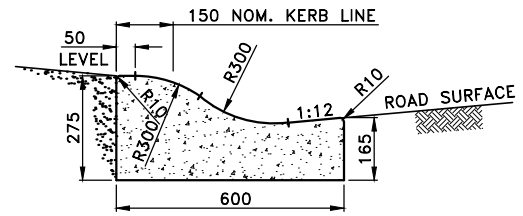


Concrete kerb and channel -Oxford Street, Bondi

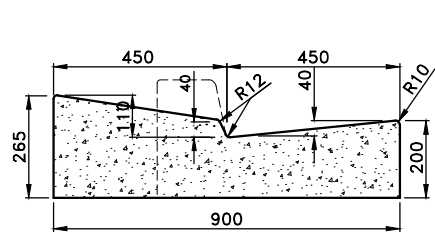
# Paving and Surface Materials **Kerb & Gutter**



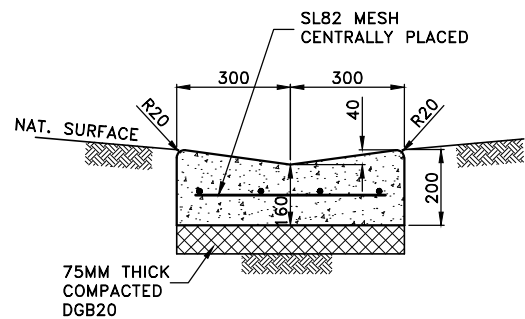
01 **TYPICAL INTEGRAL KERB & GUTTER**  
Scale 1:20



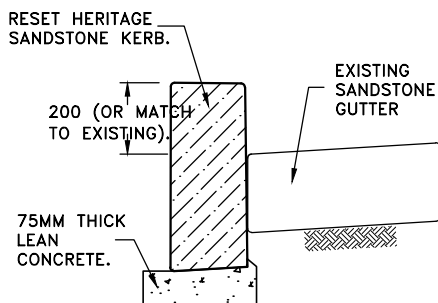
02 **TYPICAL ROLL KERB**  
Scale 1:20



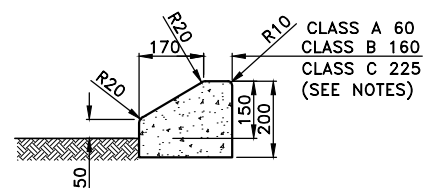
03 **TYPICAL DRIVEWAY LAYBACK**  
Scale 1:20



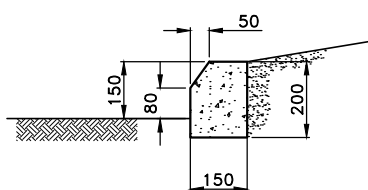
04 **TYPICAL REINFORCED DISH CROSSING**  
Scale 1:20



05 **TYPICAL SANDSTONE KERB RESETTING DETAIL**  
Scale 1:20



06 **MOUNTABLE KERB**  
Scale 1:20



07 **TYPICAL BULLNOSE KERB**  
Scale 1:20

## Paving Pattern Applications





## Paving Pattern A

### New Bondi Junction Paving

#### Function

- For new significant works for footpaths and vehicle crossovers in Bondi Junction, with approval by Council landscape architect.

#### Supplier

- Urbanstone (Austral Masonry Pty Ltd)<sup>1</sup>  
02 9757 4644

#### Product

##### Body Paver

Pedestrian Grade

Product Code: SWIBL634HSP

Vehicular Grade

Product Code: SWIBL637HSP

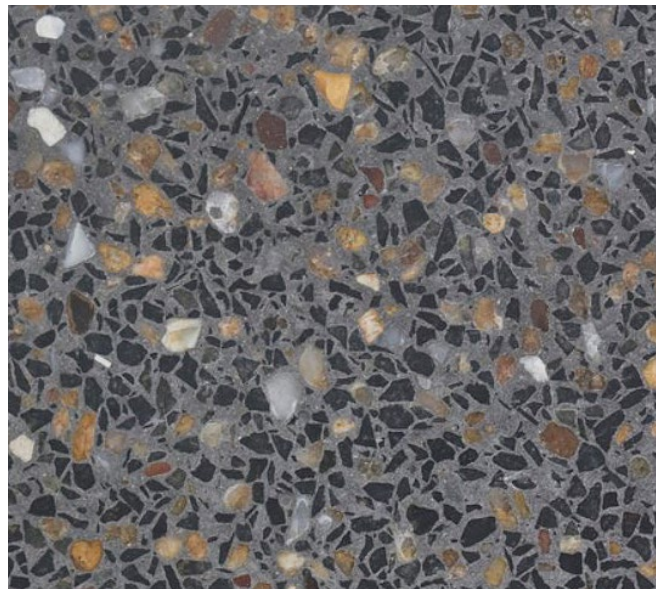
#### Materials and Dimensions

##### Body Paver

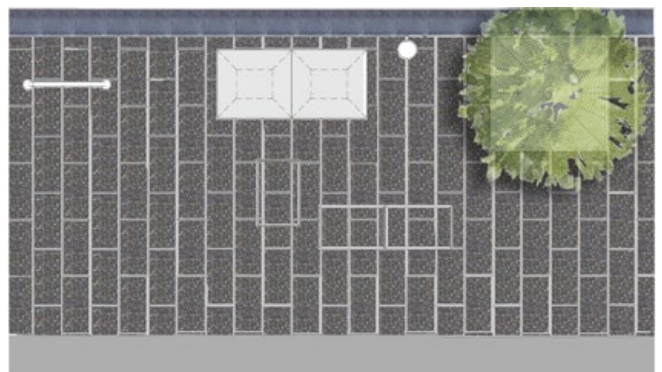
- 300 x 600 x 40mm
- 300 x 600 x 60mm (trafficable for general cross overs)
- 200 x 300 x 70mm (trafficable for high use cross overs)
- Paving Pattern: Stretcher bond, no header.

##### General

- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.



Paver type 1 - 'golden gunmetal'



Paving pattern A

#### Installation

- Finish in-situ flush with surrounding surface level.
- Continue paving treatment across driveways and vehicle cross overs.
- Expansion Joints to be expressed through to finish level.
- Ensure sealant is not applied on damp or wet surface.

#### Inspection and Maintenance

- Inspection Period: 6 months

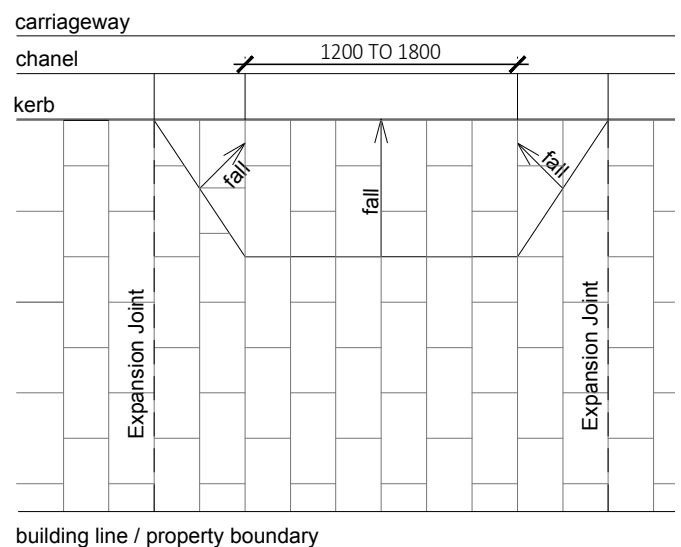
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

- Remove and replace broken or loose paving units.
- Steam gum and deleterious material.
- Pressure wash surface.
- Apply sealant to dry surface.

<sup>1</sup> Waverley Council , 2018, CM/7.20/18.11 Minutes of the Waverley Council Meeting Tuesday 20 November 2018, Waverley Council

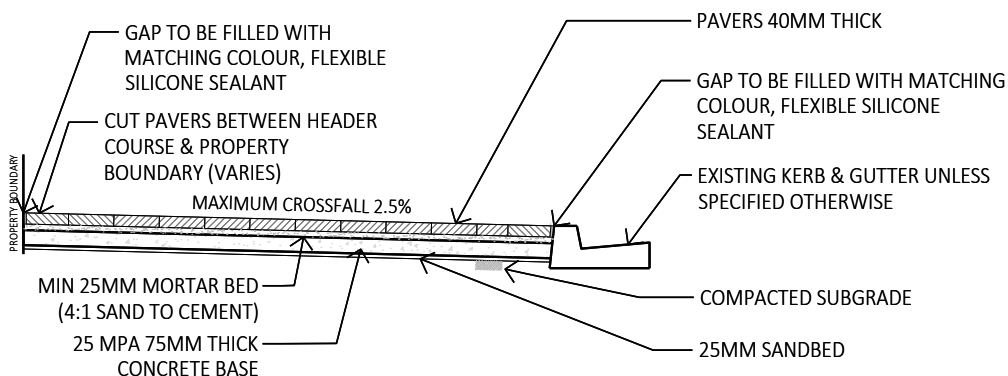
# Paving and Surface Materials **Paving Pattern A**



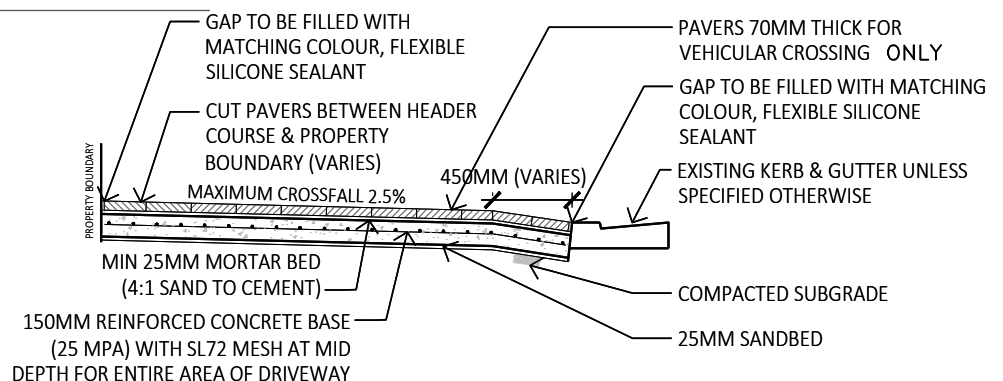
Note : Setout such that full & half pavers sit along roadside. Cut pavers at building line as required. Avoid small cuts.

01 **PAVING PATTERN A - TYPICAL LAYOUT**  
Scale 1:50

02 **PAVING PATTERN A - TYPICAL CROSS OVER (DRIVEWAY) LAYOUT**  
Scale 1:50



03 **PAVING PATTERN A - TYPICAL DETAIL**  
Scale 1:50



04 **PAVING PATTERN A - TYPICAL CROSSOVER DETAIL**  
Scale 1:50

Note:

1. Refer the Tactile Ground Surface Indicators' section for TGSi application

# A.04

## Paving Pattern B

### Local and Neighbourhood Paving

#### Function

- For significant works for footpaths and vehicle cross overs in Local and Neighbourhood Centres excluding Bronte Beach or Special places.

#### Supplier

- Urbanstone (Austral Masonry Pty Ltd)<sup>1</sup>  
02 9757 4644

#### Product

##### Body Paver

Pedestrian Grade

Product Code: GUN334HSP

Vehicular Grade

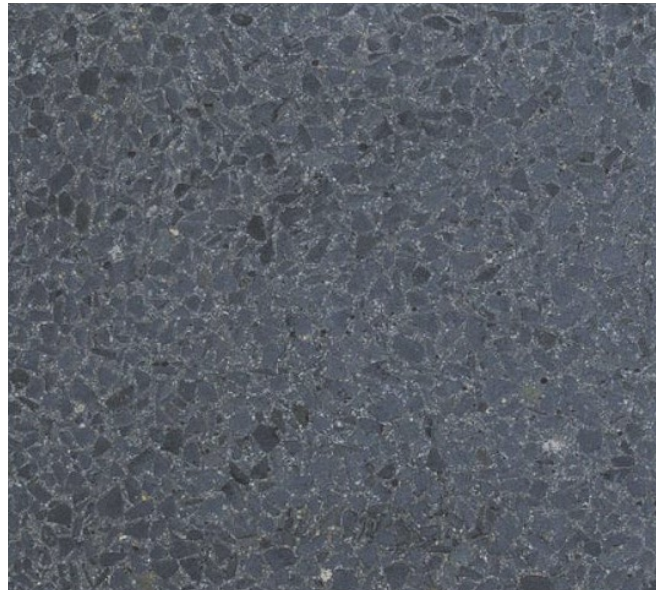
Product Code: GUN337HSP

#### Materials and Dimensions

- 300 x 300 x 40mm
- 300 x 300 x 60mm (trafficable for cross overs)
- Paving Pattern: Stacked Bond, no header.
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.

#### Installation

- Finish in-situ flush with surrounding surface level.
- Continue paving treatment across driveways and vehicle cross overs.
- Expansion Joints to be expressed through to finish level.
- Ensure sealant is not applied on damp or wet surface.



Paver type 2 - 'gunmetal'



Paving pattern B

#### Inspection and Maintenance

- Inspection Period: 6 months

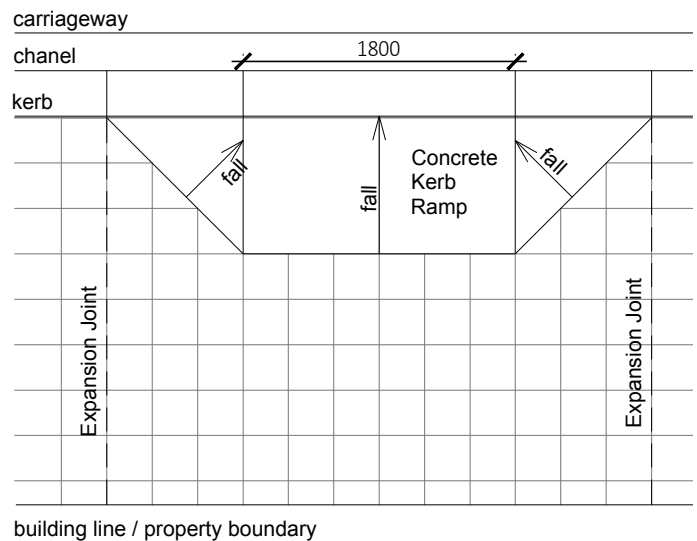
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

- Remove and replace broken or loose paving units.
- Steam gum and deleterious material.
- Pressure wash surface.
- Apply sealant to dry surface.

<sup>1</sup> Waverley Council, 2018, CM/7.20/18.11 Minutes of the Waverley Council Meeting Tuesday 20 November 2018, Waverley Council

# Paving and Surface Materials **Paving Pattern B**



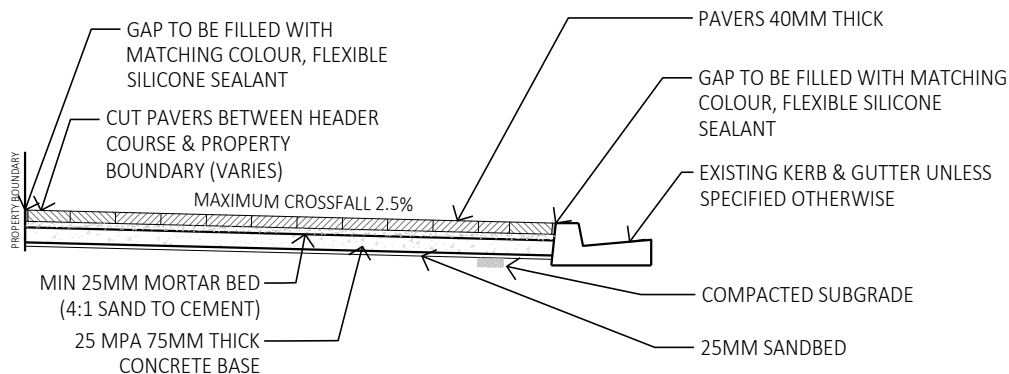
Note : Setout such that full pavers sit along roadside. Cut pavers at building line as required. Avoid small cuts.

## 01 PAVING PATTERN B - TYPICAL LAYOUT

Scale 1:50

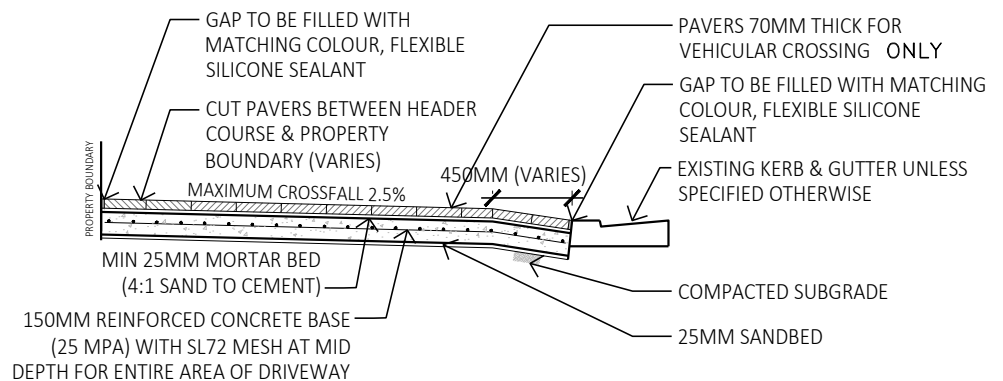
## 02 PAVING PATTERN B - TYPICAL CROSS OVER (DRIVEWAY) LAYOUT

Scale 1:50



## 03 PAVING PATTERN B - TYPICAL DETAIL

Scale 1:50



## 04 PAVING PATTERN B - TYPICAL CROSSOVER DETAIL

Scale 1:50

Note:

1. Refer the Tactile Ground Surface Indicators' section for TGSi application

## Paving Pattern C

### Rose Bay Paving

#### Function

- For footpaths and vehicle crossovers on Old South Head Road and in Rose Bay Local Centres.

#### Supplier

- Urbanstone (Austral Masonry Pty Ltd)<sup>1</sup>  
02 9757 4644

#### Product

##### Body and Header Paver

Pedestrian Grade

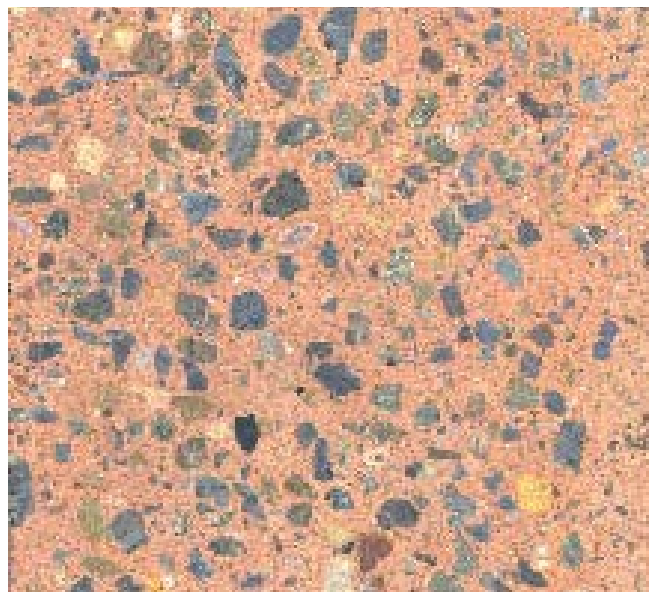
Product Code: TANGO334HSP

Vehicular Grade

Product Code: TANGO337HSP

#### Materials and Dimensions

- 300 x 300 x 40mm
- 300 x 300 x 60mm (trafficable for cross overs)
- Paving Pattern: Diamond Pattern, single course stacked bond header back of kerb, minimum single course stacked bond header on building line, additional courses to allow for building articulation.
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.



Paver type 3 - 'Terracotta'

#### Installation

- Finish in-situ flush with surrounding surface level.
- Continue paving treatment across driveways and vehicle cross overs
- Expansion Joints to be expressed through to finish level.
- Ensure sealant is not applied on damp or wet surface.

#### Inspection and Maintenance

- Inspection Period: 6 months

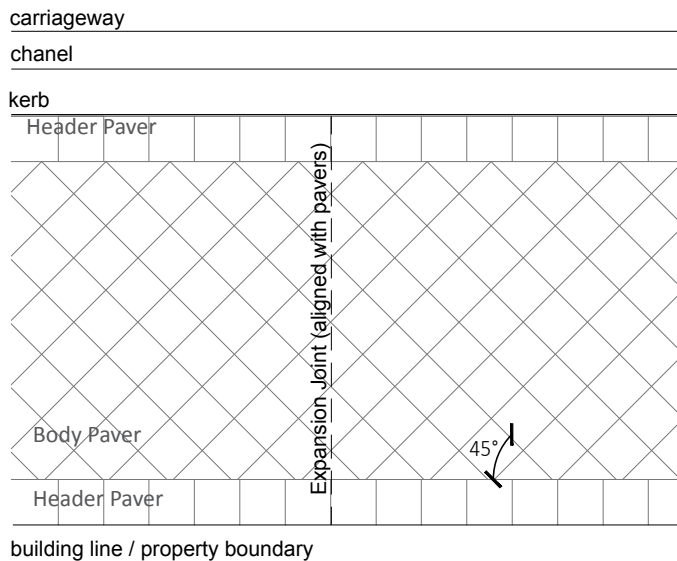
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

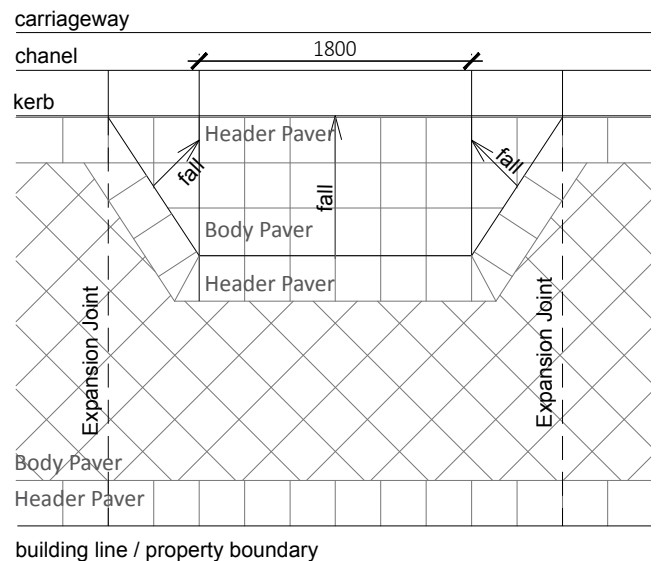
1. Remove and replace broken or loose paving units.
2. Steam gum and deleterious material.
3. Pressure wash surface.
4. Apply sealant to dry surface.

<sup>1</sup> Waverley Council , 2018, CM/7.20/18.11 Minutes of the Waverley Council Meeting Tuesday 20 November 2018, Waverley Council

# Paving and Surface Materials **Paving Pattern C**



building line / property boundary



building line / property boundary

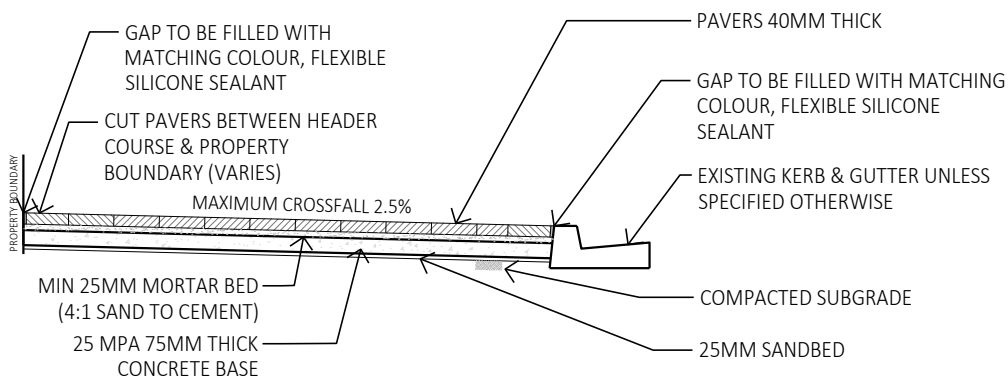
Note : Setout such that there are no small cuts along roadside. Avoid small cuts in general.

## 01 PAVING PATTERN C - TYPICAL LAYOUT

Scale 1:50

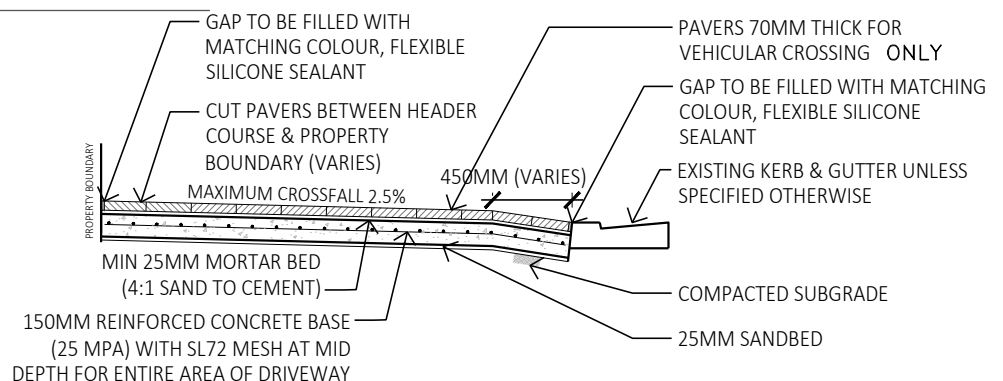
## 02 PAVING PATTERN C - TYPICAL CROSS OVER (DRIVEWAY) LAYOUT

Scale 1:50



## 03 PAVING PATTERN C - TYPICAL DETAIL

Scale 1:50



## 04 PAVING PATTERN C - TYPICAL CROSSOVER DETAIL

Scale 1:50

Note:

1. Refer the Tactile Ground Surface Indicators' section for TGSi application

## Paving Pattern D

### Bondi Junction Centre Paving

#### Function

- For standard footpaths and vehicle crossovers in Bondi Junction Centre.
- Must obtain approval from Council Landscape Architect

#### Supplier

- Urbanstone (Austral Masonry Pty Ltd)<sup>1</sup>  
02 9757 4644

#### Product

##### Body Paver

Pedestrian Grade

Product Code: SWIBL334HSP

Vehicular Grade

Product Code: SWIBL337HSP

##### Header Paver

Pedestrian Grade

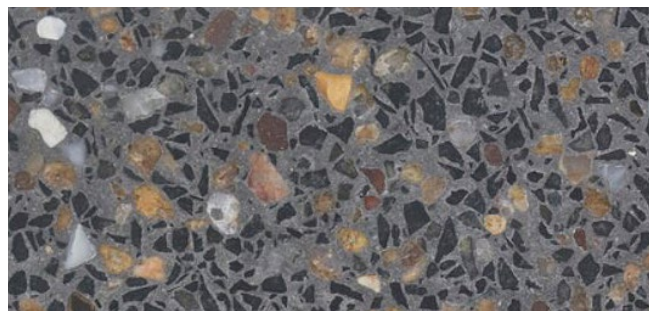
Product Code: GUN334HSP

Vehicular Grade

Product Code: GUN337HSP

#### Materials and Dimensions

- 300 x 300 x 40mm
- 300 x 300 x 60mm (trafficable for cross overs)
- Paving Pattern:  
Body Paver in Diamond Pattern  
Header Paver in Single course stacked bond back of kerb, minimum single course stacked bond header on building line, additional courses to allow for building articulation.
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.



Paver type 1 'golden gunmetal'



Paver type 2 - 'gunmetal'



Paving pattern D

#### Installation

- Finish in-situ flush with surrounding surface level.
- Continue paving treatment across driveways and vehicle cross overs
- Expansion Joints to be expressed through to finish level.
- Ensure sealant is not applied on damp or wet surface.

#### Inspection and Maintenance

- Inspection Period: 6 months

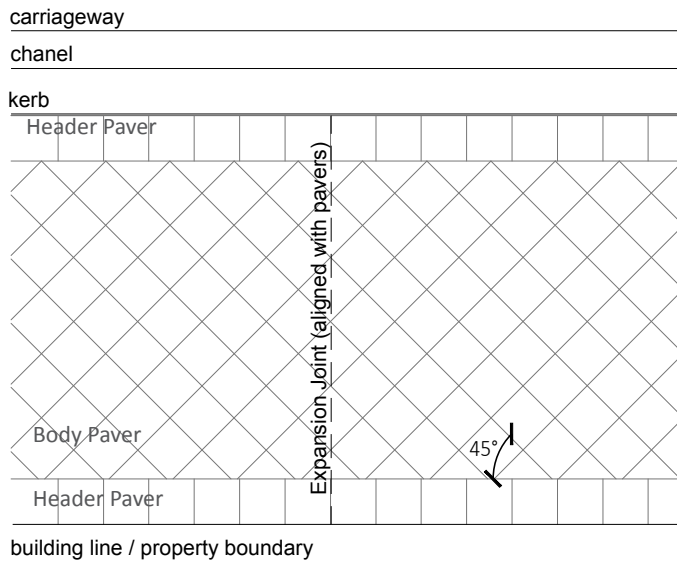
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

1. Remove and replace broken or loose paving units.
2. Steam gum and deleterious material.
3. Pressure wash surface.
4. Apply sealant to dry surface.

<sup>1</sup> Waverley Council, 2018, CM/7.20/18.11 Minutes of the Waverley Council Meeting Tuesday 20 November 2018, Waverley Council

# Paving and Surface Materials **Paving Pattern D**

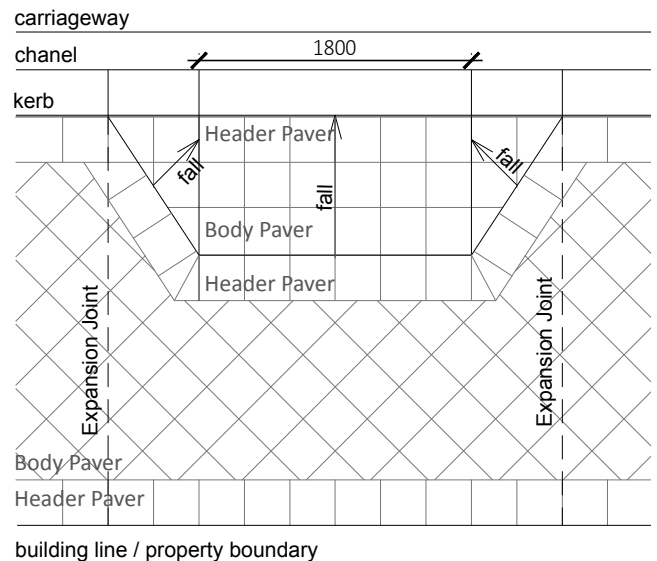


building line / property boundary

Note : Setout such that there are no small cuts along roadside. Avoid small cuts in general.

## 01 PAVING PATTERN D - TYPICAL LAYOUT

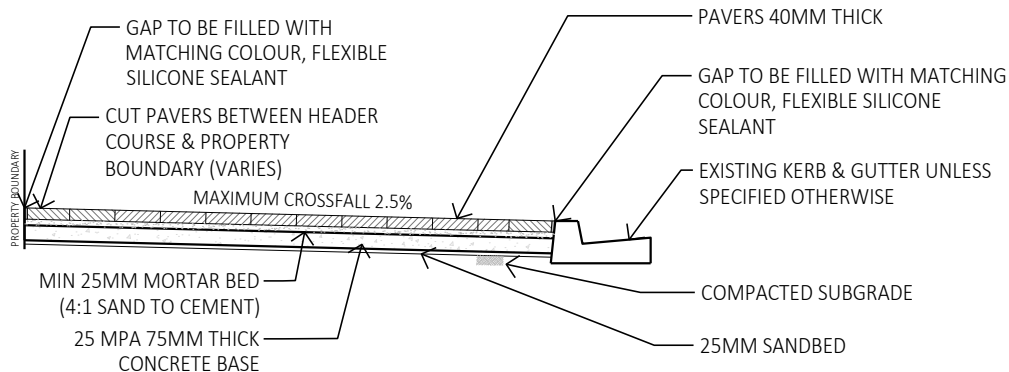
Scale 1:50



building line / property boundary

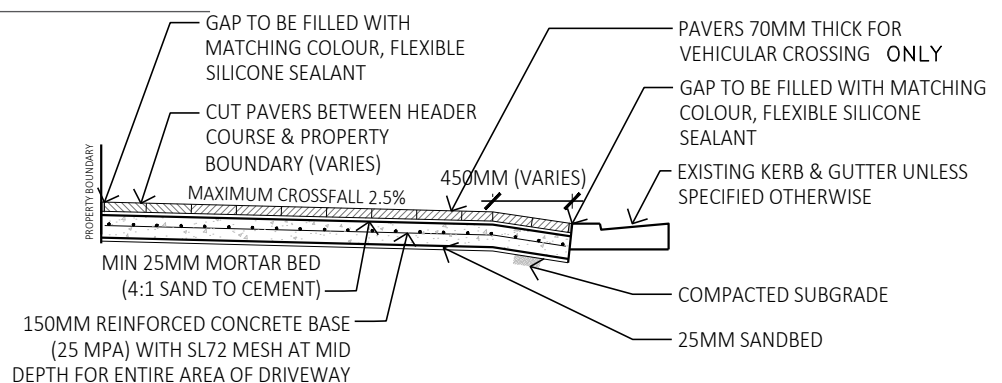
## 02 PAVING PATTERN D - TYPICAL CROSS OVER (DRIVEWAY) LAYOUT

Scale 1:50



## 03 PAVING PATTERN D - TYPICAL DETAIL

Scale 1:50



## 04 PAVING PATTERN D - TYPICAL CROSSOVER DETAIL

Scale 1:50

Note:

1. Refer the Tactile Ground Surface Indicators' section for TGSI application

## Paving Pattern E

### Red Clay Brick Pavers - Charing Cross

#### Function

- Bronte Road, Charing Cross
- The centre is contained within an existing Heritage Conservation Area. It has an established palette of brick paving which, in some areas, is in poor condition.
- Pattern E to be used for maintenance and reinstatement works only.
- Before commencing new works Council to be consulted for applicable pattern and pavers to be used.
- An assessment and community consultation to retain the brick or apply a new standard palette of pavers needs to be carried out.

#### Supplier

- Contractor to nominate based on below specifications.

#### Materials and Dimensions

- 120 x 240mm
- Paving Pattern: Stretcher bond pattern perpendicular to path of travel, soldier bond header along the back of kerb
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.



Paving type 5 - Brick Paving

#### Installation

- Finish in-situ flush with surrounding surface level.

#### Inspection and Maintenance

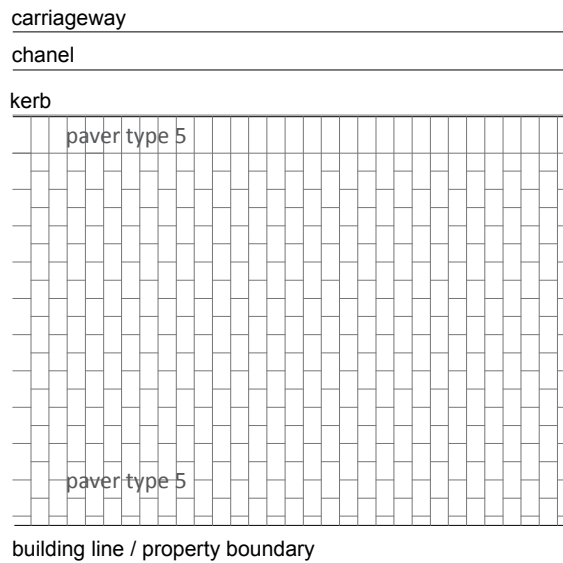
- Inspection Period: 6 months

Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

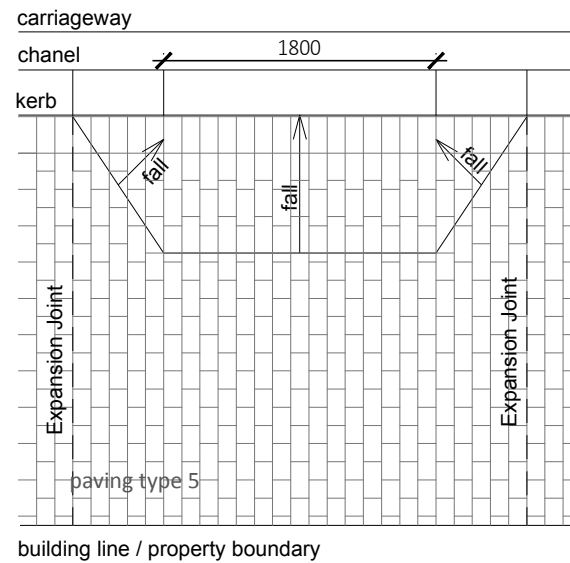
1. Remove and replace broken or loose paving units.
2. Steam gum and deleterious material.
3. Pressure wash surface.
4. Apply sealant to dry surface.

# Paving and Surface Materials **Paving Pattern E**



Note : Avoid small cuts.

01 **PAVING PATTERN E - TYPICAL LAYOUT**  
Scale 1:50



02 **PAVING PATTERN E - TYPICAL CROSS OVER (DRIVEWAY) LAYOUT**  
Scale 1:50

Note:

1. Refer the Tactile Ground Surface Indicators' section for TGSi application

## Paving Pattern F

### Herringbone Paving - Malls

#### Function

- Paving pattern F with concrete unit pavers types 6 and 7 is the standard for reinstated footpaths In Oxford Street Mall and Waverley Mall, Bondi Junction

#### Supplier

- Urbanstone (Austral Masonary Pty Ltd)<sup>1</sup>  
02 9757 4644

#### Product

##### Body Paver

Product Code: SWIBL237HSP

##### Header Paver

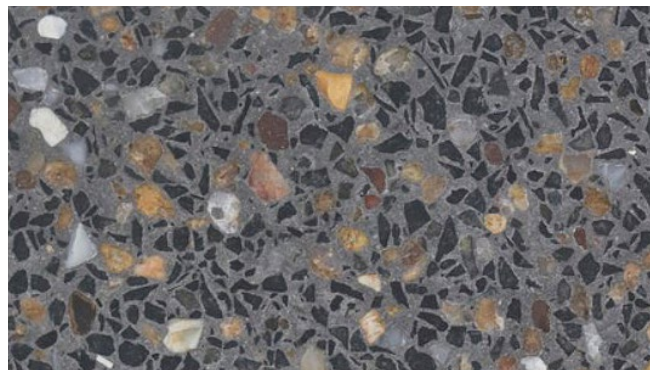
Product Code: FLINT237HSP

#### Materials and Dimensions

- 200 x 300 x 70mm (trafficable)
- Paving Pattern:  
Body Paver in Herringbone Pattern  
Header Paver in Single course stacked bond back of kerb, minimum single course stacked bond header on building line, additional courses to allow for building articulation.
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.

#### Installation

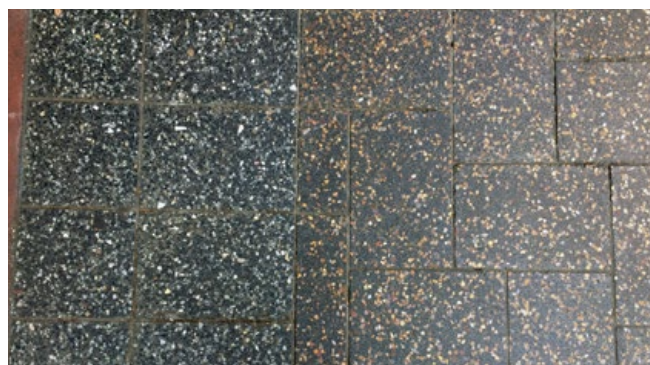
- Finish in-situ flush with surrounding surface level.
- Continue paving treatment across driveways and vehicle cross overs
- Expansion Joints to be expressed through to finish level.
- Ensure sealant is not applied on damp or wet surface.



Paver type 1 - 'golden gunmetal'



Paver type 3 - 'Black & white gunmetal'



Paving pattern F

#### Inspection and Maintenance

- Inspection Period: 6 months

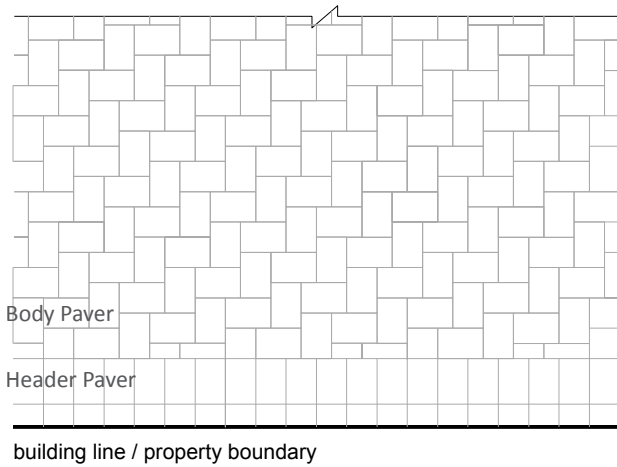
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

- Remove and replace broken or loose paving units.
- Steam gum and deleterious material.
- Pressure wash surface.
- Apply sealant to dry surface.

<sup>1</sup> Waverley Council , 2018, CM/7.20/18.11 Minutes of the Waverley Council Meeting Tuesday 20 November 2018, Waverley Council

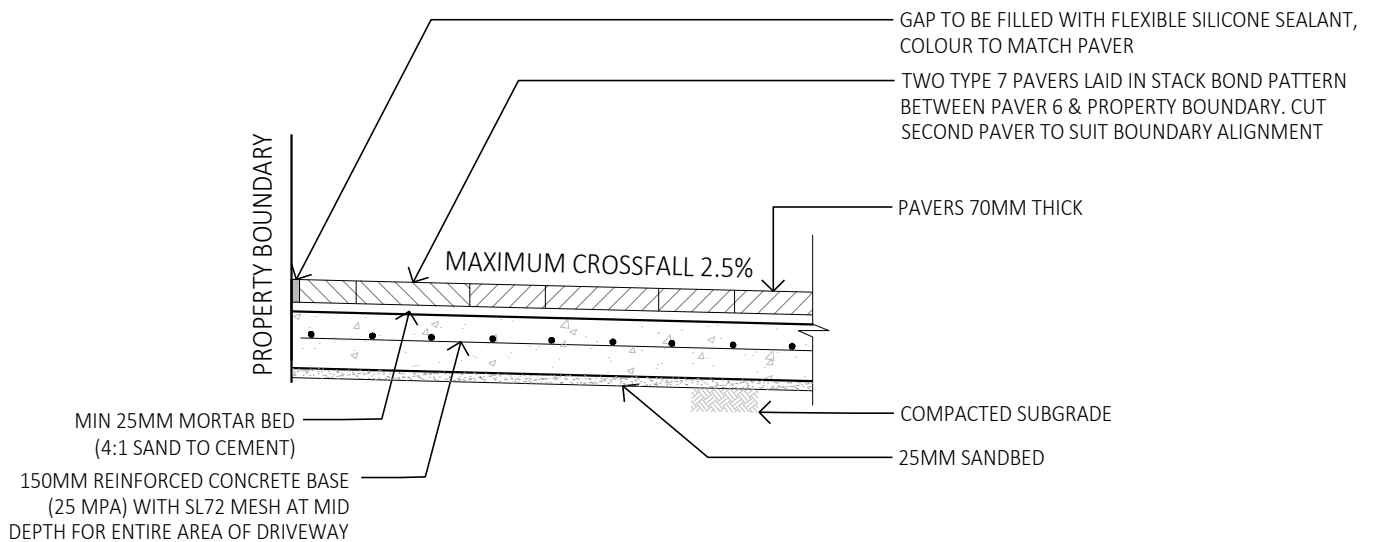
# Paving and Surface Materials **Paving Pattern F**



01 **PAVING PATTERN F - TYPICAL LAYOUT**  
Scale 1:50

02 **PAVING PATTERN F - Oxford Street Mall Kerb Ramp**

Note : No Paver to be cut less than a third.



03 **PAVING PATTERN F - TYPICAL DETAIL**  
Scale 1:20

## Paving Pattern G

### Bondi Beach Local Centre Paving

#### Function

- For new significant works for footpaths and vehicle crossovers in Bondi Beach Local Centre, with approval by Council landscape architect.

#### Supplier

- Urbanstone (Austral Masonry Pty Ltd)<sup>1</sup>  
02 9757 4644

#### Product

##### Body Paver

Pedestrian Grade

600x300x40

Product Code: BDI634MI

Vehicular Grade

600x300x60, or 300x200x70 (high use)

Product Code: BDI636MI or BDI327MI

Paving Pattern: Stretcher Bond, perpendicular to path of travel.

##### Header Paver

Pedestrian Grade

300x300x40

Product Code: BDI334MI

Vehicular Grade

300x300x60

Product Code: BDI337MI

Paving Pattern: Stacked Bond, 2 Courses minimum on property boundary only.

#### Special Locations

##### (Approval Required by Council Landscape Architect)

200x300x70

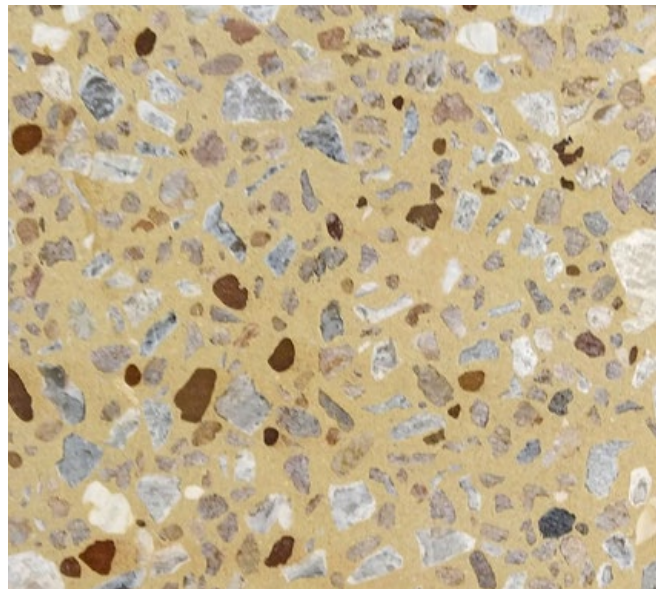
Product Code: BDI334MI

Paving Pattern: Herringbone

### Materials and Dimensions

#### General

- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.



Body Paver - Bondi '2535'

- Paver tolerances to meet AS4456.3:2003 Masonry units and segmental pavers and flags - Methods of test Determining dimensions
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.

#### Installation

- Finish in-situ flush with surrounding surface level.
- Continue paving treatment across driveways and vehicle cross overs.
- Expansion Joints to be expressed through to finish level.
- Ensure sealant is not applied on damp or wet surface.

#### Inspection and Maintenance

- Inspection Period: 6 months

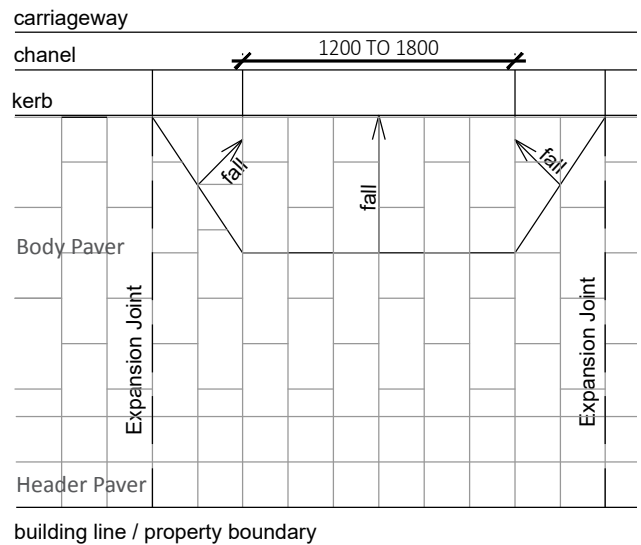
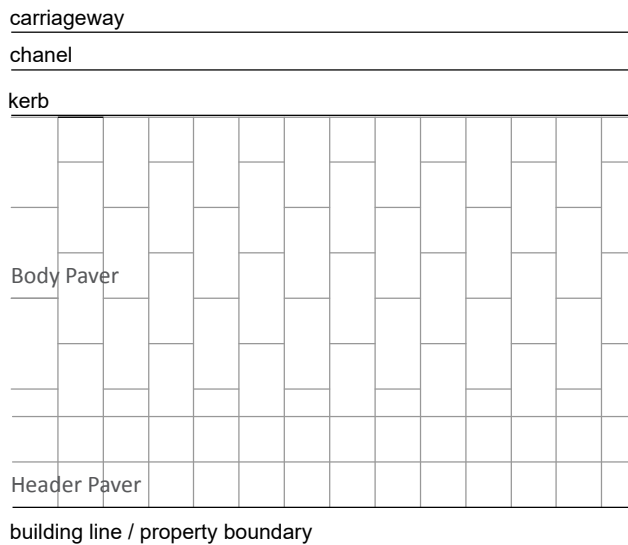
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

- Remove and replace broken or loose paving units.
- Steam gum and deleterious material.
- Pressure wash surface.
- Apply sealant to dry surface.

<sup>1</sup> Waverley Council , 2018, CM/7.20/18.11 Minutes of the Waverley Council Meeting Tuesday 20 November 2018, Waverley Council

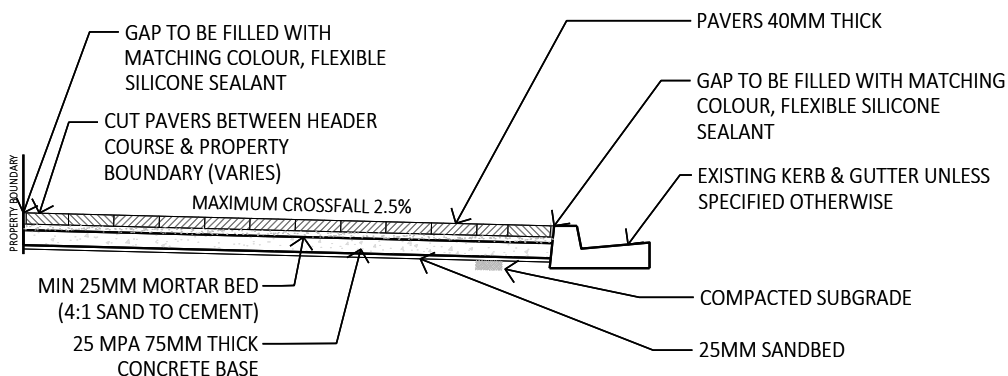
# Paving and Surface Materials **Paving Pattern G**



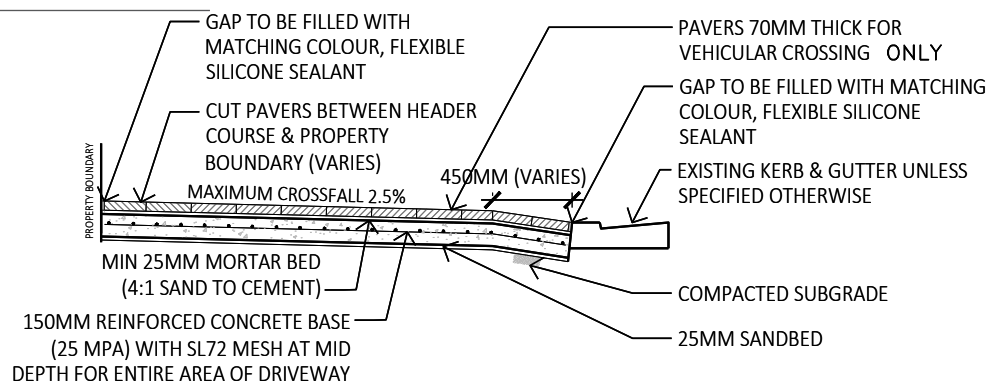
Note : Setout such that full & half pavers sit along roadside. Cut pavers at building line as required. Avoid small cuts.

01 **PAVING PATTERN G - TYPICAL LAYOUT**  
Scale 1:50

02 **PAVING PATTERN G - TYPICAL CROSS OVER (DRIVEWAY) LAYOUT**  
Scale 1:50



03 **PAVING PATTERN G - TYPICAL DETAIL**  
Scale 1:50



04 **PAVING PATTERN G - TYPICAL CROSSOVER DETAIL**  
Scale 1:50

Note:

1. Refer the Tactile Ground Surface Indicators' section for TGSi application

# A.10

## Paving Pattern H

### Diamond Grey Granite Cobble Setts with Flamed Finish

#### Function

- Paving pattern H defines pedestrian interface with carriageway
- Install in all Local and Neighbourhood Centres as applicable, as specified by Council

#### Supplier

- Contractor to nominate based on below specifications.

#### Materials and Dimensions

- Paver type 9
- 100 x 100x30mm
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.

#### Installation

- stackbond pattern

#### Inspection and Maintenance

- Inspection Period: 6 months

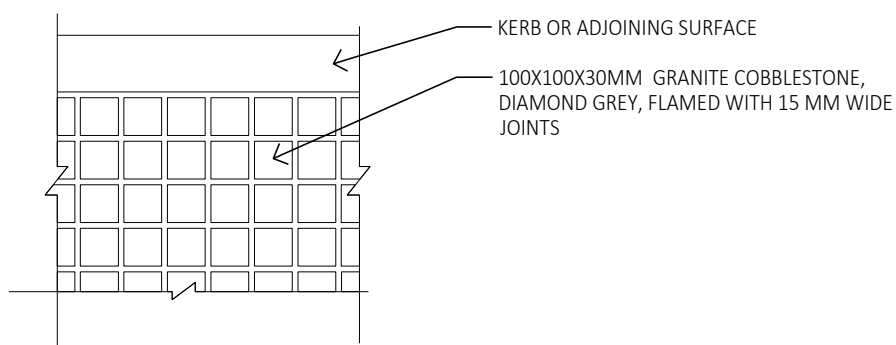
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

1. Remove and replace broken or loose paving units.
2. Steam gum and deleterious material.
3. Pressure wash surface.
4. Apply sealant to dry surface.

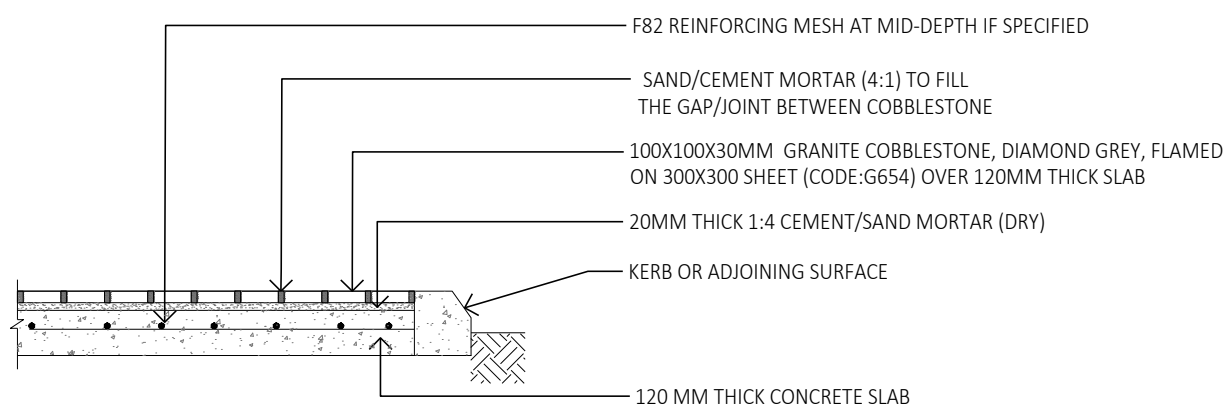


paving pattern H - cobble setts with flamed finish



## 01 PAVING PATTERN H - TYPICAL LAYOUT

Scale 1:50



## 02 PAVING PATTERN H - DETAIL

Scale 1:20

# A.11

## Standard Concrete Footpaths

### *Function*

Standard concrete pavement with decorative saw-cut jointing for footpaths to all other streets throughout the local government area not covered under the urban centres and special places.

### *Supplier*

- Not Applicable

### *Materials and Dimensions*

- 25 Mpa grey cement with recycled aggregate
- Aggregate: To AS 2758.1 recycled gravel graded to 10mm
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Expansion joints to be as per Council's standard drawings F1 and F2
- Pedestrian only - 75 - 100 mm thickness as per Council's standard drawings F1 and F2
- Widths Hierarchy -  
Minor - 1350 - 1500 mm wide  
Major - 2000mm to 2200 mm wide
- For all details including reinforcement requirements refer to Council's standard drawings F1 to F4
- Details vary depending on proximity to verges and trees.
- Kerb ramps to be provided as per Council requirements to Waverley Council Standard drawing F3



Concrete footpaths broom finish

### *Installation*

- Concrete shall be deposited in horizontal layers, without separation of the aggregates and shall be compacted by vibration, tamping, spading or slicing.
- Provide expansion joints as appropriate but spaced no more than 6m and construction joints at 1.5m. The contraction and construction joints shall be straight, continuous and normal to the surface of the concrete pavement.
- Broom finish with 5mm round edge to all sides.

### *Maintenance*

- Nil to Low Maintenance

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# A.12

## Concrete Pedestrian Paving

### Function

Reinforced concrete pavement with decorative saw-cut jointing for footpaths and shared paths within parks.

### Supplier

- Not Applicable

### Materials and Dimensions

- 32 Mpa grey cement with bluemetal aggregate or similar in accordance with AS3600 and AS1379
- Aggregate: To AS 2758.1 bluemetal gravel or similar graded 10mm to 14mm
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Expansion joints to be key joints allowing expansion. Joint filler to match pavement colour.
- Reinforcement SL82, placed centrally with minimum 50mm cover.
- Where nominated by landscape architect, use integral CCS colour or approved equal.
- All paths to be coated with penetrating concrete sealant
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.
- Subgrade - compacted DGB20 over compacted subgrade
- Pedestrian only - 100 mm thickness
- Widths Hierarchy -  
Minor - 1500 mm wide  
Second - 2000mm to 2500 mm wide  
Major - 3000 mm wide



Reinforced concrete paving light sponge finish at Bondi Park

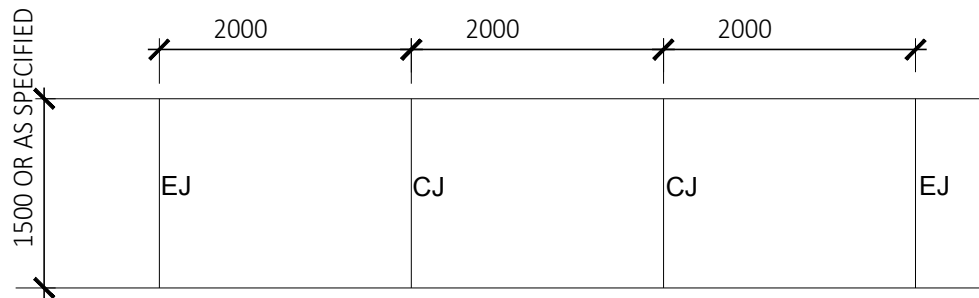
### Installation

- Concrete shall be deposited in horizontal layers, without separation of the aggregates and shall be compacted by vibration, tamping, spading or slicing.
- Provide expansion joints as appropriate but spaced no more than 6m and construction joints at 2m. The contraction and construction joints shall be straight, continuous and normal to the surface of the concrete pavement.
- Light sponge finish with 5mm round edge to all sides.
- All concrete work to be done in accordance with AS3600
- Ensure sealant is not applied on damp or wet surface.

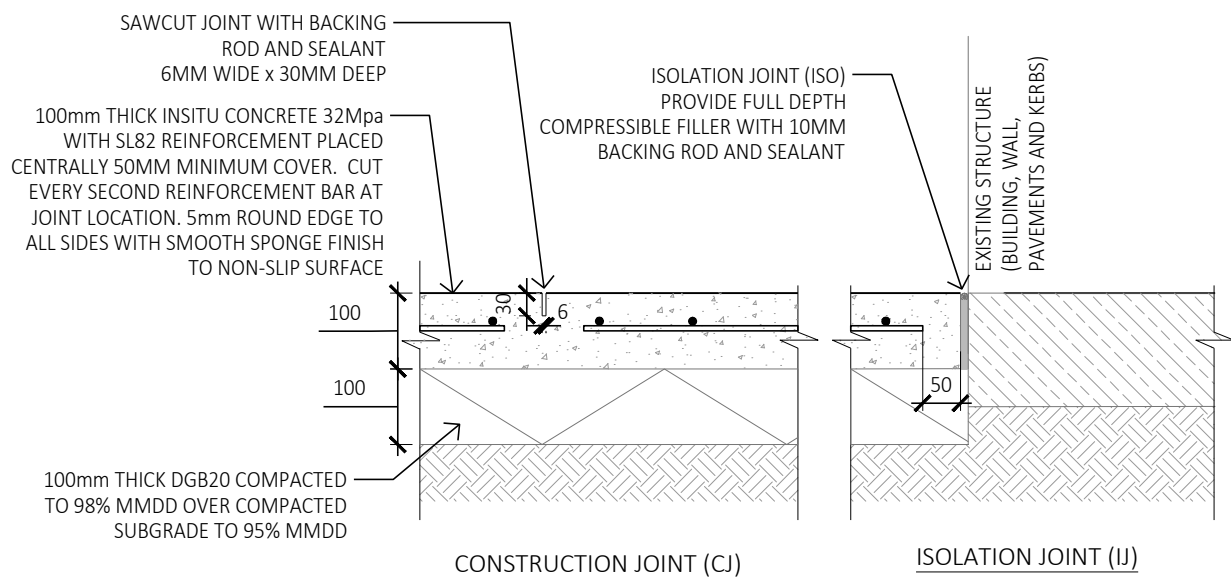
### Maintenance

- Nil to Low Maintenance

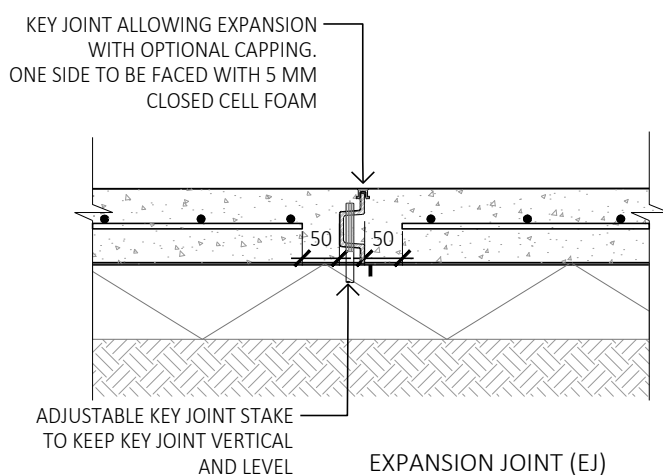
## Paving and Surface Materials **Concrete Pedestrian Paving**



D01 REINFORCED CONCRETE PAVING - LIGHT SPONGE FINISH - PLAN  
SCALE 1:60



D02 REINFORCED CONCRETE PAVING - LIGHT SPONGE FINISH - DETAIL  
SCALE 1:10



CONCRETE JOINTING NOTES:

1. FOR LOCATION OF JOINTS AND JOINT TYPES REFER SETOUT PLANS
2. PROVIDE ISOLATION JOINTS WHERE NEW WORKS ARE TO BUTT AGAINST EXISTING STRUCTURES (BUILDINGS, WALLS, PAVEMENTS AND KERBS).
3. SEALANT COLOURS TO MATCH STONE PAVEMENT (SUBMIT FOR APPROVAL)

D02 REINFORCED CONCRETE PAVING - LIGHT SPONGE FINISH - DETAIL  
SCALE 1:10

# A.13

## Concrete Vehicular Paving

### Function

Reinforced concrete pavement with decorative saw-cut jointing for vehicular paths within parks.

### Supplier

- Not Applicable

### Materials and Dimensions

- 32 Mpa grey cement with bluemetal aggregate or similar in accordance with AS3600 and AS1379
- Aggregate: To AS 2758.1 bluemetal gravel or similar graded 10mm to 14mm
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.
- Expansion joints to be key joints allowing expansion. Joint filler to match pavement colour.
- Reinforcement SL82, placed centrally with minimum 50mm cover. Bottom mesh to match top with 50mm min cover.
- Where nominated by landscape architect, use integral CCS colour or approved equal.
- All paths to be coated with penetrating concrete sealant
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.
- Subgrade - compacted DGB20 over compacted subgrade
- Vehicle Accessible - 150 mm thickness
- Width - 2500 to 3000 mm wide as specified



Reinforced concrete paving - Vehicular

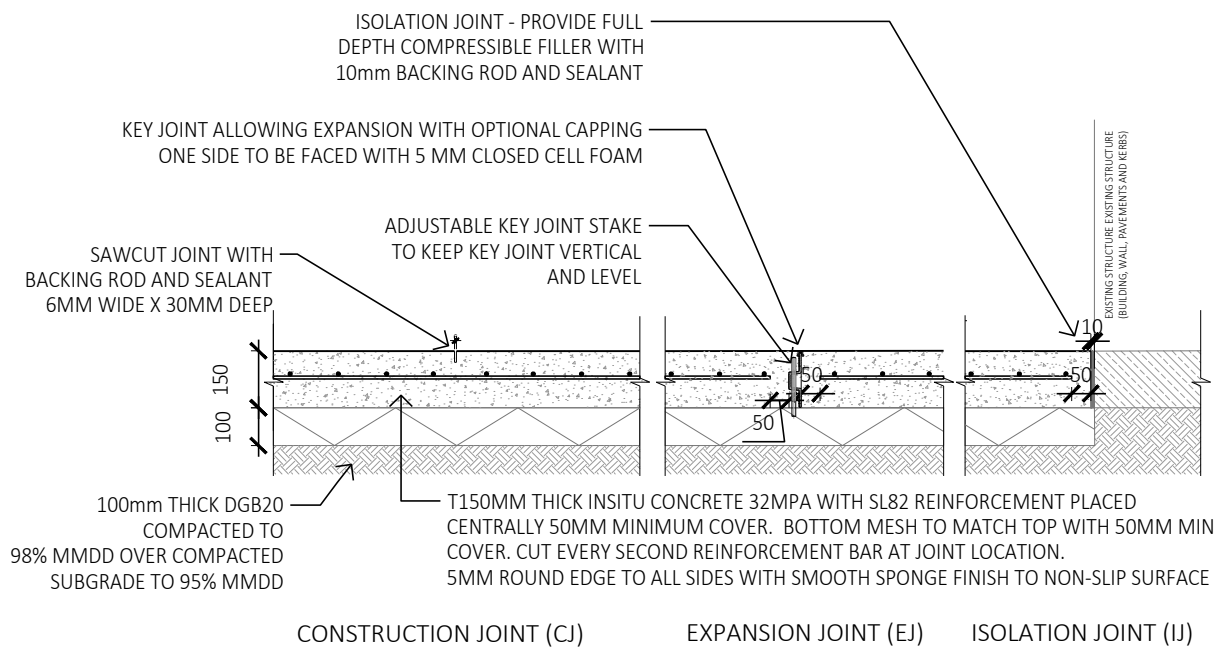
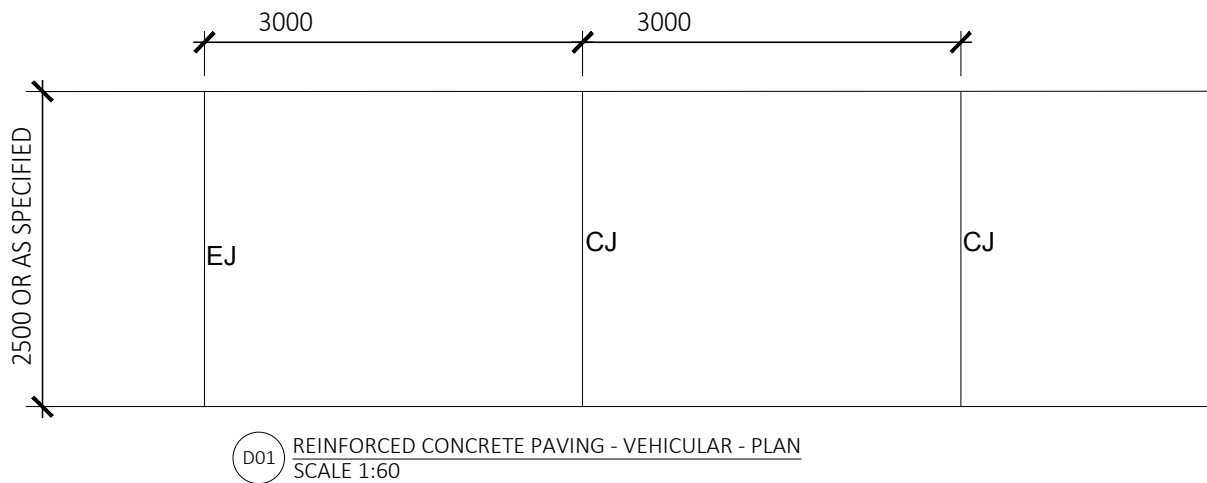
### Installation

- Concrete shall be deposited in horizontal layers, without separation of the aggregates and shall be compacted by vibration, tamping, spading or slicing.
- Provide expansion joints as appropriate but spaced no more than 9m and construction joints at 3m. The contraction and construction joints shall be straight, continuous and normal to the surface of the concrete pavement.
- Smooth sponge finish with 5mm round edge to all sides.
- All concrete work to be done in accordance with AS3600
- Ensure sealant is not applied on damp or wet surface.

### Maintenance

- Nil to Low Maintenance

# Paving and Surface Materials **Concrete Vehicular Paving**



D02 REINFORCED CONCRETE PAVING - VEHICULAR - DETAIL  
SCALE 1:20

## CONCRETE JOINTING NOTES:

1. FOR LOCATION OF JOINTS AND JOINT TYPES REFER SETOUT PLANS
2. PROVIDE ISOLATION JOINTS WHERE NEW WORKS ARE TO BUTT AGAINST EXISTING STRUCTURES (BUILDINGS, WALLS, PAVEMENTS AND KERBS).
3. SEALANT COLOURS TO MATCH STONE PAVEMENT (SUBMIT FOR APPROVAL)

# A.14

## Segmental Paving - Sandstone

### Function

To be used as intermediate paving between informal natural settings and formal or urban areas of within a park.

### Supplier

- Contractor to nominate based on below specifications.

### Materials and Dimensions

- Unit Pavers -  
Product: 'Buff' Quarry / Gang sawn stone  
Pattern: Running (stretcher)  
Joint: Butt joint.
- Flagstone -  
Product: 'Buff' Split face stone sheets.  
Pattern: Crazy / Random.  
Joint: High Strength Mortar, colour to match stone.
- Sealant : silane-siloxane penetrating sealer. The sealant should be solvent based silane-siloxane penetrating sealer designed to protect both horizontal and vertical surfaces from the ingress of water and salts. It should have a low VOC content. It should be water repellent such that the water will bead on the surface of the concrete paver. It should not alter the colour of the surface ensuring a natural look is retained.
- Pedestrian - Flexible base  
40mm thick paver  
30mm depth sand  
100mm depth compacted DGB
- Vehicular - Rigid Base  
Min. 60mm thick paver  
30mm depth high strength mortar  
150mm depth reinforced concrete slab  
100mm depth compacted DGB subgrade.
- Laying Patterns  
Unit - Designer's specifications / Butt Joint  
Flagstone - Random / Mortar joint, colour to match
- Edge restrained with concrete haunch, unless otherwise instructed by project landscape architect.
- The paving must meet Australian Standards for slip resistance AS 4586-2013 - Slip resistance classification of new pedestrian surface materials.

### Installation

- Prior to commencement of works, provide prototype to be approved by project landscape architect.
- As per details and specification.
- Ensure sealant is not applied on damp or wet surface.



Sandstone Flagstone Pavers - Dudley Page Reserve

### Inspection and Maintenance

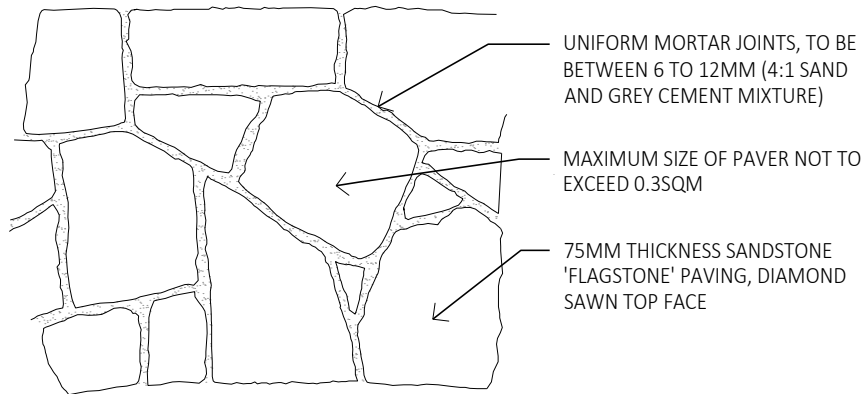
- Inspection Period: 6 months

Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards. Ensure all paving units are fixed securely to substrate. Replace units as required.

- Maintenance Period: 12 months

1. Remove and replace broken or loose paving units.
2. Steam gum and deleterious material.
3. Pressure wash surface.
4. Apply sealant to dry surface.

# Paving and Surface Materials **Segmental Paving - Sandstone**

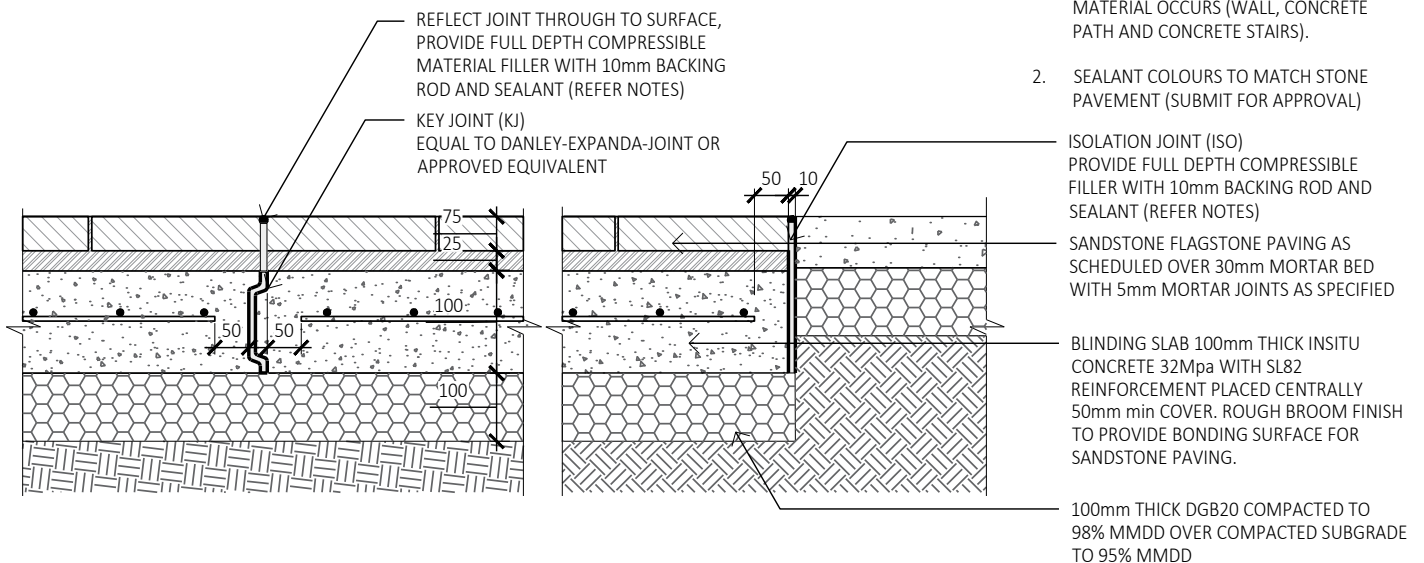


## 01 SANDSTONE SEGMENTAL PAVING - PLAN

Scale 1:20

### CONCRETE JOINTING NOTES:

1. PROVIDE ISOLATION JOINTS WHERE NEW WORKS ARE TO BUTT AGAINST EXISTING STRUCTURES (BUILDINGS, WALLS, PAVEMENTS AND KERBS) AND WHERE EVER A CHANGE IN SURFACE MATERIAL OCCURS (WALL, CONCRETE PATH AND CONCRETE STAIRS).
2. SEALANT COLOURS TO MATCH STONE PAVEMENT (SUBMIT FOR APPROVAL)



## 02 SANDSTONE SEGMENTAL PAVING - DETAIL

NTS

## Gravel Pavement

### Function

- Cement stabilised decomposed granite pavement is to be used in natural settings where a concrete path would be obtrusive like parks and reserves.
- Use when a durable, permeable and natural aggregate surface is required.
- Not to be used in drainage corridors or areas susceptible to high stormwater run-off.

### Supplier

- Contractor to nominate based on below specifications.

### Product

- Decomposed Granite Gold
- Subbase: Compacted DGB to engineer's specification
- Binding: Off-white cement stabilised min. 4%
- Edge: restrained, refer edges section.
- Maximum slope 1:20
- Maximum widths 2.5-3M with surfaces sloping towards both sides and the high point being in the centre.

### Installation

- Use non-toxic, non-staining water activated stabiliser binder. The cement should be mixed on site, in small batches and mix applied immediately.
- Apply as per manufacturer's instructions
- Finish gravel paving flush with surrounding surface level.
- To comply with:  
AS/NZS 3661 Slip Resistance of Pedestrian Surfaces  
AS 4586 Slip resistance classifications of new pedestrian surface materials  
AS 1657 Fixed platforms, walkways, stairways and ladders

### Inspection and Maintenance

- Inspection Period: 6 months

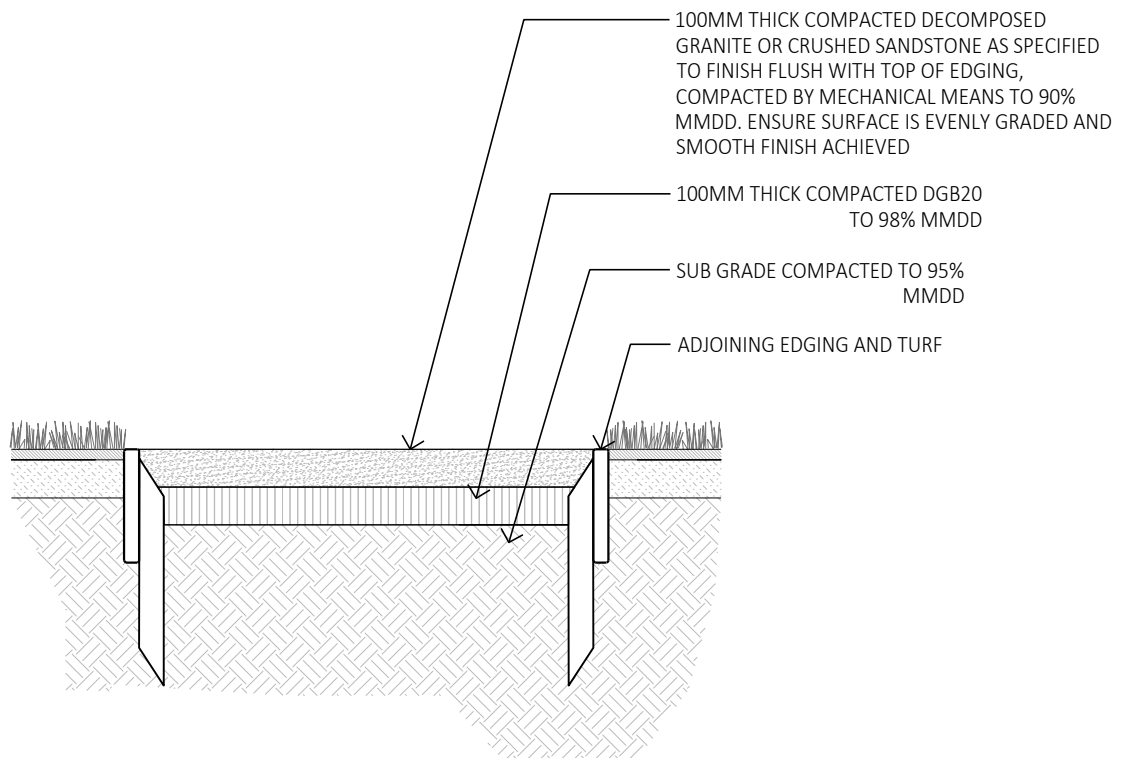
Inspect surface to ensure an even and defect free finish to comply with the relevant Australian Standards.

- Maintenance Period: 12 months

Top up and level finish surface of pavement, repair or replace edge restraints.



Crushed Granite Pavement - Image is for representational purposes only



D01 DECOMPOSED GRANITE PATHWAY - DETAIL  
SCALE 1:20

# A.16

## Permeable Paving

---

*under review*



# A.17

## Wet Pour Rubber

### Function

For use in playgrounds, playspaces, and fitness stations only.

### Supplier

- Contractor to nominate based on below specifications.

### Finish

Colour: To project landscape architect's specification or match existing.

### Materials and Dimensions

- Depth: Varies, to AS 4422
- Subgrade: To engineers specification and to meet AS 4422
- Drainage: Subsurface drainage.

### Installation

- Joints are to be 'welded' as detailed.
- All edges are to be square and flush with edge material (concrete, recycled plastic board, timber or steel edge).
- Refer to manufacturers instructions.

### Inspection and Maintenance

- Inspection Period: 12 months

Inspect for rips or tears, replace as required with matching colour mix. Test for compliance with AS 4422, lift and replace as required to comply with AS 4422.

- General Maintenance Period: 1 month

Regular vacuuming or sweeping (or water pressure cleaner on low setting) to remove excess rubber granules and build-up of dirt and grime.

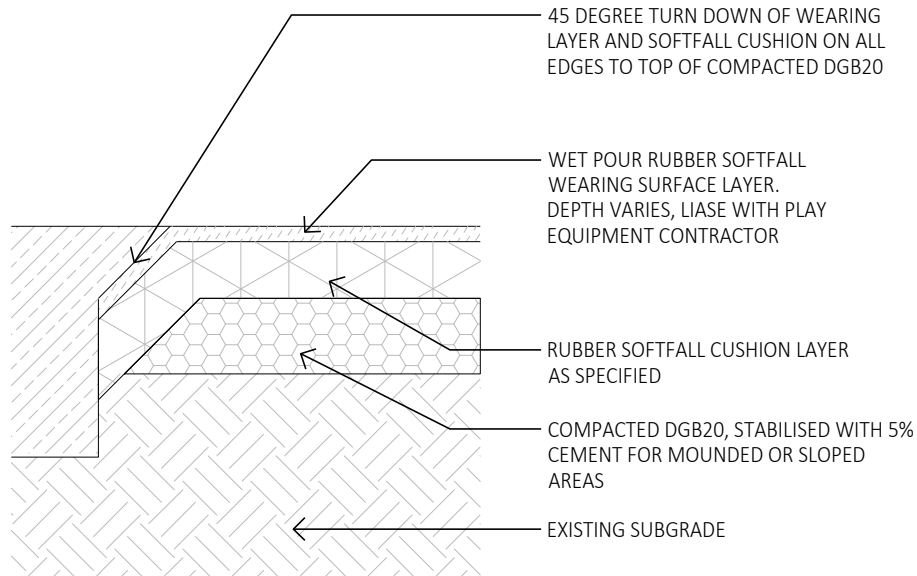
- Deep Maintenance Period: 12 months

Wash surface with low sud detergent and scrub with soft bristled broom, low pressure water cleaner to rinse.

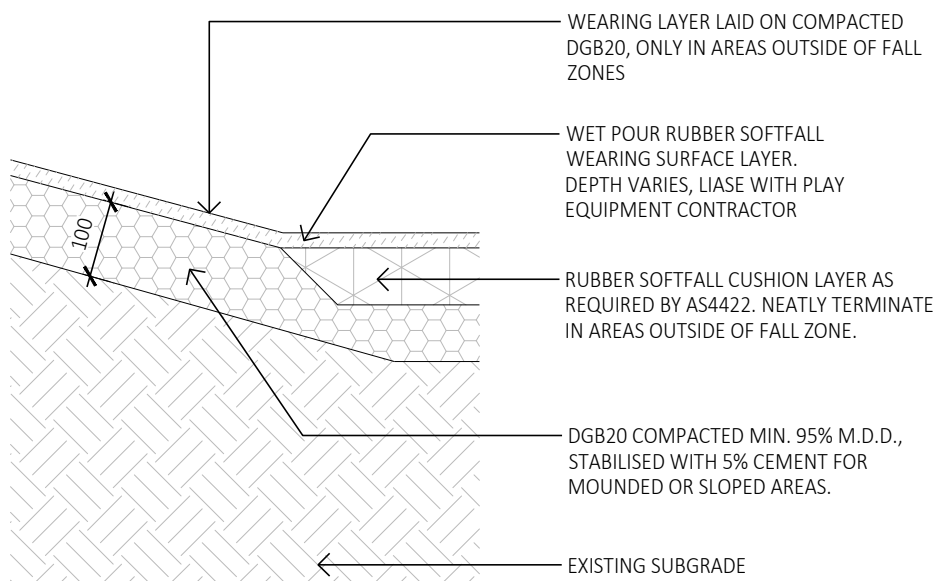
Do not use shovels, chemical cleaning, harsh detergents, petroleum, solvents, bleach or mechanical brushing.



Wet Pour Rubber - Clarke Reserve



**D01** WET POUR RUBBER - DETAIL  
Scale 1:10



**D02** WET POUR RUBBER TO NON FALL ZONE - DETAIL  
Scale 1:10

# A.18

## Timber Decking

### Function

To be used on elevated decks, boardwalks and associated stairs.

### Supplier

- Contractor to nominate based on below specifications.

### Materials and Dimensions

- Species: Australian Spotted Gum or other approved Australian hardwood. Must meet AFS, FSC, PEFC, or come from recycled source.
- Timber must be seasoned to prevent leaching of tannins.
- Coat with a commercial grade outdoor furniture oil which will not change the colour of the timber, and which is UV stable. Product equivalent to Dulux – Intergrain Nature's Timber Oil. Apply as per manufacturers recommendation.
- Fixings: 316 Stainless Steel counter sunk security timber decking screws. Gauge to suit design.
- Deck Board: 86 x 32mm or 135 x 32mm

### Installation

- As detailed and specified by project landscape architect, and project structural engineer.

### Maintenance

- Maintenance Period: Bi-annually for first year of installation, then at 12 month intervals thereafter.
1. Pressure wash
  2. Pre-treatment: Apply Intergrain Reviva or similar approved water based
  3. Finisher : Coat with product equivalent to Dulux – Intergrain Nature's Timber Oil. Apply as per manufacturers recommendation.



Timber Decking Detail - Tamarama



Timber Decking Context - Tamarama



# A.19

## Alternative Decking

### Function

Fibreglass mini mesh grating is to be used on elevated decks, boardwalks and associated stairs where water spray and/or water submersion are an issue.

Grating may also be used where sufficient light penetration for vegetation growth is required.

### Supplier

- Contractor to nominate based on below specifications.

### Materials and Dimensions

- FRP mini mesh 30 or 38mm
- Colour: Dark grey
- Surface Type: Anti-Slip
- Panel Sizes: 1247 x 1527, 1807, 2407, 3007mm.
- Openings/Apertures: 13 x 13mm  
Open area 42% approximately

### Installation

As per manufacturer's details

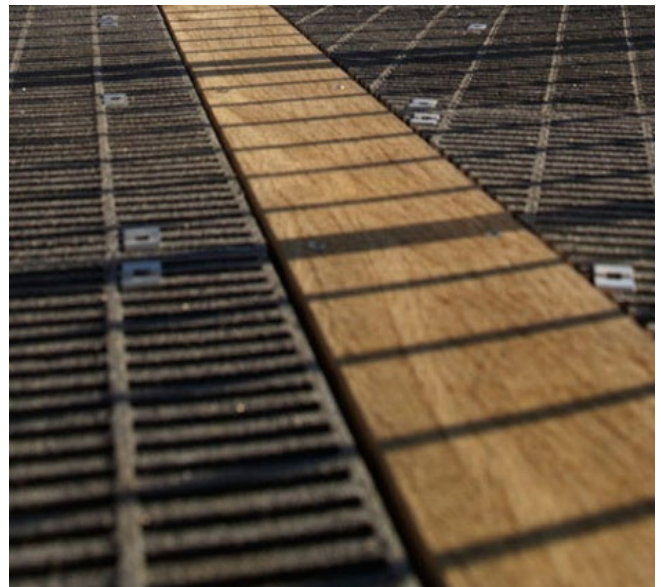
### Inspection and Maintenance

- Inspection Period: 12 months

Inspection of mini mesh grating for secure fixing into substructure. Tighten nuts and bolts as required and replace fixing clips if damaged or lost.

Clip Frequency: Minimum 4 per panel. Approximately 4 per m<sup>2</sup> where total area is greater than 1m<sup>2</sup>

Inspection of stair nosings for secure fixing into decking. Tighten nuts and bolts as required and replace fixing if damaged or lost. Replace nosing if broken, damaged, or lost.



Fibreglass Grating on elevated decking - detail



## TGSI

### Tactile Ground Surface Indicators

#### Function

- TGSIs provide cues, which, when combined with other environmental information, assist people who are blind or vision-impaired with their orientation. A person's orientation, through processing all available environmental cues, make the information provided by the TGSIs meaningful.
- Warning (domed button) TGSIs indicate an approaching hazard, for example at the top and bottom of stairs and ramps, car park exits and driveways where sight lines are poor, and at road crossings where kerbs are not provided.
- The nature of the hazard is not indicated by the TGSIs.
- Directional TGSIs (elongated tile) are provided to give directional orientation in open spaces where there are insufficient tactile directional cues.
- The need for TGSIs can be minimised by making use of other environmental cues.
- Consistent installation of TGSIs will promote familiarity, legibility and distinctiveness.
- Correct installation of TGSIs will promote safety.

#### Supplier and Products

##### Unit Paved areas:

Urbanstone

White Cream dots (WESCR334DOT)

White Cream directional (WESCR334SLOT)

or

Gunmetal dots (GUN334DOT)

Gunmetal directional (GUN334SLOT)

##### In situ Concrete Paved areas:

Black PVC 'blade' style tactiles, contractor to nominate.

##### Timber or recycled plastic deck areas:

Stainless steel individual button style tactiles, contractor to nominate.

#### Materials and Dimensions

- Warning and Directional Tactile - Black with 2 year warranty
- Warning and Directional Tactile - 316 Stainless Steel - 10 warranty
- Colour must contrast with surrounding surface treatment



Warning Tactile (Buttons) - Black



Warning Tactile (Buttons) - 316 Stainless Steel

#### Installation

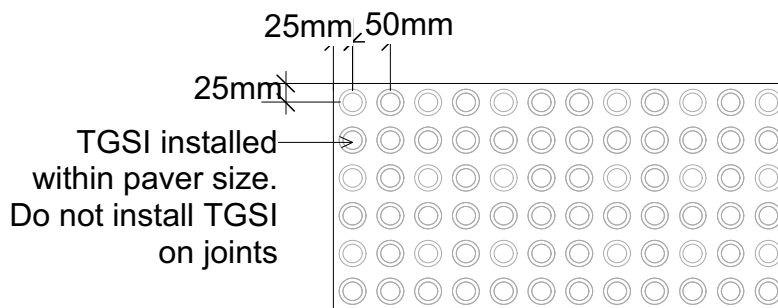
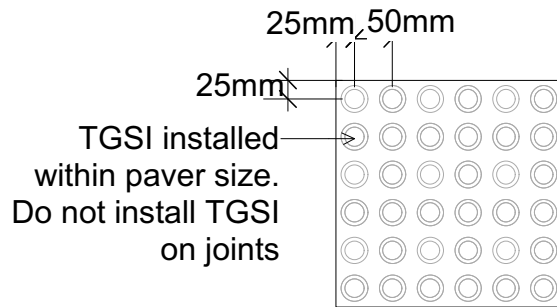
- TGSIs to be installed according to the suppliers instructions to minimise the likelihood of failure
- Avoid installing TGSIs on a steep slope and on service/utility pits
- Regular maintenance checks to be carried out and include replacement of missing / lifting domes and measuring the height and replacing units where this falls below
- Install warning TGSIs at stairs, ramps, median cut through, shallow kerb ramps, overhead hazards, at-grade pedestrian crossings and bus stops
- Refer to and install TGSIs in accordance with Australian Standard 1428.4.1
- TGSIs are to meet AS1428.4.1 and include a slip resistant surface.

#### Inspection and Maintenance

- Inspection Period: 12 months

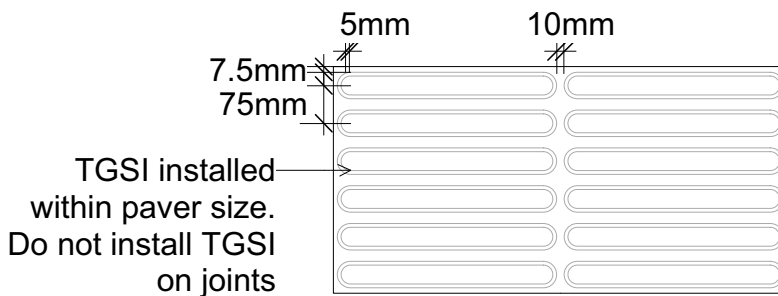
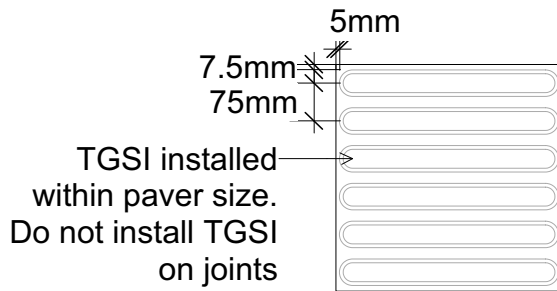
Inspection of tactiles for secure fixing into substrate material. If loose, remove and replace.

Inspection of tactiles for trip hazard where the height of tactile exceeds nominated dimensions in Australian Standard 1428.4.1



## 01 TGSI 'WARNING' TACTILE (BUTTONS) SETOUT DETAIL

Scale 1:10



## 02 TGSI 'DIRECTIONAL' TACTILE SETOUT DETAIL

Scale 1:10

## TGSI Configuration and Layout

- Before installation, consult Council's Landscape Architect or Urban Design Team to ensure layout is consistent and in line with Waverley Councils TGSI strategy. This is a 'whole of area' approach which:
  - Ensures a consistent approach to the application of TGSIs
  - Avoids creating confusion when confronted with a physical hazard
  - Builds confidence and reliability in the use of TGSIs for people who need them
  - Avoids incorrect and non-standard configurations which is meaningless to users
  - Reduces unnecessary mistakes in installation due to the impact of site conditions
- Reduces cost in re-installing TGSIs, if installed incorrectly
- Indicates the need for when further advice may be required from an Access Consultant for more complex conditions and atypical scenarios

General Condition	Required	Not Required
At top and bottom of a stairway	X	
At the top and bottom of a 1 in 14 ramp	X	
Midway landings of stairs and ramps with continuous handrails on both sides		X
At median cut through at same grade as road	X	
At grade carriageways ie. raised pedestrian crossings	X	
Driveways with limited sight lines in retail and commercial areas	X	
Overhead hazards on pathways less than 2m high	X	
Kerb ramp grade between 1 in 8 to 1 in 8.5		X
Kerb ramp grade shallower than 1 in 8.5	X	
Kerb ramp grade steeper than 1 in 8.5	Assess on a case by case basis	
Distance between the property / building line and top of kerb ramp is less than 3000mm		X
Distance between the property / building line and top of kerb ramp is more than 3000mm	Assess on a case by case basis	
Kerb ramp is aligned with building line and in direction of travel across the carriage way		X
Kerb ramp not aligned with building line and in direction of travel across the carriage way	Assess on a case by case basis	
Bus stop boarding points	X	

## *Scenarios of Use*

### **Stairs and Ramps**

- Install warning TGSIs at top and bottom of stairs
- Install warning TGSIs at top and bottom of ramps
- Warning TGSIs are required at midway landings of ramps and stairs if handrails are not continuous or are not provided on both sides of stairs or ramps.

### **Kerb Ramps**

- Warning TGSIs are not generally recommended to be installed on the face of kerb ramps with a compliant gradient of 1:8-1:8.5. However, where the gradient of the kerb ramp is shallower than 1:8-1:8.5, install warning TGSIs on the face of the kerb ramp.
- It may be appropriate to retain pre-existing TGSIs on the face of some existing kerb ramps. This should be assessed on a case by case basis.

To minimise the need for TGSIs, where possible, kerb ramps should meet AS1428.4.1 to include the following:

- Maximum gradient of the kerb ramp 1:8 - 1:8.5
- Kerb ramp aligned with the building line and in the direction of travel across the carriageway
- Top of kerb ramp located less than 3000mm from the property / building line
- Kerb ramps must be aligned with opposite kerb ramps to provide clear wayfinding when crossing a road. If they are not aligned, they should be re-installed so that they do align.
- Directional TGSIs are not recommended to be installed leading to kerb ramps, due to the significant length of directional indicators that would be required to link the building line with the majority of kerb ramps, as well as minimising potential confusion and discomfort for a range of users including older people, parents with prams, shopping trolley users and wheelchair users. As an alternative, a range of standardised environmental cues for crossings will be outlined in the forthcoming Local Local Centres Public Improvement Plan. Until these cues are further developed, each situation should be assessed on a case by case basis.

### **At Grade Crossings**

Install warning TGSIs where a pedestrian area joins a carriageway at grade (i.e. on the same level) or to delineate the pedestrian area from the carriageway. For example at raised pedestrian crossings and driveways on both sides of crossings.

### **Bus Stops**

- Bus Stops are required to have warning and directional TGSIs installed in accordance with The Disability Standards for Accessible Public Transport and AS1428.4.1.
- Directional TGSIs are required to be installed across the direction of travel, extending 600-800mm
- A 600-800mm x 600-800mm pad of warning TGSIs, located 300mm from the kerb edge, indicates the location of the bus boarding point. This pad links to the directional TGSIs.

