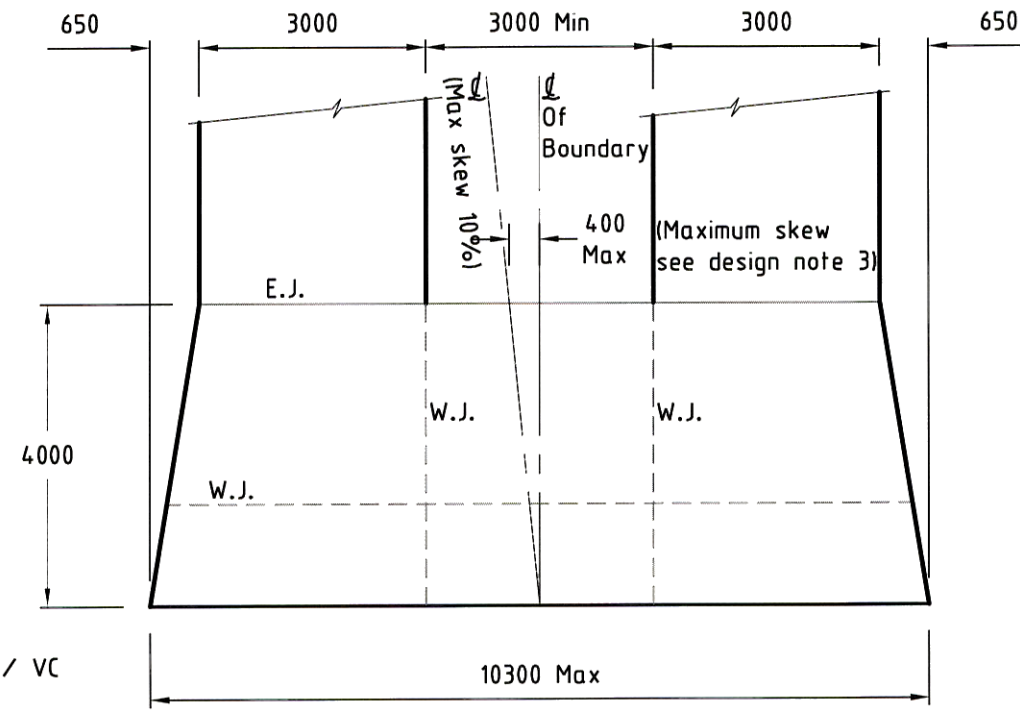
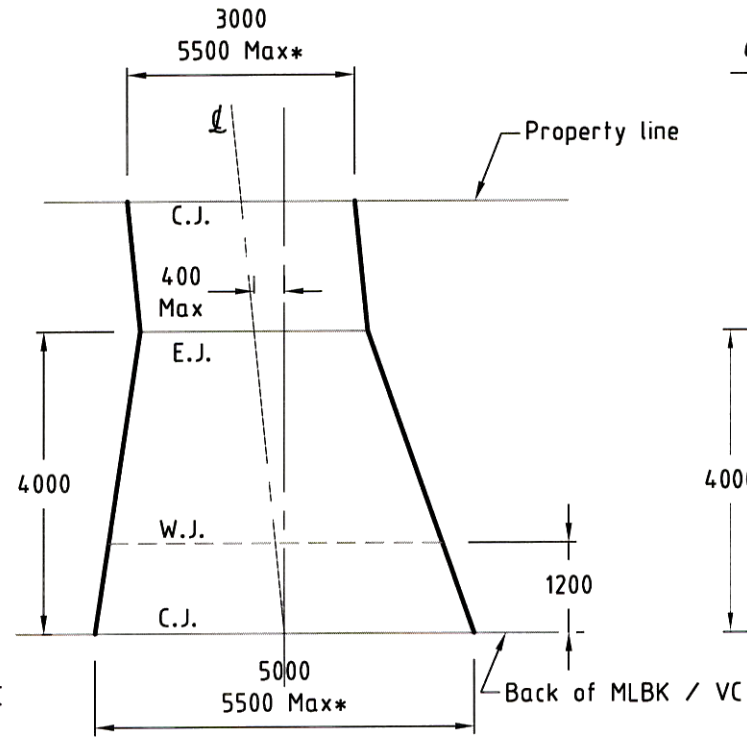
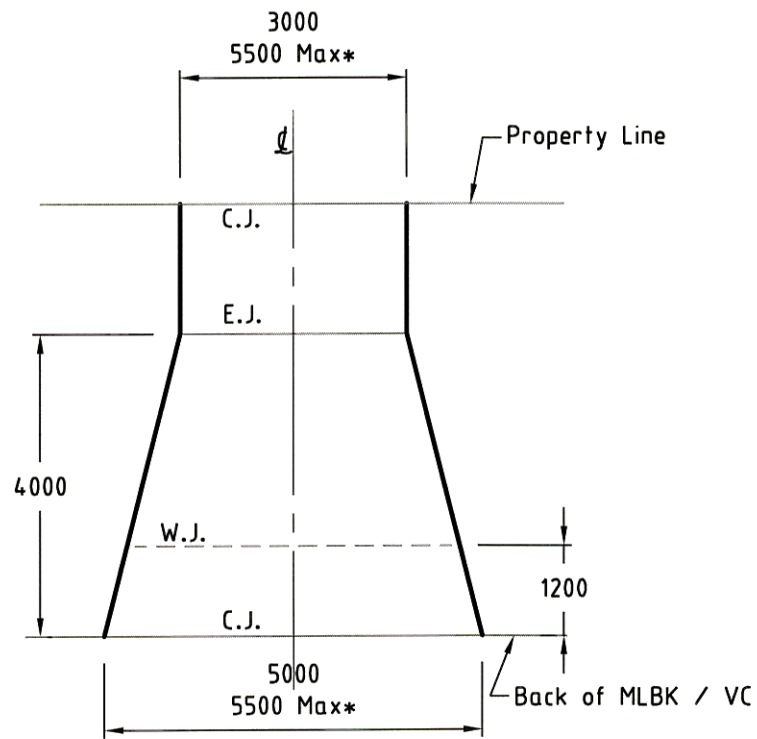


REFERENCE DRAWING ONLY



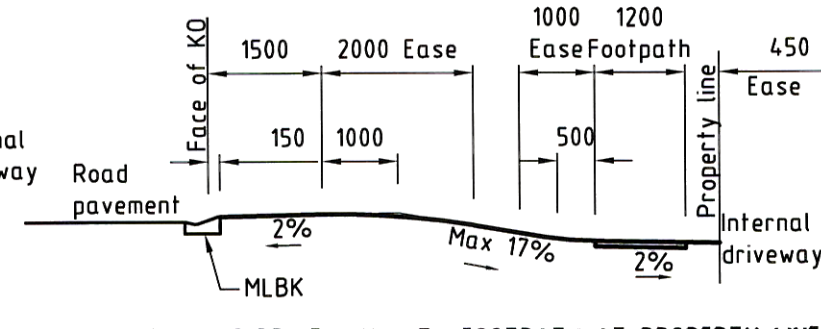
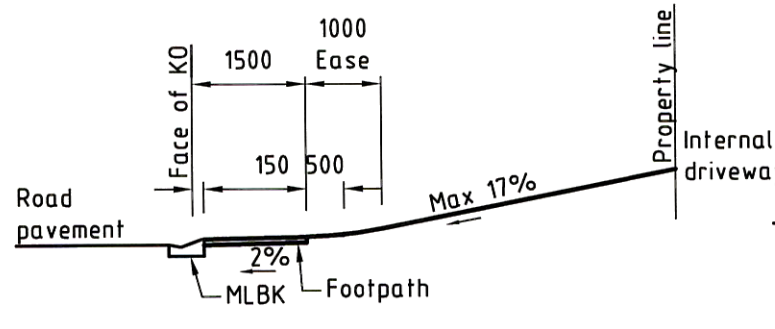
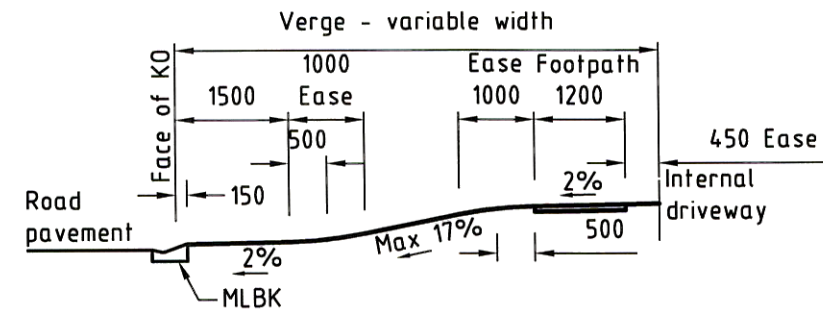
DRIVEWAY TYPE R
FOR USE WITH DEVELOPMENTS OF UP TO 3 RESIDENCES

DRIVEWAY TYPE R - SKEWED FOR USE WITH DEVELOPMENTS OF UP TO 3 RESIDENCES

DRIVEWAY TYPE RD
FOR DOUBLE DRIVEWAY

- DESIGN NOTES**
1. Construction joints (C.J.) to be provided against all existing concrete paving except where (E.J.) is specified.
 2. Existing footpaths of less than 100mm thk across proposed driveways are to be removed and replaced with standard driveway section.
 3. Driveways to be constructed normal to kerbline where ever possible. where necessary, a maximum skew of 1:10 is permitted.
 4. Driveways not to be constructed closer than 1200 to any engineering service such as sumps and 1500 to ActewAGL substations, power poles and street lights.
 5. This is applicable for single residences or up to 3 residences, for accesses to more than 3 residences, see drawing no. DS5-02

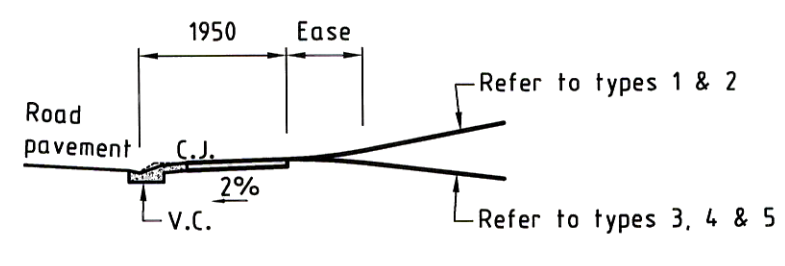
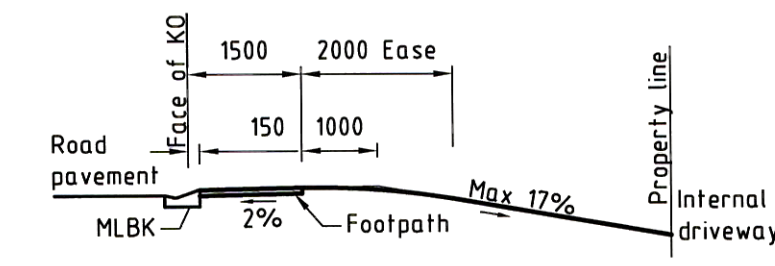
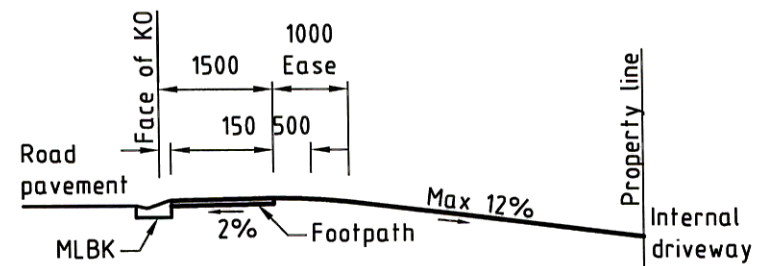
- SPECIFICATION**
- s1. All concrete shall be grade 32. (F'c = 32 MPa). Aggregate size to be 20 maximum.
 - s2. Residential driveways shall be un-reinforced concrete of 100 mm minimum thickness.
 - s3. All new driveways shall be constructed on granular sub-base class 1 of 75mm minimum thickness and compacted to 95% of modified maximum dry density (MMDD). Subgrades shall be compacted to 90% MMDD.
 - s4. Expansion joints (E.J.) to be sealed with 13mm self expanding cork joint sealer for the full depth and to be located 4000 from vehicular crossing or modified layback kerbs or at property boundary where verge < 4000.
 - s5. Weakened plane joints (W.J.) to be 3mm wide to 1/4 depth for extruded work and to the full depth of formed sections. (W.J.'s) to be located at 3000 max.
 - s6. Broomed finish to be applied to all concrete surfaces.
 - s7. All concrete to be cured continuously for 3 days after placing.



TYPE 1 - RISING DRIVEWAY WITH FOOTPATH AT PROPERTY LINE

TYPE 2 - RISING DRIVEWAY WITH FOOTPATH AT KERB

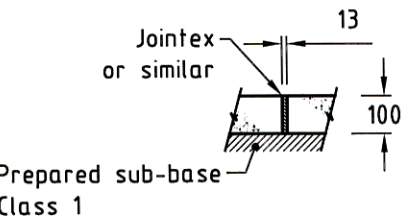
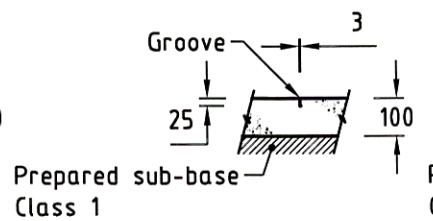
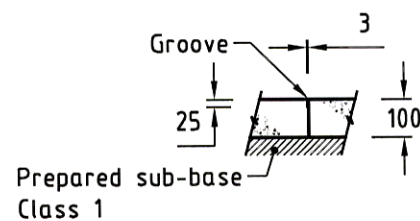
TYPE 3 - FALLING DRIVEWAY WITH FOOTPATH AT PROPERTY LINE



TYPE 4 - FALLING DRIVEWAY WITH FOOTPATH AT KERB

TYPE 5 - FALLING DRIVEWAY WITH FOOTPATH AT KERB

TYPE 6 - TYPICAL DETAIL FOR VEHICULAR CROSSING (V.C)
RESIDENTIAL DRIVEWAYS - LONGITUDINAL SECTIONS



CONSTRUCTION JOINT (C.J.)

WEAKENED PLANE JOINT (W.J.)

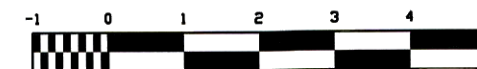
EXPANSION JOINT (E.J.)

JOINT DETAILS

LONGITUDINAL SECTIONS

* The maximum width at the property boundary and kerb line will only be supported where the driveway is serving a double or larger garage, or multiple dwellings; in all other cases the maximum is to be as per the standard driveway type R

NOT TO BE USED FOR CONSTRUCTION



ACT GOVERNMENT

TRANSPORT AND INFRASTRUCTURE DIVISION

DESIGN STANDARD URBAN INFRASTRUCTURE

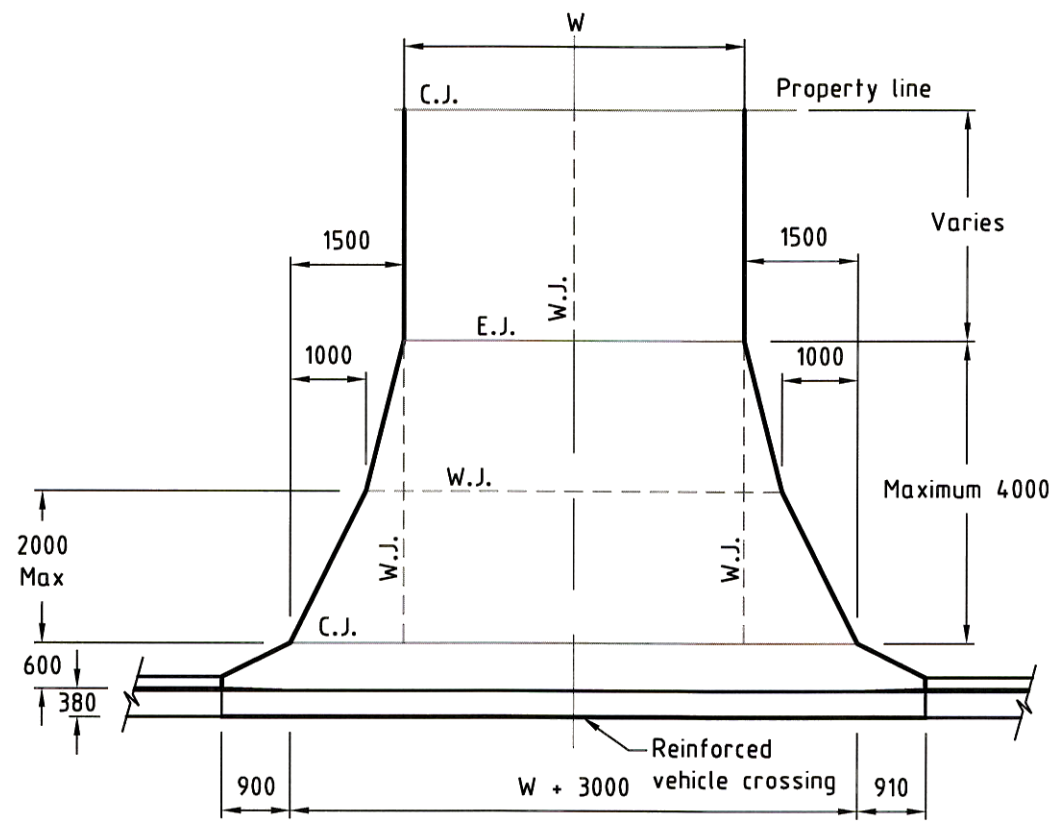
DRAFTING DATE
Paul Dowling / Robert Vanderkley

APPROVED DATE
16/12/09

Standard Drawing

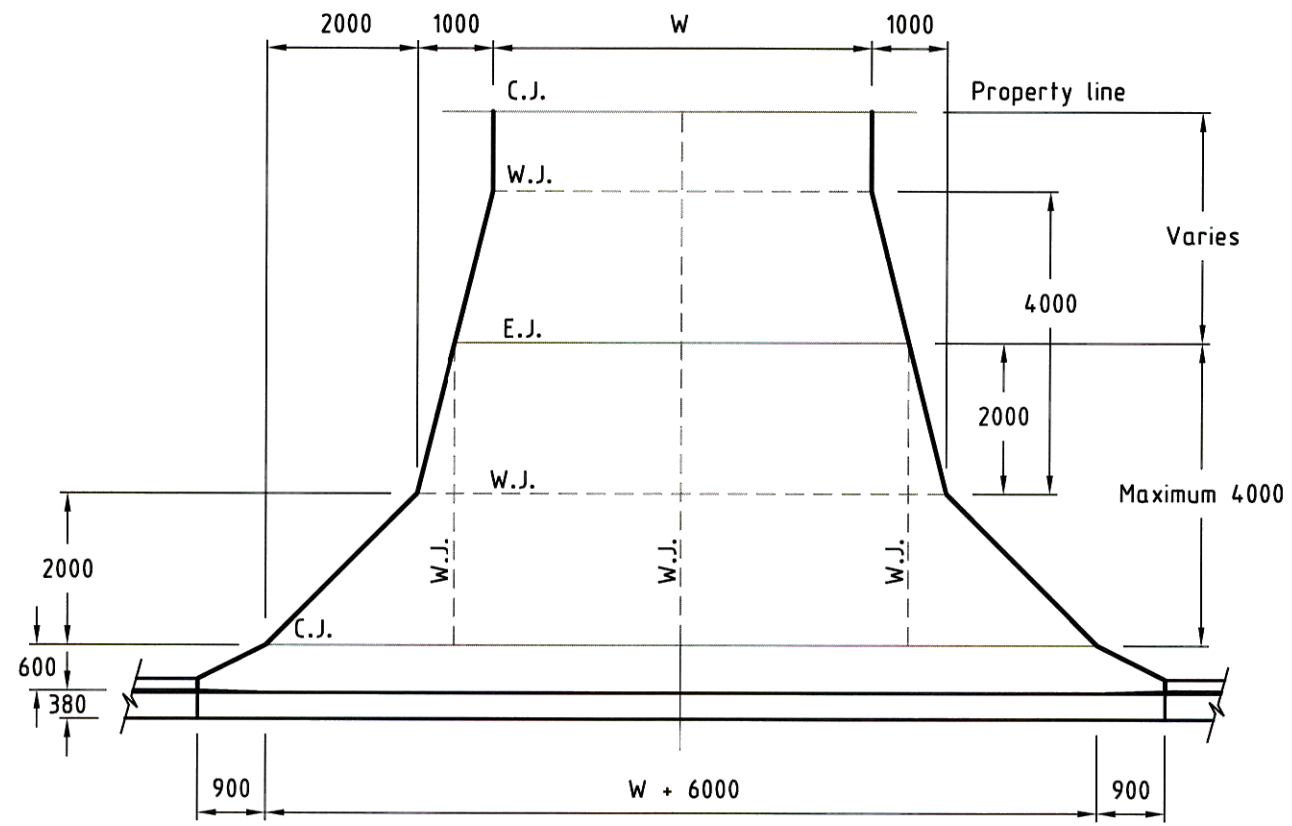
DOMESTIC DRIVEWAYS

| | | |
|---------------------------|---------------|---------------|
| DOCUMENT NUMBER DS5-01 | SHEET No 1 | REVISION 1 |
|---------------------------|---------------|---------------|



DRIVEWAY TYPE HD1

FOR USE WITH DEVELOPEMENTS OF FOUR TO EIGHT TOWNHOUSES / UNITS OR CARPARKING AREAS



DRIVEWAY TYPE HD2

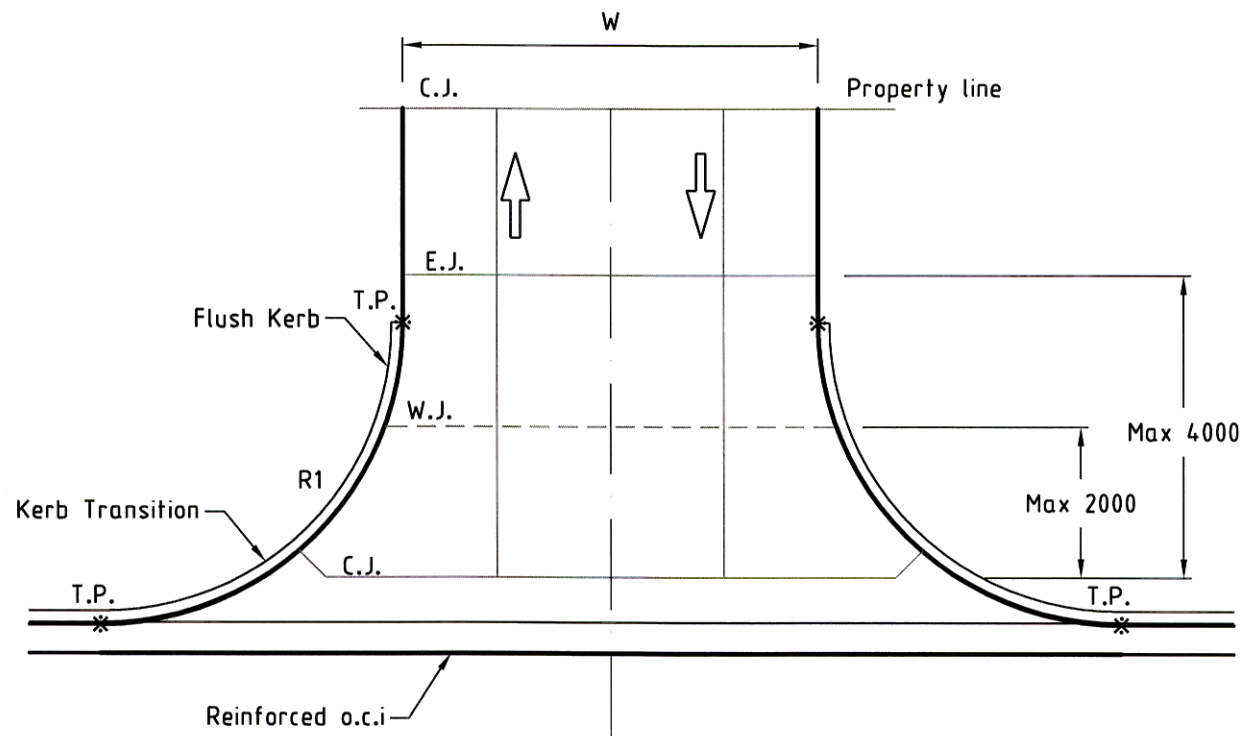
FOR USE WITH DEVELOPEMENTS OF MORE THAN EIGHT TOWNHOUSES / UNITS OR COMMERCIAL PROPERTIES

DESIGN NOTES

- Expansion joints (E.J.) shall be located maximum 4000 from vehicular crossings and at 15000 elsewhere.
- Weakened plane joints (W.J.) shall be located at 3000 maximum centres on industrial driveways.
- Construction joints (C.J.) to be provided against all existing concrete paving except where (E.J.) is specified.
- Existing footpaths of less than 150 thickness across proposed driveways are to be removed and replaced with standard driveway section.
- Heavy duty driveways to be graded longitudinally at a max. Of 10% and matched to footpath levels and grades where applicable. Allowance for future footpath where none existing.
- Driveways to be constructed normal to the kerb line wherever possible. Where necessary, a maximum skew of 1:10 is possible.
- Driveways not to be constructed closer than 1200 to any engineering service such as sumps, and 1500 to any ACTEWAGL sub-stations, power poles and street lights.
- The entry must always be on the left hand side of the exit. Where entry and exit are separated, they should be signposted accordingly.
- The type of vehicle chosen for design should represent the predominant use.
- The typical dimensions allow for simultaneous in / out movement of the chosen vehicle.
- These dimensions are provided as a general guide. It may be possible using vehicle turning templates as per A.S. 2890.2 to design narrower driveways to suit a particular site.
- A standard template should be used to demonstrate that the largest vehicle likely to use the site can negotiate the crossing.

SPECIFICATION

- Must comply with TAMS standard specification
- Major concrete works
 - Flexible pavement construction
- All concrete shall be grade 32 (F_c =32 MPa). Aggregate size to be 20 maximum.
 - Industrial driveways shall be 150 thk and reinforced with SL82 mesh at 50 top cover.
 - All new driveways shall be constructed on granular sub-base class 1 of 75 minimum thickness and compacted to 95% of modified maximum dry density (MMDD). Subgrades shall be compacted to 90% MMDD. Broomed finish to be applied to all concrete surfaces.
 - Broomed finish to be applied to all concrete surfaces.
 - All concrete to be cured continuously for 3 days after placing.

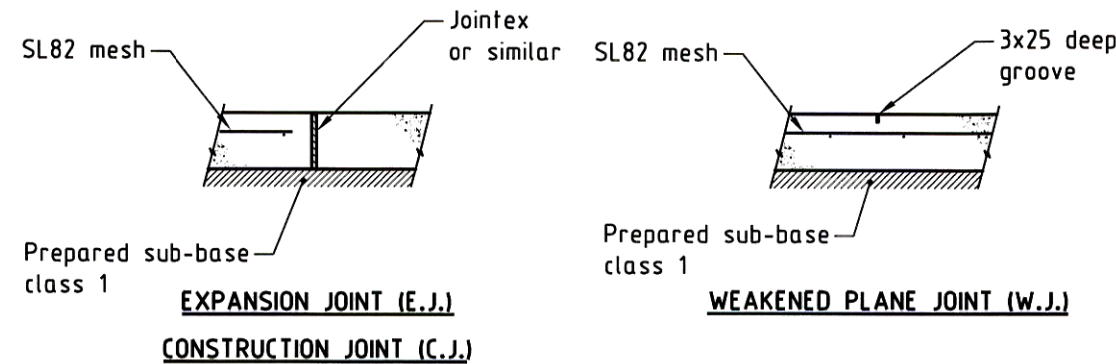


TYPE HDR

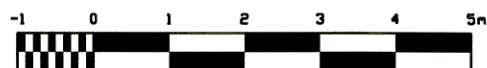
TRANSITION TO FLUSH KERB CONCRETE PAVEMENT

| VEHICLE TYPE | SMALL RIGID VEHICLE (S.R.V.) | | HEAVY RIGID VEHICLE (H.R.V.) | | ARTICULATED VEHICLE (A.V.) | |
|--------------------|------------------------------|------|------------------------------|-----------|----------------------------|---------|
| | HD1 | HDR | HD2 | HDR | HD2 | HDR |
| W | 4500 | 3000 | 5000 | 5500 | 7200 | 9000 |
| R1 | - | 4000 | - | 9000 | - | 9000 |
| MAX RATE OF CHANGE | | | 1.5%/5.5m | 1.5%/5.5m | 1%/5.5m | 1%/5.5m |
| MAX SLOPE | 17% | 17% | 10% | 10% | 10% | 10% |

DRIVEWAY DIMENSIONS



JOINT DETAILS



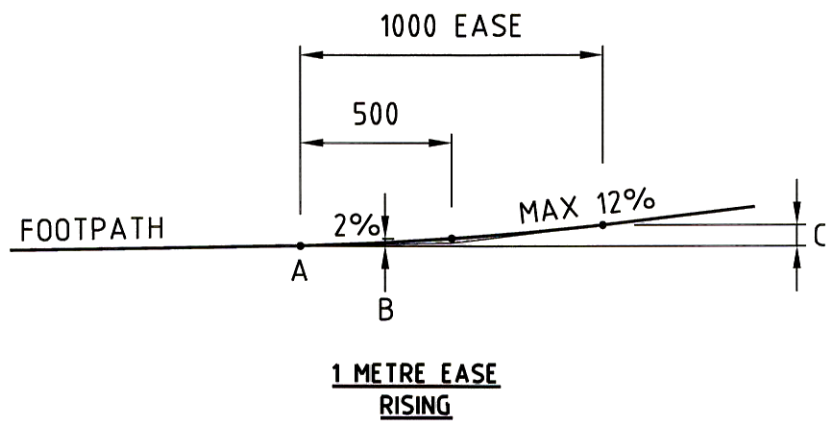
NOT TO BE USED FOR CONSTRUCTION

ACT GOVERNMENT

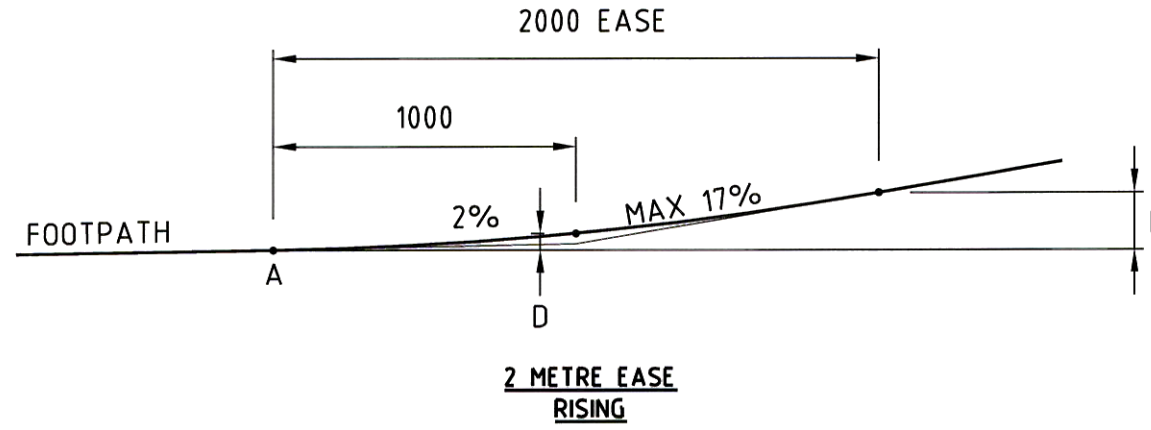


TRANSPORT AND INFRASTRUCTURE DIVISION
DESIGN STANDARD URBAN INFRASTRUCTURE

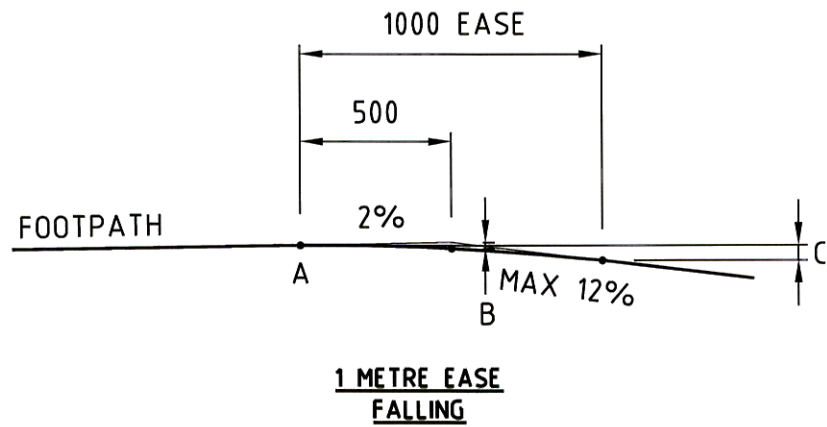
| | | |
|----------------------------------|----------|----------|
| DRAFTING | DATE | |
| Paul Dowling / Robert Vanderkley | | |
| APPROVED | DATE | |
| <i>[Signature]</i> | 16/10/09 | |
| Standard Drawing | | |
| HEAVY DUTY DRIVEWAYS | | |
| DOCUMENT NUMBER | SHEET No | REVISION |
| DS5-02 | 2 | 1 |



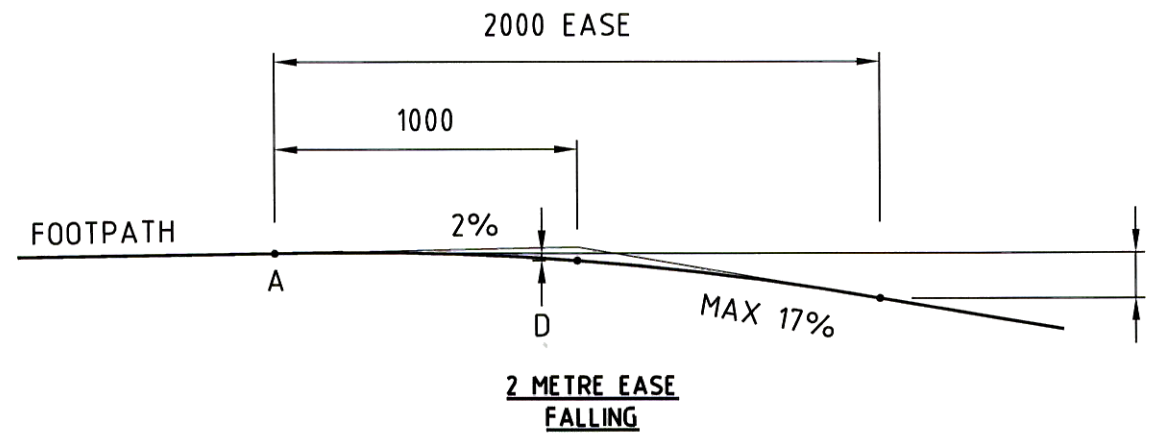
| | | SLOPE OF DRIVEWAY | | | | | | | | | |
|-----------|---|-------------------|----|----|----|----|----|-----|-----|-----|----|
| | | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 11% | 12% | |
| DIMENSION | A | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| | B | 10 | 10 | 15 | 15 | 15 | 20 | 20 | 20 | 25 | |
| | C | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | |



| | | SLOPE OF DRIVEWAY | | | | | |
|-----------|---|-------------------|-----|-----|-----|-----|-----|
| | | 12% | 13% | 14% | 15% | 16% | 17% |
| DIMENSION | A | 00 | 00 | 00 | 00 | 00 | 00 |
| | D | 45 | 50 | 50 | 50 | 55 | 55 |
| | E | 140 | 150 | 160 | 170 | 180 | 190 |



| | | SLOPE OF DRIVEWAY | | | | | | | | | |
|-----------|---|-------------------|----|----|----|----|----|-----|-----|-----|----|
| | | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 11% | 12% | |
| DIMENSION | A | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| | B | 10 | 10 | 15 | 15 | 15 | 20 | 20 | 20 | 25 | |
| | C | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | |



| | | SLOPE OF DRIVEWAY | | | | | |
|-----------|---|-------------------|-----|-----|-----|-----|-----|
| | | 12% | 13% | 14% | 15% | 16% | 17% |
| DIMENSION | A | 00 | 00 | 00 | 00 | 00 | 00 |
| | D | 45 | 50 | 50 | 50 | 55 | 55 |
| | E | 140 | 150 | 160 | 170 | 180 | 190 |

ACT GOVERNMENT

TRANSPORT AND
INFRASTRUCTURE DIVISION

**DESIGN STANDARD
URBAN INFRASTRUCTURE**

| | |
|----------------------------------|----------|
| DRAFTING | DATE |
| Paul Dowling / Robert Vanderkley | |
| APPROVED | DATE |
| <i>Tony SM</i> | 16/10/09 |

Standard Drawing
DRIVEWAY LEVELS
FOR 1 AND 2
METRE
VERTICAL CURVES

| | | |
|-----------------|----------|----------|
| DOCUMENT NUMBER | SHEET No | REVISION |
| DS5-03 | 3 | 1 |