

Concrete Notes

General

- CN1 Use "AS3972-1997-portland and blended cements-type GP" cement (uno).
- CN2 All concrete shall be subject to project control sample and testing to S3600-2001-concrete structures.
- CN3 Consolidate by vibration. Cure surfaces as shown on the plans or as directed in the specification or as directed by the superintendent.
- CN4 Fix reinforcement as shown on drawings. The type and grade is indicated by a symbol as shown below:
 N hot rolled deformed bar, grade 500
 R plain round bar, grade 250
 SI / RL hard drawn wire fabric square or rectangular
 following this symbol a numeral indicates the specified diameter.
- CN5 Provide bar supports or spacers to provide concrete cover as detailed to all reinforcement.

Concrete pavements

- CN6 Concrete mix parameters -
 maximum aggregate size 20mm
 flexural strength at 28 days = 3.5 mpa ($f_c=32\text{mpa}$)
 flexural strength at 90 days = 3.85 mpa
 maximum water/cement ratio = 0.55
 maximum shrinkage limit = 650 micron strains (as1012 pt13)
 minimum cement content = 300kg/m³
 cement to be type "sl" (normal cement) to as3972
 slump = 80mm
- CN7 Sawn joints are to be cut not sooner than 24 hours and not later than 48 hours after concrete pour to avoid damaging the surface during sawcut or as directed by the supintendent.
- CN8 Joint layout shall be as detailed on the plans.
- CN9 Provide 10mm wide expansion joints between all buildings, other structures and pavements.
- CN10 Bond breaker to be two (2) uniform coats of bitumen emulsion all over the exposed surface and on end.
- CN11 Dowels and tie bars to meet strength requirements of structural grade steel in accordance with as iso 1302-2005-geometrical product specifications. Dowels and tie bars shall be -
 straight,
 to length specified,
 all dowels to be hot dip galvanised,
 sawn to length not cropped.
- CN12 Dimensions of sealant reservoir dependant on the sealant type adopted. Superintendent approval to be obtained for sealant and reservoir dimensions and detail proposed by the contractor. Refer to plans for typical arrangement and sealant.
- CN13 Prior to the placement of concrete in the adjacent slab, 'ableflex' filler shall be adhered to the already cast and cleaned concrete face using an approved waterproof adhesive. Adhesive shall be liberally applied to the full face of the concrete slab to be covered by the filler, and on the full face of the filler to be adhered.
- CN14 The base course shall be kept moist (not wet) by sprinkling with water immediately prior to pouring the concrete.
- CN15 All work to be finished to satisfy its intended use as shown on the plans, and / or in accordance with the specification.

Kerbing notes

- CN16 All concrete kerbs to have a minimum characteristic compressive strength $f_c=25\text{mpa}$ (uno).
- CN17 All kerbs, dish drains, etc. To be constructed on 75mm minimum base course.
- CN18 Kerb expansion joints shall be formed from 10mm compressible cork filler board for the full depth of the section.
- CN19 Expansion joints shall be located at drainage pits, on tangent points of curves and elsewhere at 12m maximum spacing (uno).
- CN20 Tooled joints shall be min 3mm wide and located at maximum 3m spacing.
- CN21 Integral kerb joints shall match the location of the pavement jointing.

Asphaltic Concrete Notes

General

- AC1 Asphaltic concrete mix design, manufacture, placing and compaction shall be in accordance with RMS Specification R116-Asphalt (dense graded and open graded) and AS2150-2005 - Hot Mix Asphalt - A Guide To Good Practice, Annexure R116/1 to be completed by subcontractor and submitted for approval by superintendent 7 days prior to AC works.
- AC2 Mineral filler to comply with AS2150 - 2005 - Hot Mix Asphalt - A Guide to Good Practice.
- Mix proportions
- AC3 Job mix - 7mm nominal size aggregate. Minimum bitumen content (%) by (mass of total mass) - 5.1%.
- AC4 Mix stability - between 16kn and 36kn as determined by RMS test method T601 - Compaction of test specimens of dense grade bituminous mixtures and T603 - Stability of dense grade bituminous mixtures.
- AC5 Air voids in compacted mix - between 4% of volume and 7% of the mix. Voids filled in binder, 65-80% of air voids in the total mineral aggregate filled by binder in accordance with RMS test method T601 - Compaction of test specimens of dense grade bituminous mixtures, T605 - Maximum density of bituminous plant mix and T606 - Bulk density of compacted dense graded bituminous mixtures.

Pavement preparation

- AC6 The existing surface to be sealed, shall be dry and broomed before commencement of work to ensure complete removal of all superficial foreign and loose matter.
- AC7 All depressions or uneven areas are to be tack-coated and brought up to general level of pavement with asphaltic concrete before laying of main course.
- Tack coat
- AC8 The whole of the area to be sheeted with asphaltic concrete shall be lightly and evenly coated with rapid setting bitumen. Application rate for residual bitumen shall be 0.15 to 0.30 litres/square metre. Application shall be by means of a mechanical sprayer with spray bar.

Spreading

- AC9 All asphaltic concrete shall be spread with a self propelled paving machine.
- AC10 The asphaltic concrete shall be laid at a mix temperature as shown below -
- | road surface temp in shade (°c) | mix temperatures (°c) |
|---------------------------------|-----------------------|
| 5 - 10 | not permitted |
| 10 - 15 | 150 |
| 15 - 25 | 145 |
| 25+ | 140 |
- AC11 Asphaltic concrete shall not be laid when the road surface is wet or when cold winds chill the mix to adversely affect temperature of mix during spreading and compaction operations.
- AC12 The minimum compacted thickness is 50mm in two (2) layers.

Joints

- AC13 The number of joints both longitudinal and transverse shall be kept to a minimum.
- AC14 The density and surface finish at joints shall be similar to those of the remainder of the layer.

Compaction

- AC15 All compaction shall be undertaken using self propelled rollers.
- AC16 Initial rolling shall be completed before the mix temperature falls below 105°C.
- AC17 Secondary rolling shall be completed before the mix temperature falls below 60°C.
- AC18 Minimum characteristic value of relative compaction of a lot when tested in accordance with AS2150 - 2005 - Hot mix asphalt - a guide to good practice shall be 95%.

Finished pavement properties

- AC19 Finished surfaces shall be smooth, dense and true to shape and shall not vary more than 10mm from the specified plan level at any point and shall not deviate from the bottom of a 3m straight edge laid in any direction by more than 5mm.

Notes

Key to symbols

Reference drawings

P1	31.05.13	AMP	Issued for DA	JG	CJA
Rev	Date	Drawn	Description	Ch'k'd	App'd



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Client



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 Nepean Green Penrith
 Notes and Legend Sheet 2

Designed	DR	.	Eng check	JG	.
Drawn	AMP	.	Coordination	JG	.
Dwg check	DR	.	Approved	CJA	.
Scale at A1	N.T.S		Status	PRE	Rev
					P1

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Preliminary - Not for Construction