

SOUTH DUBLIN COUNTY COUNCIL
Traffic Management Centre
Roads (Traffic and Transportation) Department



TECHNICAL SPECIFICATION 3
SDCC-TS-03
SIGNAL FURNITURE AND EQUIPMENT

**REQUIREMENTS FOR THE DESIGN AND INSTALLATION OF
TRAFFIC CONTROL EQUIPMENT
FOR SOUTH DUBLIN COUNTY COUNCIL**

Issue 5.0
May 2014

TRAFFIC MANAGEMENT CENTRE
ROADS (TRAFFIC AND TRANSPORTATION) DEPARTMENT
SOUTH DUBLIN COUNTY COUNCIL
COUNTY HALL
TALLAGHT
DUBLIN 24

1. SIGNAL HEAD SPECIFICATION

- 1.1** All traffic signal heads shall be approved to the appropriate UK Highways Agency standard/specification.
- 1.2** Regulatory signs where these are required shall conform to Irish Standards and shall be continuously illuminated by LEDs
- 1.3** Optics shall be nominally 210mm diameter except where otherwise specified.
- 1.4** Green arrow optics shall be nominally 210mm diameter except where otherwise agreed.

2. SIGNAL POLE SPECIFICATION

- 2.1** All poles shall be 114mm diameter of plastic coated galvanised steel, 4000mm, 5000mm or 7000mm long, with pre-drilled fixing holes.
- 2.2** The pole shall be so designed and constructed as to provide adequate support and stability for up to 4 (3-aspect) traffic signal heads. The pole shall have a strength and rigidity at least equivalent to that of a seamless steel tube of 100mm outside diameter and 4.4mm thickness and a tensile strength of + 375MN/m² and a Z-value of 39.3cm³
- 2.3** Holes shall be drilled on four sides of the pole to suit the positions of the signal heads. All holes shall be sealed with grommets, maintaining as far as possible a smooth surface and consistent colour.
- 2.4** A single cable entry hole, 50mm wide and 300mm long shall be provided below ground level, extending to within 170mm of the surface. The position of this slot shall face away from the kerb to match the associated chamber. All rough edges at holes shall be removed.
- 2.5** Pickling or other approved process shall remove all mill scale and rust on the exterior and interior surfaces. The poles shall be protected by hot dip galvanising to the thickness corresponding to a pole thickness of 4.4mm and in accordance with BS729 1971 or current edition.
- 2.6** Where required, fixing holes for a push button unit shall be provided to suit mounting of the unit at a level of 1100mm above the footpath. The orientation of the unit shall face parallel to the kerb on the side adjacent to the kerb dishing or tactile paving so that pedestrians shall face approaching traffic when pressing the button.
- 2.7** Grey coloured plastic pole caps shall be fitted at the top of all poles to seal against water ingress. These shall be securely fixed to the pole using a bolt or other mechanism and shall not, without the prior written agreement of the Council, protrude above the top of a correctly installed traffic signal or pedestrian head.
- 2.8** All poles shall be directly installed into a chamber with integral pole foundation. The chamber shall be a nominal plan size of 300x 300mm but 450 x 450mm nominal plan size chambers may be used.. All chambers with integral pole foundations shall be Cooper Clarke or equivalent, as agreed with the Council.

3. LAMP SPECIFICATION

- 3.1** Traffic signal lamps shall be LED type
Approved to EN12368, Performance class 3/2
Phantom ratio – Class 5 (better than 16:1)
Output intensity – Type M class A (400cd)
- 3.2** Where applicable LED heads must be compatible with existing controllers for fault monitoring
- 3.3** Where 7000mm traffic signal poles are installed all related electrical equipment shall be housed within an appropriate sized midi pillar at the base of the pole. Within the midi pillar all electrical connections shall be made off within an appropriately IP rated PVC enclosure. Correct glands and shrouds should be employed to maintain the integrity of the IP rating of the enclosure.
- 3.4** The use of 6000mm traffic signal poles shall only be used with prior agreement by the council. On such occasions all related electrical equipment shall be housed within an appropriate sized midi pillar at the base of the pole. Within the midi pillar all electrical connections shall be made off within an appropriately IP rated PVC enclosure. Correct glands and shrouds should be employed to maintain the integrity of the IP rating of the enclosure.

4. CABLE SPECIFICATION

- 4.1** All cable, including low voltage, shall be in accordance with the current edition of the BS6346 and shall be suitable for underground unprotected usage in accordance with the code of practice of the Institute of Electrical Engineers and the safety regulations of the Electricity Supply Boards.
- 4.2** Cables shall be armoured or otherwise protected against accidental damage. They shall be covered in an outer sheath of orange coloured PVC. Cables with a rigid copper core, cross-linked polythene insulating envelope, sheath in PVC, armouring composed of two sheets of spirally wound steel and outer sheath in PVC, may be used. No other cables shall be used without the prior approval in writing of the Council.
- 4.3** LV (low voltage) and ELV (extra low voltage) cabling shall be steel wire armoured colour coded except for detector feeder cables that shall be unarmoured single pair. The armouring shall be utilised as the Earth Continuity Conductor and shall have adequate conductivity.
- 4.4** A minimum of 4 spare cores shall be provided on each cable run.
- 4.5** All cables shall be laid in ducts. Low Voltage and Extra Low Voltage shall be segregated into different cables and shall not be mixed in the terminations at the tops of poles etc. All cables shall be clearly labelled at the controller using indelible ink on plastic labels securely fixed to the cable to indicate their function in sufficient detail to allow future maintenance and modification.
- 4.6** Separate neutrals shall be utilised for signalling, regulatory signs and push buttons.
- 4.7** Unused cable cores at the controller shall be connected to earth at the controller end only. Unused cable cores between poles shall be connected to earth at one pole only.

- 4.8** Earthing shall be in accordance with British Standard Code of Practice CP1013 or equivalent.
- 4.9** Traffic signal cables shall not pass through ducts or chambers used by any other service and other services shall not utilise traffic signal ducts.
- 4.10** Joints shall not be permitted in low voltage cables or ELV cables to push buttons.

5. VANDALISM

- 5.1** In the case of all signal heads, push-button units, solar cells etc, the Council shall be satisfied that each of these items shall provide a reasonable resistance to vandalism. Where a product has not previously been supplied to the Council, the Contractor may be required to provide or demonstrate a sample at the Contractor's own cost. The Council may also require test certificates from an independent body testifying as to the robustness of the item in question.

6 ADDITIONAL INFORMATION

- 6.1** Additional information or clarification may be obtained from:

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Land Use, Planning and Transportation Department
South Dublin County Council
County Hall,
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Dublin 24

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