

2001 No. 73

PRIVATE STREETS

**The Private Streets (Construction) (Amendment) Regulations
(Northern Ireland) 2001**

Made 21st February 2001

Affirmed by resolution of the Assembly on 24th April 2001

Coming into operation 1st May 2001

The Department for Regional Development^(a) (“the Department”) in exercise of the powers conferred on it by Article 5(1) and (2) of the Private Streets (Northern Ireland) Order 1980^(b) and of every other power enabling it in that behalf, hereby makes the following regulations:

Citation and commencement

1. These regulations may be cited as the Private Streets (Construction) (Amendment) Regulations (Northern Ireland) 2001 and shall come into operation on 1st May 2001.

Application

2. These regulations apply to the construction of streets in respect of which the Department has exercised street planning functions under Article 3(1) of the Private Streets (Northern Ireland) Order 1980 after the coming into operation of these regulations.

Amendments to the Private Streets (Construction) Regulations (Northern Ireland) 1994

3.—(1) The Private Streets (Construction) Regulations (Northern Ireland) 1994^(c) shall be amended as provided by paragraphs (2) to (19).

(2) In regulation 2(1) (interpretation)—

(a) after the definition of “anchoring material” there shall be inserted the following definitions—

“apron plate” means a detachable plate between ground level and the bottom of a control pillar door allowing access to service cables;

“base compartment” means a lockable compartment in the base section of a lighting column to house control gear and cable terminations;”;

(a) See S.R. 1999 No. 481 Article 6(d) and Schedule 4 Part IV
(b) S.I. 1980/1086 (N.I. 12) as amended by Article 6 of S.I. 1992/3203 (N.I. 19)
(c) S.R. 1994 No. 131

- (b) in the definition of “construction of a street” after the word “drainage” there shall be inserted “, lighting”;
- (c) after the definition of “the Construction Products Directive” there shall be inserted the following definitions—
- “ “contactor” means a mechanical switching device having only one position of rest, operated otherwise than by hand, capable of making, carrying and breaking currents under normal circuit conditions including overload conditions;
- “control pillar” means the ground mounted lockable cabinet which houses a public electricity supplier’s electrical supply equipment and the control and protection equipment for the lighting system;”;
- (d) after the definition of “embankment” there shall be inserted the following definition—
- “ “excavation for column base” means the excavated hole in which a lighting column will be secured;”;
- (e) after the definition of “foul water” there shall be inserted the following definition—
- “ “fuse switch” means a switch, (Disconnecter), (Switch— Disconnecter), in which a fuse-link or a fuse carrier with a fuse-link forms the moving contact;”;
- (f) after the definition of “haunch” there shall be inserted the following definition—
- “ “internal wiring” means the cable system within the lighting column running between the luminaire terminals and the underground supply cable, or the wiring within the control pillar;”;
- (g) after the definition of “landing” there shall be inserted the following definitions—
- “ “lantern” means a transparent case for holding and shielding a light;
- “luminaire” means equipment which distributes, filters or transforms the light from one or more lamps, and which includes any part necessary for supporting, fixing and protecting the lamps, but not the lamps themselves, and, where necessary, circuit auxiliaries together with the means for connecting them to the supply;
- “maintenance factor” means the depreciation factor to be applied to the calculated initial light level and is the product of the lamp flux maintenance factor and the luminaire maintenance factor;”;
- (h) after the definition of “pitch line” there shall be inserted the following definitions—
- “ “projection” in relation to road lighting column bracket arms means the horizontal distance from the point of entry to the luminaire to a vertical line passing through the centre of the cross section of the column at ground level;

“public electricity supplier” has the same meaning as in Article 3 of the Electricity (Northern Ireland) Order 1992(a);”;

(i) after the definition of “roadbase” there shall be inserted the following definition—

“ “road duct” means a rigid pipe of 150 mm internal diameter provided to contain a road lighting cable, which itself may be contained within a duct, where it passes across and below the carriageway;”;

(j) after the definition of “safety fence” there shall be inserted the following definition—

“ “sealing compound” means an organic or chemical mixture which when contained within an enclosure will solidify to provide insulation and mechanical protection to electrical cable joints buried in the ground;”;

(k) after the definition of “shared surface” there shall be inserted the following definitions—

“ “side entry” in relation to road lighting luminaires means a luminaire designed so that when supported by a bracket entering the luminaire at right angles to the carriageway line and substantially parallel to the carriageway surface the majority of the light output is directed downwards towards the road surface;

“spigot” in relation to road lighting bracket arms means that portion of the bracket arm to which the luminaire will be attached;”;

(l) after the definition of “surround” there shall be inserted the following definition—

“ “switch fuse” means a switch, (Disconnecter), (Switch—Disconnecter), in which one or more poles have a fuse in series in a composite unit;”;

(m) after the definition of “trimming” there shall be inserted the following definition—

“ “uplift” means the vertical distance between the top of a lighting column and the optical centre of the luminaire;”.

(3) In regulation 2(9) for sub-paragraph (a) there shall be substituted—

“(a) an organisation accredited in a EEA State in accordance with BS7501: 1989, BS7502: 1989 (equivalent European Standards BS EN 45001: 1995, BS EN 45002: 1996 and BS EN 45003: 1995) standards for the tests carried out; or”.

(4) In regulation 2(10) there shall be added to the table of abbreviations and symbols in appropriate alphabetical order the following—

“A4	Paper sheet size 210 x 297 mm
cd/m ²	Candela per square metre
CIE	Commission Internationale de L’Eclairage
HBC	High Breaking Capacity
Hz	Hertz (cycles per second)
IP	Ingress Protection
kw	Kilowatt
lux	lumens per square metre
mm ²	square millimetre
PECU	photo-electric control unit”

(5) For regulation 4 (goods and materials) there shall be substituted—

“4. All goods and materials mentioned in Schedule 2 to be used in the construction of a street shall comply with the detailed requirements set out in that Schedule.”.

(6) In regulation 12(1) (retaining walls, pipelines and other structures) for the words “(3rd revision 1989)” there shall be substituted “(6th revision 1995)”.

(7) After regulation 15 (Lay-bys, bus bays, parking bays, turning areas, verges and service strips) there shall be inserted the following regulation—

“Street lighting

15A. A street shall be provided with an efficient system of street lighting in accordance with the detailed requirements of Schedule 8.”.

(8) In regulation 16 (deposit of plans)—

- (a) in paragraph (2)(a)(v) the word “and” shall be deleted; and
- (b) after paragraph 2(b) there shall be added the following sub-paragraph—
“; and
- (c) a plan to scale of not less than 1 in 500 showing the layout of the street lighting equipment, together with four sets of drawings to a scale of 1 in 500 showing column heights and location, lantern type, lamp wattage, cable size and location, ducting arrangements, position and voltage of public electricity supplier conductors and minimum agreed clearances from columns.”.

(9) In regulation 17 (notice of commencement and completion of stages of work)—

- (a) in paragraph (1)(h) the word “and” shall be deleted; and
- (b) after paragraph (1)(i) there shall be added the following sub-paragraphs—
“(j) the erection of street lighting columns or cubicles;
(k) the laying of any cable in trench or in duct;
(l) the covering up of any cable or duct; and

(m) the electrical testing of the street lighting installation.”.

(10) For regulation 20 (expenses of carrying out investigations and tests and taking of samples) there shall be substituted—

“20. The person by whom or on whose behalf the plans were deposited shall bear any expenses incurred in carrying out inspections, investigations and tests and the taking of samples.”.

(11) In regulation 21 (removal or alteration of work not in conformity with the regulations) for paragraph (2) there shall be substituted—

“(2) If a requirement under paragraph (1) is not complied with within the time specified in the notice the Department may execute the work specified in the notice and the expenses incurred shall be borne by the person by whom or on whose behalf the plans were deposited.”.

(12) In Schedule 1 (publications to which reference is made in the Regulations)—

(a) for Table A there shall be substituted—

“TABLE A BRITISH STANDARDS CITED IN REGULATION 2

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 7501: 1989	—	—	regulation 2(9)(a)
BS 7502: 1989	—	—	” ”
BS EN 45003: 1995	—	—	” ” ”

(b) in Table B for the words “(3rd Revision 1989)” there shall be substituted “(6th Revision 1995)”;

(c) for Table C there shall be substituted—

“TABLE C BRITISH STANDARDS CITED IN SCHEDULE 2

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 12: 1996	—	—	paragraph 7
BS 65: 1991 (1997)	1	AMD 8622	paragraph 12(5)
BS 187: 1978	1	AMD 5427	paragraph 3(3)
BS EN 124:1994	1	AMD 8587	paragraphs 13(3), 15

TABLE C — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 882:1992	—	—	paragraph 1(1)
BS 1200:1976 (1996)	1 2 3	AMD 4510 AMD 4834 AMD 5126	paragraph 2
BS 1247: Part 2:1990	—	—	paragraph 16
BS 1521: 1972 (1994)	1	AMD 3519	paragraph 25
BS 3148: 1980	—	—	paragraph 17
BS 594: Part 1: 1992	1	AMD 8397	paragraph 6(1), 6(2), 6(3)
BS EN 588-1:1997	—	—	paragraph 12(7)
BS 3921: 1985 (1995)	1	AMD 8946	paragraph 3(1), 3(4)
BS 4482: 1985	1	AMD 9482	paragraph 24
BS 4483: 1998	—	—	paragraph 26
BS 4660: 1989 (1998)	1	AMD 9132	paragraph 12(6)
BS 4987: Part 1: 1993	1 2	AMD 8122 AMD 8400	paragraphs 1(2), 5(1), 5(2), 5(3), 5(4)
BS 5911: Part 103: 1994	—	—	paragraph 12(2)
BS 5328: Part 1: 1997	—	—	paragraphs 19, 20, 21, 22, 27
BS 5328: Part 2: 1997	1	AMD 9691	paragraphs 19, 20, 21, 22, 27
BS 5328: Part 3: 1990	1 2 3	AMD 6927 AMD 7176 AMD 9312	paragraphs 19, 20, 21, 22, 27
BS 5328: Part 4: 1990	1 2 3	AMD 6928 AMD 8760 AMD 9313	paragraphs 19, 20, 21, 22, 27

TABLE C — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 5481: 1977 (1998)	1 2	AMD 3631 AMD 4436	paragraph 12(6)
BS 5911: Part 2: 1982	1 2	AMD 5146 AMD 8077	paragraph 14
BS 5911: Part 100: 1988	1 2	AMD 6269 AMD 7588	paragraph 12(1)
BS 5911: Part 110: 1992	1	AMD 8155	paragraph 12(3)
BS 5911: Part 114: 1992	—	—	paragraph 12(4)
BS 5911: Part 230: 1994	—	—	paragraph 13(1)
BS 6073: Part 1: 1981	1 2	AMD 3944 AMD 4462	paragraph 3(2)
BS 7263: Part 1: 1994	—	—	paragraphs 10(1), 10(2), 11 ”

(d) in Table D for the reference to BS 1377: Part 2: 1990 there shall be substituted the following—

“BS 1377: Part 2: 1990 1 AMD 9027 paragraph 4(2)(f)”

(e) for Table F there shall be substituted—

“TABLE F BRITISH STANDARDS CITED IN SCHEDULE 4

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 65: 1991(1997)	1	AMD 8622	paragraph 3(4)
BS 449: Part 2: 1969	1 2 3 4 5 6 7 8 9	AMD 416 AMD 523 AMD 661 AMD 1135 AMD 1787 AMD 4576 AMD 5698 AMD 6255 AMD 8859	paragraph 6(11)(b)

TABLE F — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS EN 124: 1994	1	AMD 8587	paragraph 6(13), 6(16)
BS 812: Part 110: 1990	—	—	paragraph 4(8)
BS 882: 1992	—	—	paragraph 3(7)
BS 1247: Part 2: 1990	—	—	paragraph 6(10)(a)
BS 1377: Part 2: 1990	1	AMD 9027	paragraph 4(9)
BS 4211: 1994	—	—	paragraph 6(11)(f)
BS 4660: 1989 (1998)	1	AMD 9132	paragraph 3(4)
BS 5481: 1977 (1998)	1 2	AMD 3631 AMD 4436	paragraph 3(4)
BS 5911: Part 103: 1994	—	—	paragraph 3(4)
BS 5911: Part 100: 1988	1 2	AMD 6269 AMD 7588	paragraph 3(4)
BS 5911: Part 110: 1992	1	AMD 8155	paragraph 3(4)
BS 5911: Part 114: 1992	—	—	paragraph 3(4)
BS 5911: Part 200: 1994	—	—	paragraph 6(4)
BS 5911: Part 230: 1994	—	—	paragraph 7(3), 7(5)
BS 6073: Part 1: 1981	1 2	AMD 3944 AMD 4462	paragraph 6(2)
BS EN 752-1: 1996	—	—	paragraph 1(4)
BS EN 752-2: 1997	—	—	paragraph 1(4)
BS EN 752-3: 1997	—	—	paragraph 1(4) „

(f) for Table H there shall be substituted—

“TABLE H BRITISH STANDARDS CITED IN SCHEDULE 5

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 594: Part 1: 1992	1	AMD 8397	paragraphs 12(3), 13(3), 13(4)
BS 594: Part 2: 1992	1	AMD 8398	paragraphs 12(3), 13(3)
BS 598: Part 100: 1987 (1996)	1 2	AMD 6122 AMD 9030	paragraph 10(6)
BS 598: Part 101: 1987	—	—	paragraph 10(3)
BS 598: Part 102: 1996	—	—	paragraph 10(3)
BS 598: Part 104: 1989 (1996)	1 2	AMD 6738 AMD 9031	paragraph 10(3)
BS 598: Part 105: 1990	1	AMD 7294	paragraph 10(3)
BS 598: Part 107: 1990 (1996)	1 2	AMD 8399 AMD 9032	paragraph 10(3)
BS 598: Part 108: 1990	—	—	paragraph 10(3)
BS 598: Part 109: 1990	—	—	paragraph 10(3)
BS 812: Part 2: 1995	1 2	AMD 9195 AMD 10379	paragraph 10(3)
BS 812: Part 101: 1984	—	—	paragraph 10(3)
BS 812: Part 102: 1989	—	—	paragraph 10(3)
BS 812: Part 103: Section 103-1: 1985	1	AMD 6003	paragraph 10(3)
BS 812: Part 103: Section 103-2: 1989	—	—	paragraph 10(3)
BS 812: Part 105: Section 105-1: 1989	—	—	paragraph 10(3)

TABLE H — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 812: Part 105: Section 105-2:1990	—	—	paragraph 10(3)
BS 812: Part 106: 1985	—	—	paragraph 10(3)
BS 812: Part 111: 1990	—	—	paragraphs 7(1), 8(1), 10(3)
BS 882: 1992	—	—	paragraph 10(3)
BS 1377: Part 2: 1990	1	AMD 9027	paragraphs 6(7), 7(5), 8(3)
BS 2000: Part 397: 1995	—	—	paragraph 10(3)
BS 3690: Part 3: 1990	—	—	paragraph 10(3)
BS 4483: 1998	—	—	paragraph 2(4)
BS 4987: Part 1: 1993	1 2	AMD 8122 AMD 8400	paragraphs 9(1), 12(2), 13(2), 13(5), 14(2), 15
BS 4987: Part 2: 1993	1 2	AMD 8158 AMD 8361	paragraphs 9(1), 9(2), 11(3), 12(2), 12(4), 13(2), 13(5)
BS 6677: Part 1: 1986 (1997)	—	—	paragraph 17(4)
BS 6677: Part 3: 1986	—	—	paragraph 17(4)
BS 6717: Part 1: 1993	—	—	paragraph 17(1)
BS 7533: Part 3: 1997	—	—	paragraphs 2(1), 17(2), 17(4)

(g) for Table J there shall be substituted—

“TABLE J BRITISH STANDARDS CITED IN SCHEDULE 6

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 4987: Part 1: 1993	1 2	AMD 8122 AMD 8400	paragraph 2(2)(b)(ii)
BS 4987: Part 2: 1993	1 2	AMD 8158 AMD 8361	paragraph 2(2)(b)(ii)

(h) for Table K there shall be substituted—

“TABLE K BRITISH STANDARDS CITED IN SCHEDULE 7

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 594: Part 1: 1992	1	AMD 8397	paragraph 2(6)(a)
BS 594: Part 2: 1992	1	AMD 8398	paragraph 2(6)(a)
BS 882: 1992	—	—	paragraph 2(13)
BS 1881: Part 101: 1983	1 2	AMD 6091 AMD 6728	paragraph 2(28)
BS 1881: Part 102: 1983	1 2	AMD 6090 AMD 6727	paragraph 2(28)
BS 1881: Part 108: 1983	1 2	AMD 6105 AMD 9074	paragraph 2(28)
BS 1881: Part 111: 1983	1 2	AMD 6102 AMD 9387	paragraph 2(28)
BS 1881: Part 112: 1983	1	AMD 6100	paragraph 2(28)
BS 1881: Part 116: 1983	1 2	AMD 6097 AMD 6720	paragraph 2(28)
BS 4483: 1998	—	—	paragraph 5(21)
BS 4987: Part 1: 1993	1 2	AMD 8122 AMD 8400	paragraph 2(5)

TABLE K — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 4987: Part 2: 1993	1 2	AMD 8158 AMD 8361	paragraph 2(5)
BS 7263: Part 1: 1994	—	—	paragraphs 2(10), 4(2), 4(8)(b), 4(9)(b)
BS 7533: Part 4: 1998	—	—	paragraph 4(5)

(i) for Table L there shall be substituted—

“TABLE L OTHER PUBLICATIONS CITED IN SCHEDULE 7

<i>Publication</i>	<i>Citation</i>
The Department of the Environment and the Department for Regional Development publication “Creating Places—achieving quality in residential developments and incorporating guidance on layout and access” published in 2000 by Corporate Document Services, 67 Newpark Industrial Estate, Caulside Drive, Antrim, BT41 2DU.	paragraphs 4(6), 8

(j) after Table L there shall be added—

“TABLE M BRITISH STANDARDS CITED IN SCHEDULE 8

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 729: 1971 (1994)	—	—	paragraph 4(3)(d)
BS 1361: 1971 (1986)	1 2 3	AMD 4171 AMD 4795 AMD 6692	paragraph 4(6)(a) and Figures 1 and 2

TABLE M — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 1362: 1973 (1992)	1 2	AMD 4573 AMD 6691	Figures 1 and 2
BS 4553-1: 1998	—	—	paragraph 4(10)(a)
BS 4800: 1989 (1994)	—	—	paragraph 4(15)(j)
BS 4987: Part 1: 1993	1 2	AMD 8122 AMD 8400	Figure 4
BS 5328: Part 1: 1997	—	—	Figure 5
BS 5489: Part 1: 1992	1	AMD 9010	paragraphs 1(1), 4(2)(a)
BS 5489: Part 2: 1992	—	—	paragraphs 1(1), 1(2), 4(2) (a), 4(2)(l)
BS 5489: Part 3: 1992	1 2	AMD 9011 AMD 9674	paragraphs 1(1), 4(2)(a), 4(2)(l)
BS 5489: Part 4: 1992	1	AMD 9012	paragraphs 1(1), 4(2)(a)
BS 5489: Part 5: 1992	—	—	paragraphs 1(1), 4(2)(a)
BS 5489: Part 6: 1992	—	—	paragraphs 1(1), 4(2)(a)
BS 5489: Part 7: 1992	1	AMD 9013	paragraphs 1(1), 4(2)(a)
BS 5489-8: 1998	—	—	paragraphs 1(1), 4(2)(a)
BS 5489: Part 9: 1996	—	—	paragraphs 1(1), 4(2)(a)
BS 5489: Part 10: 1992	1	AMD 9014	paragraphs 1(1), 4(2)(a)
BS 5649: Part 2: 1978 (1997)	1	AMD 3136	paragraph 4(3)(a), 4(3)(i)

TABLE M — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS 5649: Part 3: 1982 (1997)	—	—	paragraph 4(3)(a), 4(3)(i)
BS 5649: Part 4: 1982 (1997)	—	—	paragraph 4(3)(a), 4(3)(i)
BS 5649: Part 5: 1982 (1997)	—	—	paragraph 4(3)(a), 4(3)(i)
BS 5649: Part 6: 1982 (1997)	—	—	paragraph 4(3)(a), 4(3)(i)
BS 5649: Part 7: 1985 (1997)	—	—	paragraph 4(3)(a), 4(3)(i)
BS 5649: Part 8: 1982 (1997)	—	—	paragraph 4(3)(a), 4(3)(i), 4(3)(j)
BS 5972: 1980	1 2	AMD 4094 AMD 4486	paragraph 4(8)(a), 4(8)(c)
BS 6004: 1995	—	—	paragraph 4(11)
BS 6346: 1997	—	—	paragraph 4(10)(b), 4(10)(c)
BS 6746: 1990	1	AMD 6938	paragraph 4(10)(a)
BS 7654: 1997	—	—	paragraph 4(9)
BS 7671: 1992	1 2	AMD 8536 AMD 9781	paragraphs 2(5), 8(1)(b), 8(5) and Figure 2
BS EN 40-1: 1992	—	—	paragraph 4(3)(a), 4(3)(i)
BS EN 60192: 1993	1	AMD 8718	paragraph 4(4)(b)
BS EN 60269-1: 1994 (1992)	1 2	AMD 6448 AMD 8310	Table C and Figures 1 and 2

TABLE M — *continued*

<i>Publication</i>	<i>Amendment</i>		<i>Citation</i>
	<i>Serial No</i>	<i>Reference No or date</i>	
BS EN 60529: 1992	1	AMD 7643	paragraph 4(2)(e)
BS EN 60598-2-3: 1994	1 2	AMD 9337 AMD 9685	paragraph 4(2)(a)
BS EN 60662: 1993	1 2 3 4 5 6	AMD 8348 AMD 8457 AMD 8571 AMD 9150 AMD 9777 AMD 9934	paragraph 4(4)(a)
BS EN 60922: 1997	—	—	paragraph 4(2)(c)
BS EN 60923: 1996	—	—	paragraph 4(2)(c)
BS EN 60947-3: 1992	1 2 3	AMD 7854 AMD 9079 AMD 9817	paragraph 4(6)(d)
BS EN 60947-4-1: 1992	1 2 3 4 5	AMD 7337 AMD 7702 AMD 7849 AMD 8753 AMD 9816	paragraph 4(7)(a)
BS EN 61048: 1993	1	AMD 9153	paragraph 4(2)(b)
BS EN ISO 9002: 1994	—	—	paragraph 4(3)(b)

TABLE N OTHER PUBLICATIONS CITED IN SCHEDULE 8

<i>Publication</i>	<i>Citation</i>
The Department of the Environment and the Department for Regional Development publication “Creating Places—achieving quality in residential developments and incorporating guidance on layout and access” published in 2000 by Corporate Document Services, 67 Newpark Industrial Estate, Caulside Drive, Antrim, BT41 2DU.	Table A, paragraph 2(4)(a), 2(4)(b)
Department of the Environment for Northern Ireland Manual of Contract Documents Volume 1 Specification for Highway Works, Series 1900 Protection of Steelwork against Corrosion Published by The Stationery Office	paragraph 4(15)(j)

(13) For Schedule 2 (detailed requirements for goods and materials to be used in construction of streets) there shall be substituted—

“SCHEDULE 2 Regulation 4

Detailed Requirements for Goods and Materials to be used in Construction of Streets

<i>Goods and Materials</i>	<i>Specification</i>
1. Aggregates	
(1) for concrete	To BS 882: 1992.
(2) for bituminous materials	Sound clean hard crushed rock graded to BS 4987: Part 1: 1993.
2. Building sand	To BS 1200: 1976 (1996) Table 1.
3. Bricks	
(1) Clay	Well fired solid common brick or ordinary quality to BS 3921: 1985 (1995).
(2) Concrete	To BS 6073: Part 1: 1981
(3) Sand Lime	To BS 187: 1978
(4) Engineering	To BS 3921: 1985 (1995) Table 4 Class B.

SCHEDULE 2 — *continued*

<i>Goods and Materials</i>	<i>Specification</i>
4. Bitumen	Straight run or cut back petroleum bitumen in accordance with the requirements of Schedule 5 paragraph 15.
5. Bitumen macadam	
(1) Carriageway and shared surface basecourse	20mm dense graded basecourse to BS 4987: Part 1: 1993 supplemented by the requirements of paragraph 12 of Schedule 5 and paragraph 2(2)(b) of Schedule 6 respectively.
(2) Carriageway and shared surface wearing course	10mm or 14mm size close graded wearing course macadam to BS 4987: Part 1: 1993 supplemented by the requirements of paragraph 13 of Schedule 5 and paragraph 2(2)(b) of Schedule 6 respectively.
(3) Footway basecourse	20mm size dense basecourse in accordance with BS 4987: Part 1: 1993 subject to the requirements of paragraph 2(5) of Schedule 7.
(4) Footway wearing course	6mm size medium graded wearing course in accordance with BS 4987: Part 1: 1993 subject to the requirements of paragraph 2(6) of Schedule 7.
6. Asphalt	
(1) Carriageway and shared surface basecourse	60 per cent coarse aggregate hot rolled asphalt to BS 594: Part 1: 1992 Table 2; Column 2/4, Binder to Table 1, Binder Numbers 3 or 5; supplemented by the requirements of paragraph 12 of Schedule 5.
(2) Carriageway and shared surface wearing course	30 per cent coarse aggregate hot rolled asphalt to BS 594: Part 1: 1992 Table 6, Column 6/4, Schedule 1B; Binder to Table 1, Binder Numbers 3 or 5; supplemented by the requirements of paragraph 13 of Schedule 5 and paragraph 2(2)(b) of Schedule 6 respectively.
(3) Footway or footpath wearing course	15 per cent coarse aggregate hot rolled asphalt to BS 594: Part 1: 1992

SCHEDULE 2 — *continued*

<i>Goods and Materials</i>	<i>Specification</i>
	Table 6, Column 6/2, Schedule 1B; Binder to Table 1, Binder Numbers 3 or 5; supplemented by the requirements of paragraph 2(6) of Schedule 7.
7. Cement	Ordinary or rapid hardening Portland to BS 12: 1996.
8. Cement mortar	
(1) general use	1 part by volume of cement to 5 of building sand.
(2) for jointing pipes	1 part by volume of cement to 1 of building sand.
(3) for jointing kerbs	1 part by volume of cement to 3 of building sand.
9. Lime mortar	1 part by volume of hydrated lime to 2½ parts of building sand.
10. Kerbs and edgings	
(1) Concrete kerbs	Hydraulically compressed to BS 7263: Part 1: 1994 Type HB 2 of Figure 2 (150mm x 125mm Type BN of Figure 2 in shared surfaces).
(2) Concrete edgings	Hydraulically compressed to BS 7263: Part 1: 1994 Type ER or EF of Figure 4.
11. Concrete flags	Hydraulically compressed to BS 7263: Part 1: 1994 Type E70.
12. Pipes	
(1) Concrete	To BS 5911: Part 100: 1988
(2) Concrete prestressed	To BS 5911: Part 103: 1994
(3) Concrete perforated	To BS 5911: Part 110: 1992 With holes not greater than 10mm or less than 3mm; the total areas of holes shall be not less than 1,000mm ² per m length of pipe.
(4) Concrete porous	To BS 5911: Part 114: 1992.
(5) Clay	To BS 65: 1991 (1997).

SCHEDULE 2 — *continued*

<i>Goods and Materials</i>	<i>Specification</i>
(6) UPVC	To BS 5481: 1977 (1998) or BS 4660: 1989 (1998).
(7) Asbestos cement	To BS EN 588-1: 1997.
13. Gullies, gully gratings and frames	
(1) Concrete gullies	Shall have an internal diameter of 375mm and conform to BS 5911: Part 230: 1994.
(2) Cast iron gullies	To the requirements of paragraph 7 of Schedule 4.
(3) Gully gratings and frames	Cast iron to BS EN 124: 1994. Para 4 BS Ref Class C250 or D400. The metal used for the manufacture of castings to be as described in Para 6.1.1 of BS EN 124: 1994.
14. Precast concrete manholes	To BS 5911: Part 2: 1982.
15. Manhole covers and frames	Grade D400 and test load 400 KN. BS EN 124: 1994.
16. Step irons	To BS 1247: Part 2: 1990 and the requirements of paragraph 6(10) of Schedule 4.
17. Water	Mains supply, otherwise to BS 3148: 1980.
18. Sub-base and roadbase	Shall be hard sound uniformly graded crushed rock, reasonably cubical in shape and free of soil, slate, vegetable or other injurious matter and graded in accordance with the requirements of paragraphs 7 and 8 of Schedule 5.
19. Concrete grade C30/20	To BS 5328: Parts 1 and 2: 1997 and Parts 3 and 4: 1990 20mm nominal size aggregate with 275 kg per m ³ minimum cement content and medium workability.

SCHEDULE 2 — *continued*

<i>Goods and Materials</i>	<i>Specification</i>
20. Concrete grade C20/40	To BS 5328: Parts 1 and 2: 1997 and Parts 3 and 4: 1990 40mm nominal size aggregate with 190 kg per m ³ minimum cement content and medium workability.
21. Concrete grade C20/20	To BS 5328: Parts 1 and 2: 1997 and Parts 3 and 4: 1990 20mm nominal size aggregate with 220kg per m ³ minimum cement content and medium workability.
22. Concrete grade C7.5/40	To BS 5328: Parts 1 and 2: 1997 and Parts 3 and 4: 1990 40mm nominal size aggregate with 200kg per m ³ minimum cement content and medium workability.
23. Grass seed	Each 100kg of grass seed shall consist of— 60kg of red fescue S59 20kg of smooth stalked meadow grass 15kg of crested dogstail 5kg of white clover.
24. Mild steel reinforcing	To BS 4482: 1985.
25. Waterproof membrane	To BS 1521: 1972 (1994) Class B. IF.
26. Steel fabric reinforcement	To BS 4483: 1998 and the requirements of paragraph 2(1) and (4) of Schedule 5.
27. Ready-mixed concrete	To BS 5328: Parts 1 and 2: 1997 and Parts 3 and 4: 1990.
28. Block paving	Shall be in accordance with the requirements of paragraph 17 of Schedule 5.
29. Blinding	Shall be crushed rock of 19mm maximum size which is capable of

SCHEDULE 2 — *continued*

<i>Goods and Materials</i>	<i>Specification</i>
	filling the intricacies of the top layer of roadbase stone and being compacted to form a dense surface.
30. Luminaires	Shall be in accordance with the requirements of paragraph 4(2) of Schedule 8.
31. Lighting columns, doors and bracket arms	Shall be in accordance with the requirements of paragraph 4(3) of Schedule 8.
32. Lamps	Shall be in accordance with the requirements of paragraph 4(4) of Schedule 8.
33. Electrical switch gear	Shall be in accordance with the requirements of paragraph 4(5) of Schedule 8.
34. Electrical switch fuses and fuse switches	Shall be in accordance with the requirements of paragraph 4(6) of Schedule 8.
35. Contactors	Shall be in accordance with the requirements of paragraph 4(7) of Schedule 8.
36. PECUs	Shall be in accordance with the requirements of paragraph 4(8) of Schedule 8.
37. Cut-outs	Shall be in accordance with the requirements of paragraph 4(9) of Schedule 8.
38. Electrical cable	Shall be in accordance with the requirements of paragraph 4(10) and (11) of Schedule 8.
39. Cable ducting	Shall be in accordance with the requirements of paragraph 4(12) of Schedule 8.

SCHEDULE 2 — *continued*

<i>Goods and Materials</i>	<i>Specification</i>
40. Cable marker tape	Shall be in accordance with the requirements of paragraph 4(13) of Schedule 8.
41. Cable jointing kits	Shall be in accordance with the requirements of paragraph 4(14) of Schedule 8.
42. Control pillars	Shall be in accordance with the requirements of paragraph 4(15) of Schedule 8.

(14) In Schedule 3 (detailed requirements— setting out of street, site clearance, earthworks, preparation of sub-grade)—

- (a) in paragraph 1(2) after “drains,” there shall be inserted “street lighting cable tracks, column and pillar positions,”; and
- (b) in paragraph 3(2) after the word “to” there shall be inserted “such” and after the word “as” there shall be inserted “are”.

(15) In Schedule 4 (detailed requirements— drainage)—

- (a) in paragraph 1(4) for the words “BS 8005: Part O: 1987 and BS 8005: Part 1: 1987” there shall be substituted “BS EN 752-1: 1996, BS EN 752-2: 1997 and BS EN 752-3: 1997”;
- (b) in paragraph 3(4) after the word “jointed” there shall be inserted “and bedded”;
- (c) in paragraph 3(4) for Table B there shall be substituted the following table—

“TABLE B

<i>Type of pipe (not exceeding 600mm diameter)</i>	<i>Joint type</i>	<i>Bedding class</i>
Concrete to BS 5911: Part 100: 1988. Standard pipes for diameter not exceeding 300mm: Class M pipe or Class H pipe for diameter greater than 300mm	Flexible spigot and socket joints as described in BS 5911: Part 100: 1988	B
Prestressed concrete pipes to BS 5911: Part 103: 1994	Flexible spigot and socket or rebated joints as described in BS 5911: Part 103: 1994	B

TABLE B—*continued*

<i>Type of pipe (not exceeding 600mm diameter)</i>	<i>Joint type</i>	<i>Bedding class</i>
British Standard clay pipes to BS 65: 1991 (1997). Extra strength pipes to be used in all cases	Type 1 sockets with flexible joints as described in BS 65: 1991 (1997)	B
UPVC pipes to BS 5481: 1977 (1998) or BS 4660: 1989 (1998)	As described in BS 5481: 1977 (1998) or BS 4660: 1989 (1998)	E
Perforated concrete pipes to BS 5911: Part 110: 1992	Rebated joints as described in BS 5911: Part 110: 1992	A
Porous concrete pipes to BS 5911: Part 114: 1992	Ogee or rebated joints as described in BS 5911: Part 114: 1992	A

(d) in paragraph 6(4)(a) for the words “BS 5911: Part 200: 1989” there shall be substituted “BS 5911: Part 200: 1994”;

(e) in paragraph 6(4)(a) for Table D there shall be substituted the following table—

“TABLE D

Dimension for Precast Concrete Chambers

<i>Diameter of Pipe in mm</i>	<i>Depth of Chamber in m</i>	<i>Internal Diameter of Chamber in mm</i>
150	up to 3.1	1200
225	up to 3.2	1200
300	up to 3.275	1200
375	up to 3.35	1200
450	up to 3.75	1350
525	up to 3.825	1350
600	up to 3.9	1350
675	up to 4.0	1350
750	up to 4.075	1500
825	up to 4.15	1500
900	up to 4.225	1800

(f) for paragraph 6(11)(f) there shall be substituted—

- “the rungs shall be equally spaced at centres of between 250mm and 300mm and fixed to the stringers in accordance with BS 4211: 1994.”;
- (g) in paragraph 6(13) for the words “BS 497: Part 1: 1976 Type MA60” there shall be substituted “BS EN 124: 1994 Class D 400”;
- (h) in paragraph 6(16) for the words “BS 497: Part 1: 1976 Type MB 2-60” there shall be substituted “BS EN 124: 1994 Class B 125”;
- (i) for paragraph 7(3) there shall be substituted—
- “(3) Carriageway, including shared surface, gullies shall be circular 375mm internal diameter in accordance with BS 5911: Part 230: 1994.”; and
- (j) in paragraph 7(5) for the words “in Table 3 of BS 5911: Part 200: 1989” there shall be substituted “in accordance with BS 5911: Part 230: 1994”.
- (16) In Schedule 5 (detailed requirements — carriageways)—
- (a) in paragraph 2(1) in Table B for the words “BS 6717: Part 3: 1989” there shall be substituted “BS 7533: Part 3: 1997”;
- (b) in paragraph 2(4) for the words “BS 4483: 1985” there shall be substituted “BS 4483: 1998”;
- (c) after paragraph 7(8) there shall be added the following subparagraph—
- “(9) Where the sub-base is to be constructed of material used to provide protection to the formation from construction traffic in accordance with paragraph 6(5) the top layers of the material shall be removed to provide the depth required by Table A, B or C as appropriate and the material re-compacted in accordance with the requirements of Table E.”;
- (d) in paragraph 9(1) for the words “BS 4987: Part 1: 1988” and “BS 4987: Part 2: 1988” there shall be respectively substituted “BS 4987: Part 1: 1993” and “BS 4987: Part 2: 1993”;
- (e) in paragraph 9(2) for the words “BS 4987: Part 2: 1988” there shall be substituted “BS 4987: Part 2: 1993”;
- (f) for paragraph 10(3) there shall be substituted—
- “(3) The testing of bituminous materials shall be carried out by an approved laboratory as laid down in BS 598: Part 101: 1987; Part 102: 1996; Part 104: 1989 (1996); Part 105: 1990; Part 107: 1990 (1996); Part 108: 1990 and Part 109: 1990; BS 812: Part 102: 1989; BS 812: Part 103: Section 103-1: 1985; BS 812: Part 103: Section 103-2: 1989; BS 812: Part 105: Section 105-1: 1989; BS 812: Part 105: Section 105-2: 1990; BS 812: Part 106: 1985 and BS 882: 1992; BS 812: Part 2: 1995; Part 101: 1984; Part 103: 1985; Part 111: 1990 and Section 105-1: 1989; BS 2000: Part 397: 1995; BS 3690: Part 3: 1990; and copies of the certified results of the tests shall be given to the Department.”;
- (g) in paragraph 10(6) for the words “BS 598: Part 100: 1987” there shall be substituted “BS 598: Part 100: 1987 (1996)”;

- (h) in paragraph 11(3) for the words “BS 4987: Part 2: 1988” there shall be substituted “BS 4987: Part 2: 1993”;
 - (i) in paragraph 12(2) for the words “BS 4987: Part 1: 1988” and “BS 4987: Part 2: 1988” there shall be respectively substituted “BS 4987: Part 1: 1993” and “BS 4987: Part 2: 1993”;
 - (j) in paragraph 12(4) for the words “BS 4987: Part 2: 1988” there shall be substituted “BS 4987: Part 2: 1993”;
 - (k) in paragraph 13(2) for the words “BS 4987: Part 1: 1988” and “BS 4987: Part 2: 1988” there shall be respectively substituted “BS 4987: Part 1: 1993” and “BS 4987: Part 2: 1993”;
 - (l) in paragraph 13(5) for the words “BS 4987; Part 1: 1988” and “BS 4987: Part 2: 1988” there shall be respectively substituted “BS 4987: Part 1: 1993” and “BS 4987: Part 2: 1993”;
 - (m) in paragraph 14(2) for the words “BS 4987: Part 1: 1988” there shall be substituted “BS 4987: Part 1: 1993”;
 - (n) in paragraph 15 for the words “BS 4987: Part 1: 1988” there shall be substituted “BS 4987: Part 1: 1993”;
 - (o) in paragraph 17(1) for the words “BS 6717: Part 1: 1986” there shall be substituted “BS 6717: Part 1: 1993”;
 - (p) in paragraph 17(2) for the words “BS 6717: Part 3: 1989” there shall be substituted “BS 7533: Part 3: 1997”;
 - (q) in paragraph 17(4) for the words “BS 6677: Part 1: 1986” there shall be substituted “BS 6677: Part 1: 1986 (1997)”;
 - (r) in paragraph 17(4) after the words “BS 6677: Part 3: 1986” there shall be inserted “and BS 7533: Part 3: 1997”.
- (17) In Schedule 6 (detailed requirements — shared surfaces) in paragraph 2(2)(b)(ii) for the words “BS 4987: Part 1: 1988” and “BS 4987: Part 2: 1988” there shall be respectively substituted “BS 4987: Part 1: 1993” and “BS 4987: Part 2: 1993”.
- (18) In Schedule 7 (detailed requirements— footways, footpaths, footway crossings, kerbs, steps and stepped ramps, cycle tracks, verges and service strips)—
- (a) in paragraph 2(5) for the words “BS 4987: Part 1: 1988” and “BS 4987: Part 2: 1988” there shall be respectively substituted “BS 4987: Part 1: 1993” and “BS 4987: Part 2: 1993”;
 - (b) in paragraph 2(6) for the words “Subject to sub-paragraph (7) the wearing” there shall be substituted “Wearing”;
 - (c) in paragraph 2(6)(a) for the words “laid to give a compacted depth of 25 mm” there shall be substituted “transported, laid and compacted in accordance with BS 594: Part 2: 1992 to give a compacted depth of 25 mm”;
 - (d) paragraph 2(7) shall be deleted;
 - (e) in paragraph 2(10) for the words “BS 7263: Part 1: 1990” there shall be substituted “BS 7263: Part 1: 1994”;

(f) for paragraph 4(2) there shall be substituted—

“(2) Subject to sub-paragraph (6) kerbs shall be laid to provide a 125mm (40mm in shared surfaces) kerb face and shall be 255mm by 125mm hydraulically compressed concrete to BS 7263: Part 1: 1994 Type HB2 of Figure 2 (150mm x 125mm Type BN of Figure 2 in shared surfaces) set on a grade C7.5/40 cast in-situ concrete bed 400 mm wide by 150 mm deep and backed with grade C7.5/40 concrete.”;

(g) for paragraph 4(5) there shall be substituted—

“(5) Joints shall be between 5mm and 7mm wide and filled with cement mortar in accordance with BS 7533: Part 4: 1998.”;

(h) in paragraph 4(6) for the words “Department of the Environment for Northern Ireland publication “Layout of Housing Roads Design Guide” 1988” there shall be substituted “Department of the Environment and the Department for Regional Development publication “Creating Places—achieving quality in residential developments and incorporating guidance on layout and access” published in 2000.

(i) in paragraph 4(8)(b) for the words “BS 7263: Part 1: 1990 Type ER or Type EF of Figure 1” there shall be substituted “BS 7263: Part 1: 1994 Type ER or Type EF of Figure 4”;

(j) in paragraph 4(9)(b) for the words “BS 7263: Part 1: 1990 Type HB2 of Figure 1” there shall be substituted “BS 7263: Part 1: 1994 Type HB 2 of Figure 2”;

(k) in paragraph 5(21) for the words “BS 4483: 1985” there shall be substituted “BS 4483”; and

(l) for paragraph 8 there shall be substituted—

“8. Service strips shall be in accordance with the Department of the Environment and the Department for Regional Development publication “Creating Places—achieving quality in residential developments and incorporating guidance on layout and access” published in 2000”.

(19) After Schedule 7 there shall be added the Schedule set out in the Schedule to these regulations.

Sealed with the Official Seal of the Department for Regional Development on 21st February 2001.

(L.S.)

J. Carlisle

A senior officer of the Department
for Regional Development

Detailed Requirements — Street Lighting*Design*

1.—(1) Street Lighting shall be designed in accordance with BS 5489: Part 1: 1992; Part 2: 1992; Part 3: 1992; Part 4: 1992; Part 5: 1992; Part 6: 1992; Part 7: 1992; Part 9: 1996; Part 10: 1992 and BS 5489-8: 1998 to provide the level of lighting specified in Table A or B, as appropriate, on all carriageways, footways, footpaths and other areas to be adopted by the Department.

(2) Designs shall use the manufacturers value of initial lighting lumens, a maintenance factor not less than 0.75 and a CIE type C2 road surface as set out in BS 5489: Part 2: 1992 Table 3.

TABLE A

<i>Road Type as defined in the Department of the Environment and the Department for Regional Development publication “Creating Places —achieving quality in residential developments and incorporating guidance on layout and access” published in 2000.</i>	<i>Minimum Maintained Lighting Requirements</i>	
	<i>Average Illuminance</i>	<i>Minimum Point Illuminance</i>
Culs-de-sac and other access roads serving less than 100 dwellings	6 lux	2.5 lux
Access roads serving between 100 and 400 dwellings or serving industrial premises	3.5 lux	1 lux

TABLE B

<i>Road Type</i>	<i>Maintained Average Luminance L</i>	<i>Overall Uniformity Ratio UO</i>	<i>Longitudinal Uniformity Ratio UL</i>
Local distributor	0.5 cd/m ²	0.4	0.5

(3) Subject to sub-paragraph (4), street lighting equipment shall be in accordance with the requirements of paragraph 4.

(4) The Department may agree to the use of non-standard equipment subject to satisfactory arrangements being made for the increased maintenance costs.

(5) All lanterns shall be equipped with sodium discharge lamps.

Design procedure

2.—(1) Subject to sub-paragraph (2), luminaires shall be selected from equipment set out in a list available from the Department.

(2) Where the use of alternative luminaires has been agreed by the Department the person who intends to construct a street shall provide sufficient details of the lantern photometry to allow its performance to be checked by the Department.

(3) Lighting columns shall be at a minimum spacing of 25 m.

(4) The plans deposited under regulation 16(2)(c) shall show details of the method of calculation used to determine:—

(a) for residential and industrial access roads and footpaths as defined in the Department of the Environment and the Department for Regional Development publication “Creating Places—achieving quality in residential developments and incorporating guidance on layout and access” published in 2000, the average and minimum values of illuminance and the level of glare control; and

(b) for local distributor roads, as defined in the Department of the Environment and the Department for Regional Development publication “Creating Places—achieving quality in residential developments and incorporating guidance on layout and access” published in 2000, the average luminance, overall and longitudinal uniformity and the value of threshold increment of the scheme.

(5) Electrical design shall comply with BS 7671: 1992 and the person who intends to construct a street shall produce to the Department evidence of calculations for the determination of circuit current and voltage drop in the cables and for the selection of fuse sizes to ensure protection against electric shock and overcurrent.

(6) Streets with up to 50 columns shall be fed from a single supply point but streets having over 50 columns may require additional permanent supplies from a public electricity supplier.

(7) Where phased adoption of streets is proposed, the person who intends to construct a street to which these Regulations apply shall take account of this in the planning of the cable layout and the siting of the supply point.

(8) Internal wiring of the control pillar shall be in accordance with Figure 1 or 2 as appropriate and column wiring shall be in accordance with Figure 3.

(9) Fuse sizes in column bases shall be in accordance with Table C.

TABLE C

Recommended cut-out fuse values BS EN 60269-1: 1994 (1992)

<i>Lamp wattage</i>	<i>Lamp type</i>	<i>Fuse rating</i>
35/36/55	low pressure sodium	6 ampere
90/135	low pressure sodium	10 ampere
50/70/100	high pressure sodium	6 ampere
150	high pressure sodium	10 ampere

(10) Where conductors of a public electricity supplier are present within or adjacent to the street, the person who intends to construct a street to which these regulations apply shall consult with that public electricity supplier at the design stage to establish where columns may be safely positioned to avoid danger.

Electricity supply

3. Any person who intends to construct a street shall arrange with a public electricity supplier for a supply of electricity to be provided to the control pillar which shall be sited at the location shown on the approved plan.

Materials

4.—(1) All materials shall be in new (unused) condition when installed.

(2) Luminaires shall comply with the requirements in paragraphs (a) to (l), that is to say—

- (a) luminaires shall comply with BS EN 60598-2-3: 1994 and BS 5489: Part 1: 1992; Part 2: 1992; Part 3: 1992; Part 4: 1992; Part 5: 1992; Part 6: 1992; Part 7: 1992; Part 9: 1996; Part 10: 1992 and BS 5489-8: 1998 and shall be approved by the Department;
- (b) luminaires of the integral control gear type shall be complete with a power factor correction capacitor complying with BS EN 61048: 1993 and, where lamp starting is dependent on a high tension ignitor, this shall be provided as a separate item housed in the gear compartment;
- (c) luminaire ballast shall comply with BS EN 60922: 1997 or BS EN 60923: 1996 as applicable and shall be suitable for operation on a nominal supply voltage of 230 volts;
- (d) the bowls of side entry luminaires shall be hinged and when closed the bowl shall be secured by means of a substantial toggle catch, captive screw or nut;
- (e) the whole of the luminaire, with the exception of any separate control gear compartment, shall be dustproof and weatherproof to at least IP 54 standard as defined in BS EN 60529 : 1992;
- (f) the luminaire shall be designed so as to prevent any moisture which may collect in the bracket from entering the interior of the luminaire;
- (g) the means of supporting the lamp within the luminaire shall ensure that the position of the lamp, relative to the optical equipment, remains constant under all normal conditions throughout the life of the luminaire;
- (h) any prismatic refractors built into the luminaires shall have a smooth exterior surface to prevent the accumulation of dirt and to facilitate cleaning;
- (i) all reflectors shall be anodised aluminium, vitreous enamelled sheet steel or other suitable material;
- (j) an earthing terminal shall be provided in the luminaire;
- (k) all luminaires shall be vandal resistant non-corrosive type and bowls shall be of ultra violet stablized material; and
- (l) luminaires to comply with BS 5489: Part 2: 1992 shall be suitable for mounting on a 42 mm x 110 mm spigot, luminaires to comply with BS 5489: Part 3: 1992 shall be suitable for mounting on a 34 mm x 110 mm spigot and post top luminaires shall be suitable for mounting on a 76 mm spigot.

(3) Lighting columns, doors and bracket arms shall comply with the requirements in paragraphs (a) to (p), that is to say—

- (a) columns shall be manufactured to BS 5649: Part 2: 1978 (1997); Part 3: 1982 (1997); Part 4: 1982 (1997); Part 5: 1982 (1997); Part 6: 1982 (1997); Part 7: 1985 (1997); Part 8: 1982 (1997) and BS EN 40-1: 1992;
- (b) the lighting column manufacturer shall be registered with and certified by the British Standards Institution Quality Assurance Services Limited for the

manufacture, supply and verification of lighting columns under their quality assurance schedule to BS EN ISO 9002: 1994;

- (c) columns, brackets and doors shall be manufactured from steel equivalent to or better than Euronorm 25-72, Grade Fe 360 B;
- (d) after fabrication the columns, brackets and doors shall be hot-dipped galvanised to BS 729: 1971 (1994) and the column root shall be coated internally and externally with bitumen to a height of 300 mm above ground;
- (e) the door opening for 5 m and 6 m columns shall be a minimum of 500 mm high x 100 mm wide and for 8 m, 10 m and 12 m columns shall be a minimum of 600 mm high x 115 mm wide and the minimum distance from the edge of the door opening to any point on the surface of the backboard shall be 100 mm;
- (f) the bottom of the door opening shall be between 500 mm and 700 mm above ground level;
- (g) doors shall be of the overlapping type and shall provide a weatherproof seal to the door opening;
- (h) lock assemblies shall be mounted on the door and the mechanism shall be corrosion resistant, fabricated from stainless steel or non-ferrous metal and operation of the lock shall be by a standard triangular headed screw of sufficient length to allow visual sighting of screw engagement;
- (i) columns and bracket arms shall be designed for wind loading as designated in BS 5649: Part 2: 1978 (1997); Part 3: 1982 (1997); Part 4: 1982 (1997); Part 5: 1982 (1997); Part 6: 1982 (1997); Part 7: 1985 (1997); Part 8: 1982 (1997) and BS EN 40-1: 1992 using K factor of 2.2 for 5 m and 6 m columns and K factor of 3 for 8 m, 10 m and 12 m columns and Table D;

TABLE D

<i>Column height</i>	<i>Windage</i>	<i>Weight</i>
5 m and 6 m columns	0.175 sq m	7 kg
Side entry lanterns for 8 m, 10 m and 12 m columns	0.225 sq m	10 kg
Post top lanterns for 10 m and 12 m columns	0.3 sq m	17.5 kg

- (j) a type test certificate as detailed in Appendix C of BS 5649: Part 8: 1982 (1997) shall be supplied for each type of column prior to erection on site and copies of the certified results of the tests shall be given to the Department;
- (k) column and bracket arm shall be electrically continuous when installed and a brass earthing stud of minimum diameter 6 mm shall be fitted within the column base compartment using 2 nuts and washers of the same material;
- (l) the base compartment shall be fitted with a full length hardwood or other substantially non hygroscopic backboard not less than 115 mm wide and 15 mm thick securely fixed internally;
- (m) all columns shall have 2 cable entry slots 150 mm x 75 mm located opposite each other, one being under the door opening, and the top of each slot shall be 300 mm below the ground line;

(n) bracket arms shall be separate, demountable type and shall be such that anti-rotation is provided in any of the 90° positions relative to the centreline of the door opening;

(o) bracket arm and spigot dimensions shall be as set out in Table E;

TABLE E

<i>Column height</i>	<i>Bracket dimensions</i>
5 m and 6 m columns	Projection: 0.5 m or 0.8 m Uplift: Not exceeding 0.3 m Spigot: 34 mm dia x 110 mm
8 m, 10 m and 12 m columns	Projection: 0.5 m to 3.0 m in 500 mm steps Uplift: not exceeding 2.0 m Spigot: 42 mm dia x 110 mm

; and

(p) columns shall be identified by a number in accordance with a schedule which will be provided by the Department and the number shall be painted mid yellow on a matt black background, 75 mm in height located 2.5 m above ground level facing at right angles to the carriageway or footpath line.

(4) All discharge lamps shall comply in all respects with the following:—

(a) high pressure sodium to BS EN 60662: 1993; or

(b) low pressure sodium to BS EN 60192: 1993.

(5) Electrical control equipment may be installed in damp conditions but shall be adequately protected against corrosion and the ingress of moisture.

(6) Electrical switch fuses and fuse switches shall comply with the requirements in paragraphs (a) to (d), that is to say—

(a) switch fuses and fuse switches shall be double pole and be of the quick make, quick break type, fitted with removable shields over fixed contacts and complete with operating handle incorporating “ON”/“OFF” indications and fuse carriers shall be suitable for HBC fuses to BS 1361: 1971 (1986);

(b) enclosures shall be of all insulated construction and units shall include an earthing terminal;

(c) the maximum depth of units including handle shall not exceed 125 mm; and

(d) the units shall be type tested to BS EN 60947-3: 1992 with kw ratings as detailed by the manufacturer and shall be satisfactorily tested for a mechanical endurance of 10,000 cycles.

(7) Contactors shall comply with the requirements in paragraphs (a) to (c), that is to say—

(a) single phase contactors shall be single pole with neutral connecting link and shall be rated with an AC3 utilisation category and complying with BS EN 60947-4-1: 1992;

(b) coil/rectifier units shall be suitable for 230 volt, 50 Hertz, AC operation and shall be protected by a suitable incorporated fuse; and

(c) the contactor shall be enclosed in an all insulated housing, the maximum depth of which must not exceed 125 mm.

(8) PECUs shall comply with the requirements in paragraphs (a) to (h), that is to say—

- (a) all PECUs for road lighting shall comply with BS 5972: 1980 and be guaranteed electrically, mechanically and photometrically for a period of 5 years from the date of purchase;
- (b) one-part units suitable for insertion into a twistlock socket to obtain electrical and mechanical connection shall include a current calendar moulded onto the base and have switch on and switch off levels or switch on level and switching ratio clearly marked on the unit;
- (c) sockets for use with one part PECUs shall comply in all respects with the requirements of BS 5972: 1980;
- (d) the PECU shall be totally solid state with no thermal components and the detector shall be photo diode/transistor. “Switch-on” level shall be 70 lux (\pm 10 per cent) which must be maintained throughout the life of the cell;
- (e) the ratio of the measured “switch-on” level to the measured “switch-off” level shall be 1: 0.5;
- (f) an inherent time delay of 15 to 30 seconds shall be incorporated to prevent false switching by transient variations in illuminance;
- (g) the PECU shall be pre-set at works and not be capable of adjustment on site and shall be suitable for 207-244 Volt 50 Hz operation; and
- (h) the PECU shall be so designed that in the event of a fault occurring within the control circuit the PECU shall “fail safe” in the “on” position.

(9) Cut-outs shall comply with BS 7654: 1997 and shall be as follows:—

- (a) all insulated double cable entry for looped services 2 No. 16 mm²; or
- (b) all insulated triple cable entry for looped services 2 No. 25 mm² with 6 mm² service and shall comply with the requirements in paragraphs (c) to (e);
- (c) all cut-outs shall be constructed from impact resistant material;
- (d) provision shall be made for double pole and earth connections within the body of the cut-out; and
- (e) cut-outs shall accept HBC fuses up to 25 ampere rating and fuse carriers shall only be removable by use of a suitable tool.

(10) Underground electrical cable may be of the following types:—

- (a) PVC insulated and sheathed split concentric cable with earth continuity conductor to BS 4553-1: 1998 except that the neutral conductor shall be covered with black PVC compound providing an insulating layer which shall comply with Type 2 of BS 6746: 1990 and shall be applied by an extrusion process forming a compact homogeneous layer; or
- (b) PVC insulated and sheathed, steel wire armoured and PVC sheathed to BS 6346: 1997; or
- (c) Multicore wiring cable—covers to comply with BS 6346: 1997 with additional earth core and high-impact PVC sheath.

(11) Surface mounted electrical cables shall be to BS 6004: 1995 and shall comply with the following configurations:—

- (a) PVC/PVC flat twin with bare CPC; and
- (b) PVC/PVC single core cables; and
- (c) green/yellow PVC insulated copper earth wire.

(12) Cable ducting shall be orange, 32 mm internal diameter, made from polythene or PVC and shall be printed along its entire length in 6 mm high blue lettering with the legend “Department for Regional Development— Street Lighting” with the year of manufacture.

(13) Marker tape shall be 150 mm wide coloured yellow and printed along its entire length in 100 mm high black lettering with the legend “Caution—Street Lighting Cable below”.

(14) Cable joints, tee and straight through types may be required for cable jointing in connection with the cables specified in the requirements in sub-paragraphs (10) and (11).

(15) Control pillars shall be constructed using hot dip galvanised 3 mm thick mild steel press formed and welded to provide a weatherproof rigid structure and shall comply with the requirements in paragraphs (a) to (m), that is to say—

- (a) doors shall be hinged with brass replaceable hinges;
- (b) closed cell PVC compression gasket shall be fitted round the rear door faces providing full weather protection;
- (c) louvred vents protected by insect-proof perforated internal mesh baffles shall be provided;
- (d) mounting brackets shall have two 15 mm holes at 230 mm centres;
- (e) door key aperture shall be protected by a brass bung removable by special key which should be compatible with Lucy-type locks and bungs, and
 - (i) small pillars shall have single lock only;
 - (ii) medium pillars shall have twin locks; and
 - (iii) large pillars shall have double doors and twin locks;
- (f) a facility shall be provided on the mini pillar to enable the door to be securely locked by means of a padlock by an operative while working on a system serviced from this pillar;
- (g) storage shall be provided, on the rear of the pillar door, for A4 size documents;
- (h) brass 10 mm studding complete with 10 mm full nuts and whole plain washers in brass shall be mounted midway up the left inside wall of pillar;
- (i) the lower portion of the pillar shall be fitted with a removable 3 mm thick apron plate manufactured from galvanised steel, painted and retained by six 8 mm bolts and washers, screwed into nutserts within the main body of the enclosure;
- (j) the pillar shall be protected against corrosion to meet the requirements of the Department of the Environment for Northern Ireland Manual of Contract Documents Volume 1, Specification for Highway Works, Series 1900 Protection of Steelwork against Corrosion; colour shall be Hollybush Green in accordance with BS 4800: 1989 (1994)—14639 so as to give a guaranteed life on site, in areas of mild environmental pollution, of at least 15 years;
- (k) mini pillars shall be coated internally and externally with bitumen from the base up to bottom line of door;
- (l) a backboard manufactured from 15 mm thick tanalised plywood shall be fitted using 4 screws and nuts with nylon shrouded washers and shall be of the following dimensions—
 - (i) small pillar backboard— height 600 mm by width 600 mm; or
 - (ii) medium pillar backboard— height 1,000 mm by width 600 mm; or
 - (iii) large pillar backboard— height 1,000 mm by width 1,400 mm

fitted to provide the following depths from backboard to door—

- (iv) small pillar, minimum 140 mm; or
 - (v) medium pillar, minimum 200 mm; or
 - (vi) large pillar, minimum 300 mm; and
- (m) each pillar shall be provided with a white heavy duty plastic label secured to the outside of the door, bearing the legend “DRD Roads Service” in black embossed lettering, 6 mm high.

Setting out and location of equipment

5.—(1) The position of all equipment shall be approved by the Department subject to its right to modify the position of that equipment.

(2) Columns and supply pillars shall normally be positioned a minimum of 800 mm from the edge of carriageways but in all cases underground and above ground equipment shall be located within the area to be adopted.

Storage of materials

6.—(1) To ensure that all materials are in a new (unused) condition when installed they shall be stored in accordance with sub-paragraphs (2) to (4).

(2) Columns shall be properly stacked to prevent damage and the collection of water inside them.

(3) Underground cables, both in storage and when installed, shall have cut ends sealed to prevent the ingress of moisture.

(4) Luminaires and other electrical equipment shall be kept in dry storage until installed.

Civil works

7.—(1) Trenches for street lighting cables in footways or footpaths shall be excavated to a depth of 600 mm from finished ground level, a 100 mm bed of quarry dust or dead sand shall be spread along the base of the trench prior to laying the orange cable duct, or the steel wire armour cable and when the duct or cable has been laid it shall be covered with 100 mm of quarry dust or dead sand and the marker tape laid on top in accordance with Figure 4.

(2) Trenches for street lighting road duct in a carriageway or shared surface shall be excavated to a depth of 900 mm from finished ground level and a 150 mm UPVC duct shall be laid in the trench and haunched with 100 mm of concrete prior to being backfilled.

(3) Cable laying shall comply with the requirements of paragraphs (a) to (d), that is to say—

- (a) cable shall be laid in the longest practicable lengths with no straight joints on runs of less than 50 m;
- (b) cable laying shall not be carried out unless the ambient temperature is above zero degrees Celsius and has been above this temperature for the previous 24 hours;
- (c) cable drums shall be supported on an adequate transport mechanism whilst cable is being drawn off and when drawn off, cable shall be handled carefully to avoid kinking or damage by site traffic; and
- (d) cable loops in supply pillars and column bases shall be of sufficient length to enable connection to be made to the intended equipment.

(4) Excavations for street lighting column bases shall be in accordance with Figure 5 with the final 150 mm layer of excavation not removed until immediately before installing the column which shall be erected in a vertical position and the bracket and door orientation in accordance with Figures 6 and 7 respectively.

(5) Where the excavation exceeds the dimensions set out in Figure 5 the backfilling in excess of the minimum concrete volume shall consist of grade C7.5/40 concrete.

Electrical works

8.—(1) The electrical installation shall be carried out—

(a) by a contractor approved by the National Inspection Council for Electrical Installation Contracting^(a); and

(b) in accordance with BS 7671: 1992 Figure 1 or 2 as appropriate.

(2) Wiring between the lantern terminal block and cut-out in the column base compartment shall be twin and earth cable of 1.5mm² conductor size, secured by plastic cable clips or ties and generally installed in accordance with Figure 3.

(3) All metalwork (other than current carrying parts) shall be earthed and all connections to earth studs shall be by means of correctly sized crimped lug terminations and the protective conductor within the twin and earth lantern supply cable shall run continuously from the lantern terminal block to the cut-out earth terminal on the outgoing side, with a separate 2.5mm² protective conductor taken from the column earth stud to the cut-out earth terminal on the incoming side.

(4) Cabling between control pillar and single part photo cell shall be by means of 4 core 2.5mm² Hi-Tuf cable with fault, overcurrent protection and isolation provided in the control cubicle and a separate photo cell neutral supply provided.

(5) Any person who intends to construct a street shall arrange for each completed electrical installation to be tested in accordance with BS 7671: 1992 and for a copy of the test results to be supplied to the Department.”.

(a) A list of approved contractors is obtainable from NICEIC, Vintage House, 37 Albert Embankment, London SE1 7UJ (Telephone: 0171 5642323)

EXPLANATORY NOTE

(This note is not part of the Regulations.)

These regulations amend the Private Streets (Construction) Regulations (Northern Ireland) 1994 (“the principal regulations”).

These regulations apply to the construction of streets in respect of which the Department for Regional Development has exercised street planning functions after the coming into operation of the Regulations.

The regulations make the following main changes:—

- (a) Regulation 15A and Schedule 8 prescribe standards and detailed requirements for the provision of street lighting in private streets (regulation 3(7) and (19)); and
- (b) Regulation 20 of the principal regulations is amended to extend the specified expenses to include the cost of inspections and to provide for the bearing of such expenses by the person by whom or on whose behalf the plans were deposited (regulation 3(10)).

Consequential amendments relating to the deposit and approval of plans (regulation 3(8)), notice of commencement and completion of stages of work (regulation 3(9)) and detailed requirements for goods and materials to be used in construction of streets (regulation 3(13)) have been made.

References in the principal regulations to various technical publications have been updated (regulation 3(12)).

“These Regulations have been notified to the European Commission and the other member states in accordance with Directive 98/84/EC of the European Parliament and of the Council (O.J. No. L204, 21.7.98, p. 37), as amended by Directive 98/48/EC of the European Parliament and of the Council (O.J. No. L217, 5.8.98, p. 18).”

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