# NG SAMPLE APPENDIX 13/1: INFORMATION TO BE PROVIDED BY THE ENGINEER WHEN SPECIFYING LIGHTING COLUMNS AND BRACKETS

*[Notes to compiler:*

1. *Appendix 13/1 should be specific and provide all the information which a tenderer will need in addition to information provided elsewhere in the documents in order to submit a tender. Reference should be made in Appendix 13/1 to other relevant documents, e.g. drawings.*
2. *The requirements for each type of lighting column should include the following information as applicable:]*
	1. number of columns;
	2. nominal height of column;
	3. bracket projection, single or double: or whether post-top fitting;
	4. luminaire weight and windage area and centres of application of the forces from the centroid of the column shaft;
	5. size, length and angle of luminaire fixing;
	6. location of column, i.e. terrain factor k, , 2.5, 3 or exceptionally greater than 3;
	7. height of installation above ground level, i.e. for lighting columns mounted on a structure or embankment the height of installation should include the nominal height of the column plus the height of the datum above the adjacent ground level;
	8. type of column base, i.e. planted with or without base plate or column with flange plate;
	9. list of columns, planted with flange plates where the Contractor is to design the foundations, anchorages and attachment systems;
	10. information on soil types for design in accordance with BS 5649-2 : 1978 Appendix B for individual or groups of columns;
	11. requirements for base material and for backfilling if not to be as described in sub-Clause 1305.1;
	12. size (NG 1309) and number of door openings, number of doors to be fitted with hinges or metal chains and direction doors are to face; height of door above ground level; door fastenings details; alternative door requirements for columns where standard doors are not appropriate;
	13. size (minimum) requirements for base compartments and baseboard requirements, NG 1309 and NG 1311;
	14. acceptable column materials; shape if appropriate [NG 1301];
	15. any specific requirements for aesthetic approval of lighting column and bracket combinations
	16. number of door keys;

(xviii) identification and location markings;

1. requirements for wall mountings including fixings;
2. requirements for certification. Specify particular requirements [1302];
3. requirements for earthing *[see NG 1420]*;
4. columns to be mounted on structures or in situations where there is a risk that a detached door could cause an accident if it fell onto the area below;
5. any other special requirements, e.g. dimension ‘X’ for cable entry slot width, requirements related to testing anchorages [NG 1305.1];
6. requirements of electricity supplier including warning notices regarding proximity to overhead power lines.

 **3** Latest date by which completed Data Sheets shall be provided.

## NG SAMPLE APPENDIX 13/1: TYPICAL COLUMN AND BRACKET DATA

TYPICAL LIGHTING COLUMN AND BRACKET DATA - SHEET 1

Name of Manufacturer:

Column Reference No.

Revision No. Date

NAME OF CONTRACT

**Part A General**

Column nominal height

Acceptable positions of bracket arms relative to door position

Door Opening

Column material Material design strength

(m)

(N/mm2)

No. of door openings

Door opening size

 - Height (mm i

- Width

Cross-section of base compartment

|  |  |  |
| --- | --- | --- |
| Height(mm) | Width(mm) | Depth(mm) |
|  |  |  |

Manufacturers

drawing ref no.

**Part B Foundation Data**

Planted base

Planting depth

Diameter of concrete

|  |
| --- |
| Standard Soil Type Factor G |
| 630 | 390 | 230 |
|  |  |  |

surround (if any)

Flange plate

|  |  |  |
| --- | --- | --- |
|  Bolt hole centres |  Bolt Hole diameter |  Design load/bolt |
| (mm) | (mm) | (N) |

 Relevant forces and moments at ground level

 Line of action of max. moment relating to door

opening

NOTE: For flange plates with slotted holes a diagram

 shall be included with this Data Sheet.

## NG SAMPLE APPENDIX 13/2: TYPICAL COLUMN AND BRACKET DATA (Continued)

TYPICAL LIGHTING COLUMN AND BRACKET DATA - SHEET 2

**Part C Acceptable Luminaires** Luminaire: Maximum Characteristics

|  |  |  |
| --- | --- | --- |
|  |  | Standard k Factors(see BVS 5649) |
| 2.5 | 3.0 |  |
| Lantern Max Wt (kg) | Maximum Windage Area (m-) for standard k factors |
|  Lantern Connection |  |  |  |  |
| Diameter(mm) | Length(mm) |
|  |  |  |  |  |  |

Post Top Column:

|  |
| --- |
|  Luminaire Lever Arm (mm) |
| Due to wt. of lantern |  Due to windage |
|  |  |

Single Arm Bracket Column:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bracket Projection (m) | Ref No. | Drawing No. | Material | Luminaire Fixing Angle | Lantern Connection | Lantern Maximum Wt(kg) | Maximum Windage Area (m2) for standard k factors |
| Grade | Design Strength (N/mm2) | Diameter (mm) | Length (mm) |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

Double Arm Bracket Column:

|  |
| --- |
| Lantern Lever Arm (mm) |
|  Due to wt. of lantern |  Due to windage |
|  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bracket Projection (m) | Ref No. | Drawing No. | Material |  Lantern Fixing Angle | Lantern Connection | Lantern Maximum Wt(kg) | (11/04) Maximum Windage Area (m2) forstandard k factors |
| Grade | Design Strength (N/mm2) | Diameter (mm) | Length (mm) |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |

#### Part D Certification

It is certified that the information given in this Data Sheet has been obtained in accordance with the requirements of the National Roads Authority Specifications for Road Works Series 1300.

Signed on behalf of the Contractor ....................................................................Date ..........................................................

# NG SAMPLE APPENDIX 13/3: INSTRUCTIONS FOR COMPLETION OF COLUMN AND BRACKET DATA SHEETS

#### General

1. When information is not required a dash shall be inserted in the appropriate boxes.
2. Where a Data Sheet is amended it shall be given a new revision number with a date.
3. The revision numbers shall be consecutive letters of the alphabet, commencing with “A”.
4. The date of the revision shall agree with the date of the Contractor’s signature.
5. The column, or bracket material shall be material approved for use in the Contract.
6. The material design strength shall be the minimum specified in the design. Where more than one material is

 used values for all materials shall be given.

1. All relevant entries shall be made on the Data Sheet before the document is certified by the Contractor.

#### Column Data

1. The column nominal height shall be selected from clause 2 or 3 of BS 5649 : Part 2 : 1978 as appropriate.
2. The number of door openings shall agree with the manufacturer’s drawing.
3. The cross-section of the base compartment shall be indicated by a dimensioned diagram/sketch.
4. The acceptable positions of bracket arms relative to the door position shall be indicated on the diagram.

 Where all positions are acceptable the box noted “ANY” shall be ticked.

1. Where concrete is necessary around the planted base in accordance with sub-Clauses 1305.3 and 1305.4 the

 minimum diameter shall be entered.

1. For flange bases all forces and moments used (or for use) in the design of the foundations, anchorages and

 attachment systems shall be given.

1. The corrosion protection system used on the column when new shall be recorded. Where additional steel is

 provided for sacrificial purposes the amount shall be recorded.

#### Bracket Data

1. The lantern lever arms, weight and maximum windage area quoted shall be based on the most adverse loading

 on the bracket when it is attached to any of the columns quoted in the compatible column sections.

*(Note: The luminaire lever arms are the horizontal distances from the centre of gravity of the lantern and, if applicable, the centroid of the windage surface area to the end of the bracket joint).*

# NG SAMPLE APPENDIX 13/4: CERTIFICATION FOR LIGHTING COLUMNS

# CONSULTANT’S CHECK CERTIFICATE

#  *We certify that the design of the lighting column system accurately shown on drawings No(s)…...has*

#  *been checked by us and fully complies with:-*

# *National Roads Authority Specification for Road Works: 2000*

# *Range of parameters for which column system has been checked as follows :-*

#  *We further certify that the design has been accurately transferred to the working drawings.*

# *Signed:……………………………………………………………………………………*

#  *Team Leader*

# *Signed:……………………………………………………………………………………*

#  *Partner / Director*

# *Name of Consultant:……………………………………………………………………*

# *Date:………………………………………………………………………………………*

# MANUFACTURER’S DESIGN CERTIFICATE

# *We certify that the design of the lighting column accurately shown on drawing(s) No(s) ……has been designed in accordance with and fully complies with :-*

# *National Roads Authority Specification for Road Works: 2000*

# *Range of parameters for which column system has been checked as follows :-*

# *Signed:……………………………………………………………………………………*

#  *Designer*

#  *Signed:……………………………………………………………………………………*

#  *Director*

#  *Name of Manufacturer:………………………………………………………………...*

#  *Date:………………………………………………………………………………………*

#  CERTIFCATE OF REGISTRATION ISO 9001/ 9002 (where applicable)

#  Manufacturer/Design House : Details of Quality Assurance System

# NG SAMPLE APPENDIX 13/5: ROAD LIGHTING COLUMNS AND BRACKETS: NRA ROAD CONSTRUCTION DETAILS

#

|  |  |
| --- | --- |
| Clause No.  | Road Construction Details |
| 1309 | This Detail should normally be RCD/1300/2 |
| 1311 (Detail 1) | This Detail should normally be RCD/1300/1 |
| 1311 (Detail 2) | This Detail should normally be RCD/1300/2 |