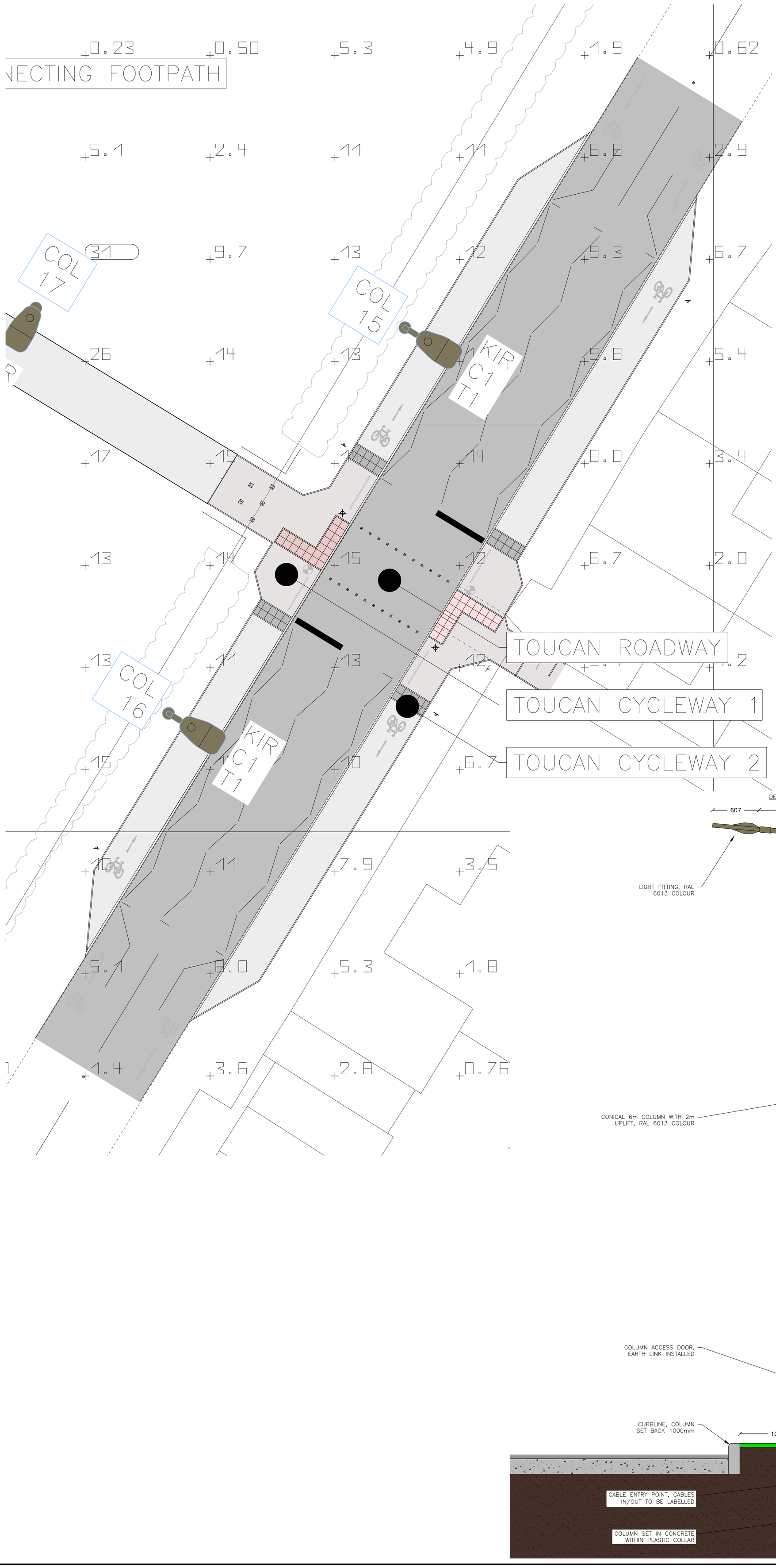

NOTES ON LIGHTING DESIGN

- THE LIGHTING HAS BEEN DESIGNED AGAINST THE FOLLOWING STANDARDS:
  - PD CEN/TR 13201-1:2014 ROAD LIGHTING PART 1 GUIDELINES ON SELECTION OF LIGHTING CLASSES
  - BS EN 13201-2:2015 ROAD LIGHTING PART 2 PERFORMANCE REQUIREMENTS
- THIS AREA IS CONSIDERED TO BE A CLASS P AREA, AS IT CONTAINS A LOW SPEED ROAD ALONGSIDE FOOTWAYS AND CYCLEWAYS.
- THE SELECTION OF THE FINAL LIGHTING CLASS P IS DETAILED IN 13201-1:2014, TABLE 4:

NOTES ON TOUCAN CROSSING LIGHTING CLASS

Table 3 — Parameters for the selection of lighting class C

Parameter	Options	Description [a]	Weighting Value f_{wi} [a]
Design speed or speed limit	Very high	v ≥ 100 km/h	3
	High	70 < v < 100 km/h	2
	Moderate	40 < v ≤ 70 km/h	0
	Low	v ≤ 40 km/h	-1
Traffic volume	High		1
	Moderate		0
	Low		-1
Traffic composition	Mixed with high percentage of non-motorised		2
	Mixed		1
	Motorised only		0
Separation of carriageway	No		1
	Yes		0
Parked vehicles	Present		1
	Not present		0
Ambient luminosity	High	shopping windows, advertisement expressions, sport fields, station areas, storage areas	1
	Moderate	normal situation	0
	Low		-1
Navigational task	Very difficult		2
	Difficult		1
	Easy		0

[a] The values stated in the column are an example. Any adaptation of the method or more appropriate weighting values can be used instead, on the national level.

- CALCULATION OF LIGHTING CLASS:
  - ROAD SPEED IS SIGNPOSTED AS 50mph (80kph), SO HIGH = 2
  - TRAFFIC VOLUME MODERATE = 0
  - CYCLEWAY SEPARATE, TRAFFIC COMPOSITION MOTORISED ONLY = 0
  - CARRIAGEWAYS ARE NOT SEPARATED = 1
  - PARKED VEHICLES NOT PRESENT = 0
  - NO EXISTING STREET LIGHTING, SO AMBIENT LUMINOSITY IS LOW = -1
  - NAVIGATIONAL TASK EASY = 0
  - LIGHTING CLASS, C-VWS=6-2-0-0-1-0-(-1)-0=C4
- THE LIGHTING REQUIREMENT FOR THIS CLASS IS DETAILED IN 13201-2, TABLE 2:

Table 2 — ~~CE series of~~ C lighting classes based on road surface illuminance

Class	Horizontal illuminance	
	~~$E_{m\,in\,I}$~~ [minimum maintained]	U_o [minimum]
~~CE0~~C0	50	0,40
~~CE1~~C1	30	0,40
~~CE2~~C2	20	0,40
~~CE3~~C3	15	0,40
~~CE4~~C4	10	0,40
~~CE5~~C5	7,5	0,40

LIGHTING RESULTS

LIGHTING CALCULATIONS HAVE BEEN CARRIED OUT USING DIALUX EVO AND ASSESSED AGAINST THE REQUIREMENTS DESCRIBED ABOVE. SUMMARY AS FOLLOWS:

- TOUCAN ROADWAY
  - REQUIREMENT = 10.0 LUX AVERAGE, 0.40 UNIFORMITY
  - CALCULATED = 10.7 LUX AVERAGE, 0.56 UNIFORMITY
  - PASS
- TOUCAN CYCLEWAY 1
  - REQUIREMENT = 10.0 LUX AVERAGE, 0.40 UNIFORMITY
  - CALCULATED = 12.0 LUX AVERAGE, 0.79 UNIFORMITY
  - PASS
- TOUCAN CYCLEWAY 2
  - REQUIREMENT = 10.0 LUX AVERAGE, 0.40 UNIFORMITY
  - CALCULATED = 9.50 LUX AVERAGE, 0.83 UNIFORMITY
  - PASS

LIGHT FITTING

- DW WINDSOR KIRIUM PRO 1 – GREEN RAL 6013, 56 WATT, 32 LEDs @ 650mA, 3000K COLOUR TEMPERATURE, NEMA 7 PIN SOCKET, C1 OPTIC CONTROL
- LUCY ZODION SUPER 6 PHOTOCELL
- COLUMN TYPE 1 (T1): 6m CONICAL AVON STEEL COLUMN (BS EN 40) BD$^{94}_{60}$ STANTION METAL COMPANY TOGETHER WITH 2m UPLIFT AND 0.75m OUTREACH THAMES PROJECTION BRACKET. TOTAL MOUNTING HEIGHT 8m. RATIONALISED WIND LOADING FACTOR (RWF) FOR OXFORDSHIRE AS SPECIFIED IN PD6547:2009

KIR C1 T1

DETAIL OF TYPE 1 COLUMN, SCALE 1:25

REV	DWN	CHKD	APPD	DATE	DESCRIPTION
P4	ZE	NB	NB	12.09.2023	UPDATED PRELIMINARY ISSUE

CLIENT

PARKWAY

PROJECT

BICESTER ROADWAY LIGHTING

DRAWING TITLE

TOUCAN CROSSING LIGHTING

DRAWING NUMBER	SCALE @ A1	REVISION
0002-1003	1:100	P4

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