

GENERAL NOTES

- 1. ALL DIMENSIONS ARE GIVEN IN MILLIMETERS UNLESS OTHERWISE INDICATED.
- 2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE SCOPE OF WORKS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF KELLIHERS FOR CLARIFICATION PRIOR TO ANY WORK COMMENCING.
- 3. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS, DISCREPANCIES ARE TO BE NOTIFIED TO THE CONTRACTOR AND DESIGN FOR RESOLUTION.
- 4. ALL WORKS TO COMPLY WITH PREVIOUSLY AGREED AND ISSUED SPECIFICATIONS
- 5. ALL EXTERNAL LIGHTING LAYOUTS ARE DESIGNED IN ACCORDANCE WITH BS5489:1-2020.

LEGEND

Estate  
Results - Horizontal Illuminance (lux)  
Eav= 8.38  
Emin= 1.64  
Emax= 15.15  
Emin/Eav= 0.11  
Emin/Eav= 0.20  
Emax/Eav= 1.81

Estate Entrance / Conflict Zone  
Results - Horizontal Illuminance (lux)  
Eav= 15.74  
Emin= 11.34  
Emin/Eav= 0.45  
Emin/Eav= 0.65  
Emin/Eav= 0.72  
Emin/Eav= 1.12

Road  
Results - Horizontal Illuminance (lux)  
Eav= 11.00  
Emin= 4.95  
Emin/Eav= 0.28  
Emin/Eav= 0.45  
Emin/Eav= 1.59

Luminaire Data  
Luminaire A LumiStreet gen2 Eco MF 0.76  
Lamp LED40 L95@100kn / 730 T25  
Luminaire B LumiStreet gen2 Eco MF 0.84  
Lamp LED74 L94@100kn / 730 T25

- Key
- Luminaire A Column
  - Luminaire B Column
  - Beam Aiming Target
  - Photometric Centre

ISSUED FOR COUNCIL APPROVAL	KD	PS	PS	08/08/25
ISSUED FOR COUNCIL APPROVAL	KD	PS	PS	18/NOV/24
REV. NO.	REVISION DESCRIPTION	DRAWN	CHECKED	APPROVED DATE

THIS DRAWING CONTAINS INFORMATION WHICH IS THE PROPERTY OF KELLIHERS LTD. THIS DRAWING IS RELEASED IN CONFIDENCE AND ITS CONTENTS MAY NOT BE DISCLOSED WITHOUT THE PRIOR WRITTEN CONSENT OF KELLIHERS LIMITED.

**PROJECT: BROOMFIELD 2 MIDLETON**

**REXEL** KELLIHERS ELECTRICAL LTD.  
MDD BUSINESS PARK  
BALLYMOUNT, DUBLIN 12

APPROVALS	DATE
DESIGNER	KD 18/NOV/24
REVISOR	KD 18/NOV/24
CHECKER	PS 18/NOV/24
APPROVED	PS 18/NOV/24
ISSUED	PS 18/NOV/24
FILE NO.	KE/BFM/01
PROJECT NO.	TO FIT
SCALE	1/200@A0
DATE	18/NOV/24
NO.	0



Root protection area indicated thus reflecting the fact that most of the root system of this tree will be contained within the earthen bank of the hedgerow.

FUTURE PEDESTRIAN AND CYCLE ACCESS TO SCHOOL

FUTURE ACCESS

PUBLIC OPEN SPACE

PUBLIC OPEN SPACE



**DATE:** 5 February 2025  
**DESIGNER:** Karol Drapala  
**PROJECT No:** KE/RE/BFM/01  
**PROJECT NAME:** Broomfield 2 Midleton Cork



Lighting to IS EN 13201:2-2015

Entrance lighting - Class C3  
Estate lighting - Class P3  
Road lighting - Class M4

Colour Temperature - 3000k, Dimming to U14 protocol

A) Philips Lumistreet Gen 2 eco BGS010 DW 4.00klm CLO  
B) Philips Lumistreet Gen 2 eco BGS010 DW 7.40klm CLO

c/w nema 7 pin socket & photocell

6m Columns - Estate  
8m Columns - Entrance & Road

## Outdoor Lighting Report

**PREPARED BY:** Karol Drapala  
Lighting Designer

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Tramore Road  
T12 RC98  
Cork  
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Mob: +353 (0)87 373 4125



## Layout Report

### General Data

Dimensions in Metres Angles in Degrees

### Calculation Grids

ID	Grid Name	X	Y	X' Length	Y' Length	X' Spacing	Y' Spacing
1	Estate	336.12	260.35	181.80	159.55	1.49	1.49
2	Estate Entrance / Conflict...	472.19	293.66	10.77	13.45	1.08	1.49
3	Road	465.25	264.05	33.77	153.12	1.47	1.49

### Luminaires

#### Luminaire A Data

Supplier	
Type	LumiStreet gen2 Eco
Lamp(s)	LED40 L95@100kh /730 T25
Lamp Flux (klm)	4.00
File Name	BGS010 T25 FP LED40 L95@100kh-730 D W.ies
Maintenance Factor	0.76
Imax70,80,90(cd/klm)	682.8, 25.9, 0.0
No. in Project	15

#### Luminaire B Data

Supplier	
Type	LumiStreet gen2 Eco
Lamp(s)	LED74 L94@100kh /730 T25
Lamp Flux (klm)	7.40
File Name	BGS010 T25 FP LED74 L94@100kh-730 D W.ies
Maintenance Factor	0.84
Imax70,80,90(cd/klm)	675.8, 25.6, 0.0
No. in Project	5

### Layout

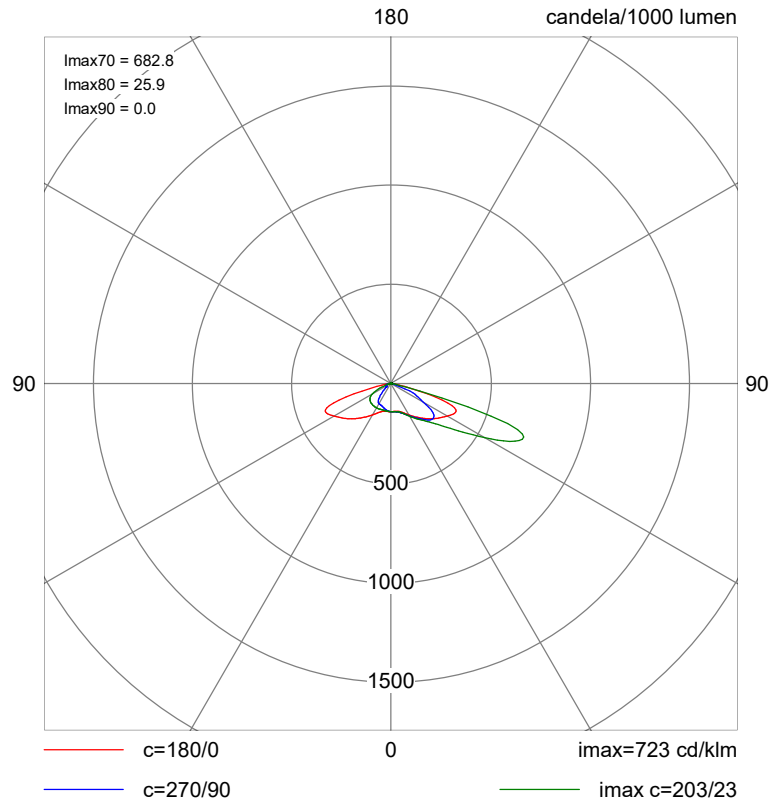
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
1	A	467.79	299.26	6.00	76.00	0.00	0.00	0.00			
2	A	457.02	322.85	6.00	313.00	0.00	0.00	0.00			
3	A	474.97	345.05	6.00	328.00	0.00	0.00	0.00			
4	A	456.47	384.07	6.00	42.00	0.00	0.00	0.00			
5	A	474.99	364.42	6.00	42.00	0.00	0.00	0.00			
6	A	428.68	324.04	6.00	42.00	0.00	0.00	0.00			
7	A	413.16	341.94	6.00	42.00	0.00	0.00	0.00			
8	A	403.51	323.91	6.00	309.00	0.00	0.00	0.00			
9	A	396.70	301.64	6.00	128.00	1.00	0.00	0.00			
10	A	406.05	298.88	6.00	45.00	0.00	0.00	0.00			
11	A	372.16	353.81	6.00	282.00	0.00	0.00	0.00			
12	A	390.71	371.26	6.00	21.00	0.00	0.00	0.00			
13	A	392.30	357.89	6.00	280.00	0.00	0.00	0.00			
14	A	442.68	307.74	6.00	42.00	0.00	0.00	0.00			
15	B	484.04	297.21	8.00	168.00	0.00	0.00	0.00			
16	B	469.63	276.05	8.00	356.00	0.00	0.00	0.00			
17	B	482.16	326.36	8.00	356.00	0.00	0.00	0.00			
18	B	489.48	354.49	8.00	356.00	0.00	0.00	0.00			

**Layout Continued**

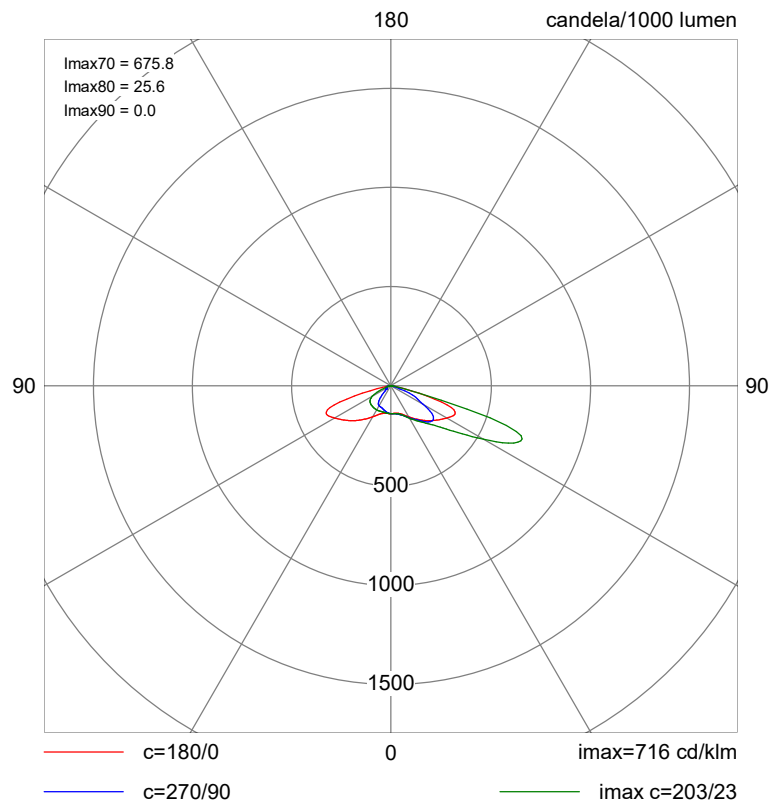
ID	Type	X	Y	Height	Angle	Tilt	Cant	Out-reach	Target X	Target Y	Target Z
19	B	505.84	388.71	8.00	336.00	0.00	0.00	0.00			
20	A	422.50	298.97	6.00	221.00	0.00	0.00	0.00			

# Polar Diagrams

## Luminaire A LumiStreet gen2 Eco



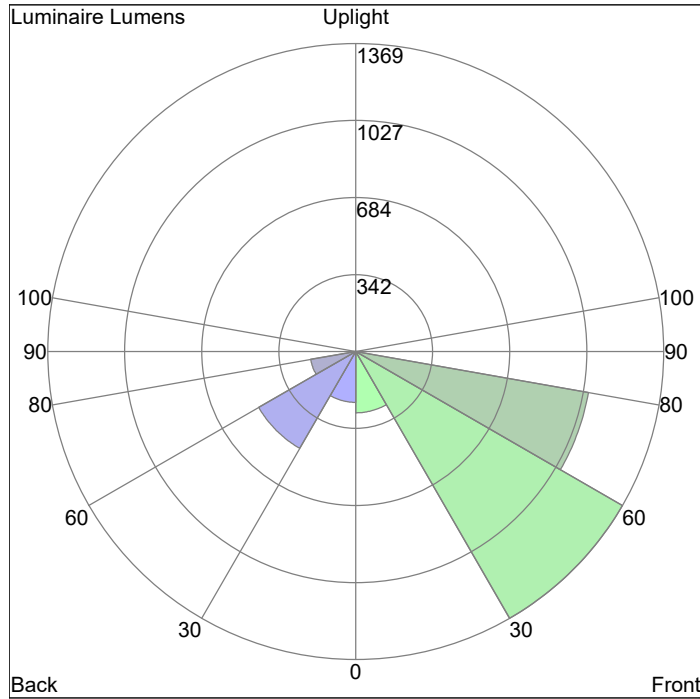
## Luminaire B LumiStreet gen2 Eco





## Luminaire Classification System (LCS) Graphs

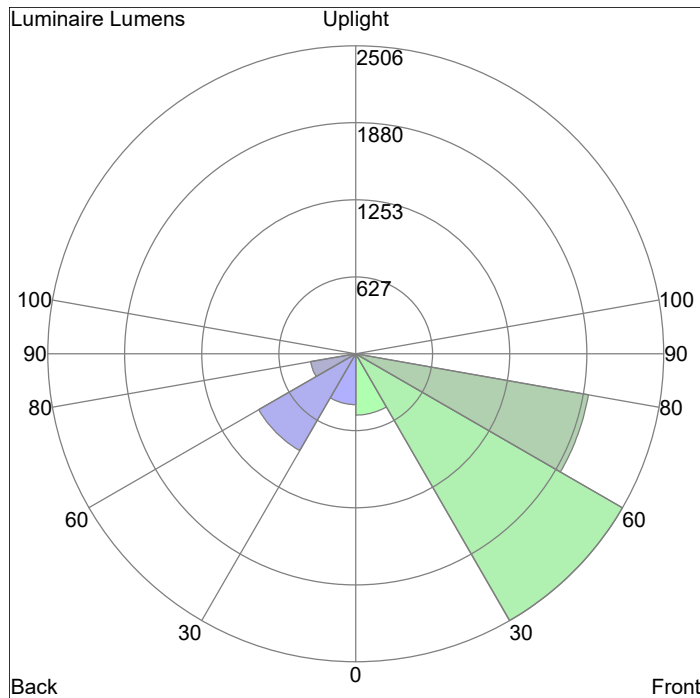
### Luminaire A LumiStreet gen2 Eco



LCS	Lumens	%Lamp	%Lum
FL	273.2	6.8	7.5
FM	1368.8	34.2	37.6
FH	1050.6	26.3	28.9
FVH	12.6	0.3	0.3
BL	226.5	5.7	6.2
BM	497.1	12.4	13.7
BH	202.6	5.1	5.6
BVH	8.5	0.2	0.2
UL	0.0	0.0	0.0
UH	0.0	0.0	0.0
<b>Total</b>	<b>3640.1</b>	<b>91.0</b>	<b>100.0</b>

BUG rating=B1-U0-G1

### Luminaire B LumiStreet gen2 Eco

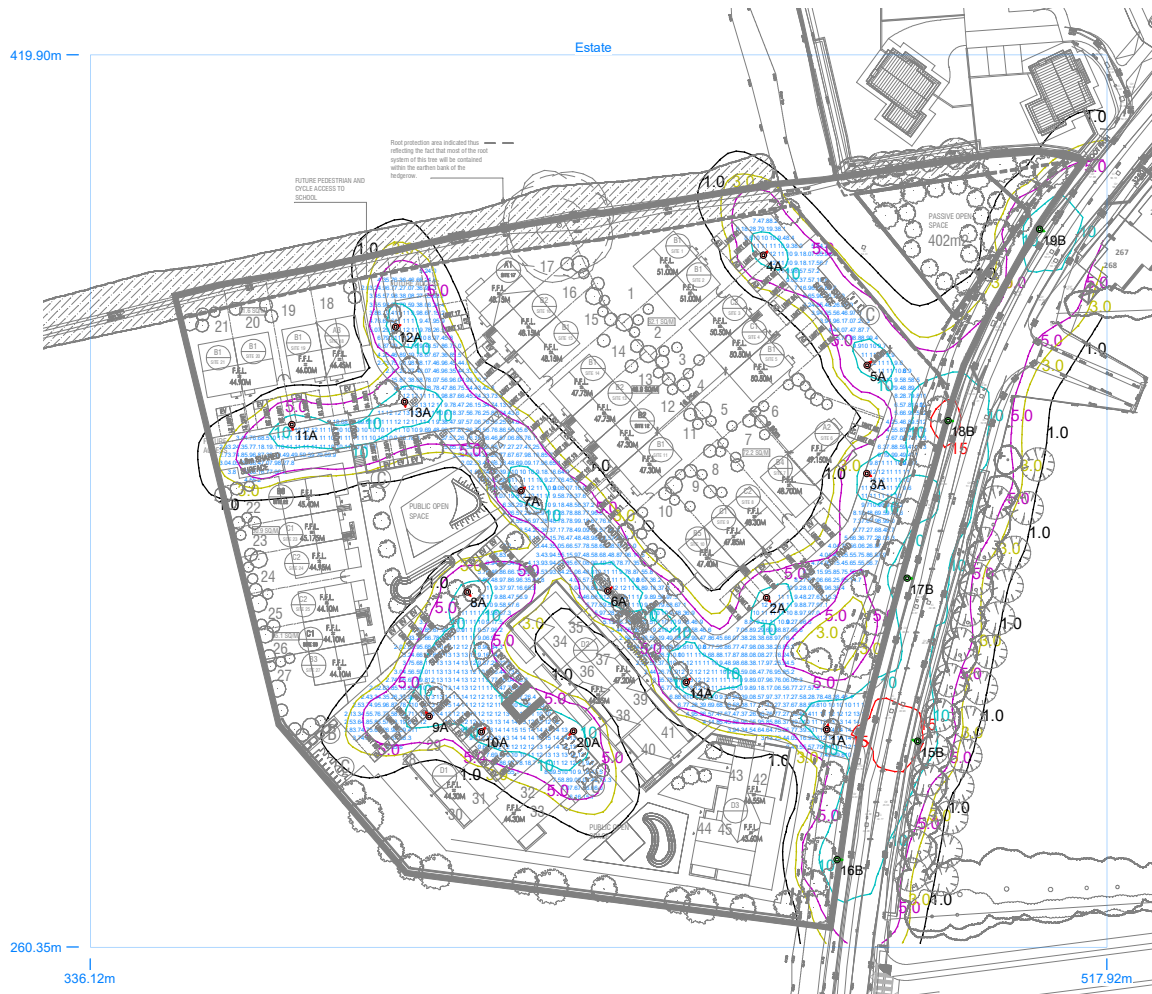


LCS	Lumens	%Lamp	%Lum
FL	500.2	6.8	7.5
FM	2506.4	33.9	37.6
FH	1923.8	26.0	28.9
FVH	23.1	0.3	0.3
BL	414.8	5.6	6.2
BM	910.3	12.3	13.7
BH	371.0	5.0	5.6
BVH	15.6	0.2	0.2
UL	0.0	0.0	0.0
UH	0.0	0.0	0.0
<b>Total</b>	<b>6665.4</b>	<b>90.1</b>	<b>100.0</b>

BUG rating=B2-U0-G2

# Horizontal Illuminance (lux)

Estate

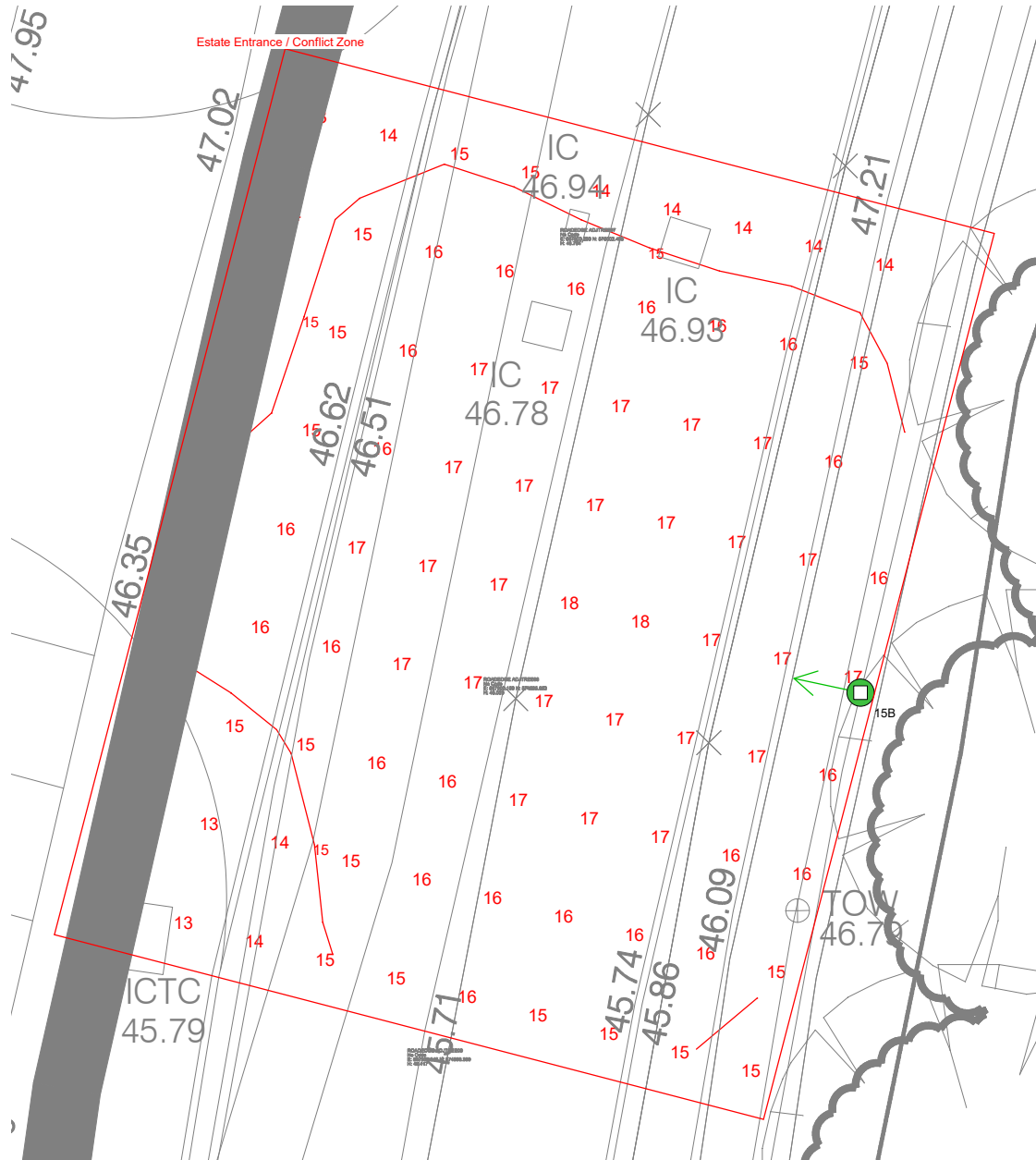


## Results

Eav	8.30
Emin	1.64
Emax	15.15
Emin/Emax	0.11
Emin/Eav	0.20

# Horizontal Illuminance (lux)

Estate Entrance / Conflict Zone



## Results

Eav	15.74
Emin	11.34
Emax	17.57
Emin/Emax	0.65
Emin/Eav	0.72



# Horizontal Illuminance (lux)

Road



## Results

Eav	11.00
Emin	4.95
E <sub>max</sub>	17.54
E <sub>min</sub> /E <sub>max</sub>	0.28
E <sub>min</sub> /E <sub>av</sub>	0.45





**LEGEND**

- FUTURE EV CHARGER ON PRIVATE PARKING SPACE TO BE WIRED BACK TO DISTRIBUTION BOARD WITHIN DWELLING
- 100mmØ UPSTAND FOR FUTURE EV CHARGING POINT
- 100mmØ UPSTAND TO FUTURE ESB MINI PILLAR LOCATION (MAXIMUM 8 SPACES)
- 100mmØ RED UNDERGROUND DUCT FOR FUTURE EV CHARGER CABLING

\*All of the above in accordance with TGD part L Section 1.4.6  
 \*\*All of the external upstands to be capped and suitably labelled

THIS LAYOUT IS INDICATIVE ONLY.  
 CONTRACTOR TO SUBMIT THEIR ELECTRICAL SUPPLY DESIGN  
 TO THE POWER SUPPLY COMPANY FOR APPROVAL PRIOR TO  
 COMMENCEMENT OF WORKS

- NOTES**
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER ARCHITECTS, STRUCTURAL ENGINEERS AND BUILDING SERVICES ENGINEERS DRAWINGS SPECIFICATIONS AND SCHEDULES.
  2. THE CONTRACTOR SHALL NOTE THAT THIS DRAWING IS INDICATIVE AND ILLUSTRATES DESIGN INTENT ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DETAILED DESIGN AND COORDINATION WITH THE STRUCTURE AND OTHER SERVICES.
  3. ANY DESIGN CHANGES OR DEVIATION FROM DESIGN MUST BE AGREED WITH THE CONSULTING ENGINEER.
  4. PROJECT PARTICULARS AND CONTRACTUAL REQUIREMENTS ARE AS SET OUT IN THE ELECTRICAL SPECIFICATIONS.
  5. ALL UNDERGROUND CONNECTION SERVICES SIZES MUST BE CONFIRMED ON SITE.
  6. ALL ENERGY & UTILITY METERS TO BE INSTALLED AND APPROVED BY THE LOCAL UTILITY AUTHORITIES. METER LOCATIONS TO BE CONFIRMED.
  7. THIS LAYOUT IS FOR INDICATIVE PURPOSES ONLY, FINAL DESIGN TO BE CARRIED OUT BY THE ASSOCIATED UTILITY, CONTRACTORS TO LIAISE WITH THE UTILITY PROVIDER BEFORE COMMENCEMENT OF WORKS.
  8. ALL & FINAL DESIGNS LAYOUTS TO BE CONFIRMED BY SPECIALIST AND UTILITY PROVIDER NAMELY ESB & EIR.
  9. ALL DUCTING ROUTES ARE INDICATIVE ONLY AND SERVICES TO BE RAN IN FOOTPATHS AND TO AVOID CAR PARK SPACES/LANDSCAPING WHERE POSSIBLE.
  10. EV MDB'S FED FROM NEAREST LOCAL MINI PILLAR. MDB'S TO FEED SDB'S WITH 1 NO. 150MM LV DUCT AND 1 NO. 110MM ELV DUCT. SDB'S TO FEED CHARGER LOCATIONS WITH 1 NO. 150MM LV DUCT AND 1 NO. 110MM ELV DUCT. MAX OF 6 SDB'S TO BE FED FROM MDB. MAX OF 8 CAR SPACES TO BE FED FROM SDB. DUCTING FOR FUTURE SPACES TO BE RAN CLOSE TO KERB LINE TO MINIMIZE FUTURE CIVIL WORKS TO FIT OUT SPACES WITH CHARGERS & CABLING.
  11. DUCTING TO HOUSE ESB METER LOCATIONS INDICATIVE ONLY. FOR DETAILED METER POSITIONS REFER TO HOUSE LAYOUTS.
  12. DUCTING SEPARATED FOR CLARITY. ALL SERVICES TO BE RAN IN FOOT PATHS.

A	PRELIMINARY TENDER	13/01/2025
Issue	Revision	Date
Client		
CORK COUNTY COUNCIL		
Project		
RESIDENTIAL DEVELOPMENT BROOMFIELD WEST, MIDDLETON, CO CORK		
Title		
PROPOSED EV CHARGING SERVICES		
Scale	1:300 @ A1	Org. No. E31
Date	JAN 2025	Our Ref. E24.1772
Drawn	JMC	Checked JK

JKA

John Kelleher & Associates  
Building Services Engineers

MECHANICAL • ELECTRICAL • SUSTAINABLE • RENEWABLE

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