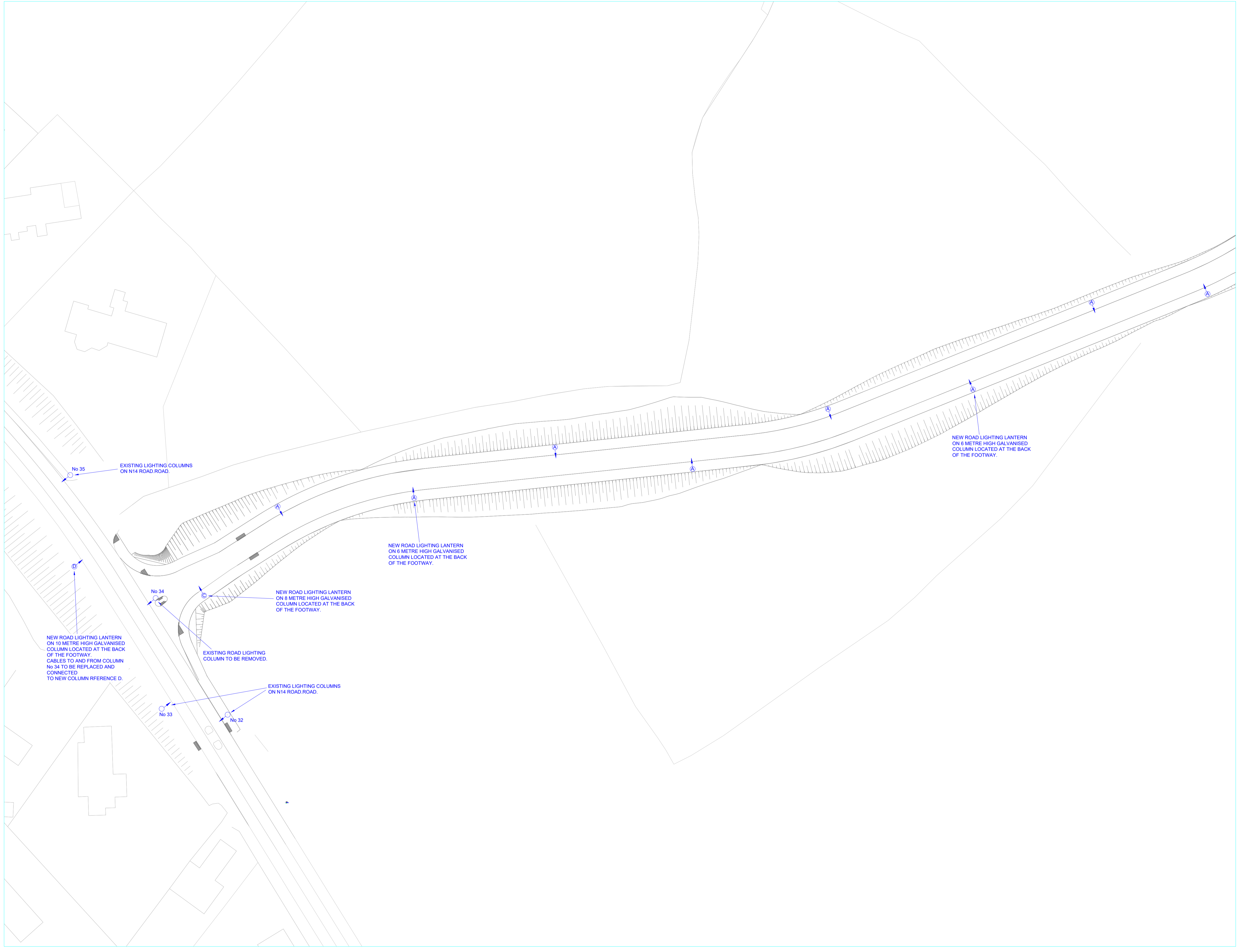


0	May 22	PLANNING
Rev	Date	Amendments
20 Belgravia Road Bangor BT19 6XJ. E-Mail: ivan@belgraviaeng.co.uk Phone : 07876024523.		BELGRAVIA Engineering Consultancy Ltd.
Client DONEGAL COUNTY COUNCIL.		
Project THE COMMON, LIFFORD MULTI USE DEVELOPMENT.		
Description NEW ROAD LIGHTING LAYOUT ILLUMINANCE LEVEL PLOT. (ORIGINAL LAYOUT).		
Scale 1:1000 @ A1	Drawn By IHH Checked By IHH	Date MAY 22 Date MAY 22
Drawing No BE 070 - E - 1	Rev 0	



SCHEDULE.

- A 43 WATT POST TOP LED LANTERN ON A 6 METRE HIGH GALVANISED COLUMN.
Luma Gen2 Mini BGP703 DW50 8000 40LED 5.2S CLO L90 740.ies
- C 78 WATT POST TOP LED LANTERN ON AN 8 METRE HIGH GALVANISED COLUMN.
Luma Gen2 Medium BGP704 DW50 15000 80LED 5.2S CLO L90 740.ies
- D 78 WATT POST TOP LED LANTERN ON A 10 METRE HIGH GALVANISED COLUMN.
Luma Gen2 Medium BGP704 DW50 15000 80LED 5.2S CLO L90 740.ies

DESIGN CRITERIA.

NEW ROAD JUNCTION
CONFLICT ZONE
ILLUMINANCE LEVEL C3
15 LUX AND 0.4 UNIFORMITY.

NEW ROAD
ILLUMINANCE LEVEL P3
7.50 LUX AVERAGE AND
1.50 LUX MINIMUM.

NEW CARPARK
ILLUMINANCE LEVEL P2
10.0 LUX AVERAGE AND
2.0 LUX MINIMUM.

LANTERN.

LANTERN REFERENCE A
MANUFACTURER - SIGNIFY LUMA
GEN 2 MINI.



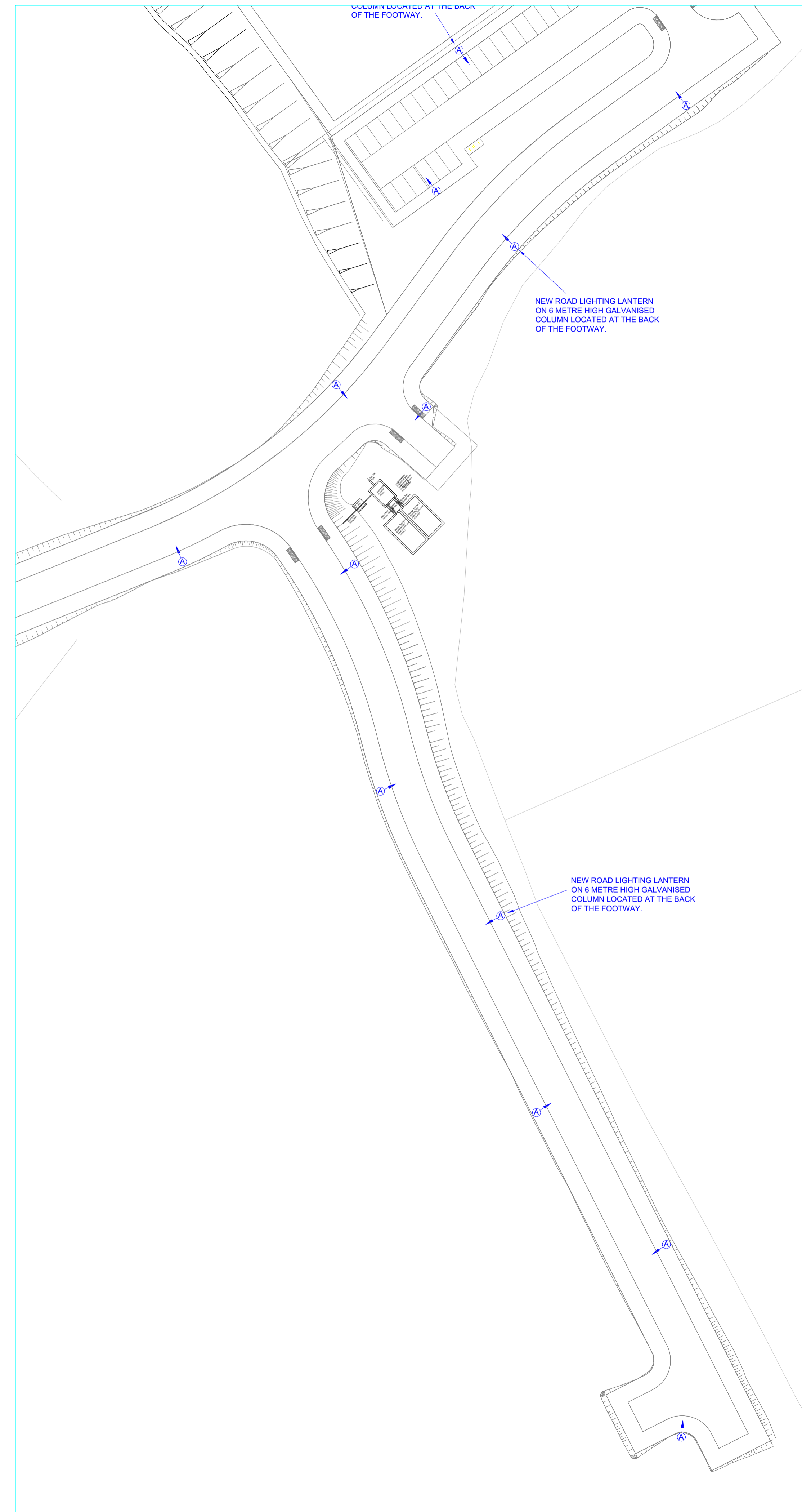
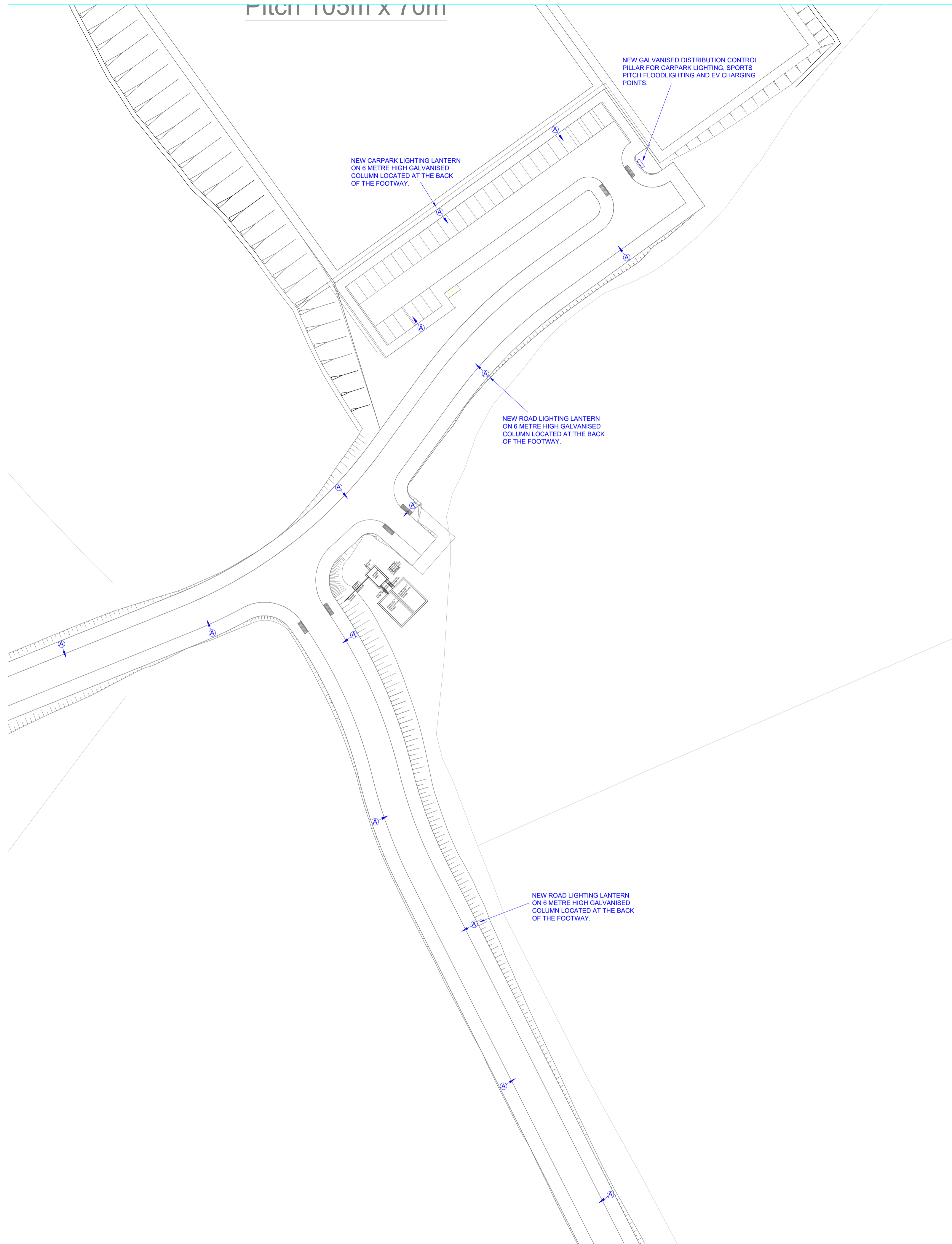
LIGHTING COLUMN.

6 METRE HIGH GALVANISED
STEPPED COLUMN.



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Client DONEGAL COUNTY COUNCIL.			
Project THE COMMON, LIFFORD MULTI USE DEVELOPMENT.			
Description NEW ACCESS ROAD AND CARPARK LIGHTING LAYOUT AND DESIGN CRITERIA SHEET 1 OF 2.			
Scale 1:500 @ A1	Drawn By IHH	Date MAY 22	
	Checked By IHH	Date MAY 22	
Drawing No BE 070 - E - 2	Rev 0		

PITCH 103M X 70M



SCHEDULE.

- Ⓐ 43 WATT POST TOP LED LANTERN ON A 6 METRE HIGH GALVANISED COLUMN.
Luma Gen2 Mini BGP703 DW50 8000 40LED 5.2S CLO L90 740.ies
- Ⓑ 78 WATT POST TOP LED LANTERN ON AN 8 METRE HIGH GALVANISED COLUMN.
Luma Gen2 Medium BGP704 DW50 15000 80LED 5.2S CLO L90 740.ies
- Ⓒ 78 WATT POST TOP LED LANTERN ON A 10 METRE HIGH GALVANISED COLUMN.
Luma Gen2 Medium BGP704 DW50 15000 80LED 5.2S CLO L90 740.ies

DESIGN CRITERIA.

NEW ROAD JUNCTION CONFLICT ZONE
ILLUMINANCE LEVEL C3
15 LUX AND 0.4 UNIFORMITY.

NEW ROAD
ILLUMINANCE LEVEL P3
7.50 LUX AVERAGE AND 1.50 LUX MINIMUM.

NEW CARPARK
ILLUMINANCE LEVEL P2
10.0 LUX AVERAGE AND 2.0 LUX MINIMUM.

LANTERN.

LANTERN REFERENCE A
MANUFACTURER - SIGNIFY LUMA GEN 2 MINI.

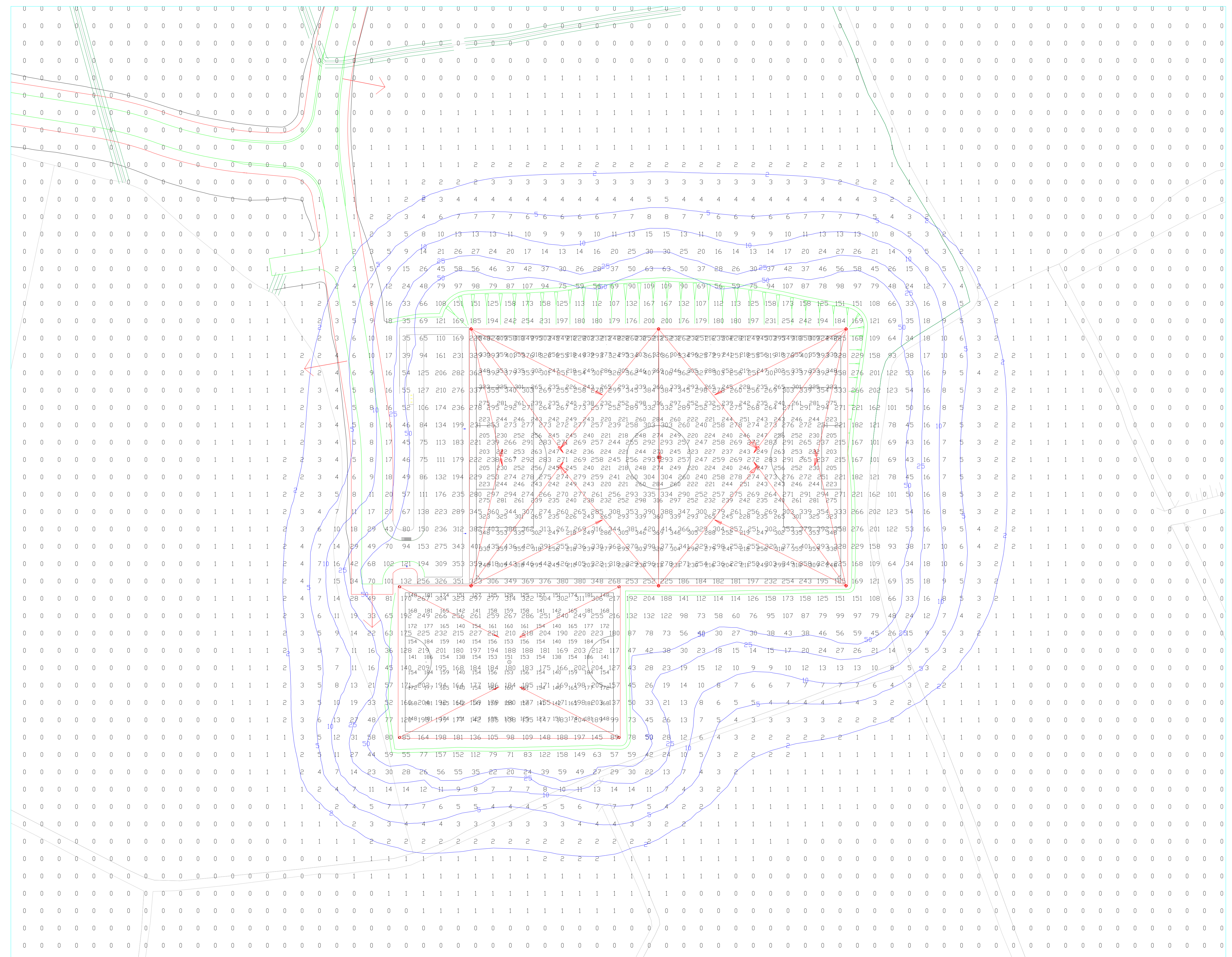


LIGHTING COLUMN.

6 METRE HIGH GALVANISED STEPPED COLUMN.



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Client DONEGAL COUNTY COUNCIL.		
Project THE COMMON, LIFFORD MULTI USE DEVELOPMENT.		
Description NEW ACCESS ROAD AND CARPARK LIGHTING LAYOUT AND DESIGN CRITERIA SHEET 2 OF 2.		
Scale 1:500 @ A1	Drawn By IHH	Date MAY 22
	Checked By IHH	Date MAY 22
Drawing No BE 070 - E - 3	Rev 0	



DESIGN CRITERIA.

MUGA 1 - 105m x 70m
 18 No Philips OptvisionLED BVP528 A55-NB 5700k Floodlights.
 Floodlights mounted on 6 No lighting columns 18m high
 (If height is 15m Min/Max will be only 0.4 due to bright spo below columns) & fittings tilted up high.

Design demonstrates a lighting level on the Pitch (100 x 70m) of 250 lux, 0.7 Uo

MUGA 2 - 60m x 40m
 4 No Philips OptvisionLED BVP528 A55-NB 5700k Floodlights.
 Floodlights mounted on 4 No lighting columns 15m high.
 (If height is 12m Min/Max will be only 0.4 due to bright spot below columns) & fittings tilted up high

Design demonstrates a lighting level on the Pitch (60 x 40m) of 150 lux, 0.7 Uo

Car Park Lighting added, please delete if not required
 Car Park Light - Medium Use, 10 lux ave, 0.25 Uo

Spill lighting shown

Maintenance Factor:-
 Based on Total 2000hrs usage per year for 20 years (40,000hours).
 LMF of 0.96 used - based on cleaning the external optical cover every 2yrs
 LLMF for 40,000hrs (20yrs) = 0.92

LLMF 0.96 x LLMF 0.92 = MF 0.88
 Rounded up for the purpose of the performance calculations to 0.90 MF

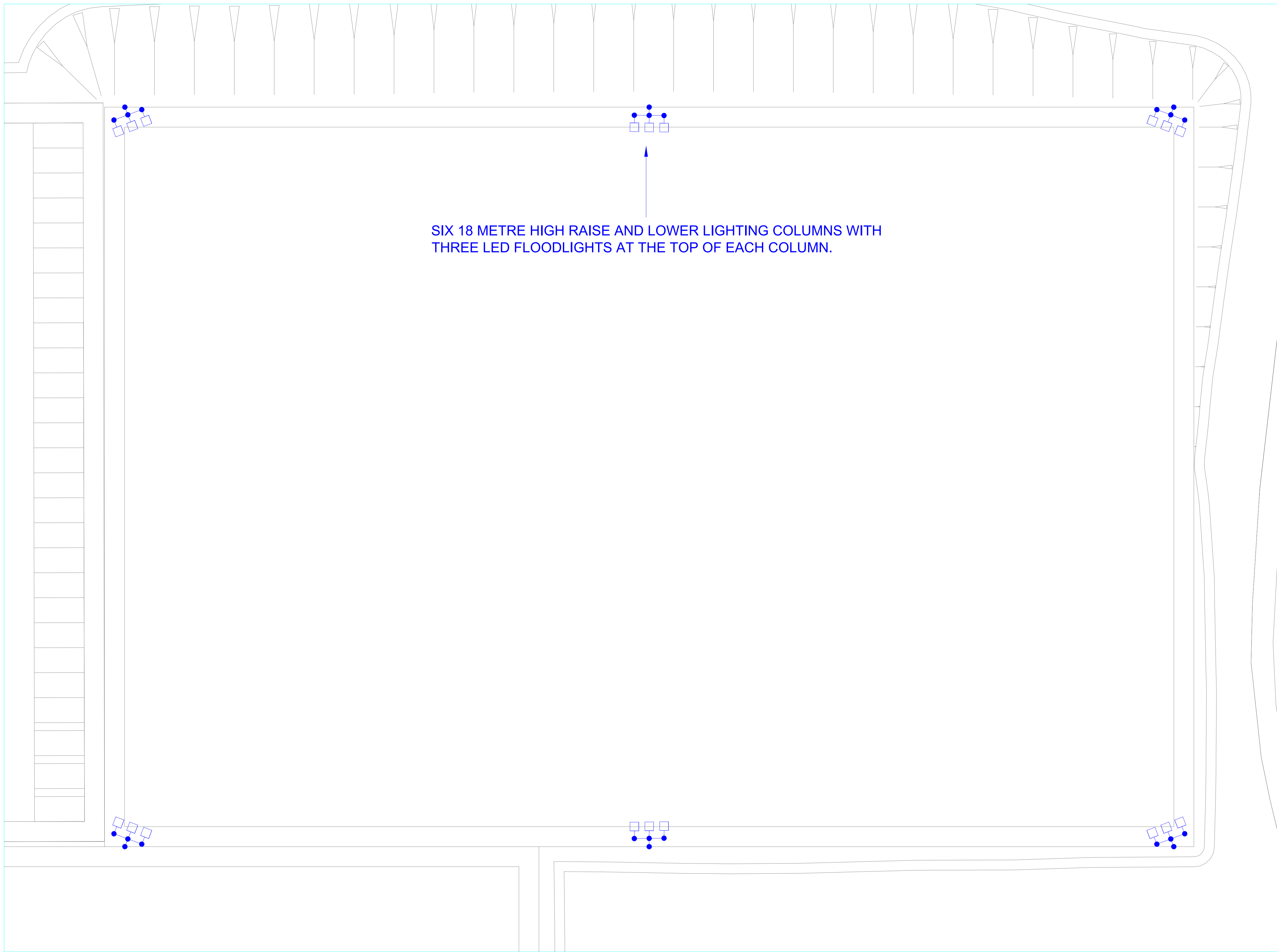
All luminaires have internal Peak Beam of 55 degrees. This angle is added to the Physical tilt angle of the fitting in these calculations. Therefore a Tilt 90 value shown as 68 deg in these calculations represent a physical fitting tilt of 13 degrees (55 deg peak beam plus 13 deg housing tilt).



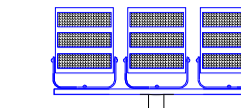
BVP528 BV

Calc	Grid	Unit	Ave	Min	Max	Uo	Min/Max
1	MUGA 1 - 250 lux	lux	265	200	300	0.25	0.55
2	MUGA 2 150 lux	lux	156	125	186	0.8	0.67
3	Car Park Ltg	lux	10.9	3	20	0.27	0.15

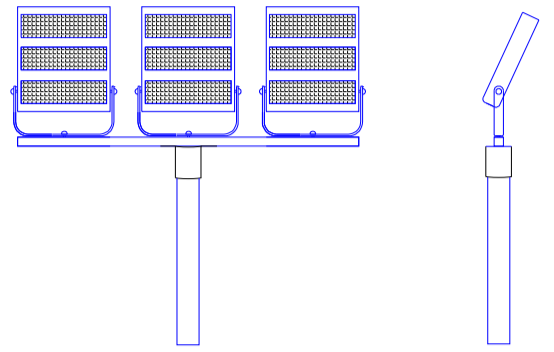
0	May 22	PLANNING
Rev	Date	Amendments
20 Belgravia Road Bangor BT19 6XJ. Email: ivan@belgraviaeng.co.uk Phone: 07876024523.		BELGRAVIA Engineering Consultancy Ltd.
Client DONEGAL COUNTY COUNCIL.		
Project THE COMMON, LIFFORD MULTI USE DEVELOPMENT.		
Description SPORTS PITCH FLOODLIGHTING ILLUMINANCE PLOT.		
Scale 1:500 @ A1	Drawn By IHH	Date MAY 22
	Checked By IHH	Date MAY 22
Drawing No BE 070 - E - 4		Rev 0



SIX 18 METRE HIGH RAISE AND LOWER LIGHTING COLUMNS WITH THREE LED FLOODLIGHTS AT THE TOP OF EACH COLUMN.



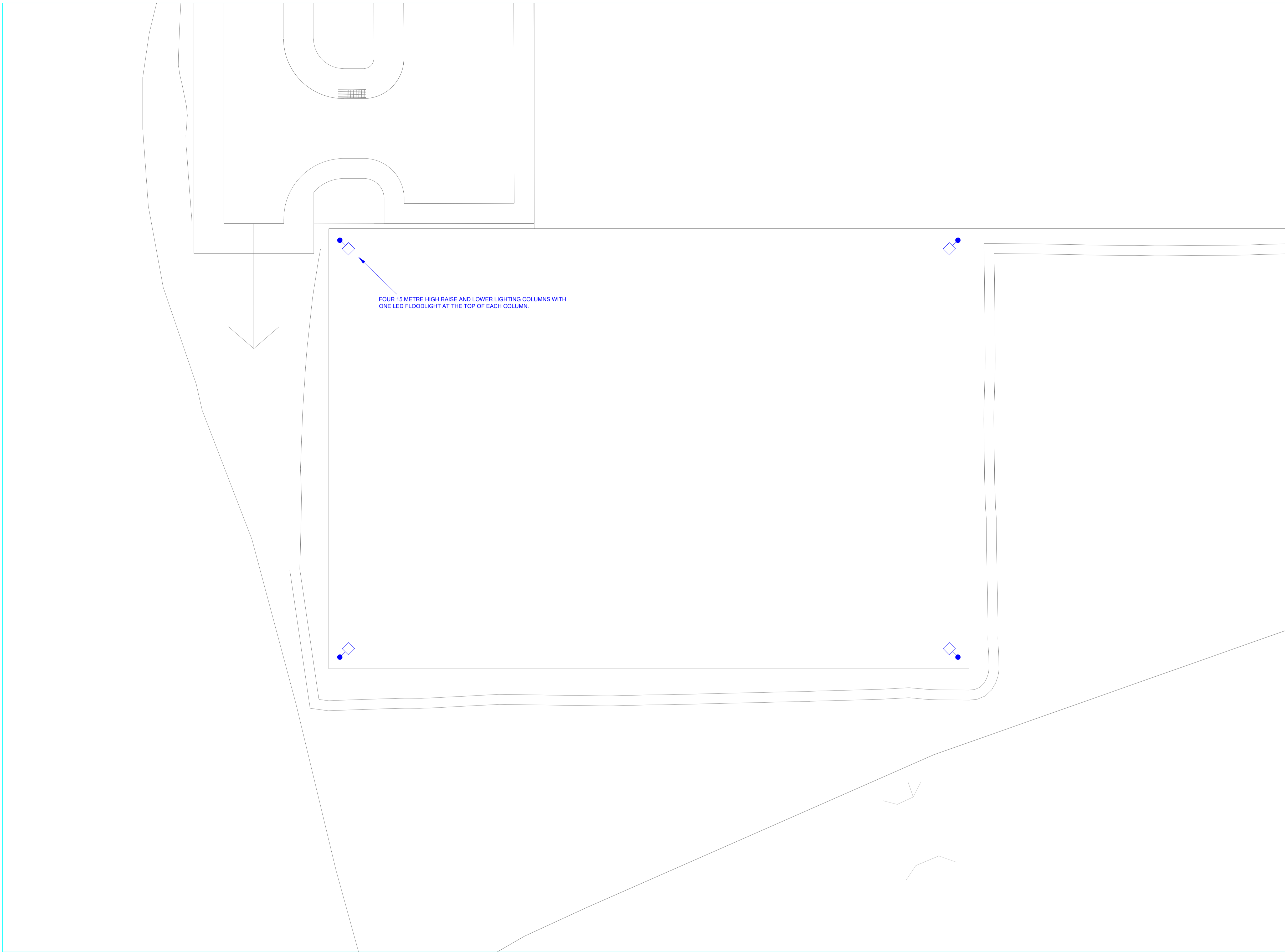
1500 WATT LED FLOODLIGHT
THREE PER COLUMN.



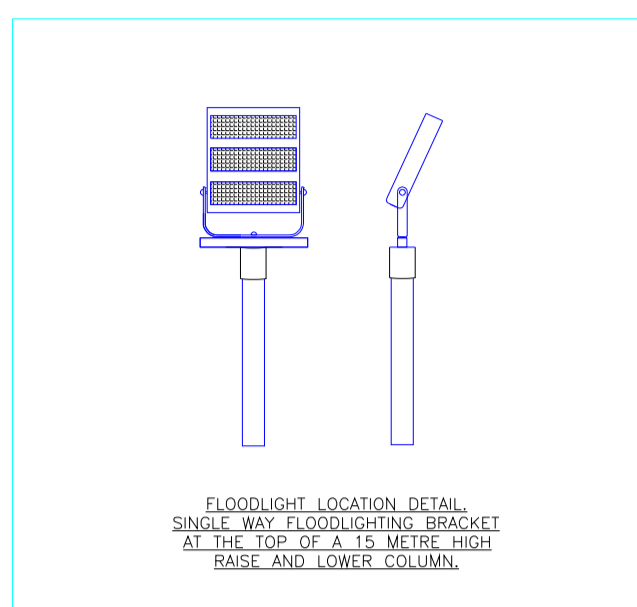
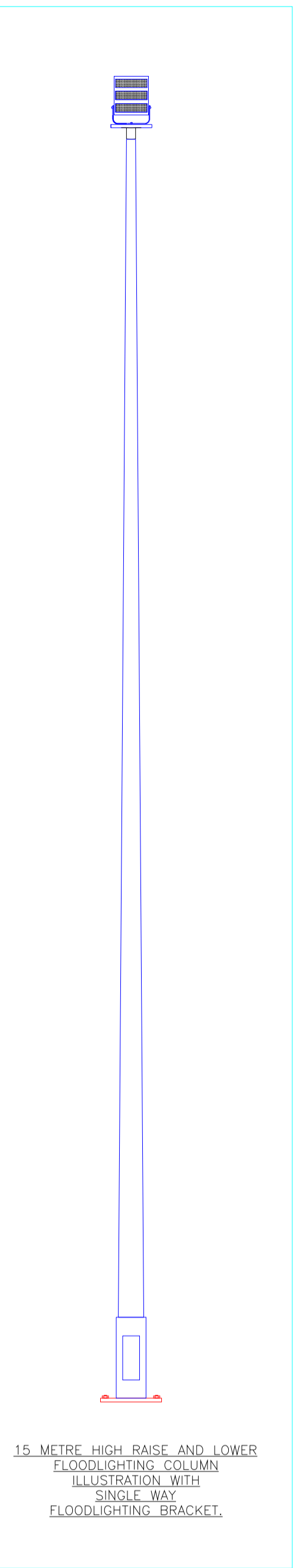
FLOODLIGHT LOCATION DETAIL
THREE WAY FLOODLIGHTING BRACKET
AT THE TOP OF AN 18 METRE HIGH
RAISE AND LOWER COLUMN.

18 METRE HIGH RAISE AND LOWER
FLOODLIGHTING COLUMN
ILLUSTRATION WITH
THREE WAY
FLOODLIGHTING BRACKET.

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Rev	Date	Amendments		
20 Belgravia Road Bangor BT19 6XJ. E-Mail: ivan@belgraviaeng.co.uk Phone : 07876024523.				
Client		DONEGAL COUNTY COUNCIL.		
Project		THE COMMON, LIFFORD MULTI USE DEVELOPMENT.		
Description		LARGE SPORTS PITCH FLOODLIGHTING DETAILS.		
Scale	Drawn By	Date		
1:500 @ A1	IHH	MAY 22		
	Checked By	Date		
	IHH	MAY 22		
Drawing No	Rev			
BE 070 - E - 5	0			



FOUR 15 METRE HIGH RAISE AND LOWER LIGHTING COLUMNS WITH ONE LED FLOODLIGHT AT THE TOP OF EACH COLUMN.



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Client DONEGAL COUNTY COUNCIL.		
Project THE COMMON, LIFFORD MULTI USE DEVELOPMENT.		
Description SMALL SPORTS PITCH FLOODLIGHTING DETAILS.		
Scale 1:500 @ A1	Drawn By IHH Checked By IHH	Date MAY 22 Date MAY 22
Drawing No BE 070 - E - 6	Rev 0	

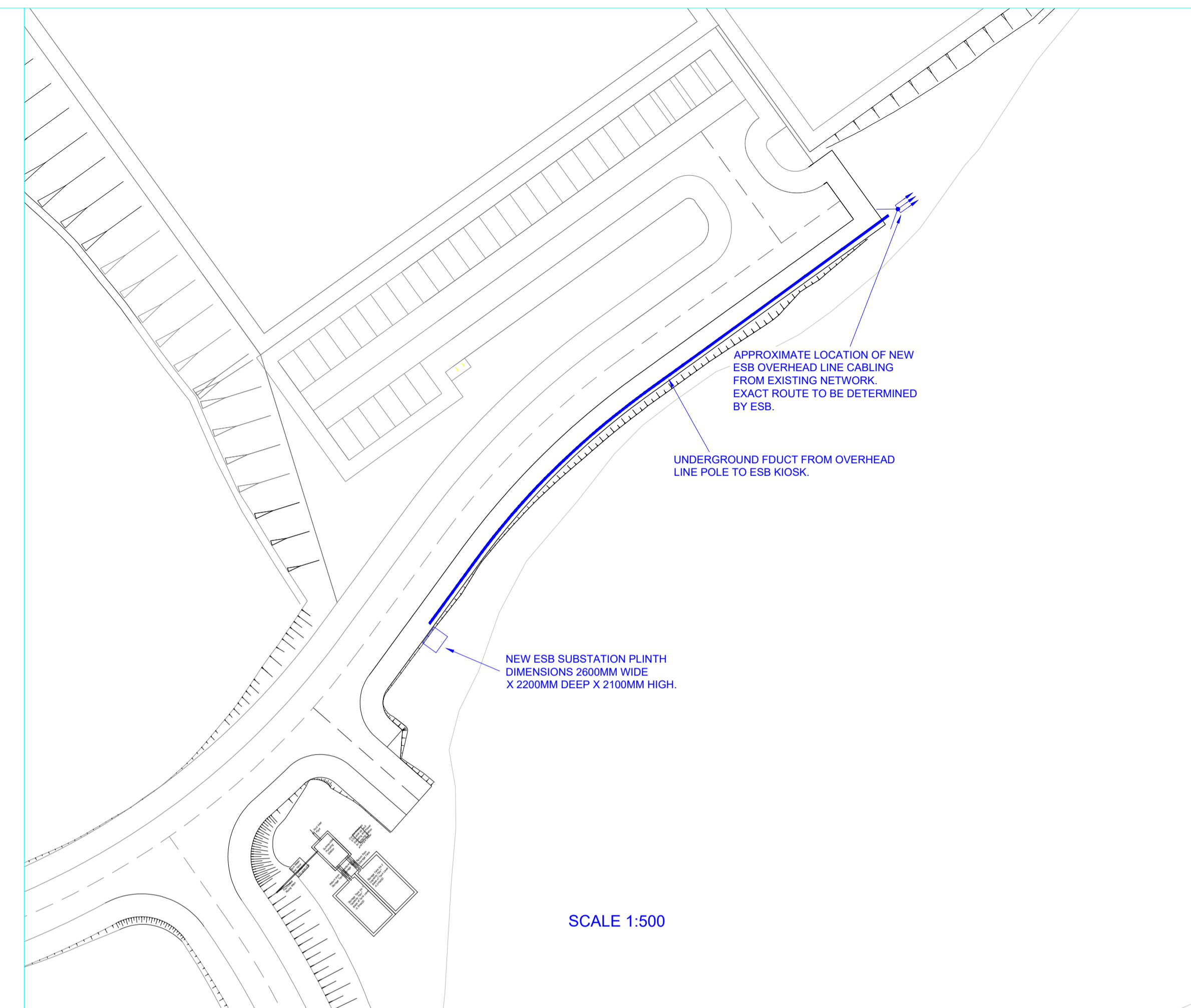
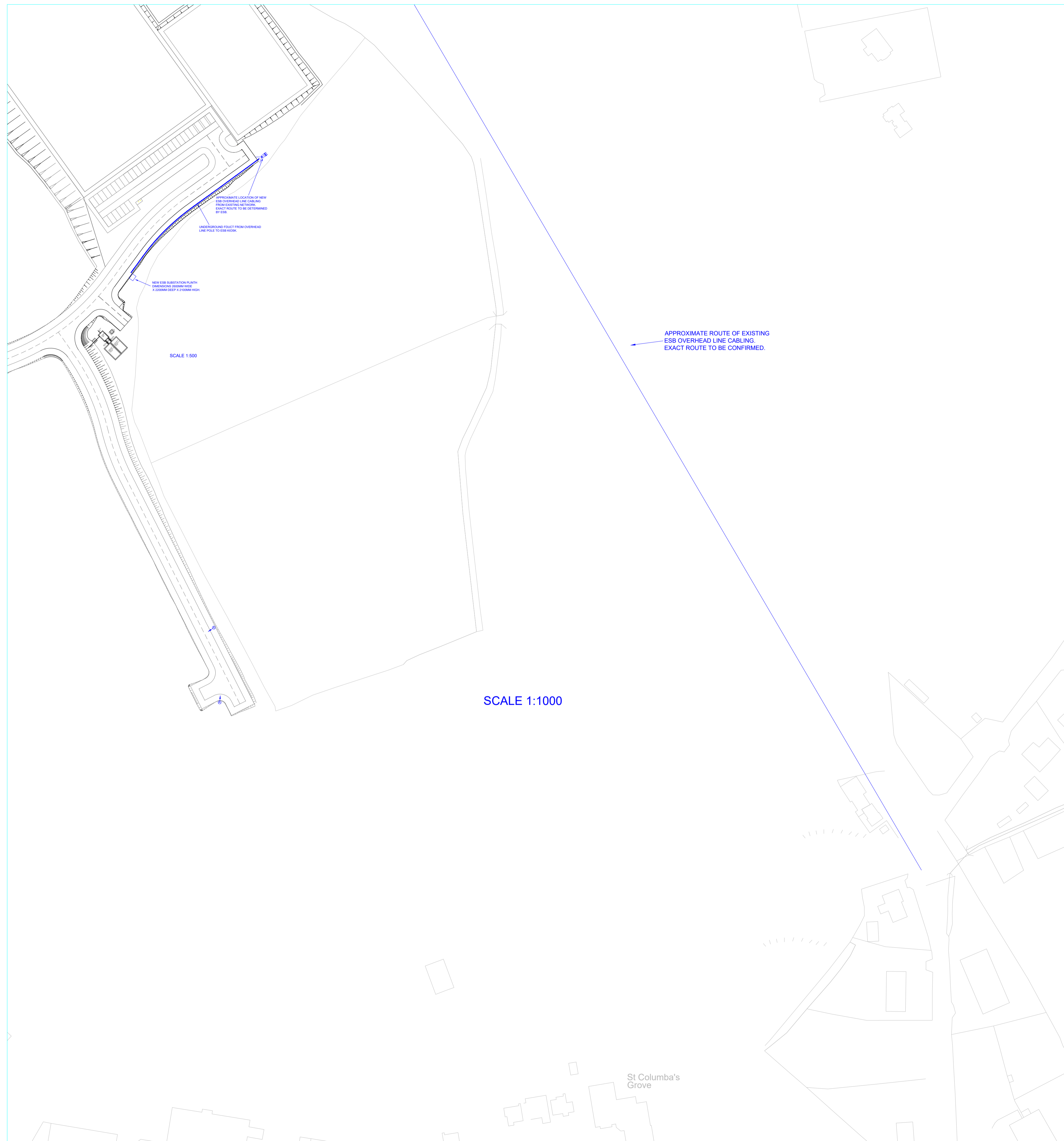


ILLUSTRATION OF EXISTING ESB OVERHEAD LINES.

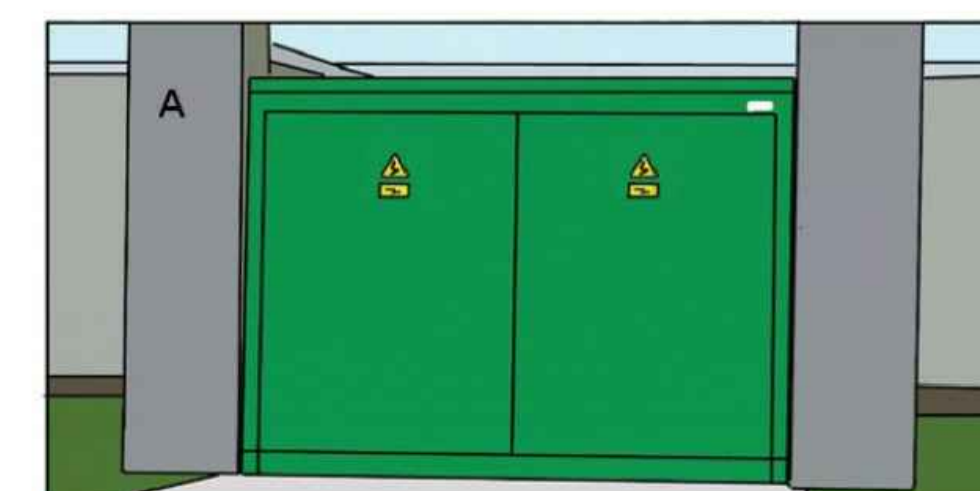


ILLUSTRATION OF PROPOSED ESB SUB STATION KIOSK.

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Client DONEGAL COUNTY COUNCIL.		
Project THE COMMON, LIFFORD MULTI USE DEVELOPMENT.		
Description PROPOSALS AND DETAILS IN RELATION TO A NEW ESB KIOSK FOR THE WASTE WATER PUMPING STATION AND ROAD LIGHTING.		
Scale 1:1000 @ A1	Drawn By IHH	Date MAY 22
	Checked By IHH	Date MAY 22
Drawing No BE 070 - E - 7		Rev 0