

LUMINAIRE SCHEDULE			
REF	DESCRIPTION	MANUFACTURER	LAMP TYPE
A & AE	EXTERNAL WALL MOUNTED IP RATED LED LUMINAIRE CIV INTEGRAL PHOTOCELL & PIR SENSOR. MOUNTED AT 4METERS. ALL FITTINGS REFERENCED AE ARE TO BE COMPLETE WITH 3HR EMERGENCY BATTERY BACK UP FACILITY.	KINGFISHER LIGHTING OR EQUAL AN APPROVED	LED
B	EXTERNAL WALL MOUNTED LED FLOODLIGHT LUMINAIRE. MOUNTED OFF BUILDING AT 10.0M COMPLETE WITH ALL NECESSARY ACCESSORIES.	KINGFISHER LIGHTING OR EQUAL AN APPROVED	LED
C	EXTERNAL COLUMN MOUNTED LED STREET LIGHT LUMINAIRE. MOUNTED ON 6.0M GALVANIZED STEEL COLUMN COMPLETE WITH ALL NECESSARY ACCESSORIES.	KINGFISHER LIGHTING OR EQUAL AN APPROVED	LED
D	EXTERNAL COLUMN MOUNTED LED STREET LIGHT LUMINAIRE. MOUNTED ON 6.0M GALVANIZED STEEL COLUMN COMPLETE WITH ALL NECESSARY ACCESSORIES.	KINGFISHER LIGHTING OR EQUAL AN APPROVED	LED

ALL LUMINAIRES REFERENCED ENDING E OR E COMPLETE WITH 3 HR INTEGRAL EMERGENCY BATTERY PACK
LIGHTING REPRESENTATIVES
KINGFISHER LIGHTING REP - MS JANNIE SEBNE, MOBILE: 0797404812

SCHEDULE OF SYMBOLS	
	LIGHT FITTING - REFERENCE LINKED TO LUMINAIRE SCHEDULE
	WALL MOUNTED LIGHT FITTING - REFERENCE LINKED TO LUMINAIRE SCHEDULE
	EXTERNAL LIGHTING COLUMN HEAD ORIENTATION
	PHOTOELECTRIC CELL
	SINGLE ELECTRIC VEHICLE CHARGING POINT
	TWIN ELECTRIC VEHICLE CHARGING POINT

- GENERAL NOTES**
- THE ELECTRICAL CONTENTS OF THIS DRAWING ARE THE PROPERTY OF KGA UK LTD. INFORMATION INCLUDED IN THIS DOCUMENT IS PRIVATE AND ARE INDICATIVE ONLY. A DETAILED DESIGN SHALL BE COMPLETED BY THE SUCCESSFUL ELECTRICAL SERVICES SUB CONTRACTOR.
 - THIS DRAWING IS COPYRIGHT AND SHOULD NOT BE REPRODUCED WITHOUT THE WRITTEN CONSENT OF KGA UK LTD.
 - ANY APPARENT DRAFTING ERRORS AND DIFFERENCES BETWEEN OTHER DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO OUR ATTENTION.
 - DO NOT SCALE FROM THIS DRAWING.
 - THE DRAWING DOES NOT NECESSARILY SHOW ALL THE INFORMATION NEEDED TO INTERPRET THE DESIGN INTENT OR THE CONSTRUCTION DETAILS. THE DRAWING SHALL BE READ IN CONJUNCTION WITH ALL CONTRACT DOCUMENTS.
 - REFERENCE SHALL BE MADE TO THE PROJECT CONSTRUCTION DESIGN AND MANAGEMENT (CDM) RISK ASSESSMENT.
 - ALL WORKS TO BE FULLY COMPLIANT WITH BS EN 11871 18TH EDITION AMENDMENT 2. ALL RELEVANT BRITISH STANDARDS EQUIVALENT EUROPEAN BUILDING REGULATIONS, ASSOCIATED LEGISLATION AND THE LATEST VERSION OF THE DEVELOPERS SPECIFICATION.
 - ALL WORKS SHALL BE IN COMPLIANCE WITH THE APPROPRIATE BRITISH STANDARDS, CIBSE GUIDELINES AND BUILDING REGULATIONS FOR THE WORK BEING UNDERTAKEN.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR IS TO MAKE NOTE OF THE LATEST VERSION OF THE PERFORMANCE SPECIFICATION.
 - THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL MECHANICAL DRAWINGS AND SPECIFICATION.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL PRODUCE FULL CDM MANUALS COMPLETE WITH AS BUILT DRAWINGS, TESTING CERTIFICATION AND DATA SHEETS.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL PROVIDE ALL THE NECESSARY PAPERWORK AND DOCUMENTATION REQUIRED TO ACHIEVE THE BREEM CREDITS LISTED WITHIN THE BREEM PRE ASSESSMENT REPORT.
 - ALL WORKS CARRIED OUT SHALL BE TO THE CLIENT AND CONSULTING ENGINEERS SATISFACTION. THE WORK SHALL ALSO BE CARRIED OUT IN ACCORDANCE WITH THE DESIGN INTENT INDICATED WITHIN THE INDICATIVE DESIGN PACKAGE. ANY WORKS DEEMED TO BE UNSATISFACTORY SHALL BE RECTIFIED AT NO COST TO THE CLIENT.

- GENERAL POWER NOTES**
- THE LIGHTNING PROTECTION SYSTEM IS TO BE PROVIDED AND INSTALLED BY A SPECIALIST CONTRACTOR. A RISK ASSESSMENT SHALL BE CARRIED OUT IN ORDER TO ESTABLISH THE SYSTEM REQUIRED TO CONFORM WITH BS EN 62305 & BS 7171 18TH EDITION AMENDMENT 2.
 - ALL EARTHING, TESTING AND LABELING SHALL BE DONE IN ACCORDANCE WITH BS 7671 18TH EDITION AMENDMENT 2 AND BS 5345.

- LIGHTING NOTES**
- ALL EMERGENCY LIGHTING WORKS TO BE FULLY COMPLIANT WITH BS5266-2016.
 - NO LIGHT FITTINGS SHALL BE ORDERED WITH PRIOR APPROVAL FROM THE CLIENT.

- EXTERNAL LIGHTING NOTES**
- ALL EXTERNAL LIGHTING WORKS ARE TO BE IN COMPLIANCE WITH BS EN 12464-2:2014, BS5489-1:2020 AND CIBSE LIGHTING GUIDE LGSB16.
 - ALL EXTERNAL LIGHTING SHALL BE DESIGNED AND INSTALLED IN COMPLIANCE WITH I.E GUIDANCE FOR REDUCTION OF NIGHT TIME LIGHT POLLUTION 2005. THE LIGHTING MUST HAVE THE ABILITY TO BE AUTOMATICALLY SWITCHED OFF BETWEEN 23:00 & 07:00.
 - THE EXTERNAL OFF BUILDING LIGHTING IS TO BE CONTROLLED VIA PIR'S & PSC'S.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL ALLOW FOR A LIGHTING SUPPLY TO THE SITE TOTEM.
 - THE MINIMUM EXTERNAL LIGHTING LUMW FOR EXTERNAL LIGHT FITTINGS SHALL BE 90LHW IN ACCORDANCE WITH BREEM REQUIREMENT ENE (D).
 - THE EXTERNAL LIGHTING DESIGN IS TO COMPLY WITH THE FOLLOWING BREEM CRITERIA AS MENTIONED IN THE PERFORMANCE SPECIFICATION:
HEAVY - VISUAL COMFORT
EYES - EXTERNAL LIGHTING
POLUX - REDUCTION OF NIGHTTIME POLLUTION
 - COMPLETE LIGHTING CALCULATIONS SHALL BE PROVIDED TO PROVE THE LEVELS IN NOTE 6 ARE BEING ACHIEVED.
 - THE AVERAGE LUX LEVELS AND MINIMUM UNIFORMITY FOR AREAS SHALL BE AS FOLLOWS:
ENTRANCE ROADWAY - 20LUX AVERAGE AT FFL MINIMUM UNIFORMITY - 0.25
BUILDING PERIMETER - 10LUX AVERAGE AT FFL MINIMUM UNIFORMITY - 0.25
CAR PARK - 20LUX AVERAGE AT FFL MINIMUM UNIFORMITY - 0.25
LOADING BAYS - 50LUX AVERAGE AT FFL MINIMUM UNIFORMITY - 0.4
SERVICE YARD - 20LUX AVERAGE AT FFL MINIMUM UNIFORMITY - 0.4
CAR PARK LIGHTING IS REQUIRED TO BE OPERATIONAL 30 MINUTES EITHER SIDE OF NORMAL TRADING HOURS MINIMUM. THE OPERATIONAL HOURS ARE TO BE AGREED WITH ALL UNITS PRIOR TO SITE COMPLETION.

- ELECTRIC VEHICLE CHARGING NOTES**
- THE ELECTRICAL SERVICES SUB CONTRACTOR IS TO PROVIDE TWO TWIN ELECTRIC VEHICLE CHARGING POINTS. THESE ARE TO BE A MINIMUM STANDARD OF TWO TYPE 2 MODE 3 FAST CHARGERS MANUFACTURED BY ROLLO LTD. THE CAR CHARGING POINTS ARE TO BE INSTALLED ON A GROUND MOUNTING BASE AND BEHIND A PROTECTIVE BARRIER TO COMPLY WITH BS EN 61851-1 & 62106.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL SUPPLY AND INSTALL CABLE ENABLED DUCTING FOR AND FUTURE TWIN CHARGING POINTS TO BE INSTALLED BY THE CLIENT AT A LATER DATE. THIS IS ALSO REQUIRED TO COMPLY WITH BREEM CREDIT TRA (D) AND BUILDING REGULATIONS PART 6.

- PHOTO VOLTAGE INSTALLATION NOTES**
- THE ELECTRICAL SERVICES SUB CONTRACTOR IS TO EMPLOY A SPECIALIST CONTRACTOR TO DESIGN, SUPPLY, INSTALL AND COMMISSION THE COMPLETE INSTALLATION OF THE PV SYSTEMS.
 - THE SPECIALIST CONTRACTOR SHALL BE MCS (MICROGENERATION CERTIFICATION SCHEME) ACCREDITED.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR WILL BE REQUIRED TO FILL IN THE G99 FORM AND SUBMIT THIS TO THE DNO UNLESS AGREED OTHERWISE WITH THE SPECIALIST PV SUB CONTRACTOR.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL REVIEW THE MECHANICAL AND ELECTRICAL PERFORMANCE SPECIFICATIONS FOR FURTHER DETAILS ON THE PV REQUIREMENTS.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL REVIEW AND IMPLEMENT THE RECOMMENDATIONS OF RISK AUTHORITY DOCUMENT R062: RECOMMENDATIONS FOR FIRE SAFETY WITH PHOTOVOLTAIC PANEL INSTALLATIONS.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL LIASE WITH THE STRUCTURAL ENGINEER REGARDING THE POTENTIAL IMPACT OF THE PROPOSED PV SYSTEM ARRAY THAT IS PLANNED ON BEING INSTALLED.
 - THE ELECTRICAL SERVICES SUB CONTRACTOR SHALL LIASE WITH THE ARCHITECT WITH REGARDS TO THE FINAL LOCATION AND ORIENTATION OF THE PV ARRAY PANELS.
 - THE PV SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ALL THE MANUFACTURER RECOMMENDATIONS AND GUIDELINES.

INDICATIVE

R2	23.05.23	Background layout updated.
R1	25.11.22	Floodlight added in place of low level emergency in service yard.
Rev	Date	Description

Project -
**Knowsley East Hub,
South Boundary Road,
Knowsley**

Title -
**Electrical Services
Indicative
External Lighting and
Electric Vehicle Charging Layout**

Scale - 1:300 @ A1 Design by - CD

Date - 19.05.22 Cad by - FG

Drawing No. -
5835-KGA-XX-XX-DR-E-0300

Revision -
R2

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