

LANTERN & COLUMN SPECIFICATION.

LUMINAIRE TYPE A (Road ways)
 AXIA 2.1 5166 - Integrated Lenses 16 NVSL219CT 600mA NW 740 230V

The lighting circuit shall be controlled via a photocell mounted on the street light that is closest to the feeder pillar.

AXIA 2.1 luminaires are composed of a high pressure, die cast aluminium body, universal fixation and a polycarbonate protector with integrated lenses.
 Housing - Polyester powder coating - RAL 7040 (Window Grey).
 The electronic components and the LED engine are housed in separate compartments in a horizontal section. The body integrates cooling fins to maintain performance in the long term.
 The lantern to be suitable for 40mm diameter post top slip over mounting to column.
 The inclination angle of the lantern can be adjusted on site in steps of 2.5°.
 Ingress Protection : IP66.
 Impact Resistance : IK08, IK09, IK10.
 Operating Temperature : -30°C to 50°C.
 Electrical Class : Class I EU, Class II EU.
 Nominal Voltage : 220-240V, 50-60Hz.
 Electromagnetic Compatibility : EN 55015, EN 6100-3-2, EN 61000-4-5, EN 61547.
 Control Options : Custom Dimming Profile.
 LED Colour Temperature : 4000K (Neutral White 740)
 Upward Light Output Ratio (ULOR) 0%
 Colour Rendering Index (CRI) > 70
 Lifetime of LEDs @ 25°C : 100,000hours - L90.

The Axia 2 lantern provides a comprehensive and best value LED solution for lighting roads, street or pedestrian areas. The lantern is composed of a high pressure, die cast aluminium body, universal fixation and a polycarbonate protector with integrated lenses. For optimised heat dissipation, the electronic components and the LED engine are in separate compartments. The body integrates cooling fins to maintain performance in the long term.

- Columns as per Kingfisher Conical Steel 6m Column.
 Catalogue code - 6CCS60L.
 Columns shall be designed to British Standards and manufactured from Steel tube with a hot dip galvanised finish.
 Columns shall be cone shaped - circular, tapered from bottom to top.
 Columns shall be root mounted.
 Columns shall incorporate a flush fitting door, laser cut from column body.
- Height (above ground) 6m
 - Root (below ground) 800mm
 - Outer Diameter 157mm at base
60mm at top of column
60 x 85mm
 - Post Top Mounting 500mm x 100mm (min) located 600mm above ground overlapping or flush fitting
 - Door Opening
 - Terrain Category 3
 - Maximum head load 40kg
 - Maximum Windage 0.5m²
 - Cable Entry 150mm x 75mm

Column door opening shall be secured with a lock to prevent unauthorised entry.
 Column earthing requirements shall be as per BS EN 40-2 clause 4.4.6.
 Columns shall be designed in accordance with BS EN 40.
 Columns shall be manufactured from steel tube to EN 10210 or EN 10219.
 The columns shall have a termination unit (cut out) at low level.
 The termination unit shall be double pole with 4amp fuse and comply with BS 7654.
 The lanterns shall be mounted on top of the column.

NOTES

This drawing is to be read in conjunction with all other drawings, schedules and specifications.

The contractor shall be responsible for the coordination of all underground services.

The electrical design assumes that a new Feeder Pillar shall be provided for this new development.

The lighting design has been designed to achieve :
 Roadways - BS 5489-1:2020, Category P3 (S/P ratio 1.5) - 1.5 lux minimum illuminance and between 7.5 lux and 11.25 lux average illuminance.

The lanterns shall be dimmed between 12 midnight and 6.00am (times and dimming levels to be confirmed before installation). Dimming profile programme to be set for each lantern.

The electrical cabling shall be 10mm² multi core armoured pvc cable (EU harmonised colours) - violet sheathed.

The armour cable shall be individually terminated by means of an armour securing clamp or a compression type gland. All glands shall be shrouded overall with pvc sleeves and the conductor shall be terminated with cable lugs. Phase connections shall be clearly indicated by a suitable colour marking system.

Wiring between the terminal block of the luminaire and the components in the base of the column shall be thermoplastic insulated / sheathed flat twin & earth cables. Cabling to be 2.5mm².
 Vertical cables within columns shall be adequately supported along their length at the top of the cable run.

All unused cores in cables shall be cut to a minimum length, long enough to connect to the furthest working point within the unit. All cores shall be cut to an equal length. The cable ends shall be tied together and sealed with self amalgamating waterproof jointing tape.

A circuit protective conductor shall connect the earth terminal on each luminaire to the main earth terminal associated with the service cut out unit.

All extraneous conductive parts shall be bonded to the main earth terminal. All street lighting furniture shall be earthed and bonded in accordance with BS 7430.

An earth rod shall be installed at the last lighting column and at the feeder pillar. The earth rod shall be driven vertically into the ground no closer than 0.5m from the column or feeder pillar within the confines of the cable track adjacent until it is at least 300mm below the finished ground level. A suitable earth clamp shall be used to attach a 6mm² earth cable from the earth rod to the earth stud within the lighting column or feeder pillar.

Underground cable ducts shall be pvc 100mm internal diameter twin wall circular ducts (violet). The ducts shall be twin wall corrugated conduit with high crush resistance and flexibility. The inner surface shall have a low coefficient of friction and be free from burr which could damage cable sheaths.

Cable ducts shall be impervious to water, impact resistant and sufficiently flexible to follow undulations in the trench bottom. They shall have sufficient strength to not require concrete surround.

Before installing cables in the underground ducts, ensure that the ducts are clean and free from any sharp edges.

A draw rope shall be left in each cable duct. Once all cables are installed, each duct shall be sealed against the ingress of foreign matter.

Cable covers for protection of underground cables shall comply with BS 2484.

Cables shall be laid without any sharp bends and kinks. No underground jointing shall be permitted. Cables shall not be bent to an internal radius of less than 12 times the external diameter of the cable or as instructed by the cable manufacturer.

Power cables shall not be installed within 500mm of signal or communication cables, within 300mm of telecommunication cables or within 300mm of HV cables.

Cables shall only be laid when the ambient temperature is above 0°C, and the cable has been stored at a temperature above 0°C for the previous 24 hours.

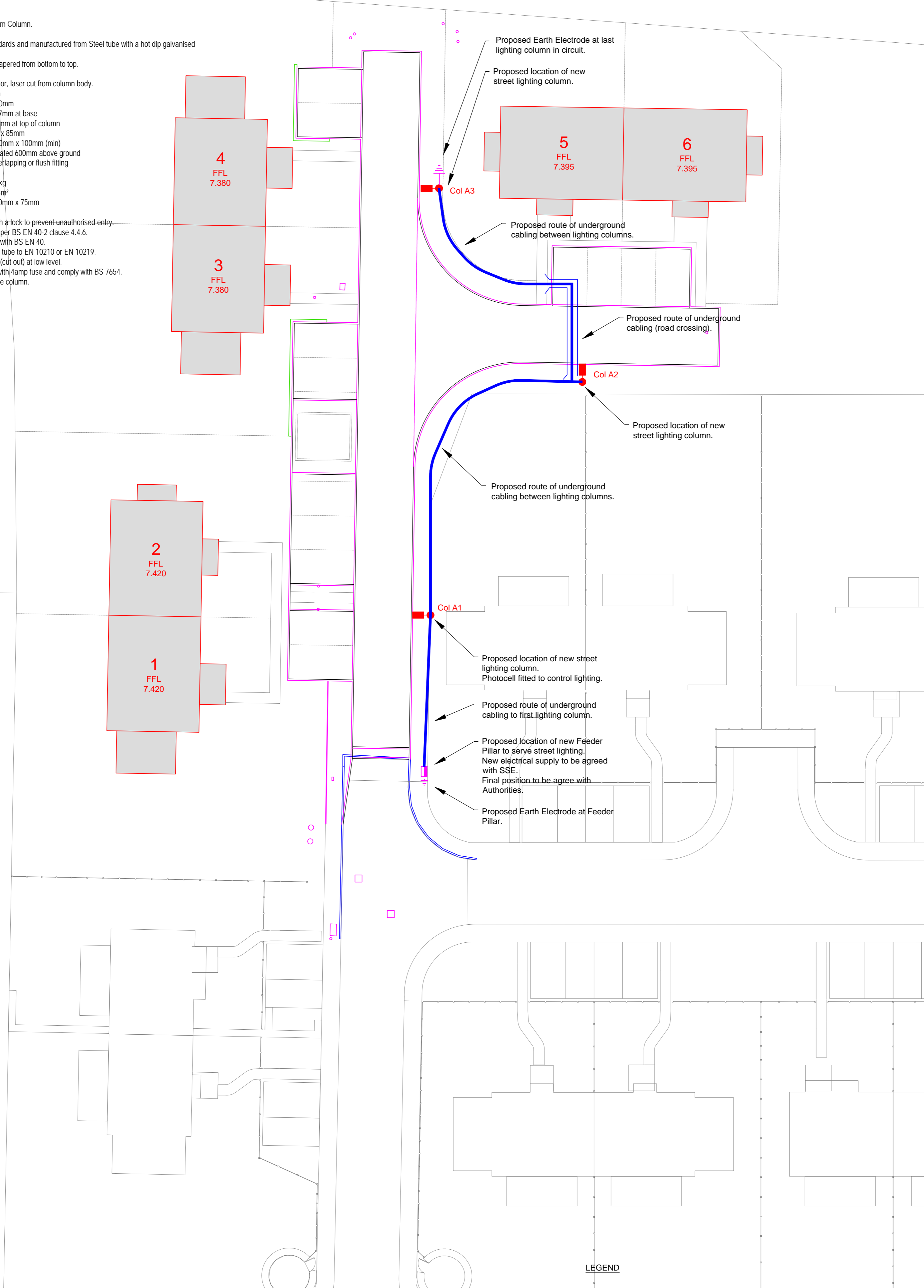
Allow sufficient length of cable for its termination. When the termination of the cable does not proceed immediately following the installation, the cable end shall be sealed against the ingress of moisture.

A yellow self coloured pvc or polythene plastic tape for cable marking with the word "STREET LIGHTING CABLES BELOW" printed in black lettering shall be supplied and installed along the full length of the circuit.

The lighting columns shall be sited at the rear of the footpaths.

The installation upon completion and before being energised shall be inspected and tested to verify that the requirements of BS 7671 have been complied with.

The contractor shall give notice to the Council of his intention to carry out any tests and give the Council the opportunity to witness all tests. All test instruments must have valid calibration certificates - copies of the calibration certificates shall be submitted with the test results.



- LEGEND**
- PROPOSED NEW STREET LIGHTING COLUMN AND LANTERN
 - STREET LIGHTING FEEDER PILLAR (REFER TO DRAWING (63)E002 FOR FURTHER DETAILS)
 - ⊕ EARTH ELECTRODE (REFER TO DRAWING (63)E002 FOR FURTHER DETAILS)
 - PROPOSED ROUTE OF STREET LIGHTING CABLING
 - PROPOSED ROUTE OF ROAD CROSSING FOR STREET LIGHTING CABLING

REVISION	REVISION DESCRIPTION	DRAWN	DATE
A	INITIAL ISSUE	SGB	29.03.21

PROJECT DESCRIPTION
Street Lighting Installation
 Marthastoun,
 Shetland.

CLIENT

Westside Electrical Services Ltd
 Nyrhus, Effirth, Bixter
 Shetland. ZE2 9LY.

AUTOCAD FILE REFERENCE WES2103 63E001	DRAWN BY SGB	APPROVED BY SGB
PROJECT NUMBER WES2103-01	DATE Mar '21	SCALE 1 : 200
DRAWING DESCRIPTION Street Lighting Layout		
DRAWING No. (63)E001	REVISION A	
DRAWING STATUS ROAD CONSTRUCTION CONSENT		