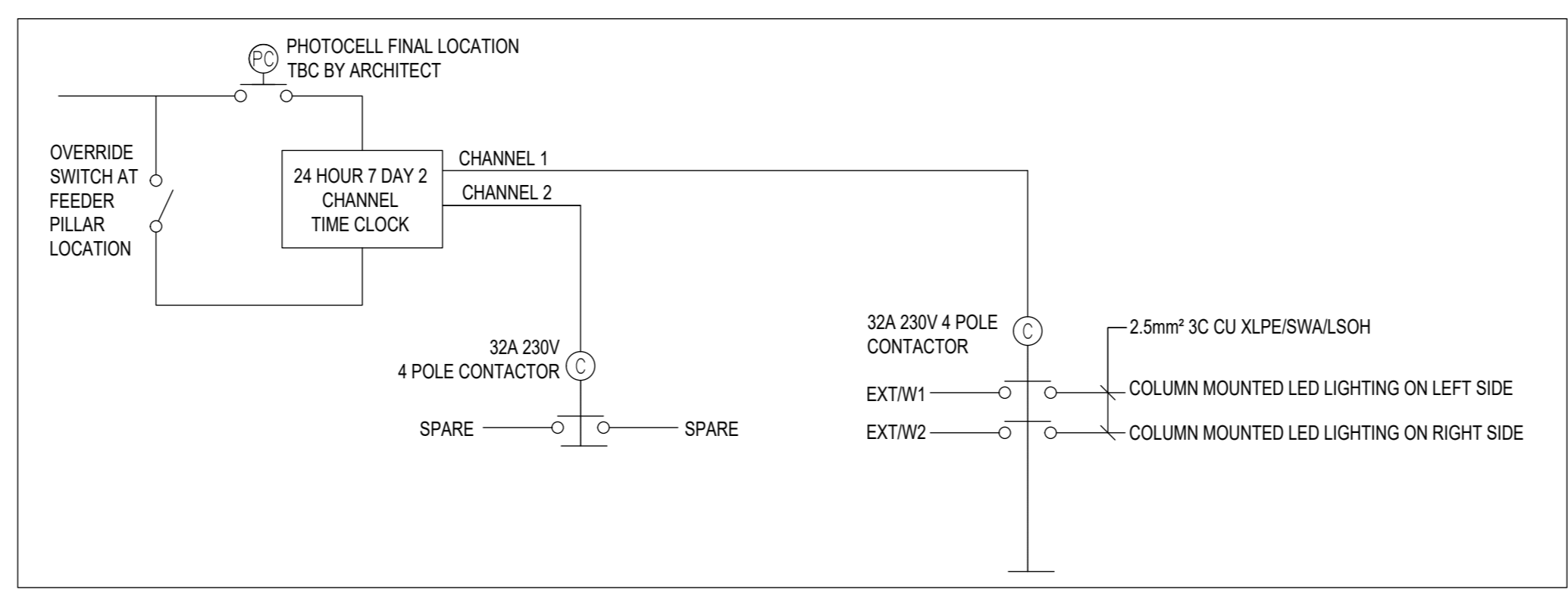


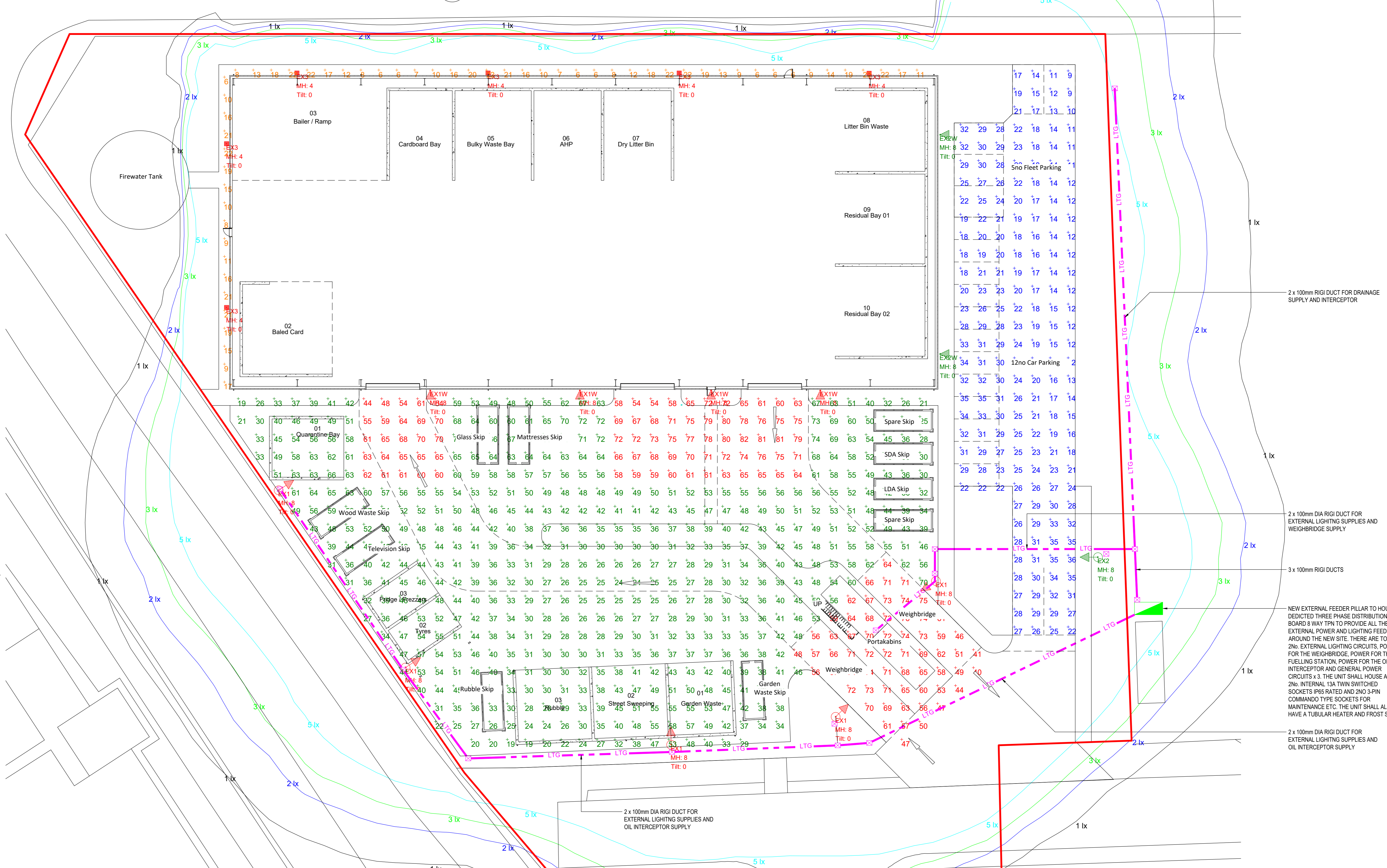
Symbol	Qty	Label	Arrangement	Description	Lum. Lumens	LLF
EX1	4	EX1W	SINGLE	150w LED 4000k Zactis 808mA Floodlight with FW70 Optic column mounted at 8m.	22800	0.900
EX2	1	EX2	SINGLE	120w LED 4000k Viva City Flood 780mA with FW70 Optic column mounted at 8m.	13970	0.900
EX3	2	EX3W	SINGLE	120w LED 4000k Viva City Flood 780mA with FW70 Optic column mounted at 8m.	13970	0.900
EX4	6	EX4	SINGLE	14.2w LED 4000k Quartz 2.0 500mA bulkhead with optic optic building mounted at 4m.	1075	0.900

Label	CalcType	Units	Avg	Max	Min	Uniformity	Diversity
Building Perimeter	Illuminance	Lux	13.91	22	6	0.43	0.27
Car Park	Illuminance	Lux	22.55	36	9	0.40	0.25
Loading Bays	Illuminance	Lux	66.90	82	44	0.66	0.54
Service Yard	Illuminance	Lux	43.21	74	19	0.44	0.26
Weighbridge	Illuminance	Lux	63.52	76	40	0.63	0.53

A LUMINAIRE SCHEDULE
2821 NTS



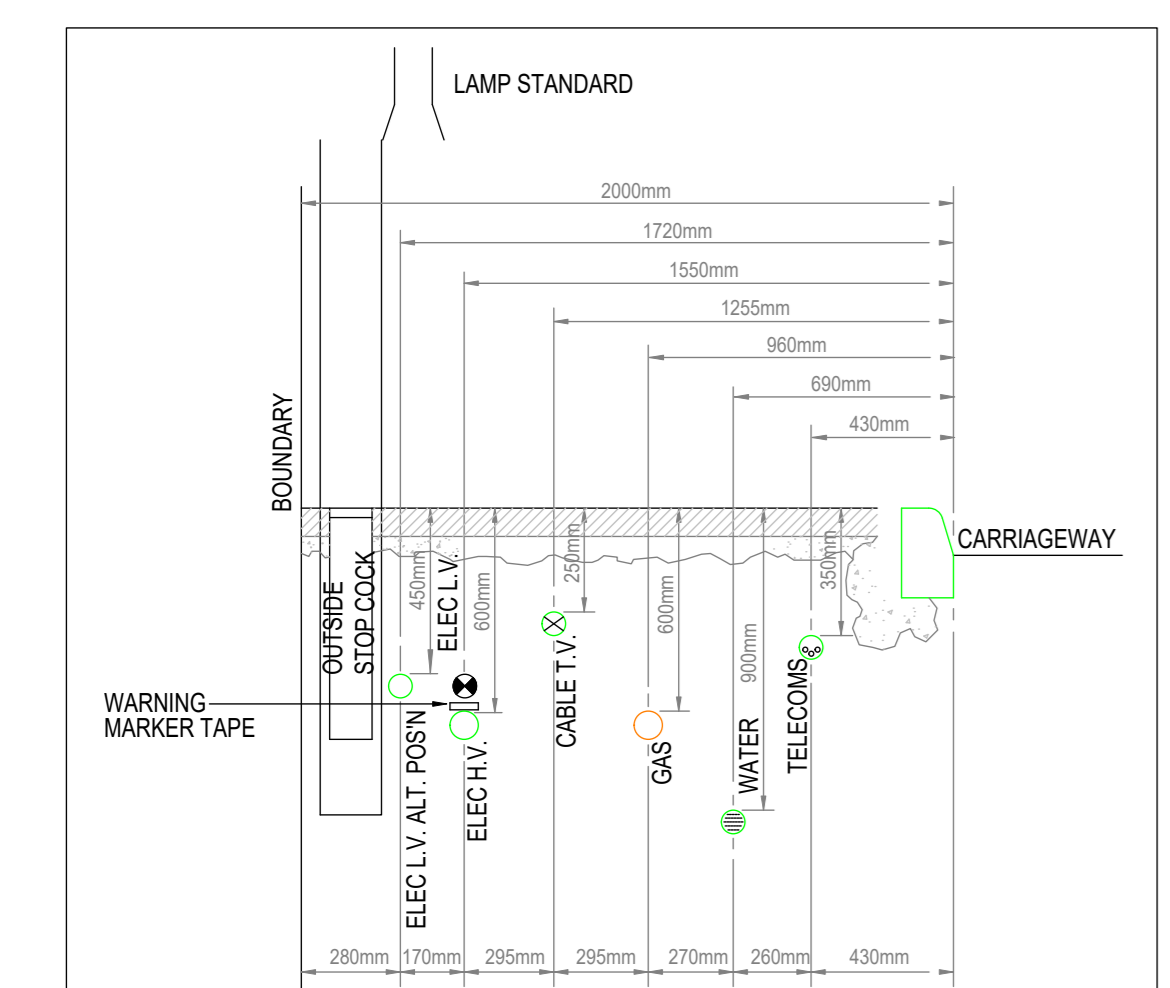
B EXTERNAL LIGHTING CONTROLS SCHEMATIC
2821 NTS



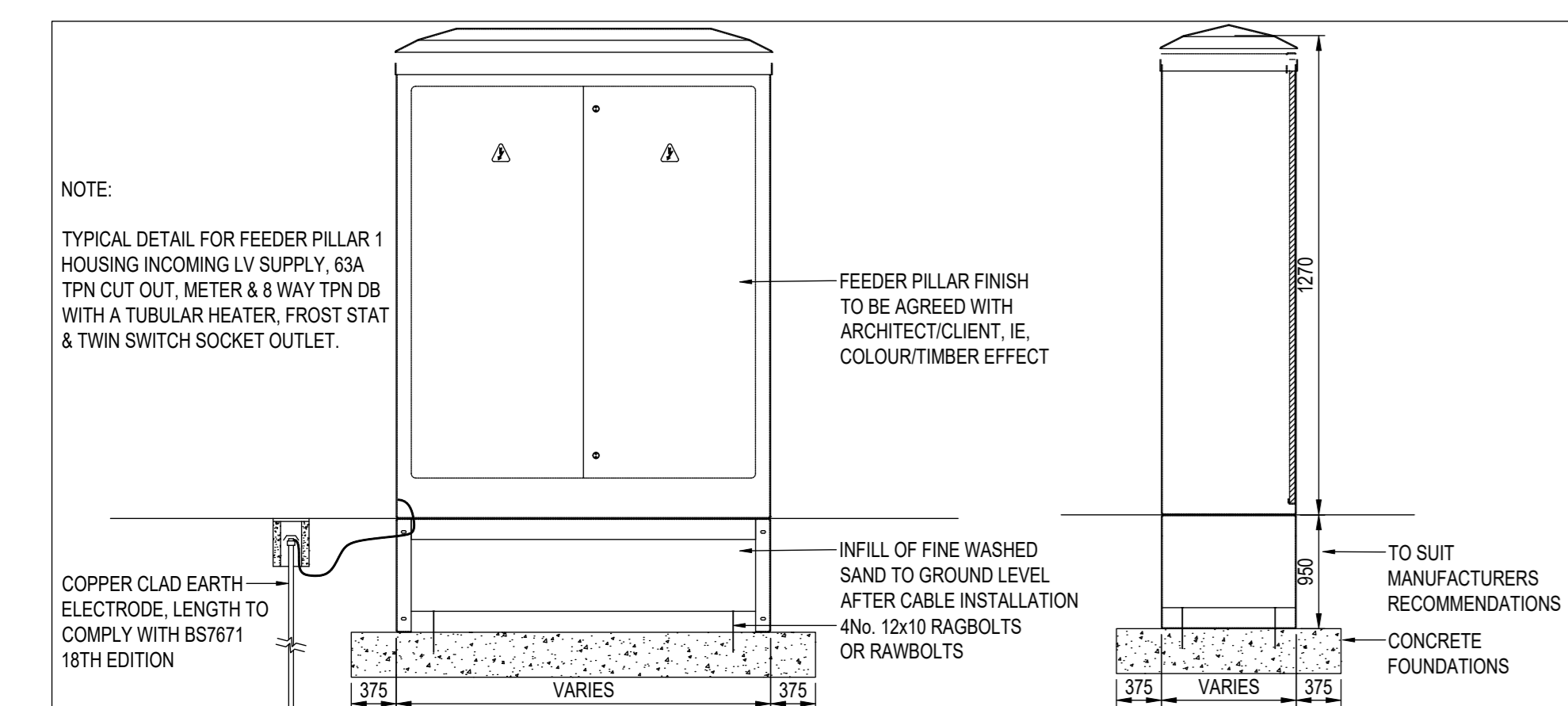
- NOTES:**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL & STRUCTURAL DRAWINGS.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT BUILDING SERVICES DRAWINGS & THE RELEVANT SECTIONS OF THE SPECIFICATIONS & SCHEDULES.
 - ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE STATED.
 - ANY DISCREPANCIES, ERRORS OR OMISSIONS ARE TO BE CLARIFIED WITH THE RELEVANT ENGINEER AT THE EARLIEST OPPORTUNITY.
 - ALL WORKS ARE TO BE IN ACCORDANCE WITH THE CURRENT RELEVANT STATUTORY REGULATIONS, BUILDING REGULATIONS, BRITISH STANDARDS, ACCEPTED CODES OF PRACTICE AND TRADE ASSOCIATION REQUIREMENTS.
 - REFERENCE SHALL BE MADE TO THE SPECIFIC RECORD DRAWINGS FROM EACH RELEVANT STATUTORY BODY PRIOR TO STARTING WORKS ON SITE.
 - REFERENCE SHALL BE MADE TO THE GUIDANCE NOTE HSG47 AVOIDING DANGER FROM UNDERGROUND SERVICES & UTILITIES GUIDELINES ON POSITIONING & COLOUR CODING OF APPARATUS.
 - VERIFICATION OF THE DETAILS GIVEN ON PLANS SHALL BE UNDERTAKEN BY USE OF PLANT LOCATION EQUIPMENT TO TRACE ALL UNDERGROUND PLANT-HAND DRILL HOLES TO CONFIRM THE PRECISE LOCATION OF PLANT, & USE SUITABLE PAINT OR MARKERS ON THE SURFACE TO CLEARLY INDICATE THE POSITION OF BURIED APPARATUS. YOU MUST ENSURE FULL COLOUR COPIES OF STATUTORY RECORD PLANS ARE ISSUED TO THE WORKERS CARRYING OUT THE EXCAVATIONS.
 - ALL ON-SITE TRENCHES SHALL BE EXCAVATED & BACKFILLED BY THE MAIN CONTRACTOR TO THE STRUCTURAL ENGINEERS SPECIFICATION. TRENCHES SHALL BE EXCAVATED TO ALLOW FOR A SAND BED LAYER OF 50mm THICKNESS UNLESS OTHERWISE STATED.
 - ALL EXCAVATIONS FOR BELOW GROUND SERVICES SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE SPECIFIC REQUIREMENTS OF THE RELEVANT STATUTORY BODY. WHERE NO SPECIFIC GUIDANCE IS AVAILABLE, THE MAIN CONTRACTOR SHALL GENERALLY ENSURE EXCAVATIONS CONFORM WITH THE FOLLOWING GUIDELINES:
 - SERVICE DEPTHS TO BE IN ACCORDANCE WITH THE GUIDANCE INDICATED BY NATIONAL JOINT UTILITIES GROUP (NJUG), IN PARTICULAR, VOLUME 2.
 - EXCAVATE IN A CLEAN & ORGANISED MANNER. SCHEDULE WITH OTHER SITE ACTIVITIES TO PROVIDE CONTROLLED ACCESS & MINIMAL TRACKING OF SOIL OVER THE SITE.
 - SET OUT & USE SITE BOARDS TO ENSURE UNIFORM FALLS.
 - SEPARATE TOPSOIL & SET ASIDE FOR LATER USE.
 - EXCAVATE TRENCH WIDTH TO A MINIMUM OF 300mm ABOVE THE TOP OF THE PIPE BARREL WITHIN INDICATED LIMITS.
 - VIRGIN/BCOMMS DUCT TO BE DETAILED/INDICATED BY OTHERS.
 - ALL IN-GROUND DUCTS TO BE PROVIDED CW DRAW WIRES.
 - ALL METERS ARE TO BE PROCURED BY THE CONTRACTOR BASED ON INFORMATION PROVIDED BY THE DEVELOPER.
 - REFER TO THE BELOW GROUND SERVICES SURVEY SCAN OVERLAY FROM TIER.

SYMBOL	DESCRIPTION
(Red line)	PRIVATE/ON-LV SUPPLY CABLE
(Green line)	PUBLIC REALM LV LIGHTING CIRCUIT CABLES
(Green box)	FEEDER PILLAR - IP66 RATED POWDER COATED IN DARK GREY. RAL COLOUR TBC. NOTE ALL FEEDER PILLARS TO BE DARK GREY.
(Pink line)	110mm DIAMETER RIGI DUCT TO CARRY EXTERNAL LIGHTING CIRCUITS
(Pink box)	600x600 ACCESS CHAMBER, WITH DRAW IN WIRES, FOR LIGHTING CABLES
(M)	METER

C TYPICAL CONICAL COLUMN
2821 NTS



D TYPICAL UTILITY TRENCH DETAILS
2821 NTS
NATIONAL JOINT UTILITIES GROUP (NJUG) POSITIONING OF UTILITIES MAINS IN 2m FOOTWAY



E TYPICAL FEEDER PILLAR FOUNDATION DETAIL
2821 NTS



F SMALL FEEDER PILLAR IMAGE
2821 NTS

BREEAM New Construction 2018 (UK)

Colour Temperature (K)	City	Range	Light Source	Luminaire Lumens (lm)	Watts (W)	lm/W	LOE	Total Lumens	LOE/Upward Lumens	CE	Light Day	Light Day	Light Day	Light Day
4000	9	Zactis	150w LED FWT0	21800	180	121.11	100%	197200	0.0%	0	>70	12	1.33	6307.30
4000	3	Viva City FWD Flood	120w LED FWT0	17200	120	143.33	100%	151800	0.0%	0	>70	12	0.33	1176.60
4000	6	Quartz 2.0	14.2w LED OC	1875	14	133.93	100%	10950	0.0%	0	>70	12	0.06	373.18

Table 1 - Compliance	Table 2 - Environmental Zone	Table 3 - Energy	Table 4 - Source Intensity (Landfill)	Table 5 - Light Intensity into Windows (LW)	Table 6 - Building Luminaire (Lum)
Compliance: Pass	Compliance: Pass	Compliance: Pass	Compliance: Pass	Compliance: Pass	Compliance: Pass

G XXX
2821 NTS

DESIGNER'S RISK ASSESSMENT
DESIGNER'S RISK ASSESSMENT: SATISFACTORY AREA REV A

DRAWING BACKGROUND:
SATISFACTORY AREA REV A

SMALL POWER & DATA LEGEND

SYMBOL	DESCRIPTION
(Red box)	BUILDING MOUNTED FLOODLIGHT
(Pink box)	600x600 ACCESS CHAMBER
(Blue circle)	EXTERNAL LIGHTING OVERRIDE SWITCH

GENERAL EXTERNAL LIGHTING NOTES:

- THE EXTERNAL LIGHTING HAS BEEN DESIGNED ON KINGFISHER LIGHTING. ANY DEVIATIONS FROM THIS SCHEME DESIGN WILL REQUIRE A RE-SUBMISSION TO THE LOCAL PLANNERS AND COULD BE SUBJECT TO A DELAY.
- ALL NEW EXTERNAL LIGHTING MEETS THE CRITERIA AND ACCREDITATION OF BREEM.
- THE CIVIL AND STRUCTURAL CONSULTANT SHALL PROVIDE AND DETAIL ALL THE LIGHTING COLUMN BASES BASED ON THE WINDAGE FACTORS AND BASE LOADS FROM THE LIGHTING SPECIALIST AS PART OF THE STAGE 4/5 DESIGN.
- DUE TO THE LOCAL PROXIMITY TO THE COASTLINE ALL LIGHTING COLUMNS AND LAMP HEADS SHALL BE SALINE TREATED TO MARINE GRADE AND AT LEAST IP66 RATED.
- ALL LIGHTING COLUMNS ARE TO BE FITTING WITH ANTI SEAGULL MOUNTS BY FLOCK OFF SIMILAR OR APPROVED.
- ALL LIGHTING COLUMNS SHALL BE PROVIDED BY ABACUS SIMILAR AND OR APPROVED PRODUCT.
- ALL COLUMNS ARE TO HAVE A 16A SPIN RATED SWITCH DISCONNECTOR WITHIN THE COLUMN BASE FULLY ACCESSIBLE.
- ALL WIRING TO THE EXTERNAL COLUMNS SHALL BE RUN IN DUSTS AND SHALL BE XLPE/SWA.
- ALL COLUMNS ARE TO HAVE A ROOT MOUNTED BASE WITH SLOW BEND RADIUS ENTRY/EXIT.
- FEEDER PILLAR TO BE ROOT MOUNTED BACBS ON THE CONCRETE BASE STRUCTURE WITH ENTRY AND EXIT CABLE SLOTS. FEEDER PILLAR TO BE BY TEC ENCLOSURES. LUCY OR SIMILAR APPROVED PRODUCT. FEEDER PILLAR TO BE AT LEAST IP66 RATED AND SALINE TREATED.

Legend:

SYMBOL	DESCRIPTION
(Red line)	PRIVATE/ON-LV SUPPLY CABLE
(Green line)	PUBLIC REALM LV LIGHTING CIRCUIT CABLES
(Green box)	FEEDER PILLAR - IP66 RATED POWDER COATED IN DARK GREY. RAL COLOUR TBC. NOTE ALL FEEDER PILLARS TO BE DARK GREY.
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(M)	METER

Client: CONWY COUNCIL

Project: WASTE TRANSFER CENTER LLANDUDNO

External Lighting Layout

PRELIMINARY

Project No: 2821 Drawn: BW Scale / Paper Size: 1:200 @ A0
Drawing No: 2821-CWC-XX-EX-DR-E-6001 Rev: P1