

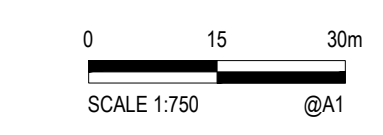


- LEGEND:**
- **1E80** BURIED ELECTRICAL CONDUIT INSTALLED WITH DRAW WIRE IN ACCORDANCE WITH TYPICAL CABLE TRENCH SECTION DETAIL AND AS/NZS3000.
 - 1** DENOTES QUANTITY OF CONDUITS.
 - E** DENOTES ELECTRICAL ORANGE HD PVC CONDUIT
 - xx** DENOTES THE DIAMETER OF THE CONDUIT FOR EXAMPLE: 2E80 - 2 x 80 DIA ELECTRICAL HD PVC CONDUITS
 - EXISTING OVERHEAD SUBMAIN TO BE DEMOLISHED
 - EP1** 410x715Wx800D ELECTRICAL PIT & AS3996 CLASS C STEEL PIT LID SCRIBED WITH 'ELECTRICAL'. TYPE: ACO TYPE 4 OR APPROVED EQUIVALENT.
 - MSB** MAIN SWITCH BOARD
 - DB** DISTRIBUTION BOARD
 - LP** LIGHTING POLE STRUCTURE INCLUSIVE OF POLE, LUMINAIRES, FOOTING, AND CROSSARM. REFER TO STRUCTURAL DRAWINGS FOR POLE AND FOOTING DETAILS. REFER TO DRAWINGS E300 FOR INFORMATION ON LUMINAIRES AND POLE GENERAL ARRANGEMENT. REFER TO BELOW POLE SCHEDULE FOR LOCATION, ORIENTATION & HEIGHT.
 - EX** EXISTING LIGHTING POLE TO BE DEMOLISHED AND REMOVED OFF-SITE. CIRCUITS OF LIGHTING POLES MARKED FOR DEMOLITION ARE TO BE TRACED AND FULLY CONFIRMED PRIOR TO DEMOLITION OF POLES. COMPLETELY REMOVE CIRCUIT BACK TO POINT OF ORIGIN AND MAKE SAFE. NO EXISTING DEAD CABLING TO REMAIN IN CONDUITS. EXISTING FOOTINGS SHALL BE DEMOLISHED TO BELOW NATURAL SURFACE LEVEL PRIOR TO RE-INSTATEMENT AS PER COUNCIL REQUIREMENTS.

- NOTES:**
1. ELECTRICAL ITEMS ARE NOT TO SCALE. REFER TO LEGEND FOR EXACT DIMENSIONS.
 2. ALLOW TO ISOLATE, DECOMMISSION AND REMOVE FROM SITE ALL REDUNDANT ELECTRICAL WIRING AND EQUIPMENT ASSOCIATED WITH THE REMOVAL OF EXISTING SPORTSLIGHTING POLES.

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SITE LAYOUT PLAN
SCALE 1:750 AT ORIGINAL SIZE



PRELIMINARY

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C	100% DETAILED DESIGN	09.04.24	JT	HKS
B	85% DETAILED DESIGN	24.01.24	JT	HKS
A	PRELIMINARY	15.11.23	JT	HKS

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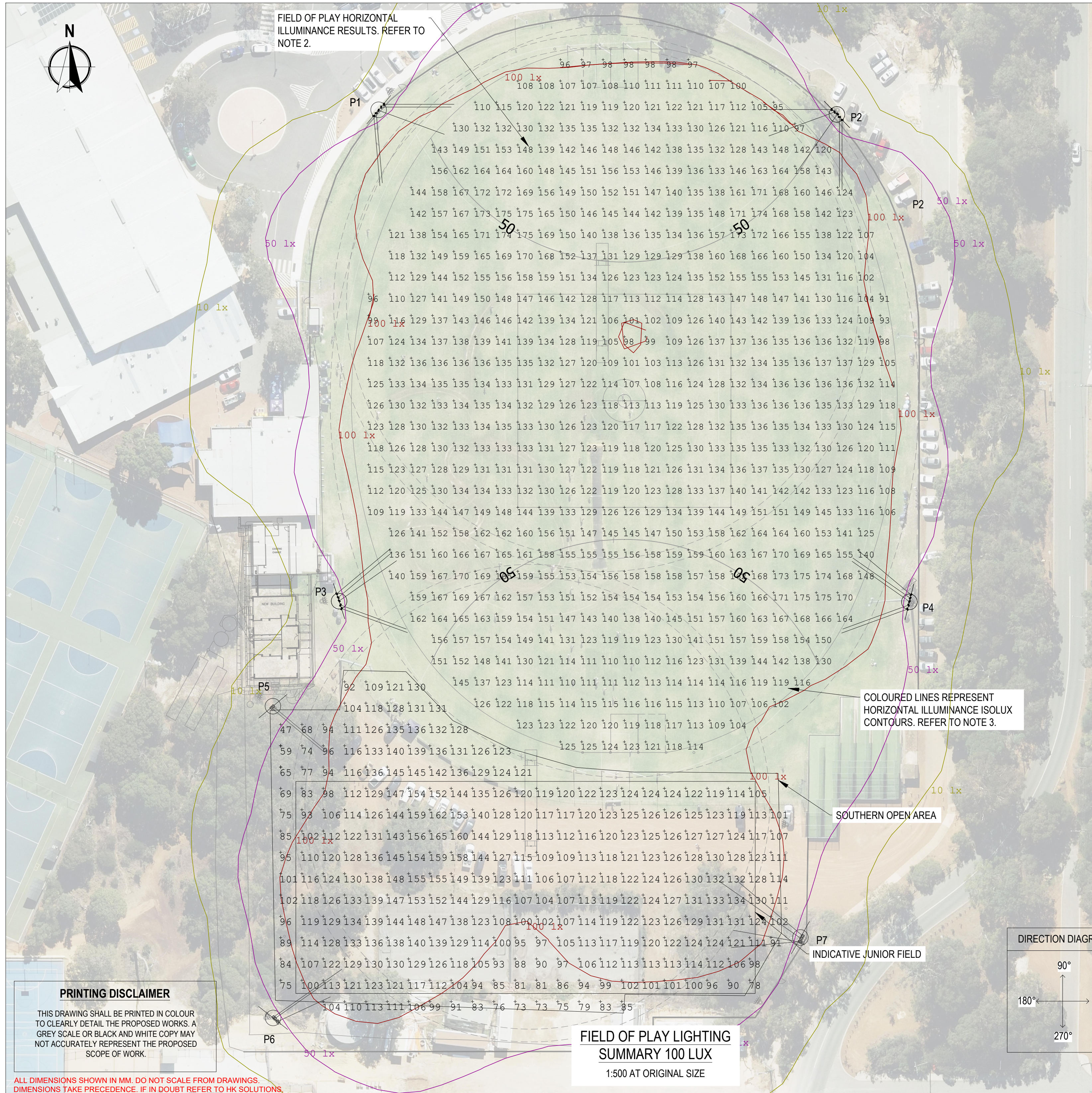


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CITY OF KALAMUNDA
RAY OWEN OVAL SPORTSFIELD LIGHTING
GLADYS RD, LESMURDIE WA 6076
SITE PLAN

PAGE No	PROJECT No	DRAWING No	DISCIPLINE	REV.	SHEET SIZE
02 OF 06	23169	E002	ELECTRICAL	C	A1



NOTES

- THE CONTRACTOR SHALL ALLOW FOR FINAL MEASUREMENT AND RECORDING OF HORIZONTAL ILLUMINANCE AND UNIFORMITIES ON FIELD OF PLAY IN ACCORDANCE WITH 100 LUX CLUB COMPETITION PERFORMANCE LEVEL ACCORDING TO AS2560.2. AS PART OF LIGHTING MEASUREMENT THE CONTRACTOR SHALL ALLOW FOR ON-SITE NIGHT AIMING OF LUMINAIRES TO PROVIDE TUNING AND IMPROVEMENTS TO LIGHTING PERFORMANCE AND REDUCTION OF LIGHTING SPILL AS PART OF ITS COMMISSIONING.
- FIELD OF PLAY CALCULATED POINTS ARE HORIZONTAL ILLUMINANCE MADE AT GROUND LEVEL.
- ISOLUX LINES ARE CALCULATED HORIZONTAL ILLUMINANCE VALUES SHOWN AT GROUND LEVEL.
- LUMINAIRE ID NOTATION P-x-y, WHERE:
x: DENOTES POLE NUMBER I.E. P1
y: DENOTES LUMINAIRE CROSSARM POSITION (SEE DWG EX00X FOR CROSSARM ARRANGEMENT AND POSITIONS). POSITIONS ARE RELATIVE TO FINAL CROSSARM SIZE AND POSITION.
- TILT SHALL BE IN ACCORDANCE TO LUMINAIRE TILT DIAGRAM AND THE CONTRACTOR SHALL CALIBRATE LUMINAIRE TILT TO DEGREE ANGLE AS LEVEL AND IN ACCORDANCE TO MANUFACTURERS REQUIREMENTS.
- ORIENTATION MAY NOT ALIGN PRECISELY WITH TRUE NORTH. REFER TO DIRECTION DIAGRAM FOR ORIENTATION. THE CONTRACTOR SHALL PRECISELY ORIENTATE IN ACCORDANCE WITH THE DIRECTION DIAGRAM.

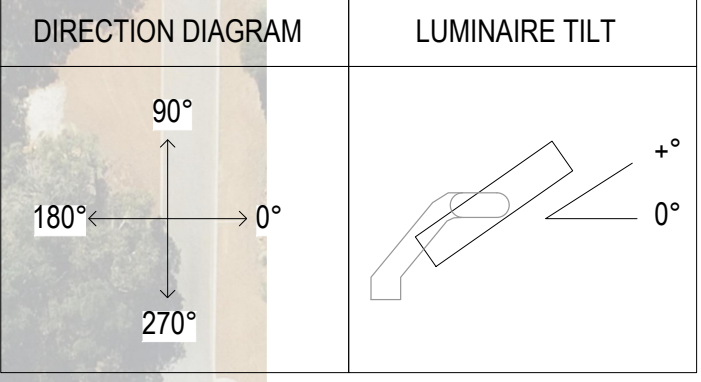
LUMINAIRE TYPE & AIMING SCHEDULE

POLE ID	POLE HEIGHT (m)	LUMINAIRE ID (NOTE 4)	MODEL	OPTICS	TILT (NOTE 5)	ORIENTATION (NOTE 6)
P1	30	P1-1	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	275°
		P1-2	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	275°
		P1-3	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	305°
		P1-4	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	340°
		P1-5	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	0°
P2	30	P2-1	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	180°
		P2-2	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	200°
		P2-3	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB	35°	235°
		P2-4	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LO	35°	270°
		P2-5	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LO	35°	270°
P3	30	P3-1	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	335°
		P3-2	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	335°
		P3-3	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	35°
		P3-4	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	40°
P4	30	P4-1	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	140°
		P4-2	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	145°
		P4-3	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB+LTM	35°	145°
		P4-4	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB	35°	205°
		P4-5	1PH 230V 1.5KW PHILIPS OPTIVISION BVP528 OUT T30 50K	A35 NB	35°	205°
P5	30	P5-1	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	30°	320°
		P5-2	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	30°	320°
P6	30	P6-1	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	26°	25°
		P6-2	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	30°	35°
		P6-3	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	34°	35°
P7	30	P7-1	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	35°	140°
		P7-2	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	40°	145°
		P7-3	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	30°	185°
		P7-4	1PH 230V 1KW PHILIPS OPTIVISION BVP518 OUT T30 50K	A35 NB+NB	30°	170°

COLOURED LINES REPRESENT HORIZONTAL ILLUMINANCE ISOLUX CONTOURS. REFER TO NOTE 3.

SOUTHERN OPEN AREA

INDICATIVE JUNIOR FIELD



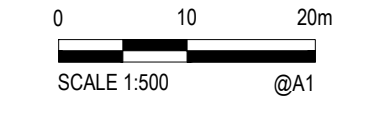
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FIELD OF PLAY LIGHTING SUMMARY 100 LUX
1:500 AT ORIGINAL SIZE

FIELD OF PLAY CALCULATION SUMMARY

APPLICABLE STANDARD: AS2560 2.3
LEVEL OF PLAY: COMPETITION 100 LUX
LUMINAIRE LLF: 0.85

SEGMENT LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	U1 (MIN/AVG)	U2 (MIN/MAX)
FIELDS ILLUMINATED INDIVIDUALLY							
SENIOR FIELD	HORIZONTAL ILLUMINANCE	LUX	131.5	175	71	0.54	0.41
JUNIOR FIELD	HORIZONTAL ILLUMINANCE	LUX	105.4	152	60	0.57	0.39
SOUTHERN OPEN AREA	HORIZONTAL ILLUMINANCE	LUX	98.7	152	46	0.47	0.30
FIELDS ILLUMINATED SIMULTANEOUSLY							
SENIOR FIELD	HORIZONTAL ILLUMINANCE	LUX	1361	175	91	0.67	0.52
JUNIOR FIELD	HORIZONTAL ILLUMINANCE	LUX	121.4	165	75	0.62	0.45
SOUTHERN OPEN AREA	HORIZONTAL ILLUMINANCE	LUX	117.8	165	47	0.40	0.28

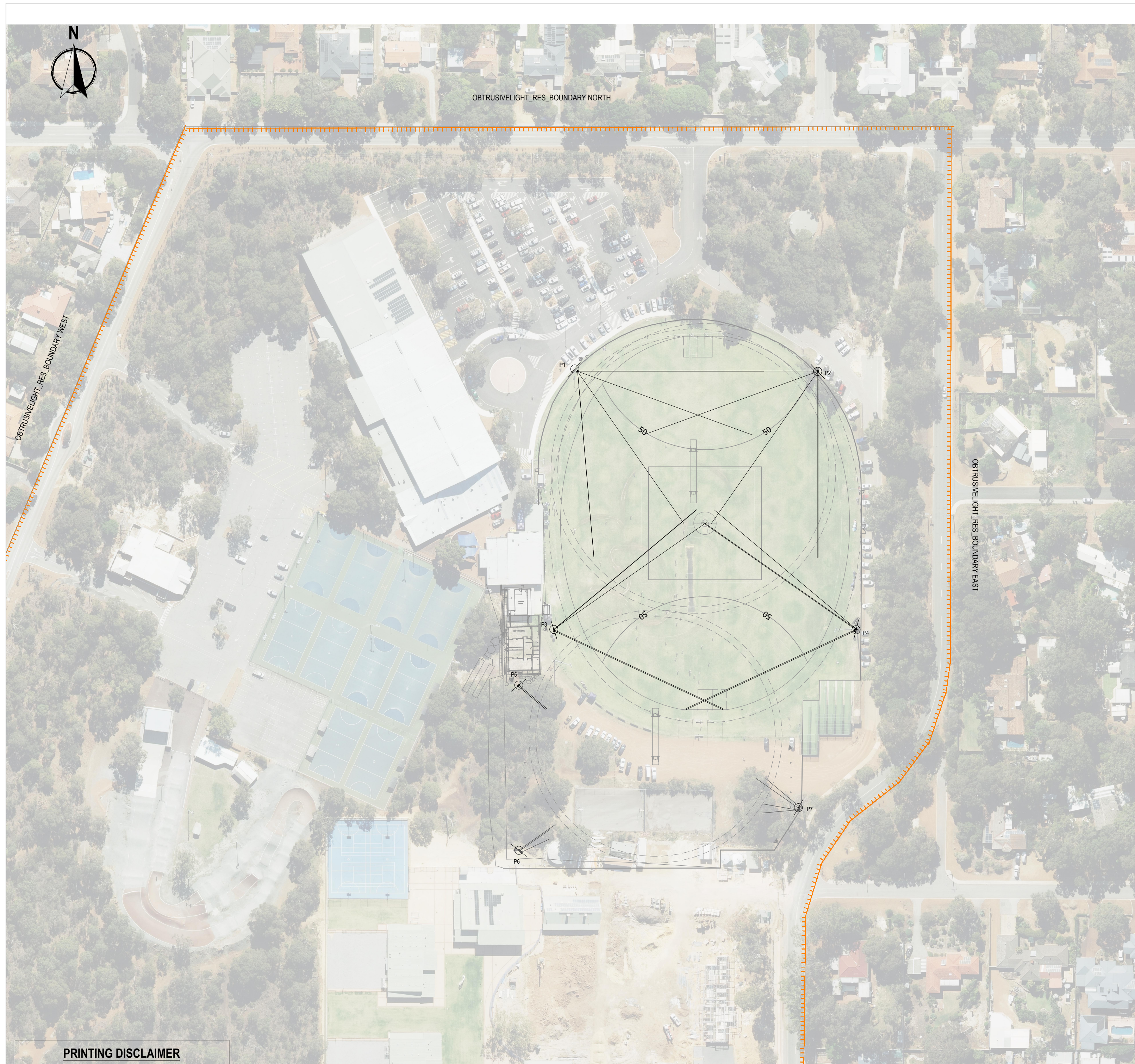


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DRAWN	SK	CITY OF KALAMUNDA RAY OWEN OVAL SPORTSFIELD LIGHTING GLADYS RD, LESMURDIE WA 6076 LOCALITY PLAN AND DRAWING SCHEDULE			
CHECKED	-				
DESIGNED	JT				
CHECKED	-				
APPROVED	-				
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PAGE No	PROJECT No	DRAWING No	DISCIPLINE	REV.	SHEET SIZE
03 OF 06	23169	E100	ELECTRICAL	C	A1



NOTES

1. THE CONTRACTOR SHALL ALLOW FOR FINAL MEASUREMENT AND RECORDING OF HORIZONTAL ILLUMINANCE AND UNIFORMITIES ON FIELD OF PLAY IN ACCORDANCE WITH CLUB COMPETITION PERFORMANCE LEVEL ACCORDING TO AS2560.2. AS PART OF LIGHTING MEASUREMENT THE CONTRACTOR SHALL ALLOW FOR ON-SITE NIGHT AIMING OF LUMINAIRES TO PROVIDE TUNING AND IMPROVEMENTS TO LIGHTING PERFORMANCE AND REDUCTION OF LIGHTING SPILL AS PART OF ITS COMMISSIONING.
2. OBTRUSIVE LIGHTING WAS CALCULATED AT THE PROPERTY BOUNDARIES USING A GRID PLANE 20M HIGH WITH 5M HORIZONTAL & 2M VERTICAL POINT GRID SPACING. THE CALCULATIONS WERE PERFORMED WITH AGIS2 SOFTWARE USING A LIGHTING ZONE 'A3' & L1 CURFEW CONDITIONS AS PER AS4282:2019.

OBTRUSIVE LIGHTING CALCULATION SUMMARY

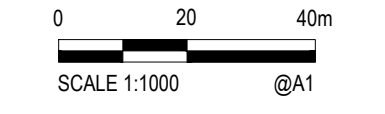
APPLICABLE STANDARD: AS/NZS 4282:2019					
ENVIRONMENTAL ZONE: A3					
CONDITIONS: NON-CURFEW L1					
LUMINAIRE LLF: 1.0					
SEGMENT LABEL	CALC TYPE	UNITS	CALC MAX	AS4282 LIMIT	AS4282 COMPLIANT?
OBTRUSIVE LIGHT RES. BOUNDARY EAST	LUMINOUS INTENSITY	Cd	11891	12500	YES
	VERTICAL ILLUMINANCE	LUX	6.3	10	YES
OBTRUSIVE LIGHT RES. BOUNDARY NORTH	LUMINOUS INTENSITY	Cd	10283	12500	YES
	VERTICAL ILLUMINANCE	LUX	0.7	10	YES
OBTRUSIVE LIGHT RES. BOUNDARY WEST	LUMINOUS INTENSITY	Cd	11137	12500	YES
	VERTICAL ILLUMINANCE	LUX	0.4	10	YES

Obtrusive Light - Compliance Report
AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curfew L1
Filename: 23169 - RAY OWEN OVAL (02)
9/04/2024 3:32:43 PM

Illuminance		Luminous Intensity (Cd) At Vertical Planes	
Maximum Allowable Value: 10 Lux		Maximum Allowable Value: 12500 Cd	
Calculations Tested (10):		Calculations Tested (10):	
Calculation Label	Test Result	Calculation Label	Test Result
OB RES WEST_I_Seg1	PASS 0.4	OB RES WEST_Cd_Seg1	PASS
OB RES NORTH_I_Seg1	PASS 0.7	OB RES NORTH_Cd_Seg1	PASS
OB RES EAST_I_Seg1	PASS 2.3	OB RES EAST_Cd_Seg1	PASS
OB RES EAST_I_Seg2	PASS 1.7	OB RES EAST_Cd_Seg2	PASS
OB RES EAST_I_Seg3	PASS 2.0	OB RES EAST_Cd_Seg3	PASS
OB RES EAST_I_Seg4	PASS 2.6	OB RES EAST_Cd_Seg4	PASS
OB RES EAST_I_Seg5	PASS 5.1	OB RES EAST_Cd_Seg5	PASS
OB RES EAST_I_Seg6	PASS 6.3	OB RES EAST_Cd_Seg6	PASS
OB RES EAST_I_Seg7	PASS 4.3	OB RES EAST_Cd_Seg7	PASS
OB RES EAST_I_Seg8	PASS 1.6	OB RES EAST_Cd_Seg8	PASS

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OBTRUSIVE LIGHTING SUMMARY
100 LUX
1:1000 AT ORIGINAL SIZE



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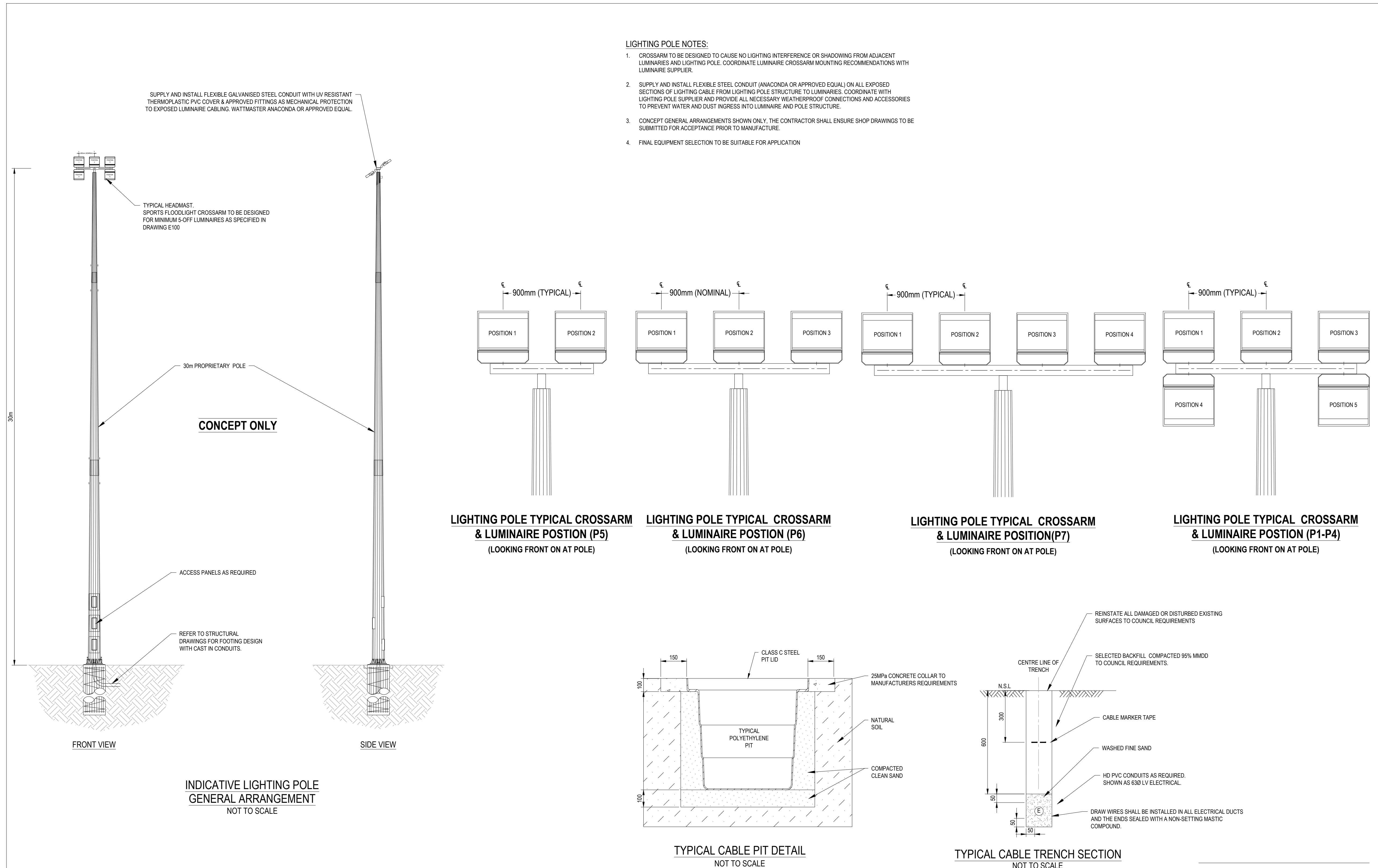


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CITY OF KALAMUNDA
RAY OWEN OVAL SPORTSFIELD LIGHTING
GLADYS RD, LESMURDIE WA 6076

OBTRUSIVE LIGHTING DESIGN SUMMARY

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DESIGNED	JT	GLADYS RD, LESMURDIE WA 6076			
CHECKED	-	ELECTRICAL AND LIGHTING SERVICES			
APPROVED	-	POLE AND CONDUIT GENERAL ARRANGEMENTS			
Date Approved	-	PAGE No	PROJECT No	DRAWING No	DISCIPLINE
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		REV.	SHEET SIZE		
		A	A1		

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