CONCEPT DESIGN EXTERIOR LIGHTING

For

HOKITIKA CAMPING GROUND

PREPARED FOR:
Tuffy investments limited

BY:
Micon Engineering (1995) Ltd
February 2017

DOCUMENT: **Report- Concept design exterior lighting**

Hokitika Camping ground

REVISION
ISSUE NO: - Rev 1

DATE: February 2017

Prepared by: _____ **Date:** 7-02-17.

Anton Kleyburg

Micon Engineering (1995) Ltd

2.0 EXTERIOR LIGHTING

The proposed exterior lighting will be selected and positioned in such a way that this will limit spill lighting to the allowable 10 lux on the adjacent residential property boundaries.

The proposed lighting for the main loop road way on the camping ground will be with low power LED luminaires fitted on 5m tall lighting columns.

The selected LED fittings will have photometrics to ensure a rapid decline in light levels be joined the road way. The luminaires will be horizontal mounted without any tilt from horizontal.

Appendix A sheet 302 indicates the calculated horizontal illumination levels with isolux lines shown on the drawings indicate 40, 30, 20, 10, and 5 lux. The calculated light levels do not take into account other minor light fittings mounted from the buildings. Any additional minor exterior light fittings will be selected to ensure that there will be no measurable increase in the lux levels at the boundaries.

Sheet 301 indicates the overall exterior lighting concept. Proposed additional luminaires mounted from the buildings and mounted under canopies will be low power and low output only. These fittings will only illuminate areas directly adjacent to the fittings and will not in any way significantly increase spill lighting on the private property boundaries.

Sheet 302 the calculation for the spill lighting does include for the 4 recessed canopy lights for the shop / reception area.

Form the predicted spill light levels the Compliance report indicates that the maximum allowable 10 Lux is easily achieved.

For comparison Full Moon light at a clear day would only be in the order of 0.27 to 1 Lux maximum.

The spill light levels on the boundary is less then commonly found on road front properties where road lighting is present. This is because the LED luminaires control the spill lighting well and columns are located away from the actual surrounding proposed camping ground property boundaries.

2.1 APPENDICES

Appendix A : Sheet 301: Proposed exterior lighting layout

Sheet 302: Lux Plot with isolux lines

Obtrusive Light Compliance Report

APPENDIX A

Drawing 301 and 302

Obtrusive Light - Compliance Report

AS 4282-1997, Pre-Curfew, Residential - Light Surrounds
Filename: Concept Calculations REV 5
7/02/2017 5:01:14 p.m.

Illuminance

Maximum Allowable Value: 10 Lux

Calculations Tested (19):

Calculation Label	Test Results	Max. Illum.
BOUNDARY OBTRUSIVE_Ill_Seg1	**PASS**	0.7
BOUNDARY OBTRUSIVE_Ill_Seg2	**PASS**	0.8
BOUNDARY OBTRUSIVE_Ill_Seg3	**PASS**	0.6
BOUNDARY OBTRUSIVE_Ill_Seg4	**PASS**	0.2
BOUNDARY OBTRUSIVE_Ill_Seg5	**PASS**	0.2
BOUNDARY OBTRUSIVE_Ill_Seg6	**PASS**	0.2
BOUNDARY OBTRUSIVE_Ill_Seg7	**PASS**	0.1
BOUNDARY OBTRUSIVE_Ill_Seg8	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg9	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg10	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg11	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg12	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg13	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg14	**PASS**	0.8
BOUNDARY OBTRUSIVE_Ill_Seg15	**PASS**	0.1
BOUNDARY OBTRUSIVE_Ill_Seg16	**PASS**	0.5
BOUNDARY OBTRUSIVE_Ill_Seg17	**PASS**	0.0
BOUNDARY OBTRUSIVE_Ill_Seg18	**PASS**	0.3
BOUNDARY OBTRUSIVE_Ill_Seg19	**PASS**	1.1

Luminous Intensity (Cd) Per Luminaire

Maximum Allowable Value: 7500 Cd
Control Angle: 83 Degrees

Luminaire Locations Tested (13)
Test Results: **PASS**

FILE NAME:9013264_ELEC

NOTES

1. CONCEPT DESIGN FOR CONSENT APPLICATION ONLY, FINAL SELECTION OF LIGHT FITTINGS ARE SUBJECT TO A FINAL DESIGN.

PROPOSED EXTERIOR LIGHTING LAYOUT
SCALE 1:500 @ A1

LIGHTING LEGEND (CONCEPT DESIGN ONLY FOR RESOURCE CONSENT ISSUE)

A	LED - ROAD LIGHTING TYPE LUMINAIRE IBEX MINI STELVIO 3278 32LED 47W 6816LM MOUNTED ON 5000MM 75MMX75MM SHS BLACK PAINTED COLUMN LUMINAIRE MOUNTED WITH ZERO TILT FROM HORIZONTAL.
B	SURFACE MOUNTED LED BULK HEAD WITH DISHED OPAL DIFFUSER
B1	RECESSED CANOPY LIGHT
C	WALL MOUNDED LED BULK HEAD
D	WALL MOUNTED OVAL LED BULK HEAD LOW POWER TO ILLUMINATE ENTRY TO UNITS

CLIENT:-
TUFFY INVESTMENTS LTD

ARCHITECTS:-
STILES AND HOOKER

PROJECT:-
HOKITIKA CAMPING GROUND

DETAILS:-
EXTERIOR LIGHTING CONCEPT

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Sheet No. :-
301
B

Series of 2 Sheets

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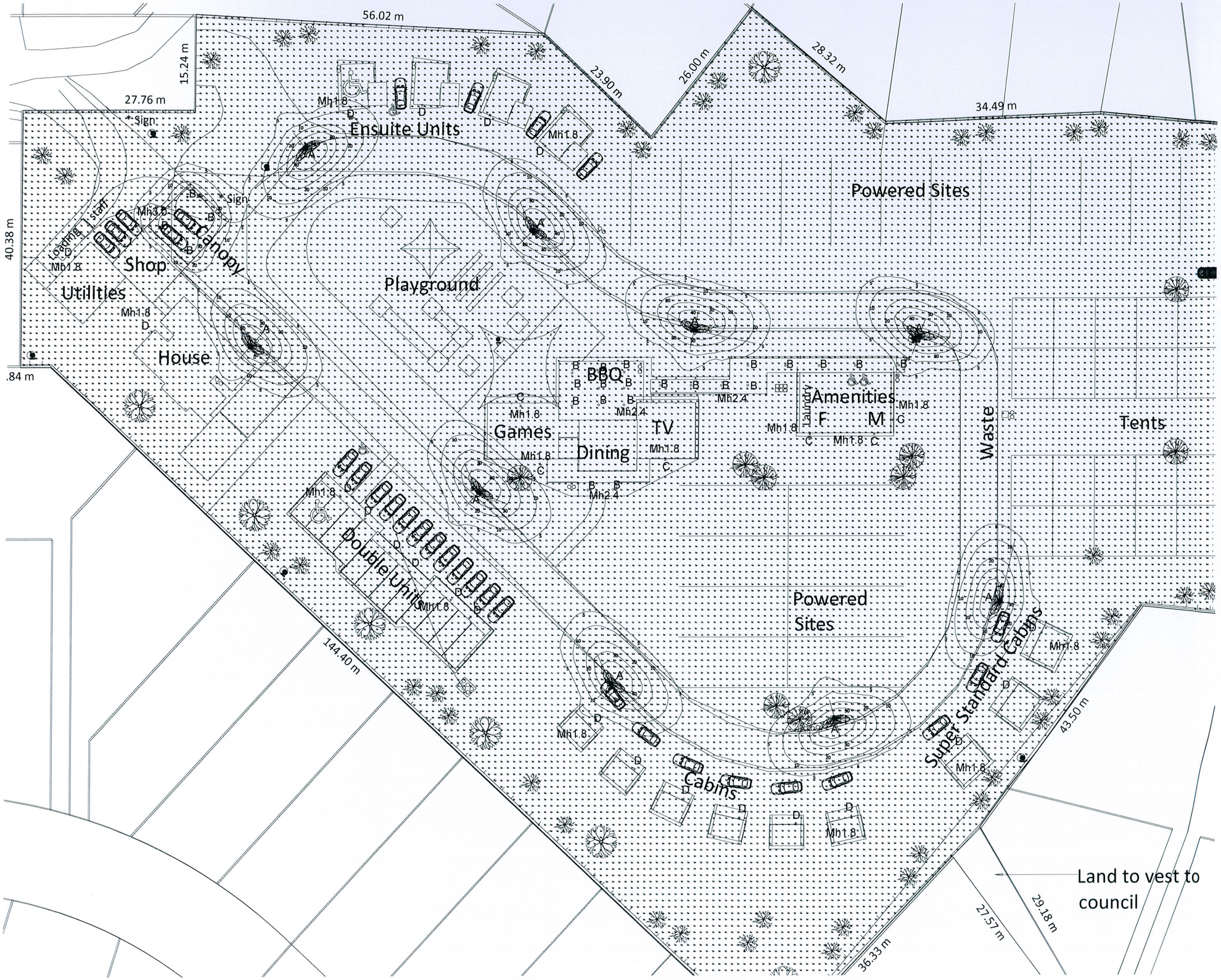

LUX PLOT WITH ISOLUX LINES INDICATED, 40 TO 5 LUX
HORIZONTAL ILLUMINAITION INDICATED (NOTE 1)
SCALE 1:300 @ A1

NOTES

1. ISOLUX LINES SHOWN AND THE LIGHTING CALCULATION IS FOR THE MAIN COLUMN MOUNTED ROAD WAY LIGHTING ONLY. OTHER PROPOSED LIGHTING FROM BUILDINGS AND CANOPIES ARE LOW POWERED LOW OUTPUT LUMINAIRES ONLY.

CLIENT:- TUFFY INVESTMENTS LTD

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