

Luhololo hydro		
Overview	Company name	Luponde Hydro ltd
	Type of hydro	Small/mini run of the river hydro scheme
	location	9°37'42.27"S 34°46'38.73"E
	Gross head	212 m
	Expected net Head (gross head - friction losses - minor losses)	198.3 m
	Design flow rate	0.578 m <sup>3</sup> /s
	Total generation capacity (flow rate*net head*9.81*assumed efficiency of 80%)	900 kW
	Proposed turbine type	pelton
	Number of turbines	1
Headrace	Type	HDPE
	Diameter (internal)	0.6 m
	Length	2094 m
	Pressure rating	PN4
	Expected head loss	8.02 m
Penstock	Diameter	0.6 m
	Length	876 m
	Pressure rating	PN6 HDPE (204m)
		PN10 HDPE (204m)
		PN20 steel (240m)
		PN30 steel (228m)
	Expected head loss	4.47 m
Interconnection	Voltage stepped up to 33kV in indoor switchgear room, connected to private distribution network and national grid(TANESCO). Must be able to run in island mode together with the igola hydro project when TANESCO is down.	

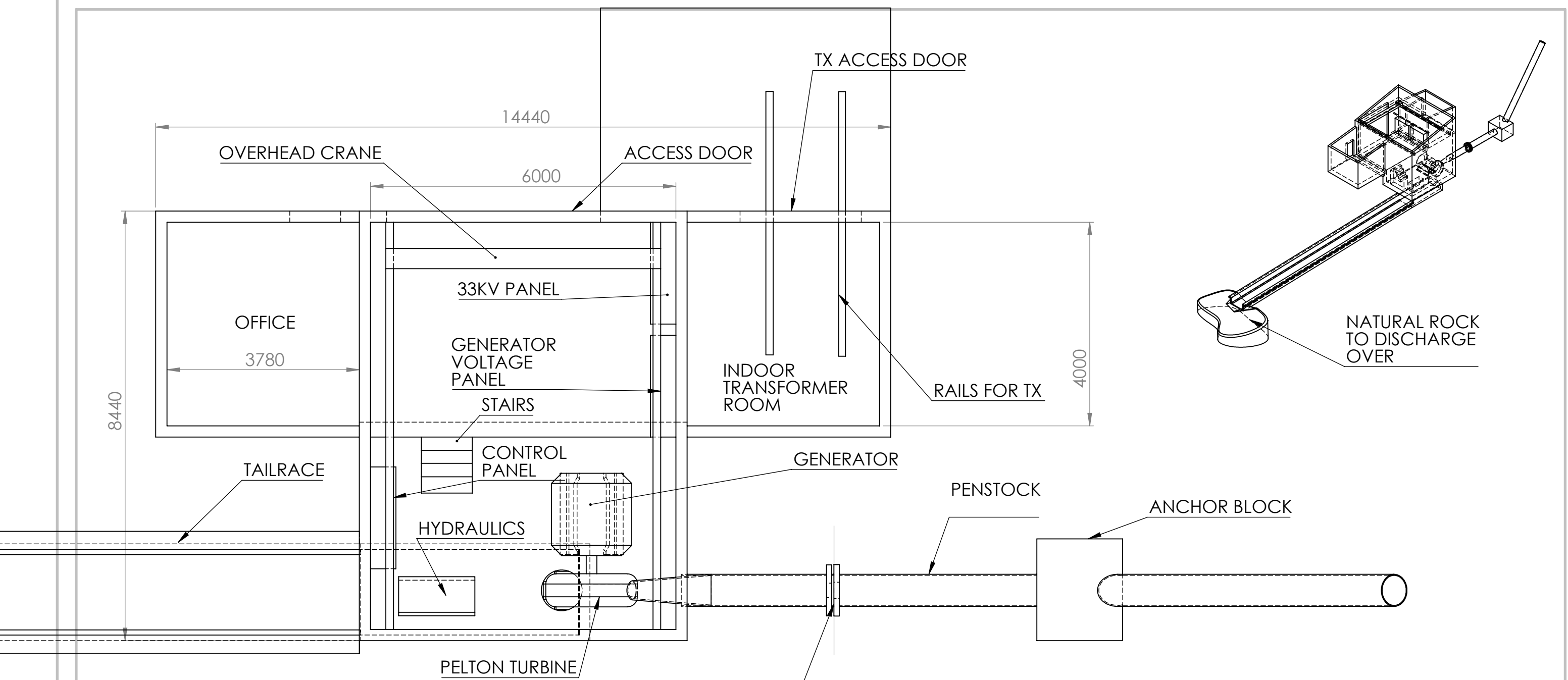
## luhololo monthly flow probability table

lupali River flow, Luponde hydro (m3/s)												
%	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
10	1.29	1.32	1.75	2.02	1.49	0.81	0.65	0.58	0.47	0.44	0.52	0.78
20	0.91	0.96	1.30	1.62	1.17	0.70	0.56	0.49	0.40	0.36	0.39	0.61
30	0.74	0.80	1.08	1.33	1.01	0.61	0.52	0.42	0.37	0.33	0.33	0.51
40	0.62	0.68	0.88	1.13	0.87	0.57	0.48	0.40	0.35	0.32	0.30	0.43
50	0.54	0.60	0.78	0.96	0.78	0.52	0.44	0.39	0.34	0.30	0.28	0.38
60	0.46	0.54	0.68	0.78	0.70	0.49	0.42	0.37	0.31	0.28	0.25	0.33
70	0.40	0.48	0.60	0.67	0.60	0.44	0.39	0.34	0.29	0.26	0.24	0.29
80	0.35	0.42	0.54	0.56	0.55	0.41	0.35	0.30	0.27	0.25	0.22	0.25
90	0.27	0.36	0.43	0.44	0.48	0.34	0.30	0.27	0.24	0.21	0.20	0.20
100	0.17	0.25	0.33	0.39	0.35	0.25	0.24	0.21	0.19	0.15	0.14	0.15

# LUHOLOLO HYDRO CONCEPTUAL SITE OVERVIEW

14/9/2016  
DRAWING REV 4.0



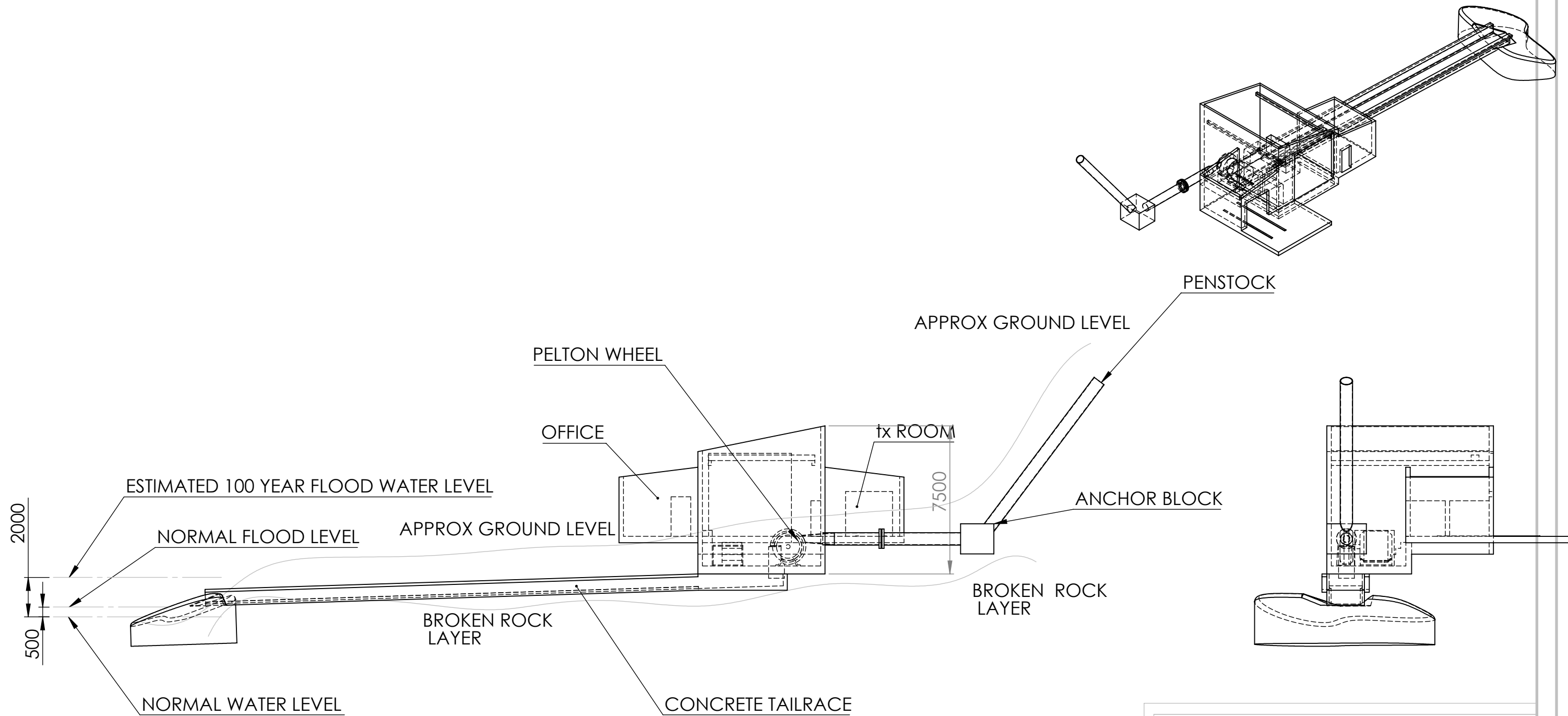


RIFT VALLEY  
ENERGY



CONCEPTUAL LAYOUT FOR TENDER  
PURPOSES – FINAL LAYOUT TO BE  
DETERMINED FROM SELECTED TURBINE  
PROPOSALS

DRAWING	POWERHOUSE PLAN
PROJECT	LUHOLOLO HYDRO
REVISION	3.0
DATE	25/1/2016

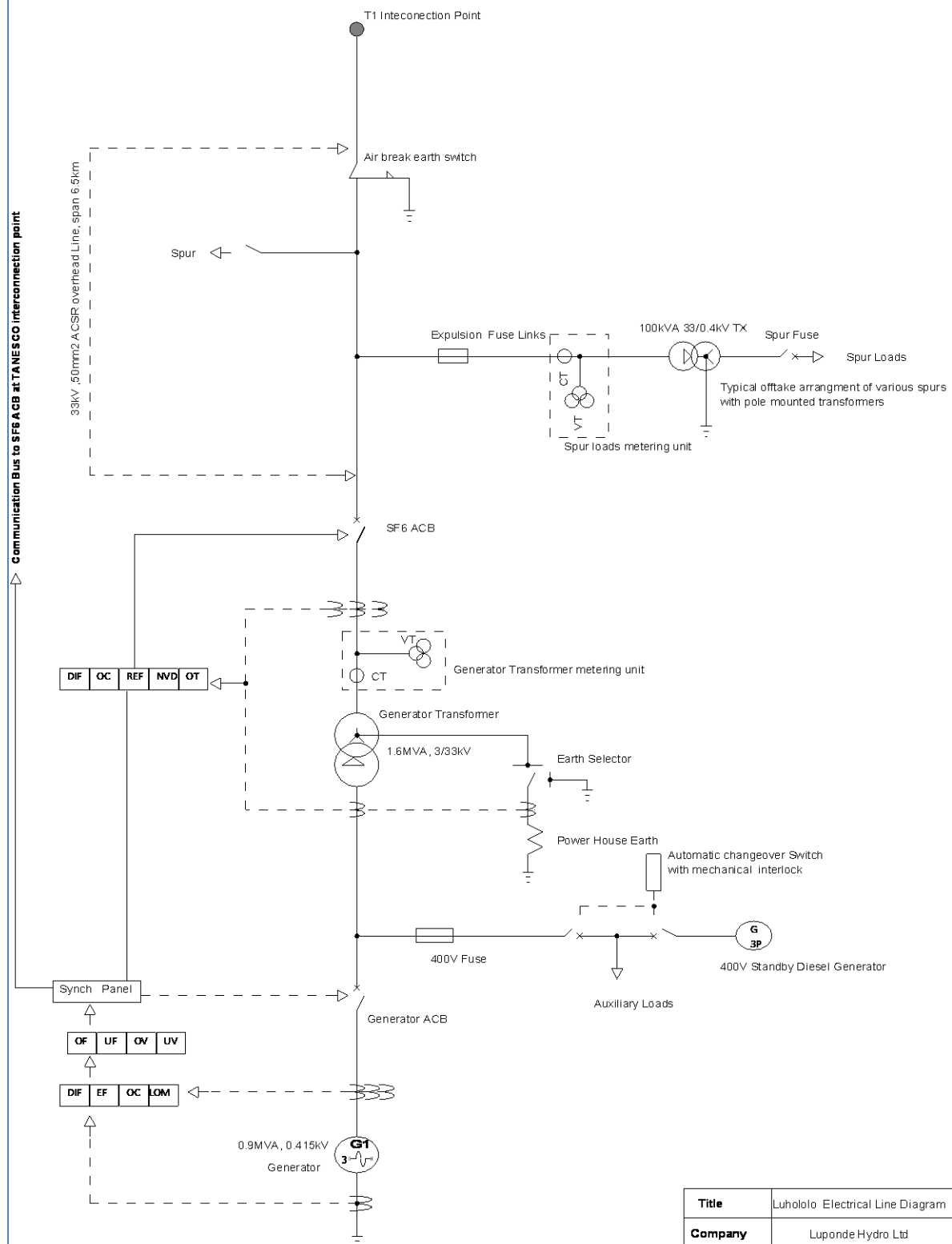


NOTE: THE SUPPLIER SHOULD ENDEAVOR TO KEEP THE FOOTING OF THE ALTERNATOR ABOVE THE 100 YEAR FLOOD LEVEL

CONCEPTUAL LAYOUT FOR TENDER PURPOSES – FINAL LAYOUT TO BE DETERMINED FROM SELECTED TURBINE PROPOSALS

DRAWING	POWERHOUSE PROFILE
PROJECT	LUHOLOLO HYDRO
REVISION	3.0
DATE	25/1/2016

# **PRELIMINARY LUHOLOLO HYDRO SCHEMATIC ELECTRICAL LINE DIAGRAM**



<b>Title</b>	Luhololo Electrical Line Diagram
<b>Company</b>	Luponde Hydro Ltd
<b>Date</b>	31/03/2017
<b>Revision</b>	4