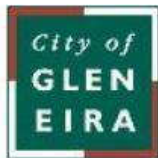
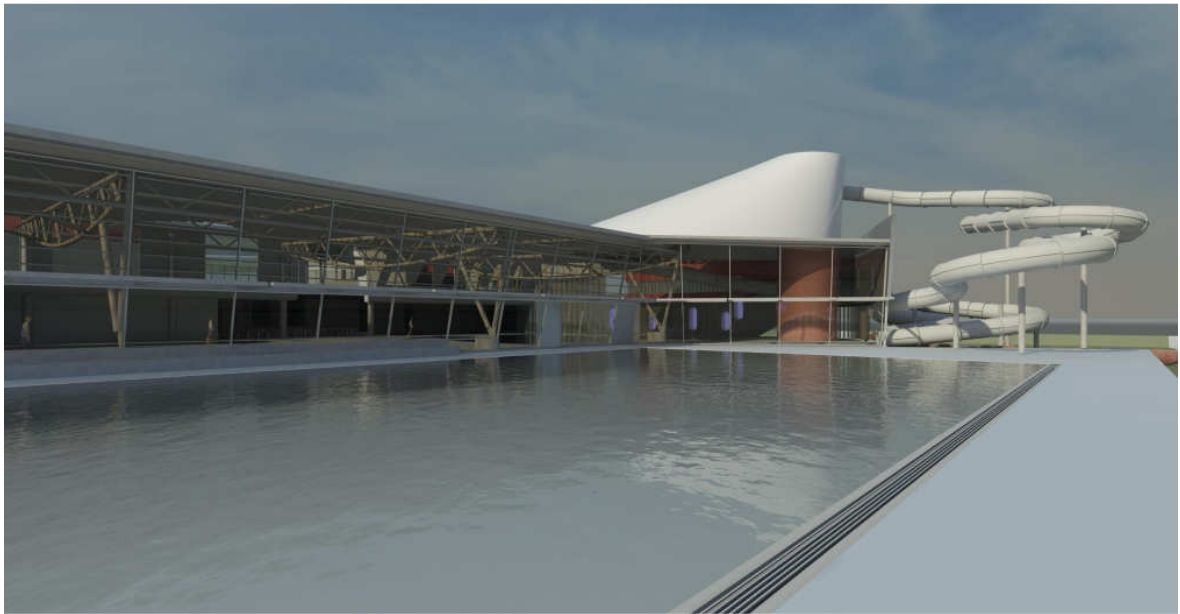


Construction Feasibility Design Review

Pool Water Treatment and Hydraulic Services



Glen Eira Sports and Aquatic Centre



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EXECUTIVE SUMMARY

The City of Glen Eira engaged Hydrautech Designs to prepare a Construction Feasibility Design Review for the proposed Glen Eira Sports and Aquatic Centre.

The purpose of the review is to address the following key issues with reference predominantly to the proposed aquatic facilities;

- Review the as designed pool water treatment and hydraulic services packages.
- Review the water conservation, harvesting and recycling initiatives.
- Review the mass water balance in terms of the most appropriate use of available water supplies.
- Identify potential issues with respect to construction feasibility (buildability).
- Identify possible shortfalls in the project documents with particular reference to any disparity between the drawings and specification.
- Identify how any aspects of the design may be improved (if any) with respect to efficiency and selection of materials, products and equipment.
- Identify issues concerning the ongoing operation of the facility including maintaining the available water supplies, servicing and maintenance.
- Identify any budgetary issues that may arise based on the findings of the review.
- To provide a clear list of items for the stakeholders of the project to consider.

The key items outlined in the review may be summarized as follows;

- A mass water balance has been established to determine the allocation of harvested and recycled water supplies according to the available supply and required demand by the prescribed end uses.
- The water supplies made available by harvesting and recycling initiatives have been redirected to suit the established water balance.
- The treatment technology employed for pool backwash water treatment has been modified to accommodate total dissolved solids (TDS) removal according to the proposed end use.



- The solar panels provided for the domestic hot water supply to be increased to provide 100% of the heating demand for the domestic hot water system at average solar gain periods and supplementary heating to the outdoor 50m pool during peak solar gain (summer) when surplus heat is available. The solar panel technology is proposed to be changed from glazed flat plate collectors to evacuated tube collectors.
- The in-ground pool hydraulics pipework has been identified as an item of risk with respect to the available access to this pipework. Pipework tunnels or access chambers have been proposed to mitigate risk in this area.
- The extent of Thermostatic Mixing Valves (TMV's) has been modified.
- The arrangement of the main pool water treatment filters has been adjusted to maximize operational access whilst maintaining sufficient access for possible future removal.
- Variable Speed Drives (VSD's) need to be identified in the specification.



TABLE OF CONTENTS

1	INTRODUCTION	6
2	OBJECTIVES OF THE REVIEW	8
3	INITIAL OBSERVATIONS	9
4	POOL WATER TREATMENT PLANT SPACES	10
4.1	POOL WATER TREATMENT PLANTS.....	10
4.2	AMENITIES.....	10
5	RECYCLING, HARVESTING AND REUSE INITIATIVES – AS DESIGNED	11
5.1	TREATED BACKWASH WATER FOR IRRIGATION.....	11
5.2	TREATED RAINWATER FOR POOL WATER MAKE-UP	15
5.3	GREYWATER RECYCLING FOR SANITARY FLUSHING	16
6	SOLAR WATER HEATING	18
7	ADDITIONAL TREATMENT CONSIDERATIONS	22
7.1	PATHOGEN REMOVAL, DISINFECTION AND WATER SAFETY	22
8	WATER BALANCE	23
9	RECOMMENDATIONS	25
9.1	RECYCLING OF BACKWASH WATER FOR POOL WATER MAKE-UP WITH HEAT RECOVERY.....	25
9.2	GREYWATER RECYCLING FOR SANITARY FLUSHING WITH SURPLUS FOR IRRIGATION 26	26
9.3	SOLAR BOOSTING FOR DOMESTIC HOT WATER WITH SURPLUS HEATING FOR THE OUTDOOR 50m POOL.....	26
9.4	IN-GROUND POOL HYDRAULICS PIPEWORK.....	28
9.5	TMV's.....	28
9.6	FILTER ARRANGEMENT.....	29
9.7	POOL WATER TREATMENT PUMP VSD's.....	29
13.2	29	
10	APPENDIX A - POOL WATER DEMAND ANALYSIS	30
11	APPENDIX B – AS DESIGNED WATER BALANCE DIAGRAM	31
12	APPENDIX C – AS RECOMMENDED WATER BALANCE DIAGRAM	32