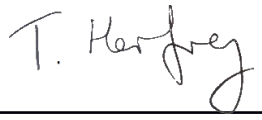
PERMACULTURE ASSOCIATION

Design Assessment Form

Diploma Apprentice's Name	**Mark D'Cruz**
Date Apprentice started Diploma	**July 4th 2023**
Project Title	**Vila Pinheiro Energy Self-Sufficiency**
Design Number	**4 of 10**
Date Design Started	**January 2024**
Date Design Completed	**March 31st 2024**
Has the Design been implemented?	**Beginning Implementation**
Online Link to Design (if available)	**https://www.vila-pinheiro.com/diploma-journey**
Type of Design (delete all that don't apply)	**Land Based**
Design Category (delete all that don't apply, more than one could apply)	**Tools & Technology**
Name of Personal Tutor	**Tom Henfrey**
Ready for Presentation	**Yes Ready**
Name & Signature of Assessing Tutor	**Tom Henfrey** 

Date of Assessment	April 10th 2024

If this design is included in the FPA2 sample assessed by a Senior Tutor:	
Comments from Senior Tutor	
Name, Date & Signature of Senior Tutor	

Section 1: Demonstrating Design Skills

		What's gone well?	What could have been done differently?
1a	The design uses an appropriate **design framework** or intentional process accurately (e.g does the design visit every step of the process)	The design employs the GoCEAPER prism framework, an adaptation of the more familiar CEAP, described and justified in a supporting appendix. Each step is employed appropriately.	
1b	It utilises the **permaculture ethics** appropriately	The three ethics are used towards the of the Apply stage, mainly in a self-reflective sense. While not explicitly referenced, the 3 ethics are clearly implied and key phrases highlighted in this section. The Goals also mention the Fair Share Ethic (and in their emphasis on sustainability and energy sufficiency, imply Earth Care and People Care)	Could the ethics also have been used to help inform design decisions?
1c	The design uses	The Apply section examines the relevance of all	Other relevant principles could have been

	permaculture principles & theory that are appropriate to the situation	twelve Holmgren principles, each of which is briefly considered. I particularly like the creative adaptation of the CEAP process and of DAFOR in the context of the energy source audit	employed, from permaculture or elsewhere. These include the Ma Ke Bonsai Way principles developed in Design 1, native to this site and project.
1d	It uses a **variety of tools** to suit the needs of the situation / design brief	The design employs a large number of design tools, including specialist tools for energy system assessment and design. Design tools are appropriately chosen and accurately employed at each stage: SMART Goals, various GIS tools (summarising site information from the more general design), weather records, DAFOR (adapted, in original fashion, to energy sources), Energy Usage Assessment and Forecasts, Energy Resource Assessment, Home Energy Audit, Design plan, Implementation Schedule, Maintenance plan, PNI for evaluation.	
1e	The design is intelligible, coherent and effective, **meeting the client's needs**	Design, Implementation and Maintenance plans are clearly laid out in sequence The design itself is well explained using largely accessible language, with a more detailed technical account provided in Appendix 2.	It could have been useful to include a GANT chart or similar diagrammatic summary of the implementation plan (perhaps also the maintenance plan)
1f	The **documentation is appropriate** to present to the clients and others	The design is excellently presented, with a full table of contents, and an initial summary that highlights key steps and challenges, including naming the design tools employed.	The page numeration restarts at the start of Appendix 2, in both the report and Table of Contents. Stray bullet point at the bottom of page 2 (in the main report)

Please fill in Section 2.1 or 2.2.
Use Section 2.1 for all design frameworks. If the designer has used the Design Web then you may wish to use Section 2.2 instead

Section 2.1: Applying Permaculture Design (For Designs using processes such as SADIM, OBREDIM, CEAP)			
		What's gone well?	**What could have been done differently?**
2.1a	There is a clear explanation of how the **design brief was investigated** through surveying the situation and gathering the information.	Bold overall vision, sharpened to SMART goals in the context of developing this site. Detailed studies of energy production potential and consumption forecasts under different scenarios are presented. These data are complemented by contextual site-level information, summarised here and presented in fully in the previously completed site design.	Economic factors could have been addressed in more depth - the evaluation includes a summary treatment, and could have been supported with figures on current expenditure, installation and maintenance costs, savings and revenues from grid sales.
2.1b	There is a clear explanation of how the **design decisions and solutions** were developed.	The Evaluate stage includes comprehensive analyses of energy production options and their relationships to usage requirements. Appendix 2 supports this with a detailed account of how these summary figures were calculated and the primary data behind them. A range of options is explored and reasons are given for the choice of which to take forward and which not.	There was scope here to apply permaculture principles more fully in reaching design decisions.
2.1c	The **solutions are relevant** and **appropriate** to the area and design brief.	The design plan is based on robust analyses of resource availability, production needs, and technical requirements for adaptation to site conditions. It demonstrates substantial depth of technical understanding on the part of the designer, supporting by consultation with professional specialists when necessary. Good to see a clear breakdown of maintenance operations.	Once the design is implemented and operational, it would be really interesting to see accounts of its actual performance (including whether actual usage matches the forecasts in this design), and maintenance regime.

Section 3: Learning from and Developing your Permaculture Practice		
	What's gone well?	**What could have been done differently?**

3a	The design report includes an **evaluation of the design's effectiveness**.	There are detailed and comprehensive evaluations of practical, economic, technical and environmental dimensions of the design, using PNI for each. Good to see a thorough evaluation of the different aspects of the design.	For coherence, could the evaluation have brought out most of these points by reviewing the SMART goals initially stated? One key purpose & benefit of SMART goals is that it is easy to review them.
3b	There is a **critical reflection** on what you have learnt about the design processes, tools, ethics, principles and theory that you have used.	There is a general reflection on learnings from the design experience, in philosophical, attitudinal, ethical and practical respects, with some specific consideration of the GoCEAPER design framework.	Some evaluation of the design process itself: you could consider more specifically and concretely what key learnings emerged in relation to your understanding and use of the permaculture toolkit (ethics, principles, design tools and theory), and how they will influence your approach to future designs.
3c	The design shows how **design skills and competence have progressed** and some next steps for design practice.	The creative use and adaptation of design process and tools shows increasing confidence and competence The Reflection indicates some key attitudinal learnings. The design concludes with a list of next steps in its development and delivery, perhaps pointing to a new design cycle.	Design tools like the Four Questions and Six Thinking Hats offer a useful combination of reflective inquiry and attention to specific action steps.

Section 4: The Next Steps	
What are the apprentice's **next steps with this design**, towards its accreditation.	Consider adding post-implementation evaluation at FPA1 stage.
What other **general or specific issues** might help with the apprentice's next steps, eg. to take into future designs.	Consider ways to diversify and deepen your use of principles and ethics as design tools, in other words in ways that directly influence design outcomes. This can include applying a wider range of principles, beyond Holmgren's (and including Mollison's attitudinal principles - Rosemary Morrow has a good account of these), in varied ways and at points multiple points in the design process. Ethics can also be applied at any stage in a design, even multiple times in the same design.
Any other comments about the **format** of the project presentation,	

The highlight of this design for me is…	The vision of "making energy farming as routine as food farming", systematically developed through clear goals and a comprehensive design plan, accessible to non-specialists while also rich in supporting technical detail. I love the adaptation of DAFOR!

Space for any other notes and comments to the apprentice
You could consider offering technical tutorials on renewable energy system scaling and design to others in the diploma system.