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19 March, 2015

Report for: Bernard Rhodes
Waiheke Working Sail

Report by: Robin Williams

Subject: Inspection of the classic vessel "Kate"

WITHOUT PREJUDICE

1.0 Introduction

1.1 Please find this report following my inspection of the above noted vessel on the hard at Waiheke Island on Wednesday, 31 December 2014, for the purpose of inspecting progress and providing an opinion on structural standards and techniques.

1.2 This inspection was undertaken by me together with Mr Bernard Rhodes and two other trustees/volunteers.

1.3 At the time of this inspection, several areas of external hull planking had been repaired which included planking repaired areas by scarfing in sections of planking and graving pieces, areas of planking being removed to be repaired which hadn't been completed and some plank refastening.

1.4 An internal inspection showed the stage of progress to be similar to the external inspection which included areas of hull planking which had been repaired and other deteriorated areas awaiting repair and many new grown knees and frames that have been fitted or were in the process of being fitted.

2.0 Inspection

2.1 During discussions, the subject of timber moisture content was raised and it was reported that this classic vessel has only been out of the water for approximately five or six weeks, it is my considered opinion that as the timber will be borderline for gluing with epoxy glue, an alternative gluing material which will bond 100% with damp timber should be investigated.

2.2 It is important to assess the complete bond by undertaking glue bond testing of wooden blocks with a moisture content level in line with those of the timber is being glued in the vessel, being testing prior to undertaking structural gluing.

2.3 It is my recommendation that the scarfing ratio utilised is increased from the current non uniform ratio to a minimum of 8 to 1 in all areas where gluing of timber is required.

2.4 It was noted that galvanised raised hexagon head plumbing type screws were being utilised to fasten planks and it is my considered opinion that galvanised screws or better still, bronze screws would be a better option as not so much plank is drilled out as required when recessing these hexagon headed fastenings.

2.5 Discussion was held regarding the fixing of a ballast keel to the internal structure with my suggestion being that the centreline vertical kelson or girder runs from forward of the mast step, aft to behind where the ballast is to be secured to the deadwood.

2.6 Consideration also should to be given to athwartship support for the mast step and keel bolt girder set up.

2.7 It was noted that the deadwood had been curved to port at the aft end and it is my considered opinion that would probably be best to fill in the hollow side of the deadwood rather than add timber to the aft end of the deadwood, starboard side.

2.8 Bulkheads or some other structure will be required to support the side decks and chain plates which will also assist in supporting the hull from twisting.

3.0 Summary

3.1 The rebuilding of the vessel this classic vessel is to be applauded as it is a substantial undertaking.

3.2 As discussed and due to your reasonably tight time frame, I agree you should concentrate on making the hull watertight at this time.

3.3 It is important that a satisfactory gluing material is tested to utilise a satisfactory glue bond with damp timber and that reasonable scarfing ratio is are utilised to ensure maximum bond.