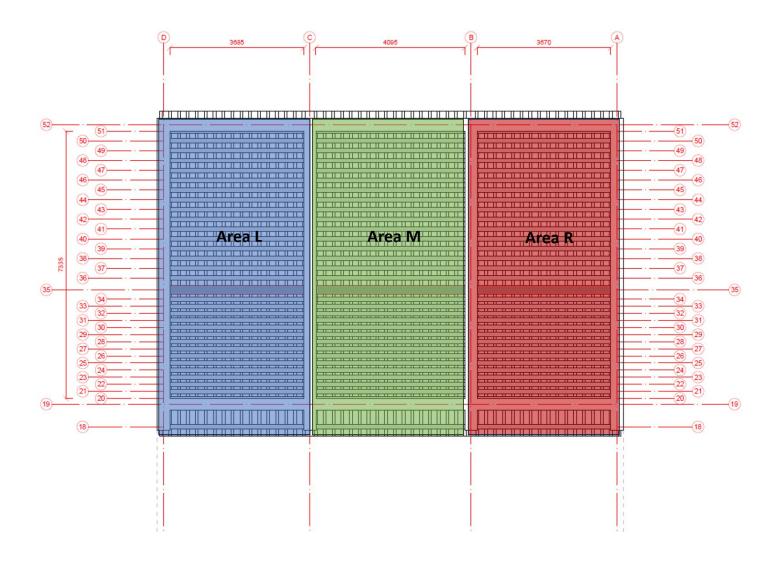
Method of Condition Survey

Project	Restoration Works of Lee Mansion at DD54 Lots 258, 262, 263 and 393, Kuk Po, Sha
	Tau Kok, N.T.
Location	Lee Mansion at DD54 Lots 258, 262, 263 and 393, Kuk Po, Sha Tau Kok, N.T.
Surveyed	All purlins (The area observed on the bottom is marked as P with purlin number. The
Item	Area observed after removal of roof tile is marked as Pt with purlin number, as t refers
	to the top of the purlin.)
Objective of	Identify the locations and extent of cracks and other defects.
Survey	For make good the defective substrate
Methodology	(1) Visual Inspection
of Plaster	Observable crack
Condition	Holes
Survey	(2) Recording
	Take photos of defective areas.
Conclusion	Most of the purlins were found with hairline cracks, and repair works are
of condition	recommended. Severe cracks were found on the purlin's top and bottom, which are
	recommended to be replaced. No rotten was found. No rotted parts were found on
	the surface of Purlin No. 18 in 3 areas, but there were signs of insect infestation, which
	was also recommended for replacement.

Reflected Ceiling Plan



Survey before the removal of roof tiles







Purlins Photo of Defects R Location P29 Length 2750 Width <5

Area

mm

mm



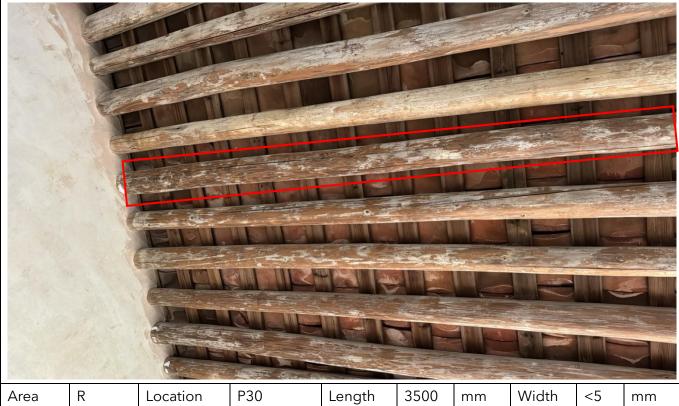


Photo of Defects Photo of Defects

Length

500

mm

Width

<5

mm

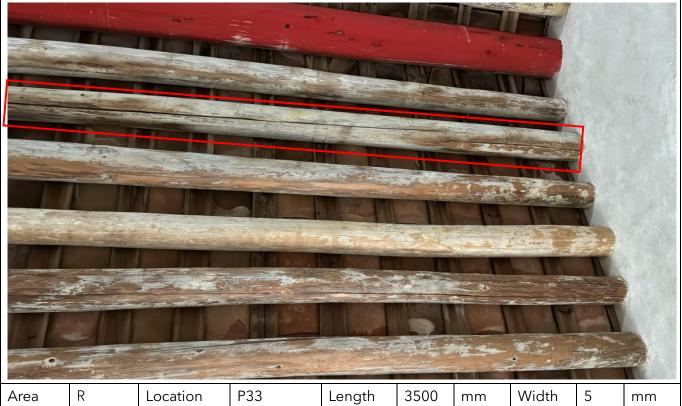
P31

Location

R

Area



















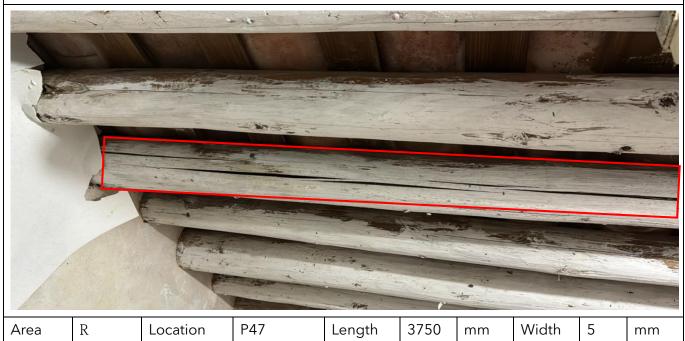




Purlins







mm

mm

Photo of Defects The state of the state of

Length

2750

mm

Width

<5

mm

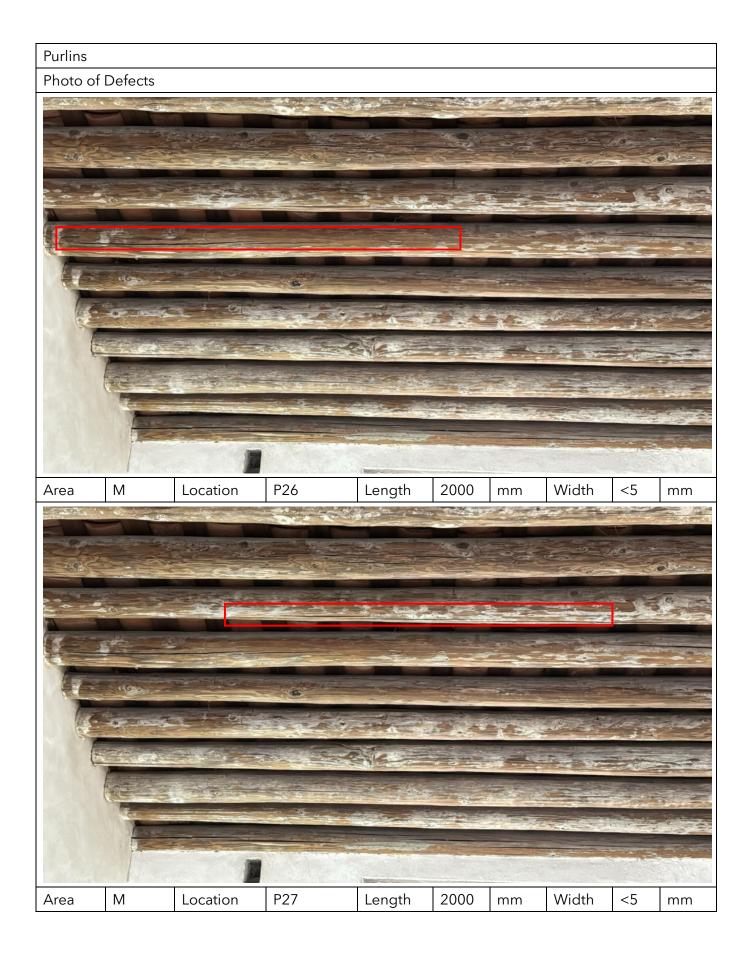
P20

Location

Μ

Area







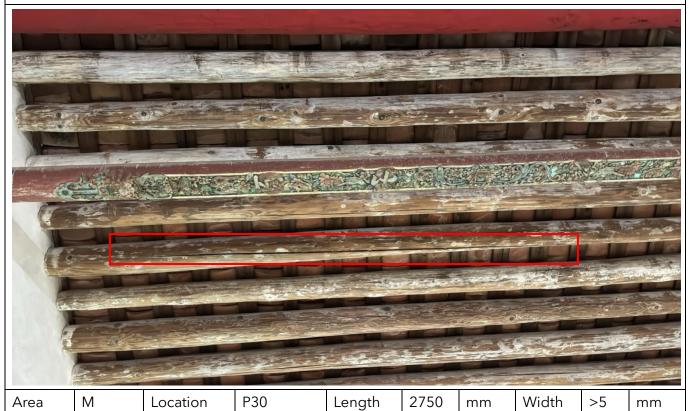




Photo of Defects







Area M Location P35 Length 3250 mm Width <5 mm









P39

Location

Area

Μ

1000

mm

Width

<5

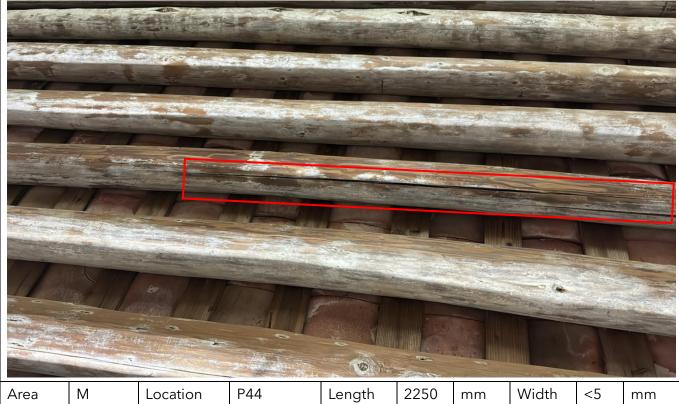
mm

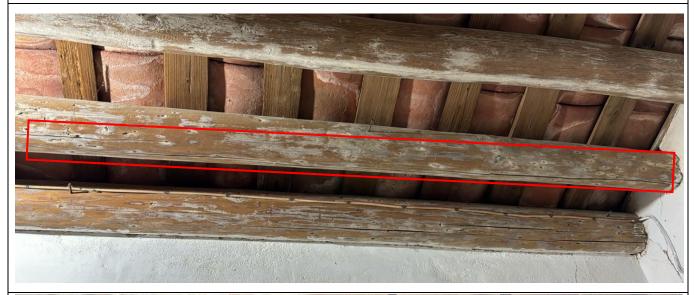
Length

















Purlins Photo of Defects P23-a Length 1000 Width Area Location mm <5 mm

L

Area

Location

P23-b

Length

750

mm

Width

<5

mm



Area

L

Location

Photo of Defects





mm

<5

mm



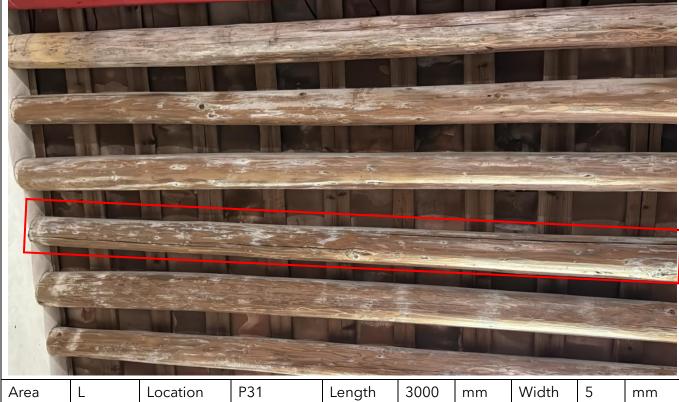


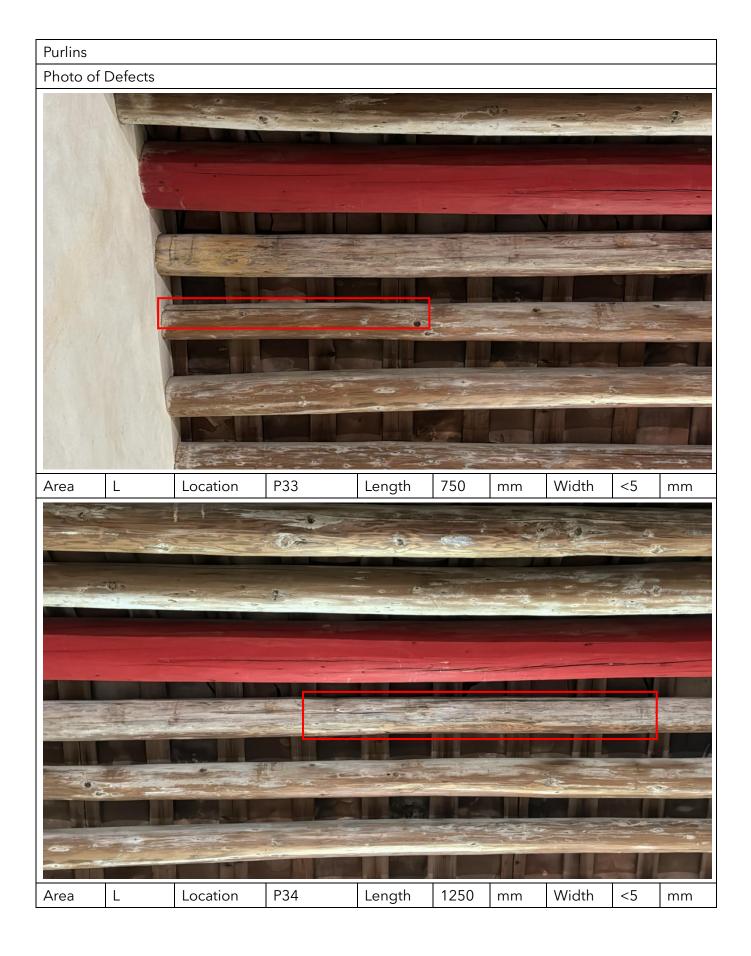




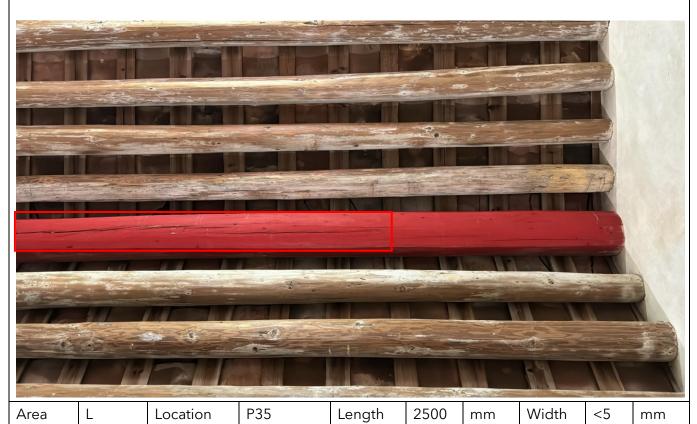










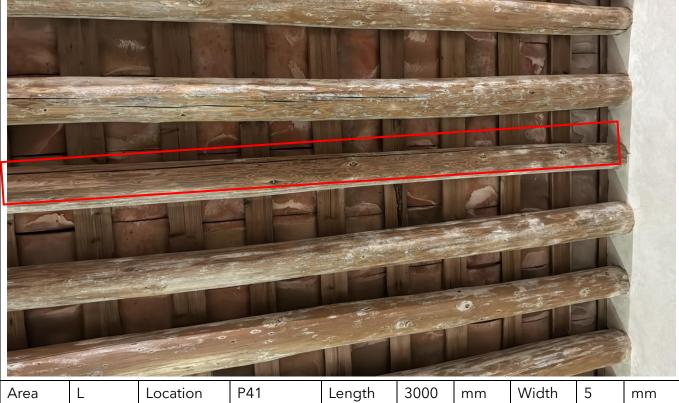
















1500

mm

Length

Location

Area

P46

Width

<5

mm







Purlins

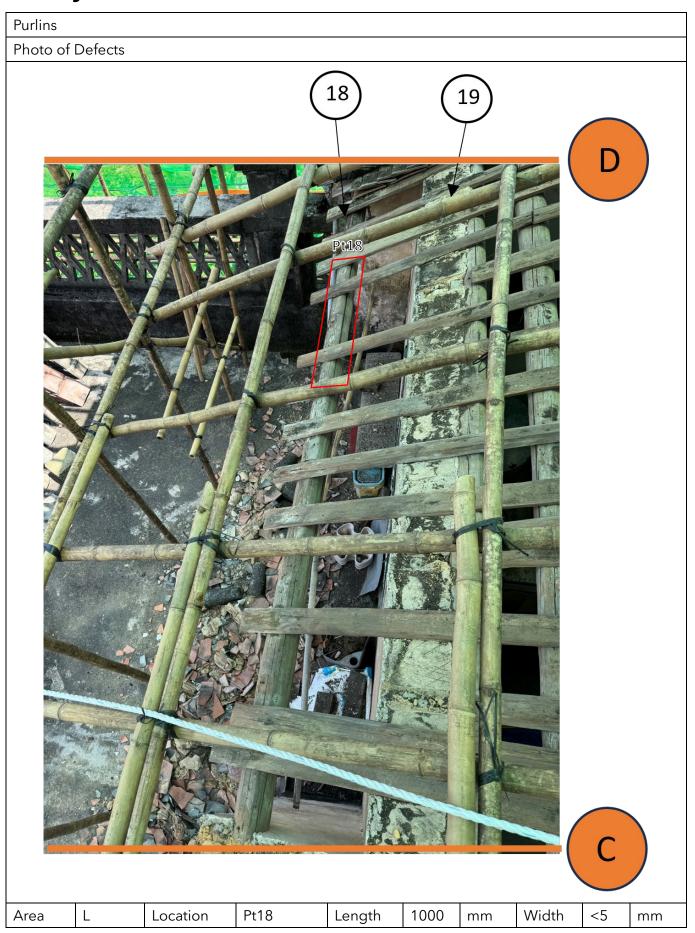




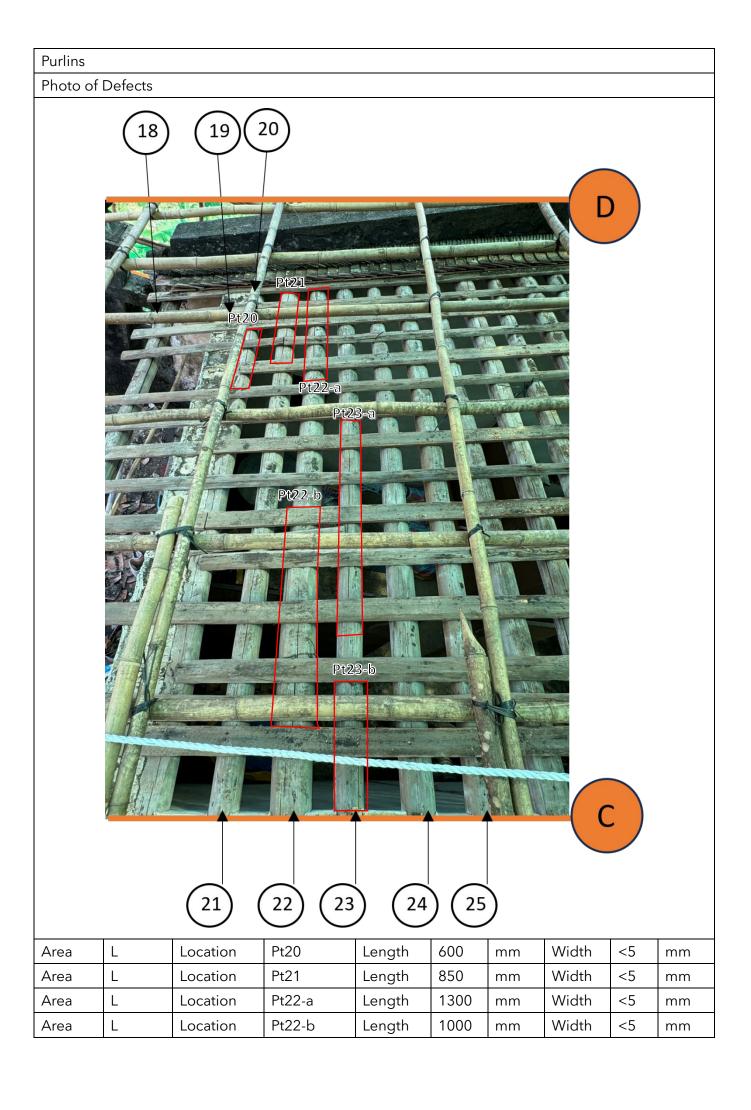


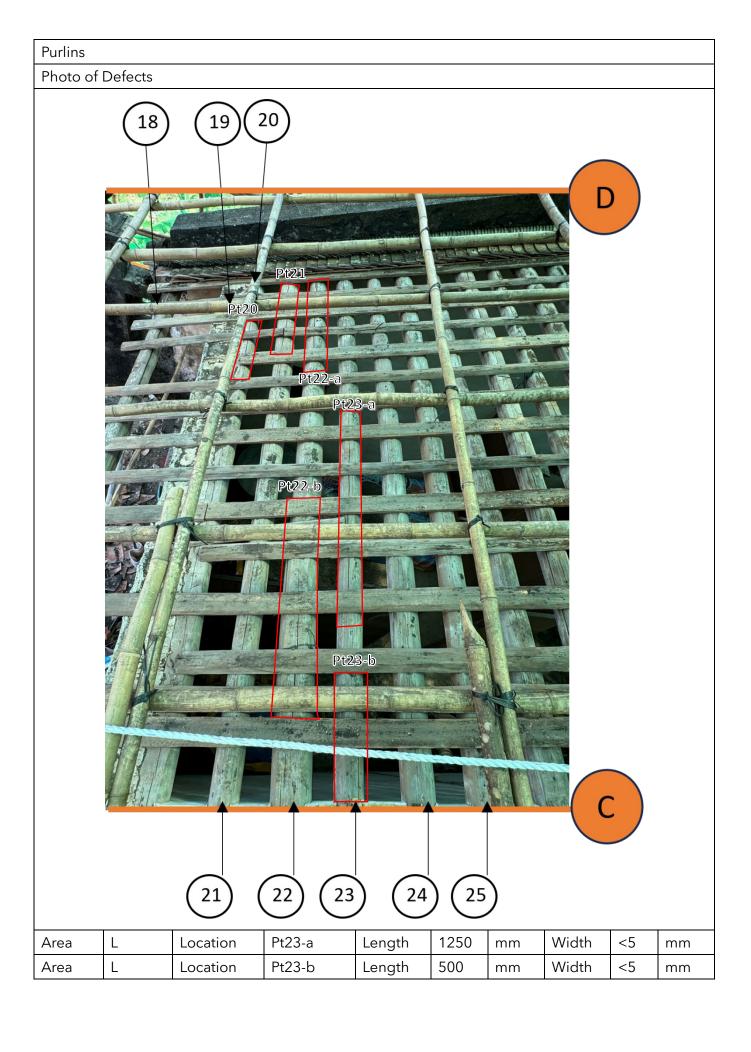


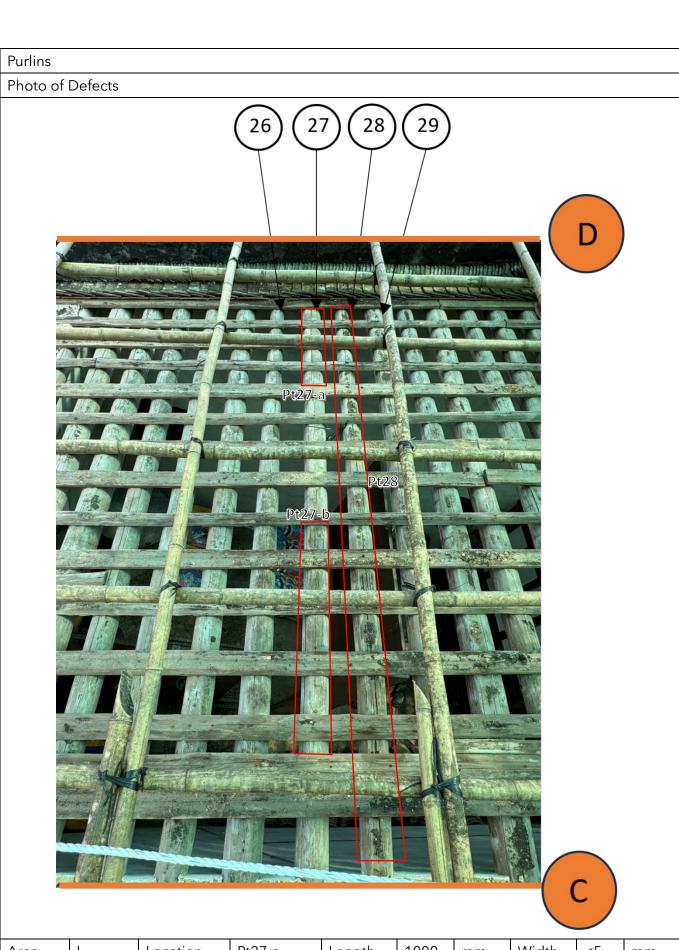
Survey after the removal of roof tiles



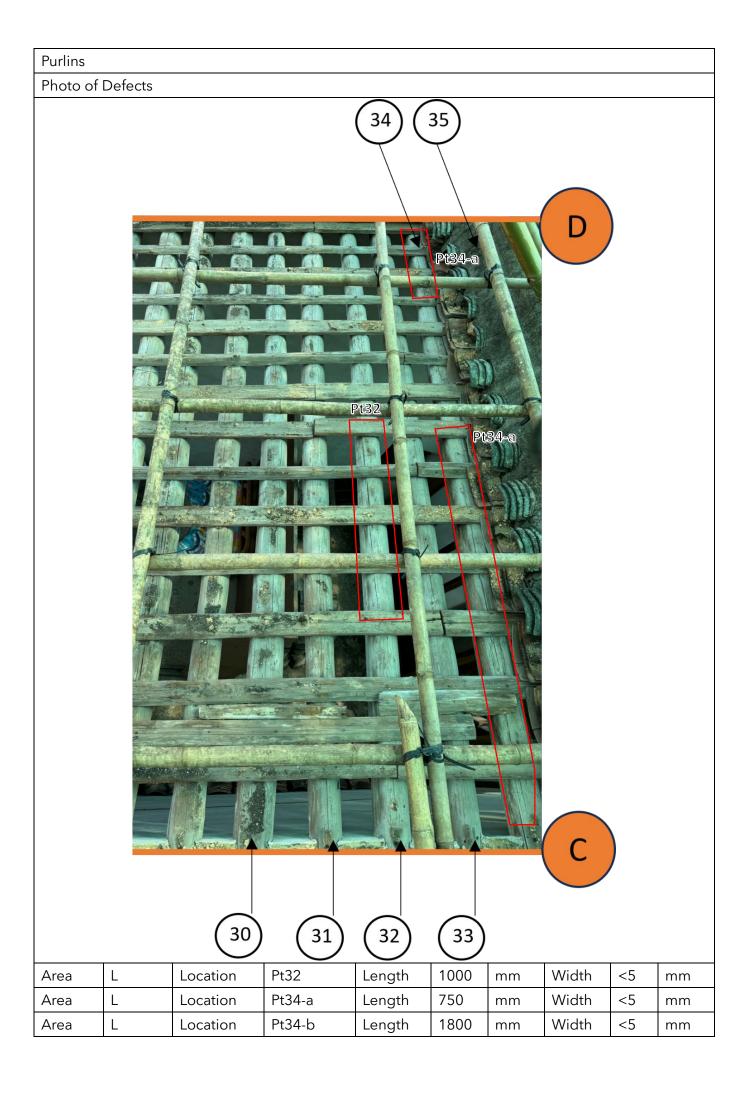
Remarks: Insect bites are found on L-P18, replacement of the purlin R-P18 is proposed as there is potential risk.







Area	L	Location	Pt27-a	Length	1000	mm	Width	<5	mm
Area	L	Location	Pt27-b	Length	1100	mm	Width	<5	mm
Area	L	Location	Pt28	Length	3500	mm	Width	<5	mm











36 37 38 39

Area	L	Location	Pt36	Length	1000	mm	Width	<5	mm
Area	L	Location	Pt37	Length	2000	mm	Width	<5	mm



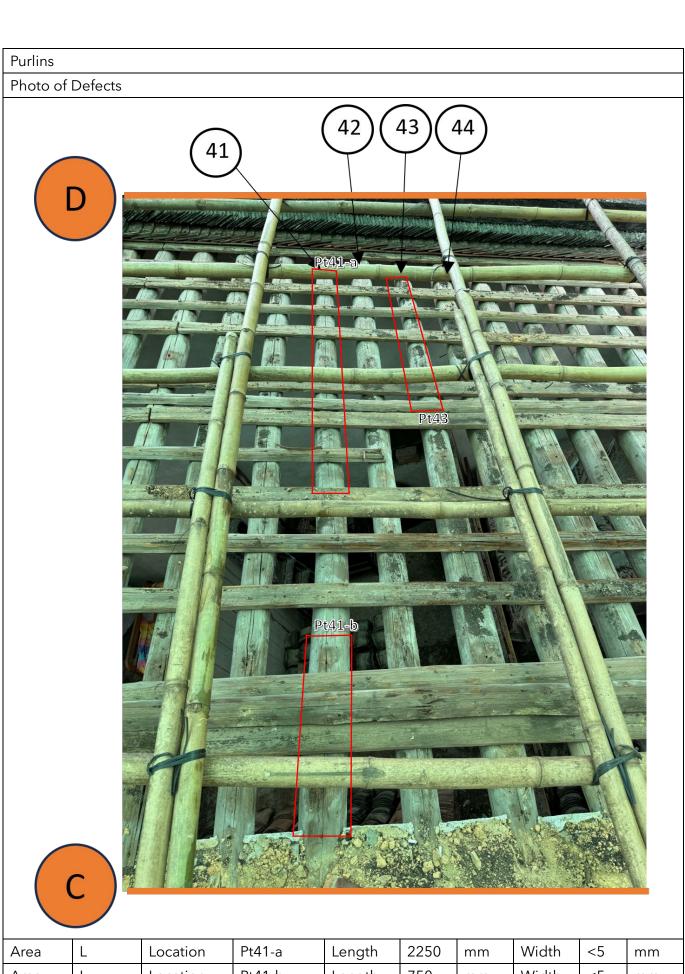




ں ر

 36
 37
 38
 39
 40
 41

Area	L	Location	Pt38	Length	3250	mm	Width	<5	mm
Area	L	Location	Pt39-a	Length	1250	mm	Width	<5	mm
Area	L	Location	Pt39-b	Length	1250	mm	Width	<5	mm
Area	L	Location	Pt40	Length	3500	mm	Width	<5	mm



Area	L	Location	Pt41-a	Length	2250	mm	Width	<5	mm
Area	L	Location	Pt41-b	Length	750	mm	Width	<5	mm
Area	L	Location	Pt43	Length	1250	mm	Width	<5	mm





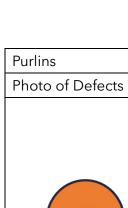


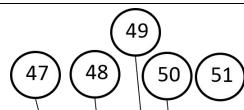






Area	L	Location	Pt44	Length	2500	mm	Width	<5	mm
Area	L	Location	Pt45	Length	2000	mm	Width	<5	mm
Area	L	Location	Pt47	Length	1000	mm	Width	<5	mm



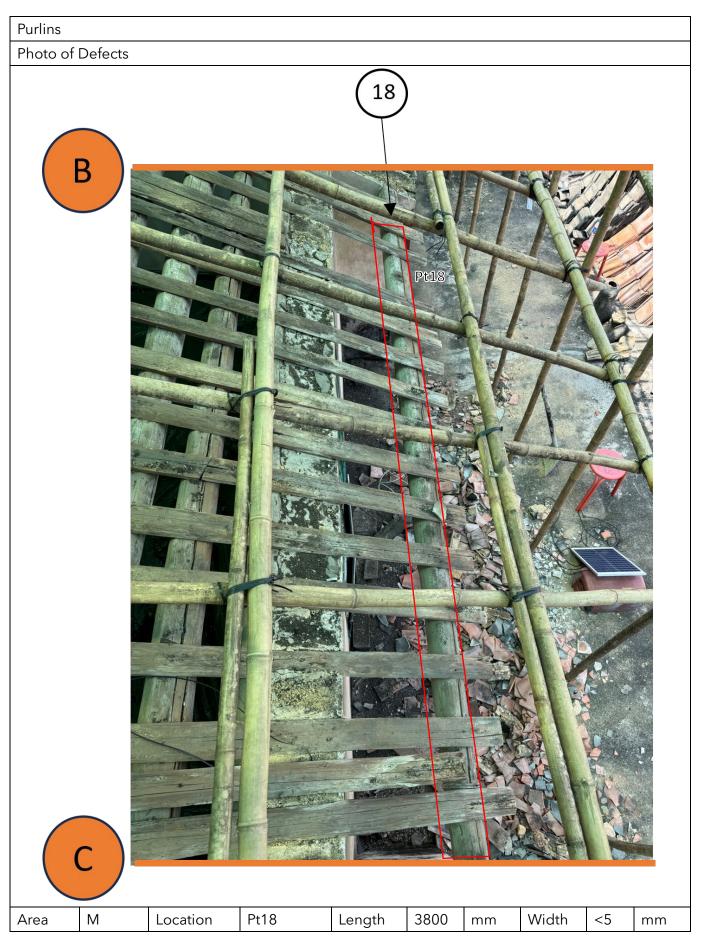




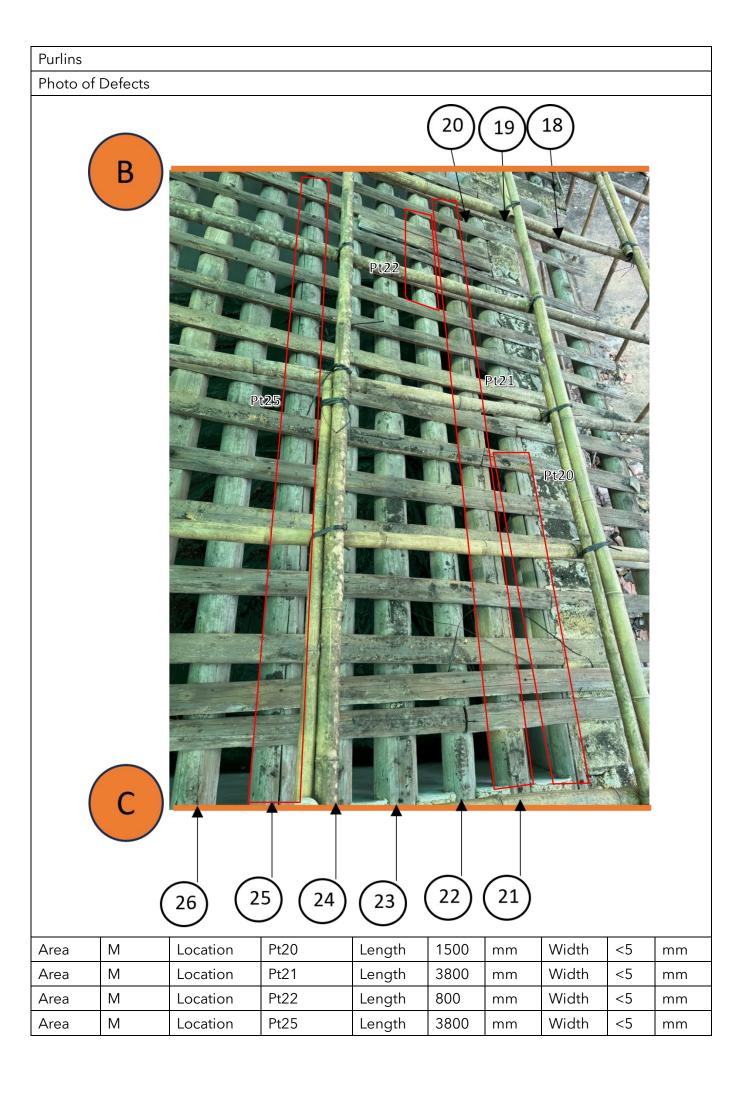


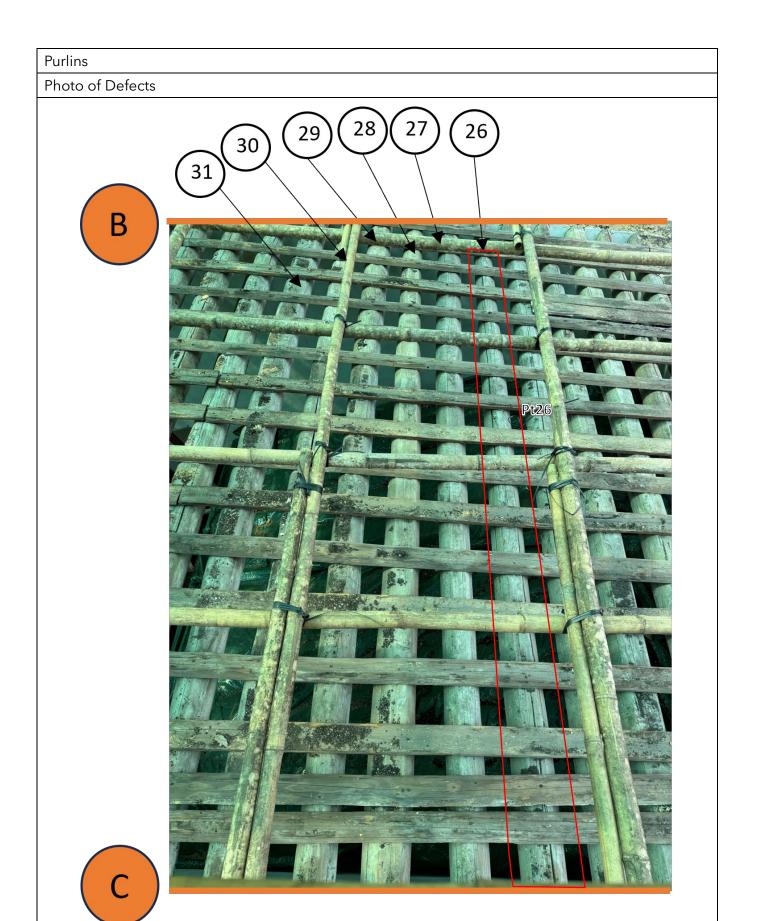


Area	L	Location	Pt48	Length	3000	mm	Width	<5	mm
Area	L	Location	Pt50	Length	3500	mm	Width	<5	mm

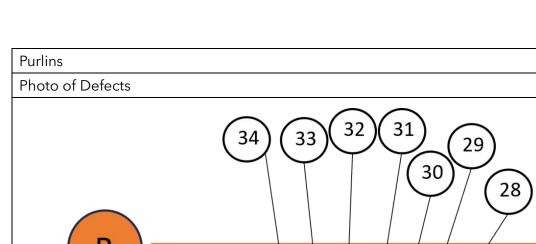


Remarks: Insect bites are found on R-P18, replacement of the purlin M-P18 is proposed as there is potential risk.





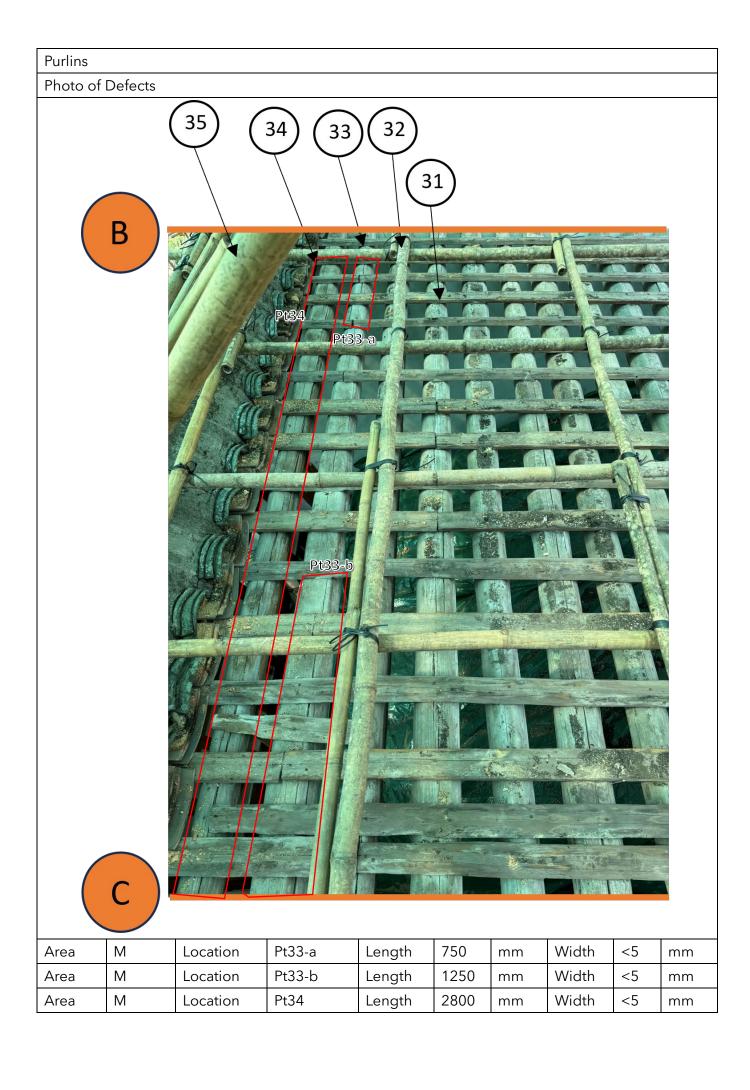
Area M Location Pt26 Length 3800 mm Width <5 mm





C

Area	М	Location	Pt29	Length	2500	mm	Width	<5	mm
Area	М	Location	Pt31	Length	1000	mm	Width	<5	mm
Area	М	Location	Pt32-a	Length	2000	mm	Width	<5	mm
Area	М	Location	Pt32-b	Length	1500	mm	Width	<5	mm

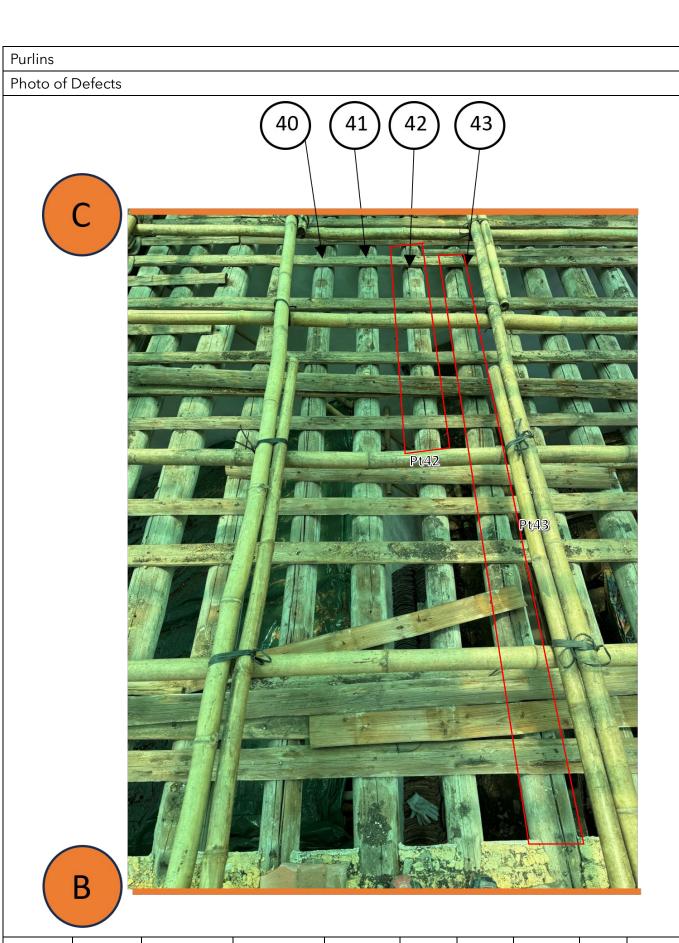








Area	М	Location	Pt37	Length	3000	mm	Width	<5	mm
Area	М	Location	Pt38	Length	1500	mm	Width	<5	mm
Area	М	Location	Pt39	Length	1250	mm	Width	<5	mm
Area	М	Location	Pt40	Length	3800	mm	Width	<5	mm



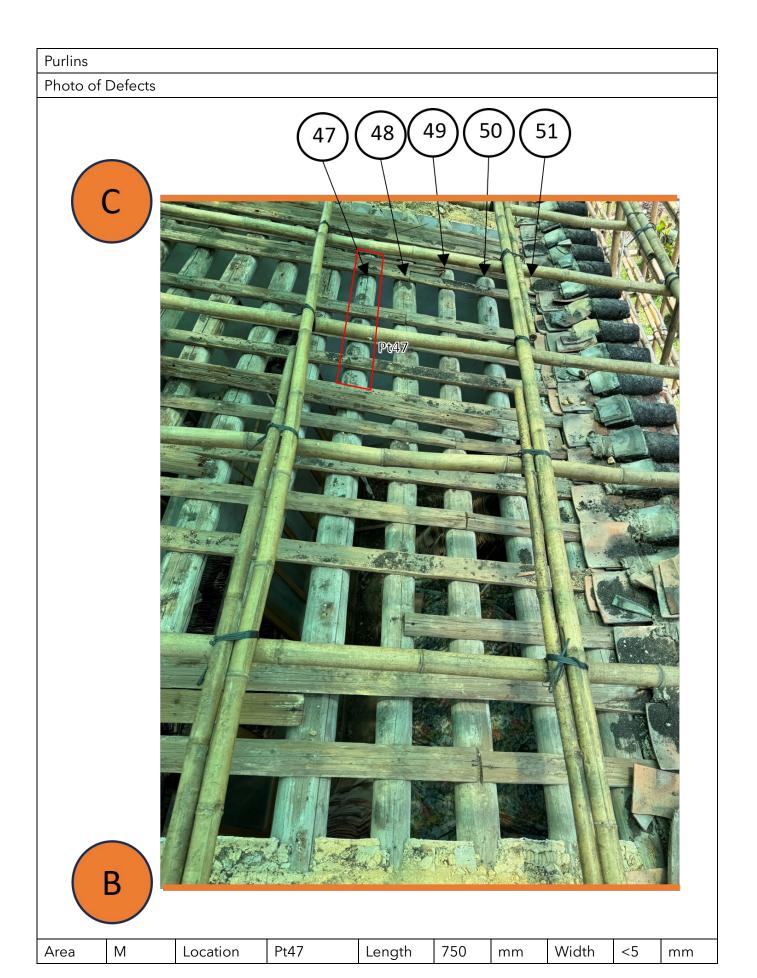
Area	М	Location	Pt42	Length	1250	mm	Width	<5	mm
Area	М	Location	Pt43	Length	3800	mm	Width	<5	mm

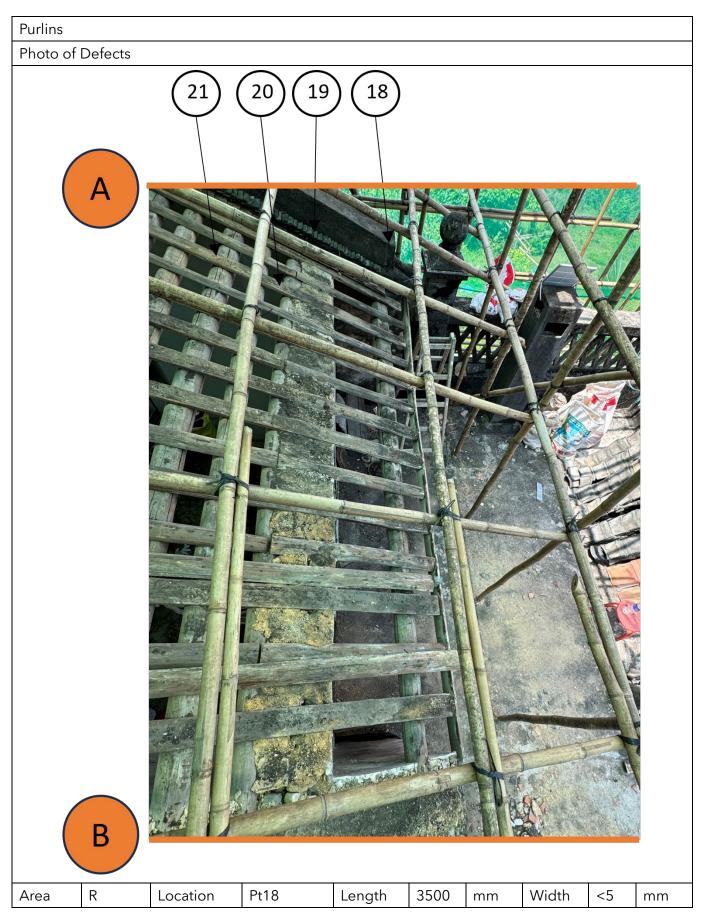




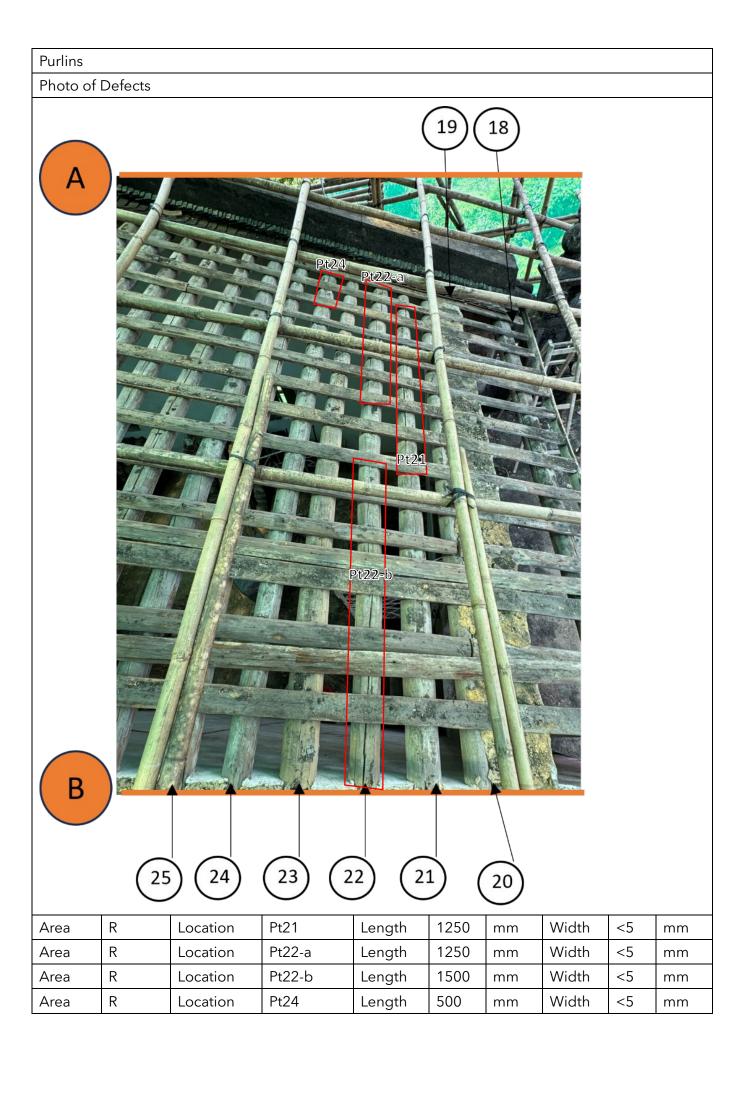


Μ Pt44 500 Width <5 Location Length Area mm $\mathsf{m}\mathsf{m}$ Length Width Μ Pt46 3800 <5 Area Location mm mm





Remarks: Insect bites are found on R-P18, replacement of the purlin R-P18 is proposed as there is potential risk.



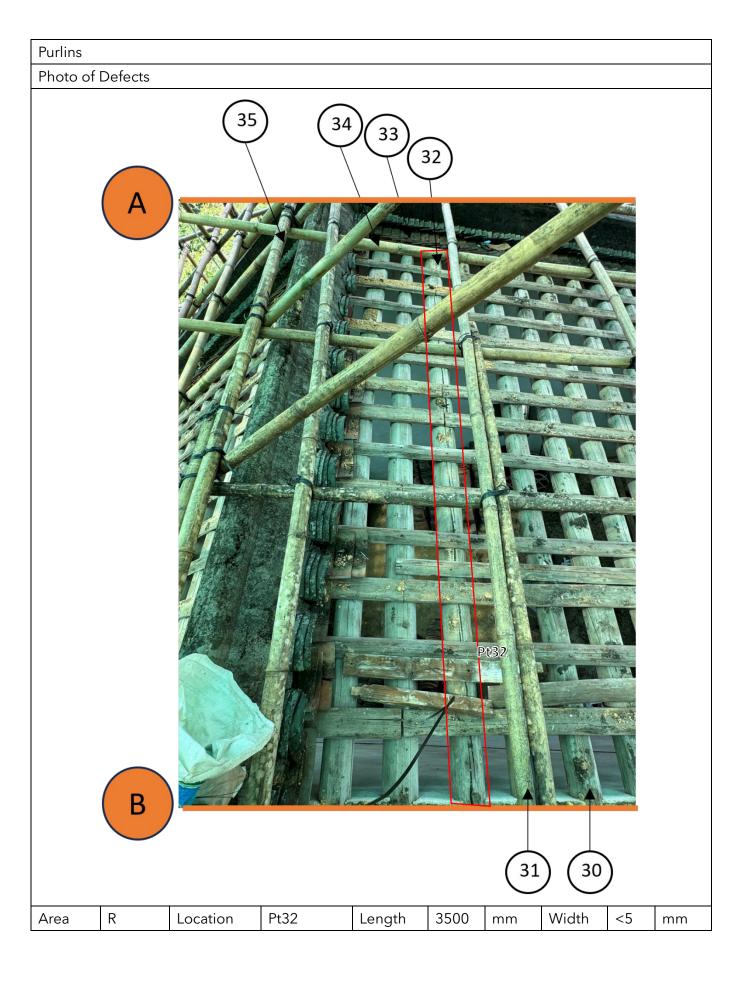


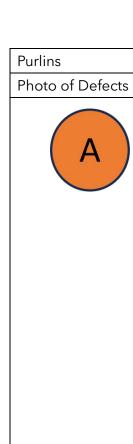




29 (28) (27) (26) (25)

Area	R	Location	Pt25	Length	1500	mm	Width	<5	mm
Area	R	Location	Pt27	Length	2250	mm	Width	<5	mm
Area	R	Location	Pt28	Length	750	mm	Width	<5	mm
Area	R	Location	Pt29	Length	750	mm	Width	<5	mm

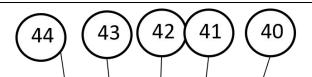




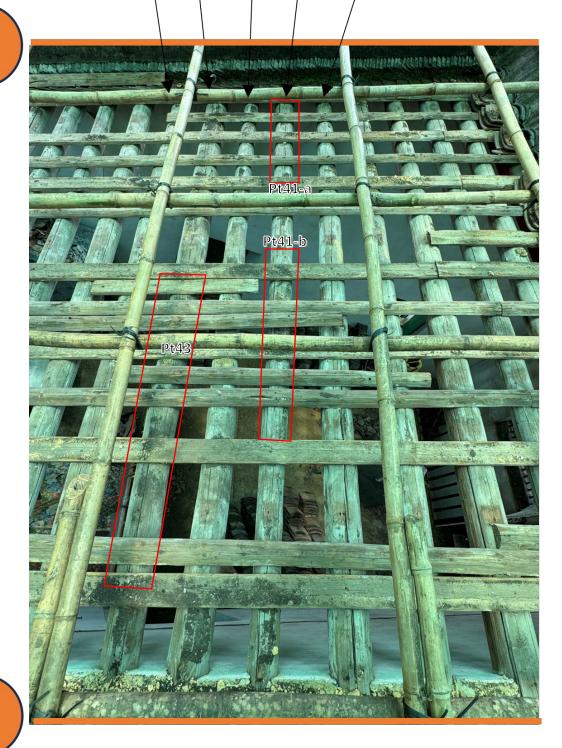


Area	R	Location	Pt39	Length	750	mm	Width	<5	mm
Area	R	Location	Pt40	Length	2250	mm	Width	<5	mm



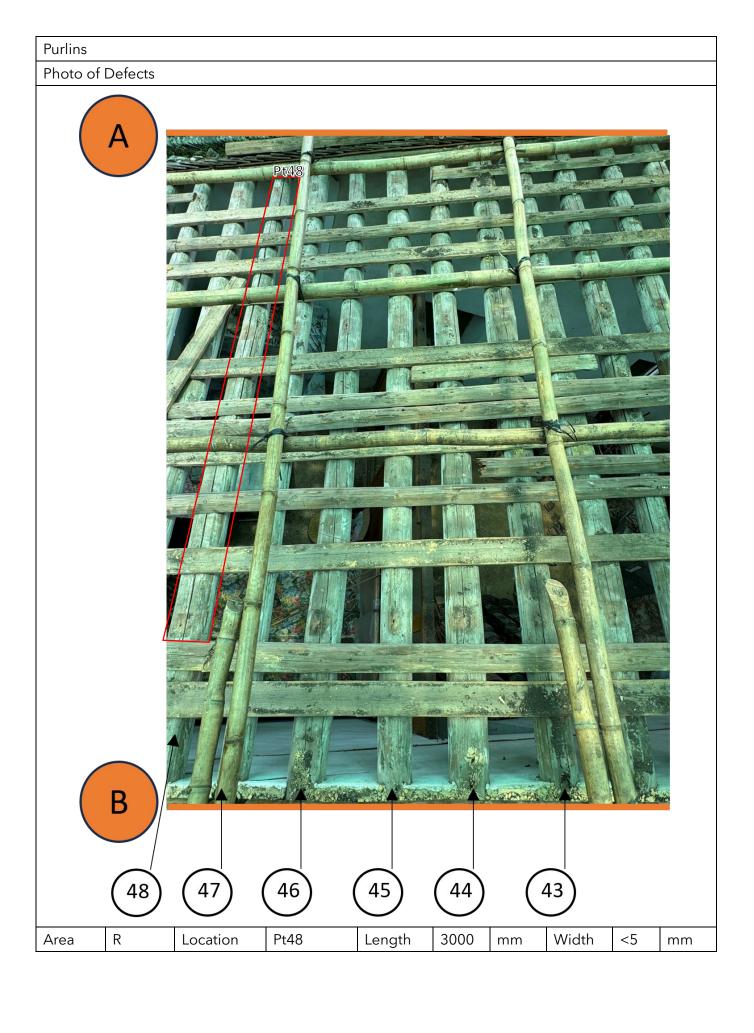


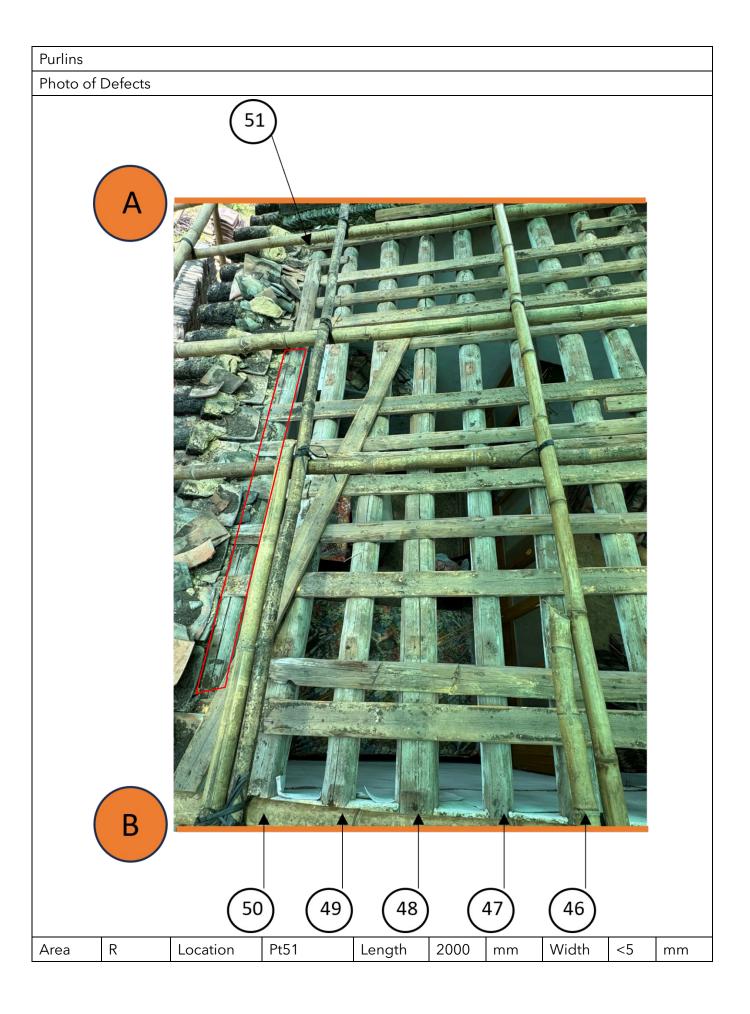
Α



В

Area	R	Location	Pt41-a	Length	1000	mm	Width	<5	mm
Area	R	Location	Pt41-b	Length	1000	mm	Width	<5	mm
Area	R	Location	Pt43	Length	1000	mm	Width	<5	mm





Conclusion

Most of the purlins were found with hairline cracks, and repair works are recommended. Severe cracks were found on the purlin's top and bottom, which are recommended to be replaced. No rotten was found. No rotted parts were found on the surface of Purlin No. 18 in 3 areas, but there were signs of insect infestation, which was also recommended for replacement.

After survey, we would like to recommend that the following proposal for 3 different situations:

- ♦ For cracks are <5mm width, repair with wood adhesive.
- \diamond For cracks are 5 or > 5mm width, repair with sawdust and wood adhesive.
- ♦ For purlin with severe cracks found on the top and bottom and purlin with insect bites, replace the existing purlin with new purlin.

Area	Location	Length	mm	Width	mm	Proposal treatment
R	Pt18	3500	mm	<5	mm	Replace with new purlin
	P21-a	1500	mm	>5	mm	Repair with sawdust
	P21-b	1500	mm	<5	mm	Repair with wood adhesive
	Pt21	1250	mm	<5	mm	Repair with wood adhesive
	Pt22-a	1250	mm	<5	mm	Repair with wood adhesive
	Pt22-b	1500	mm	<5	mm	Repair with wood adhesive
	P23	1000	mm		mm	Repair with wood adhesive
	Pt24	500	mm	<5	mm	Repair with wood adhesive
	Pt25	1500	mm	<5	mm	Repair with wood adhesive
	P26	700	mm	<5	mm	Repair with wood adhesive
	P27	550	mm	<5	mm	Repair with wood adhesive
	Pt27	2250	mm	<5	mm	Repair with wood adhesive
	P28	750	mm		mm	Repair with wood adhesive
	Pt28	750	mm	<5	mm	Repair with wood adhesive
	P29	2750	mm		mm	Repair with wood adhesive
	Pt29		mm	<5	mm	Repair with wood adhesive
	P30	3500	mm	<5	mm	Repair with wood adhesive
	P31	500	mm	<5	mm	Repair with wood adhesive
	Pt32	3500	mm	<5	mm	Repair with wood adhesive
	P33	3500	mm		mm	Repair with sawdust
	P35-a	2250	mm	<5	mm	Repair with wood adhesive
	P35-b	1500	mm		mm	Repair with wood adhesive
	P38	3250	mm		mm	Repair with sawdust
	P39-a	1500	mm	<5	mm	Repair with wood adhesive
	P39-b	750	mm		mm	Repair with wood adhesive
	Pt39	750	mm	<5	mm	Repair with wood adhesive
	P40	3000	mm	<5	mm	Replace with new purlin
	Pt40	2250			mm	Replace with new purlin
	Pt41-a	1000		<5	mm	Repair with wood adhesive
	Pt41-b	1000	mm	<5	mm	Repair with wood adhesive
	Pt43	1000	mm		mm	Repair with wood adhesive
	P45	2000	mm		mm	Repair with wood adhesive
	P47	3750	mm		mm	Repair with sawdust
	Pt48	3000	mm		mm	Repair with wood adhesive
	Pt51	2000	mm		mm	Repair with wood adhesive
М	P18	3800	mm		mm	Replace with new purlin
	P20	2750	mm	<5	mm	Replace with new purlin
	Pt20	1500	mm	<5	mm	Replace with new purlin
	Pt21	3800	mm	<5	mm	Repair with wood adhesive
	Pt22	800	mm	<5	mm	Repair with wood adhesive
	P23-a	500	mm		mm	Repair with wood adhesive
	P23-b	1500	mm	<5	mm	Repair with wood adhesive
	Pt25	3800			mm	Repair with wood adhesive
	P26	2000			mm	Replace with new purlin
	Pt26	3800			mm	Replace with new purlin
	P27	2000			mm	Repair with wood adhesive
	Pt29	2500			mm	Repair with wood adhesive
	P30	2750	_		mm	Repair with sawdust
	P31	1250	mm	<5	mm	Repair with wood adhesive

Area	Location	Length	mm	Width	mm	Proposal treatment
М	Pt31	1000		<5	mm	Repair with wood adhesive
	Pt32-a	2000			mm	Repair with wood adhesive
	Pt32-b	1500			mm	Repair with wood adhesive
	Pt33-a		mm		mm	Repair with wood adhesive
	Pt33-b	1250			mm	Repair with wood adhesive
	Pt34	2800			mm	Repair with wood adhesive
	P35	3250			mm	Repair with wood adhesive
	P36	1750			mm	Repair with wood adhesive
	P37	1750			mm	Repair with wood adhesive
	Pt37	3000			mm	Repair with wood adhesive
	P38	1750			mm	Repair with wood adhesive
	Pt38	1500			mm	Repair with wood adhesive
	P39	1000			mm	Repair with wood adhesive
	Pt39	1250			mm	Repair with wood adhesive
	P40	2250			mm	Replace with new purlin
	Pt40	3800			mm	Repair with wood adhesive
	Pt42	1250			mm	Repair with wood adhesive
	Pt43	3800			mm	Repair with wood adhesive
	P44	2250			mm	Replace with new purlin
	Pt44		mm		mm	Repair with wood adhesive
	Pt46	3800			mm	Repair with wood adhesive
	Pt47	+	mm		mm	Repair with wood adhesive
	P50	4250			mm	Repair with wood adhesive
	P51-a	1250			mm	Repair with wood adhesive
	P51-b		mm		mm	Repair with wood adhesive
L	Pt18	1000			mm	Replace with new purlin
	Pt20		mm		mm	Repair with wood adhesive
	Pt21	850	mm		mm	Repair with wood adhesive
	Pt22-a	1300	mm		mm	Repair with wood adhesive
	Pt22-b	1000	mm	<5	mm	Repair with wood adhesive
	P23-a	1000	mm	<5	mm	Repair with wood adhesive
	P23-b	750	mm		mm	Repair with wood adhesive
	Pt23-a	1250	mm		mm	Repair with wood adhesive
	Pt23-b	500	mm	<5	mm	Repair with wood adhesive
	P24-a	350	mm	5	mm	Repair with sawdust
	P24-b	1500	mm	<5	mm	Repair with wood adhesive
	P26	1250	mm	<5	mm	Repair with wood adhesive
	Pt27-a	1000	mm	<5	mm	Repair with wood adhesive
	Pt27-b	1100	mm	<5	mm	Repair with wood adhesive
	Pt28	3500	mm	<5	mm	Repair with wood adhesive
	P29	1000	mm	<5	mm	Repair with wood adhesive
	P30	750	mm	<5	mm	Repair with wood adhesive
1					mm	Replace with new purlin
	P31	3000	mm	5	111111	Replace Will hew pullin
	P31 Pt32	3000 1000			mm	Repair with wood adhesive
		1000		<5		
	Pt32	1000	mm mm	<5 <5	mm	Repair with wood adhesive
	Pt32 P33	1000 750 1250	mm mm	<5 <5 <5	mm mm	Repair with wood adhesive Repair with wood adhesive
	Pt32 P33 P34	1000 750 1250	mm mm mm	<5 <5 <5 <5	mm mm	Repair with wood adhesive Repair with wood adhesive Replace with new purlin
	Pt32 P33 P34 Pt34-a	1000 750 1250 750	mm mm mm mm	<5 <5 <5 <5 <5 <5	mm mm mm	Repair with wood adhesive Repair with wood adhesive Replace with new purlin Replace with new purlin

Area	Location	Length	mm	Width	mm	Proposal treatment
L	Pt37	2000	mm	<5	mm	Repair with wood adhesive
	Pt38	3250	mm	<5	mm	Repair with wood adhesive
	P39	1250	mm	<5	mm	Repair with wood adhesive
	Pt39-a	1250	mm	<5	mm	Repair with wood adhesive
	Pt39-b	1250	mm	<5	mm	Repair with wood adhesive
	Pt40	3500	mm	<5	mm	Repair with wood adhesive
	P41	3000	mm	5	mm	Repair with sawdust
	Pt41-a	2250	mm	<5	mm	Repair with wood adhesive
	Pt41-b	750	mm	<5	mm	Repair with wood adhesive
	P42	1750	mm	<5	mm	Repair with wood adhesive
	P43	1250	mm	<5	mm	Repair with wood adhesive
	Pt43	1250	mm	<5	mm	Repair with wood adhesive
	P44	2000	mm	<5	mm	Repair with wood adhesive
	Pt44	2500	mm	<5	mm	Repair with wood adhesive
	Pt45	2000	mm	<5	mm	Repair with wood adhesive
	P46	1500	mm	<5	mm	Repair with wood adhesive
	P47-a	1250	mm	<5	mm	Repair with wood adhesive
	P47-a	1000	mm	<5	mm	Repair with wood adhesive
	Pt47	1000	mm	<5	mm	Repair with wood adhesive
	P48	750	mm	<5	mm	Repair with wood adhesive
	Pt48	3000	mm	<5	mm	Repair with wood adhesive
	P49-a	1250	mm	<5	mm	Repair with wood adhesive
	P49-a	2000	mm	<5	mm	Repair with wood adhesive
	Pt50	3500	mm	<5	mm	Repair with wood adhesive

Summary

Purlin to	No.	
Area L	P18	2
AleaL	P40	
	P18	5
	P20	
Area M	P26	
	P40	
	P44	
	P18	3
Area R	P31	
	P34	

Total: 10