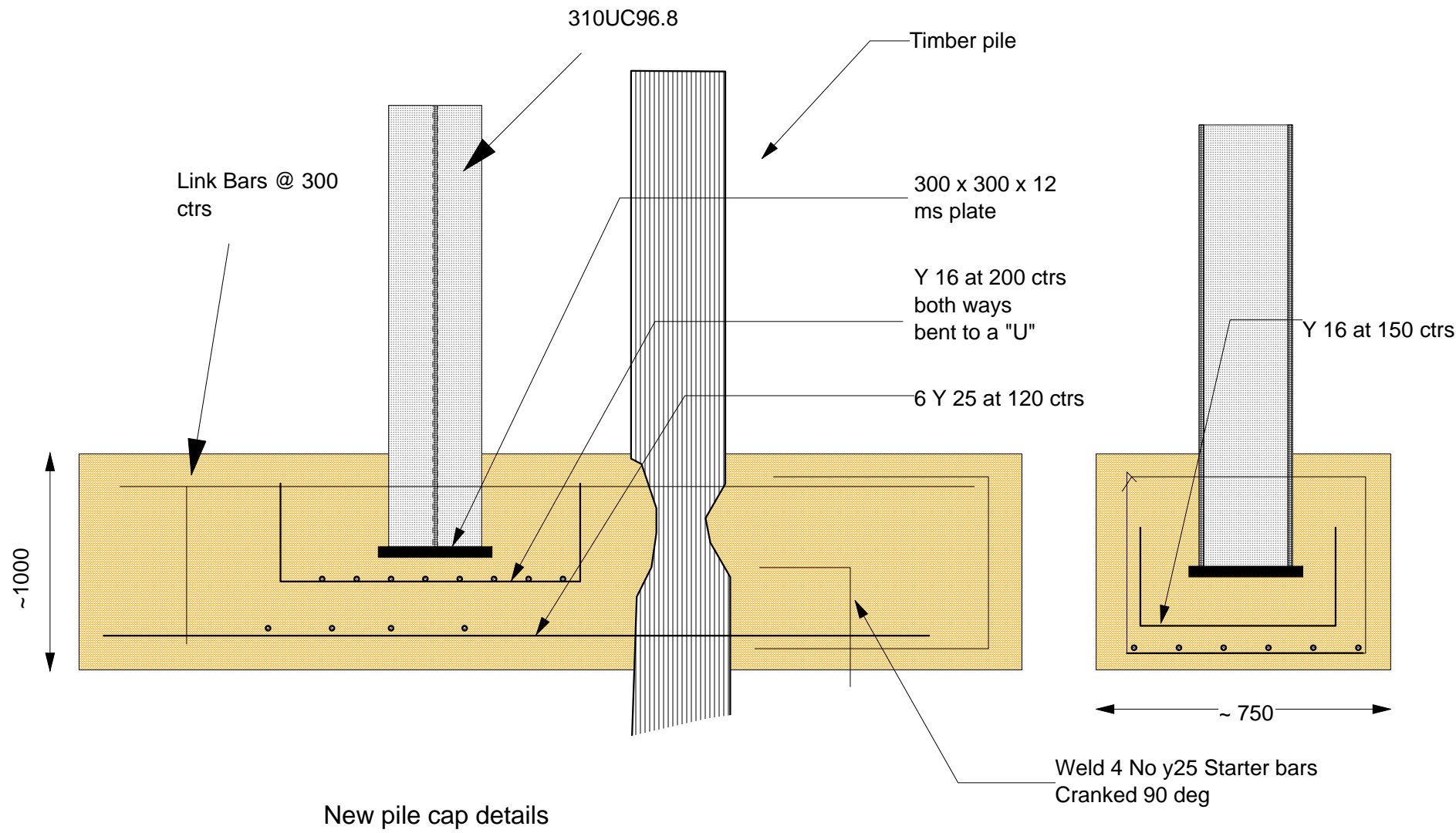


Generic bridge repairs for bridges

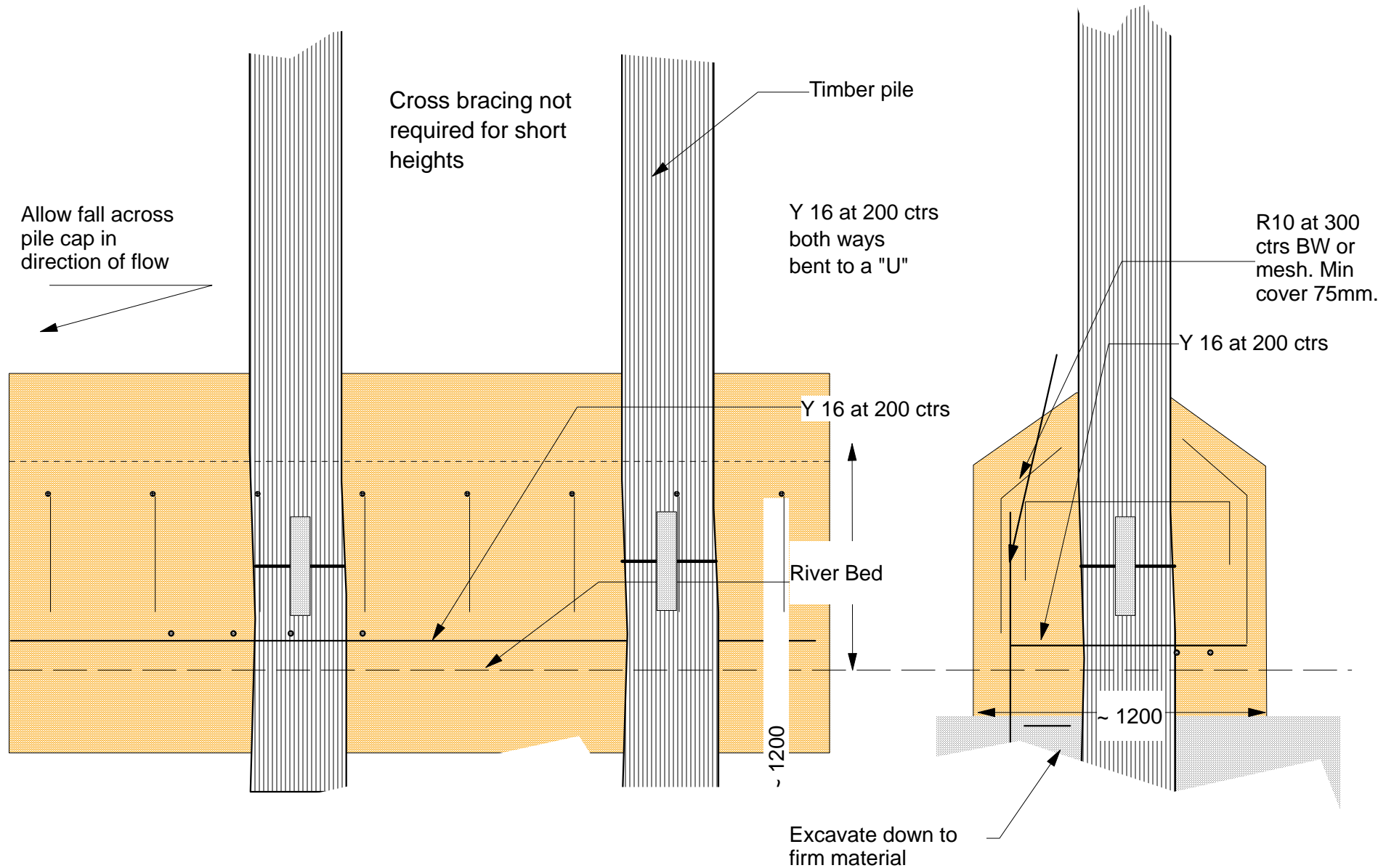
Integrity Testing Pty. Ltd.
Myola East
Toolleen, Vic 3551
PO Box 1299
Bendigo Central
Vic 3552
Telephone (03) 5444 0782
Facsimile (03) 5441 3810
Email: info@integritytesting.com.au



Strengthening of Piers with concrete encasement

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

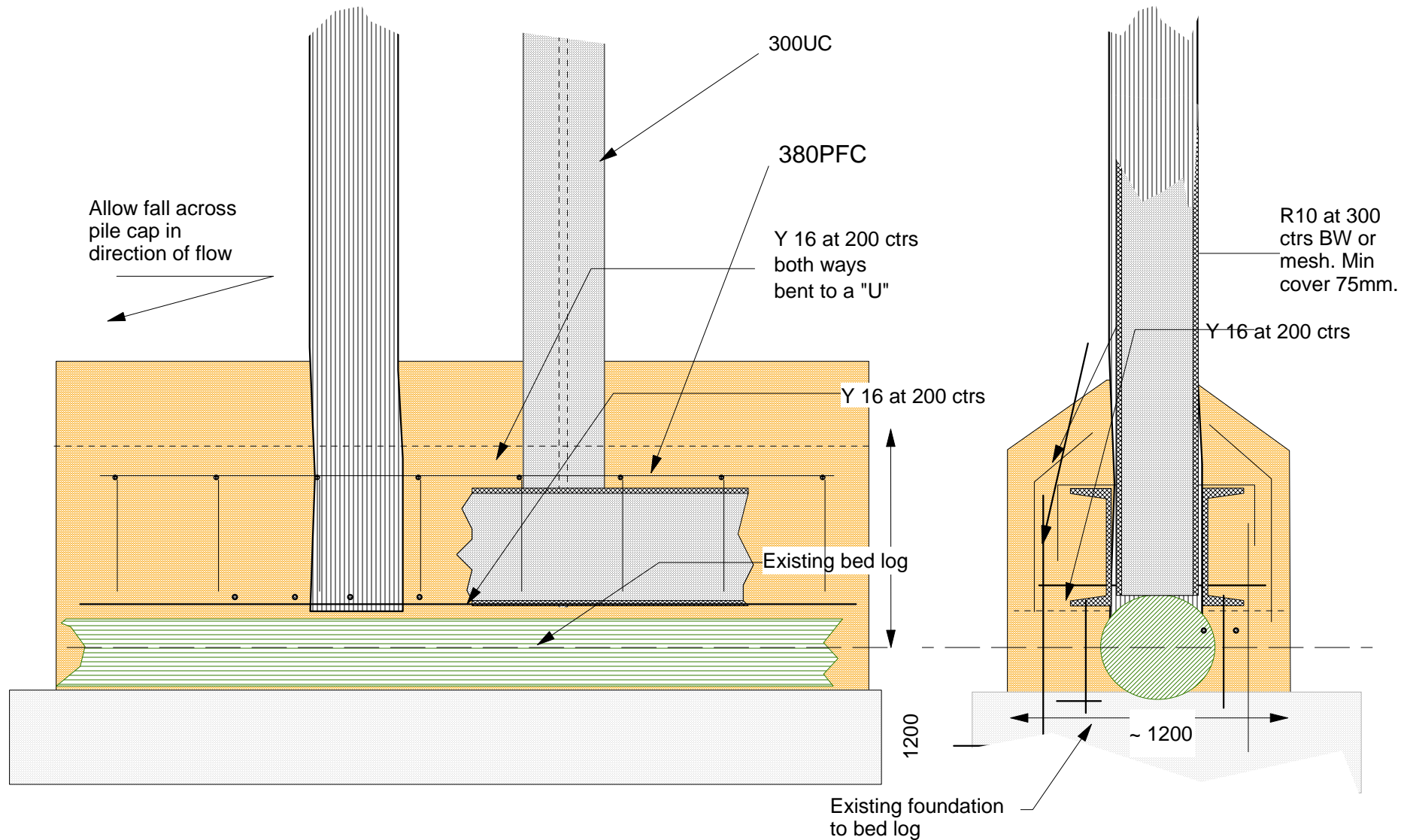
Bridge Repairs



Strengthening of Piers with splice
New pile cap details

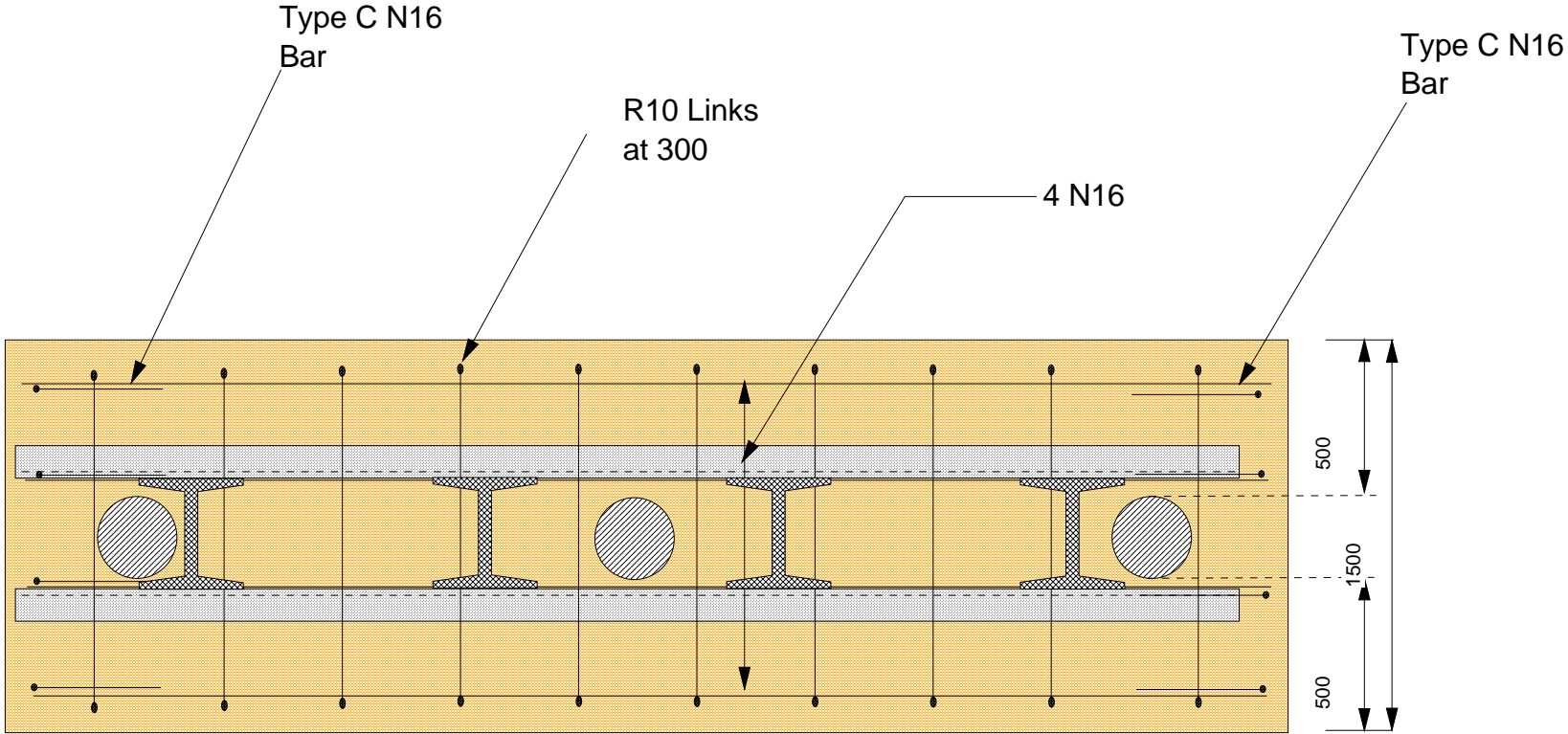
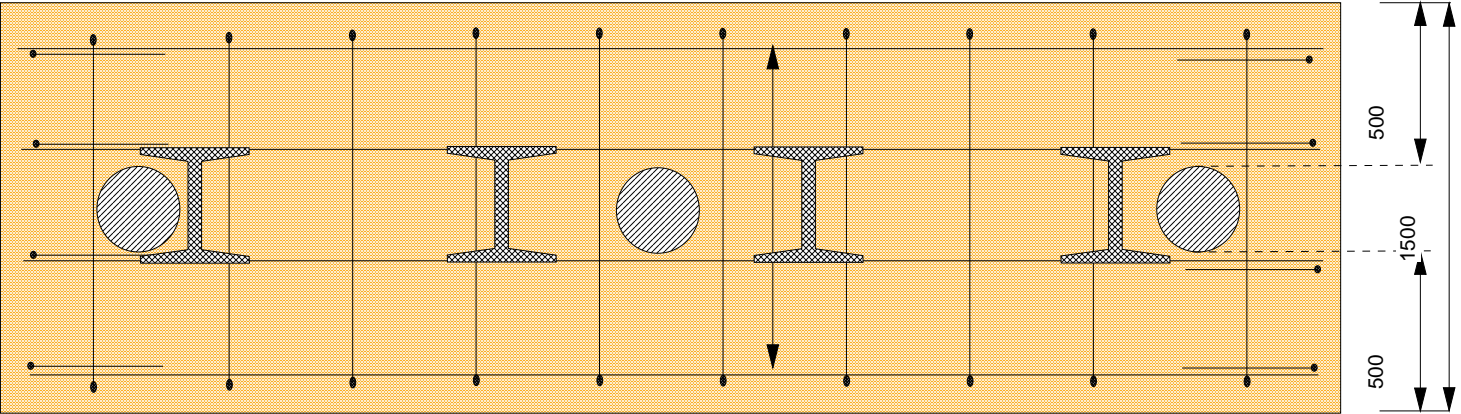
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

Bridge Repairs

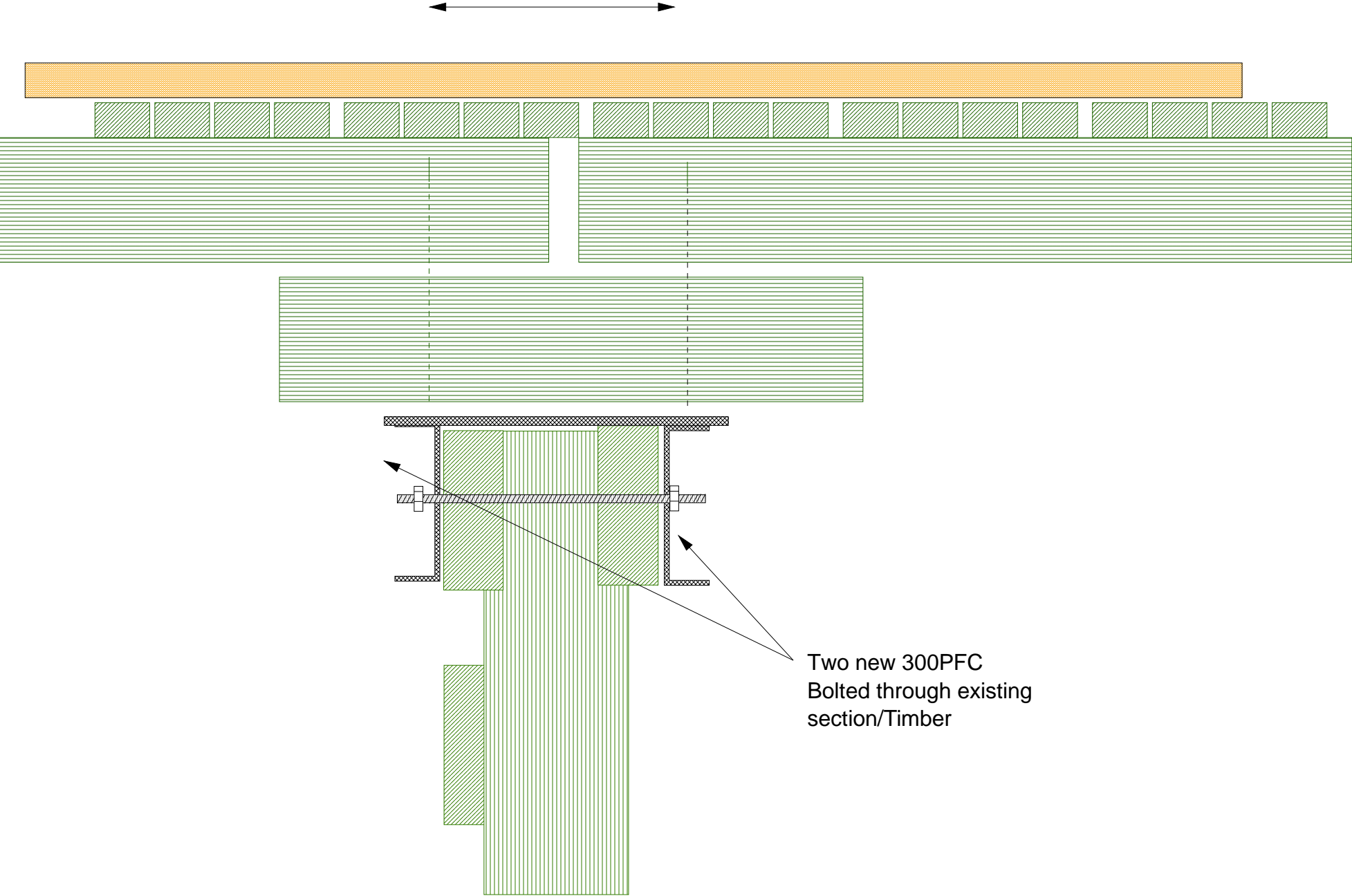


Strengthening of Piers
New pile cap details with bed log

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



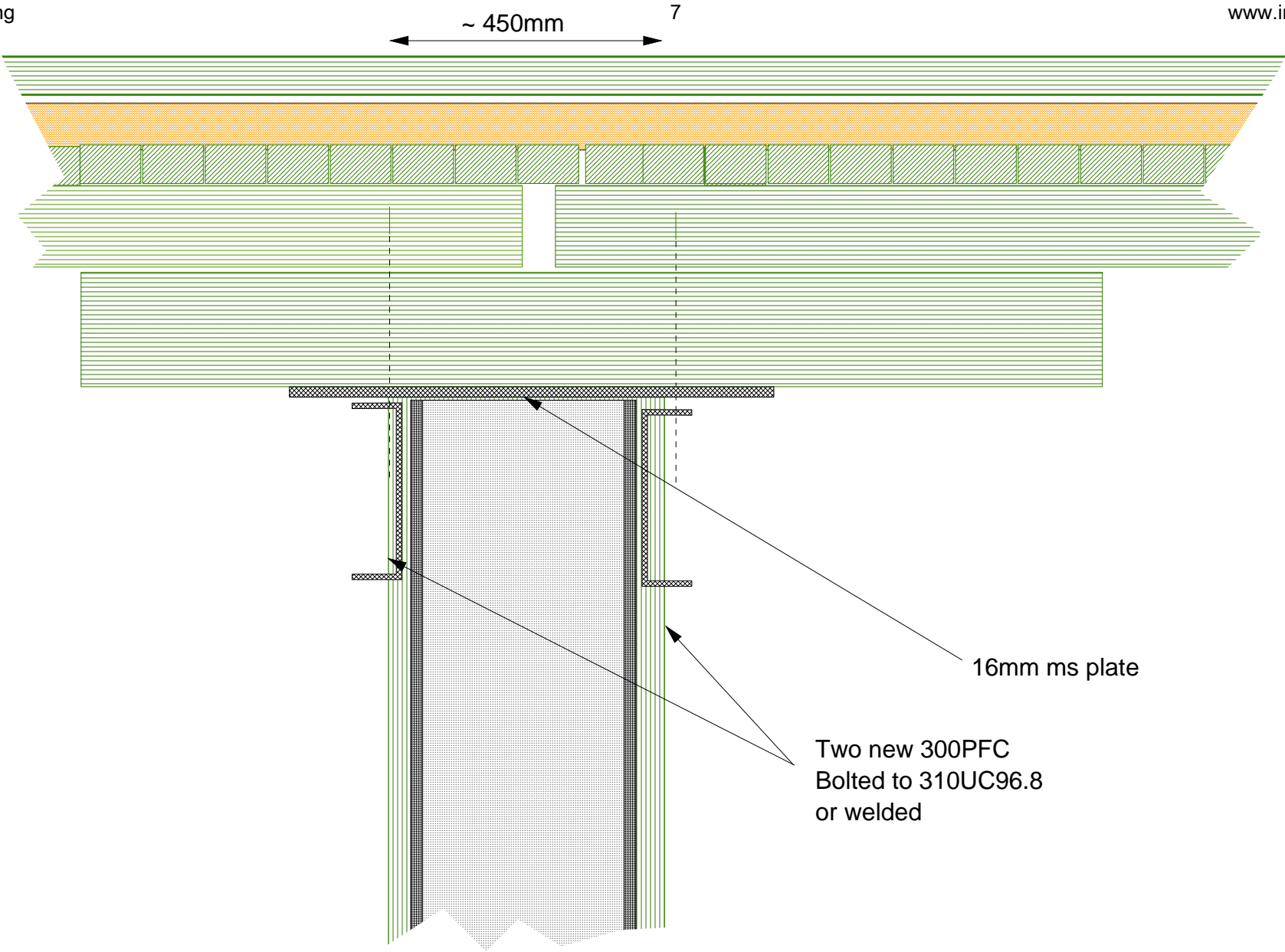
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



New Cross head Section
Upgrade with channel section

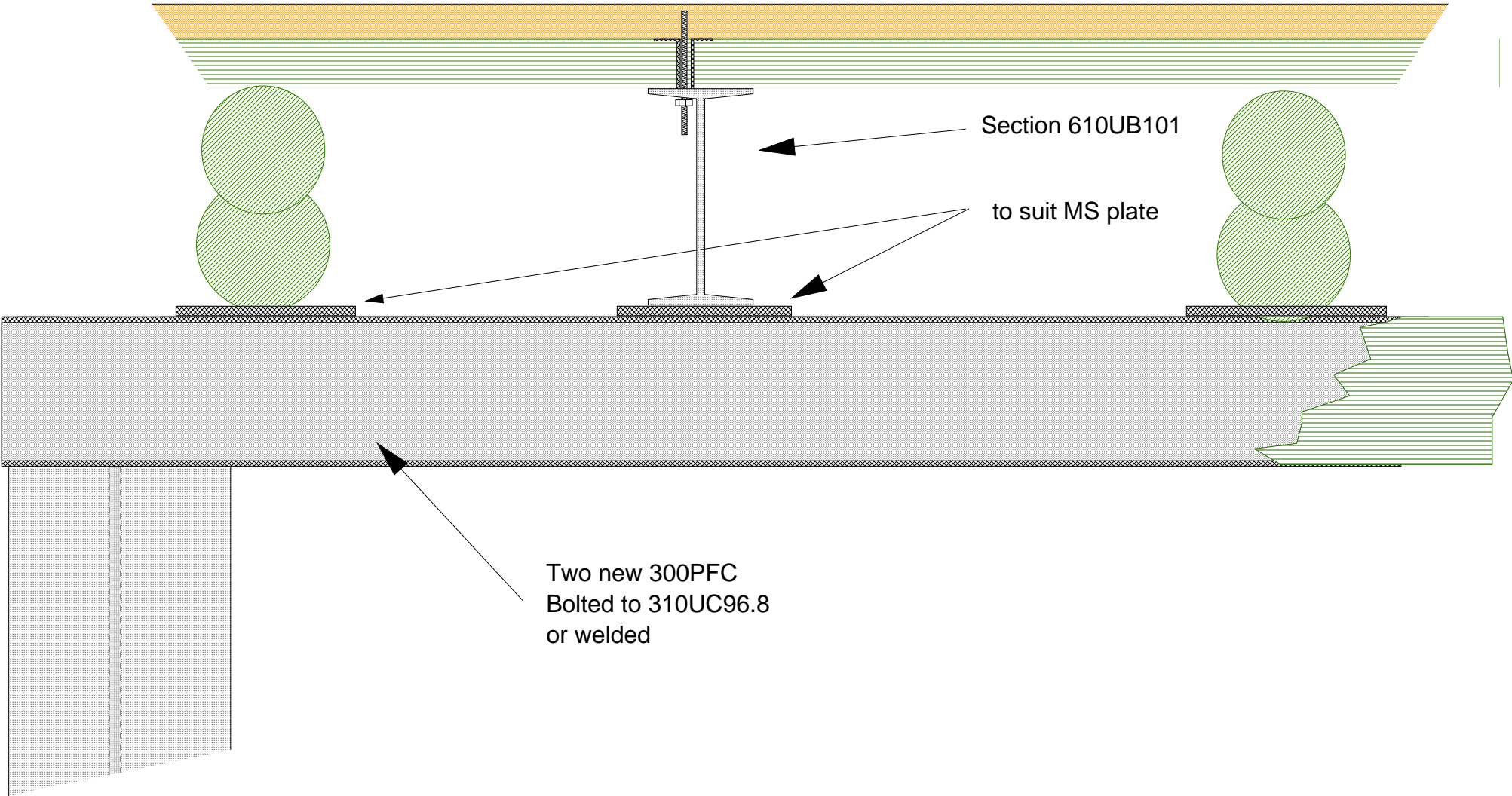
info@integritytesting.com.au

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



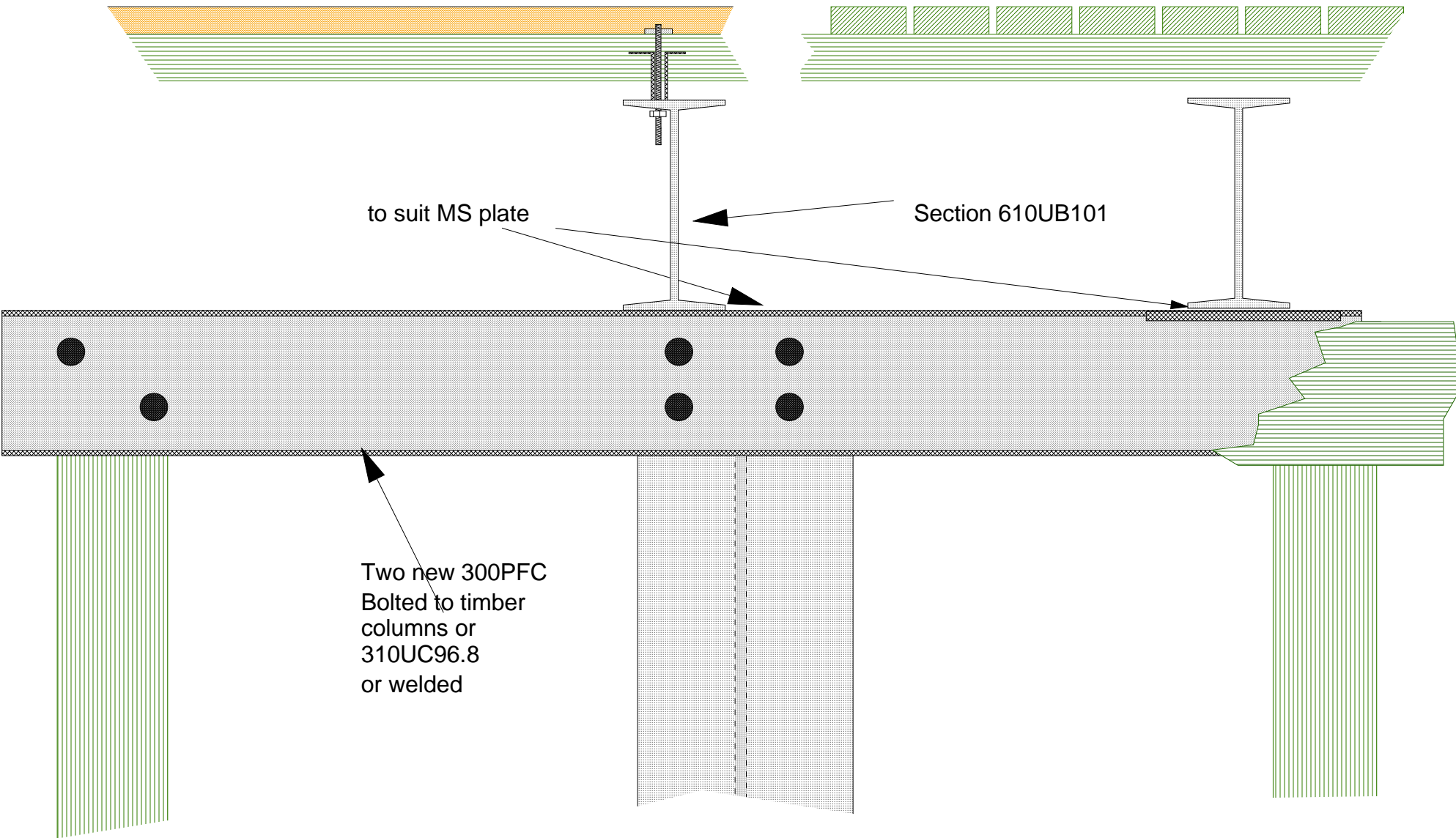
Corble support
With new steel column

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



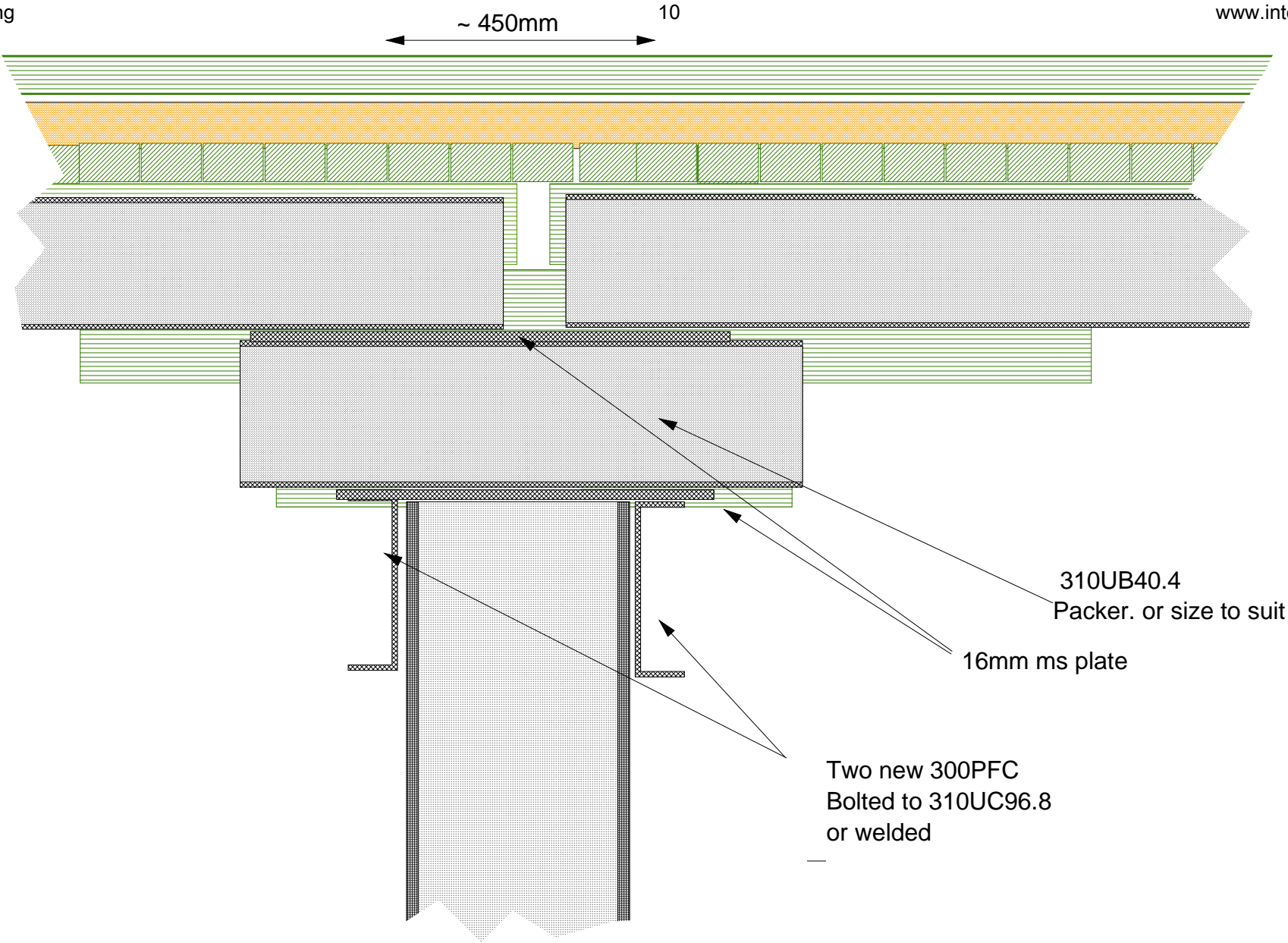
Strengthening Cross head
Corble support

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



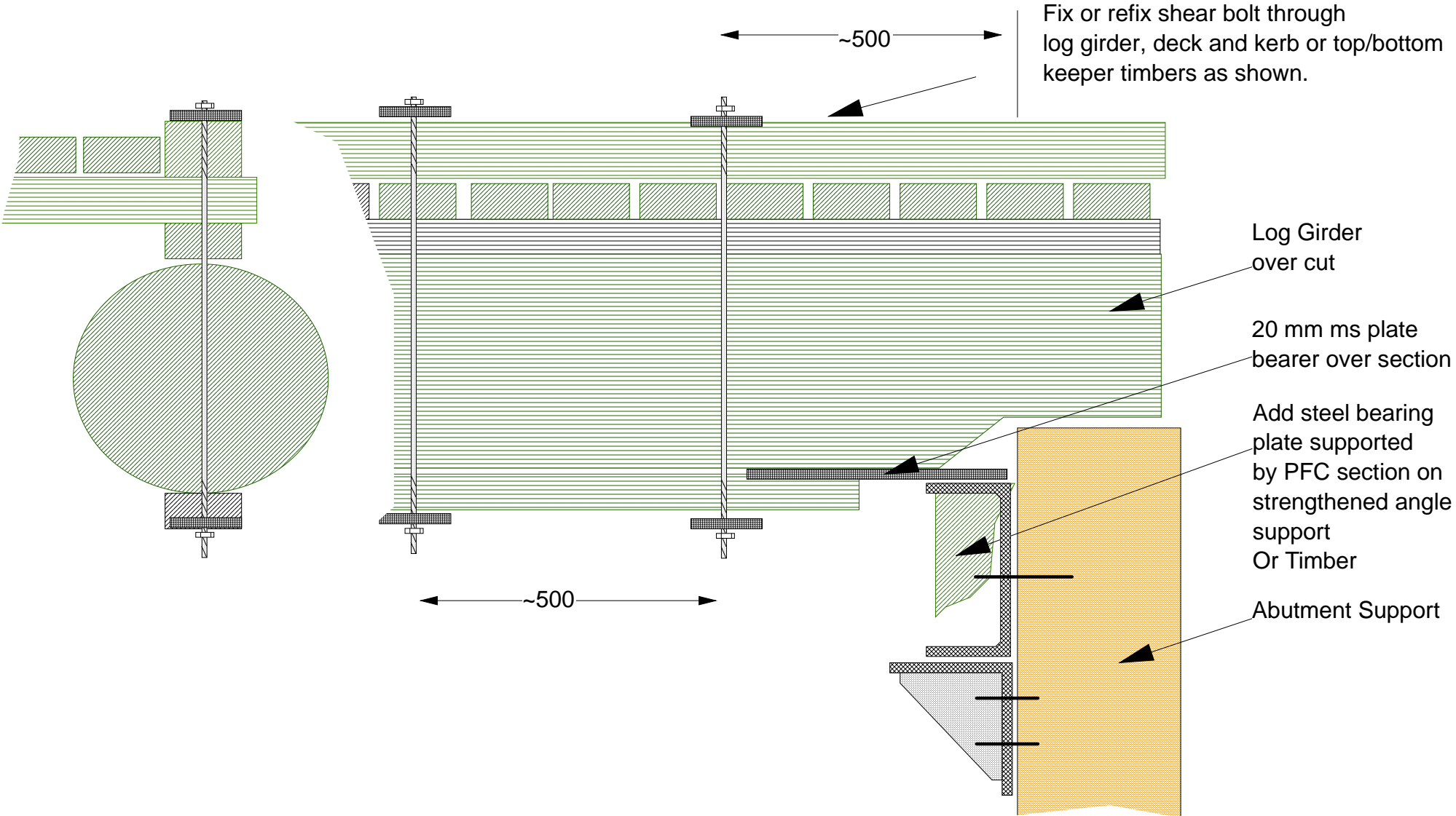
Strengthening Cross head
Corble support

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



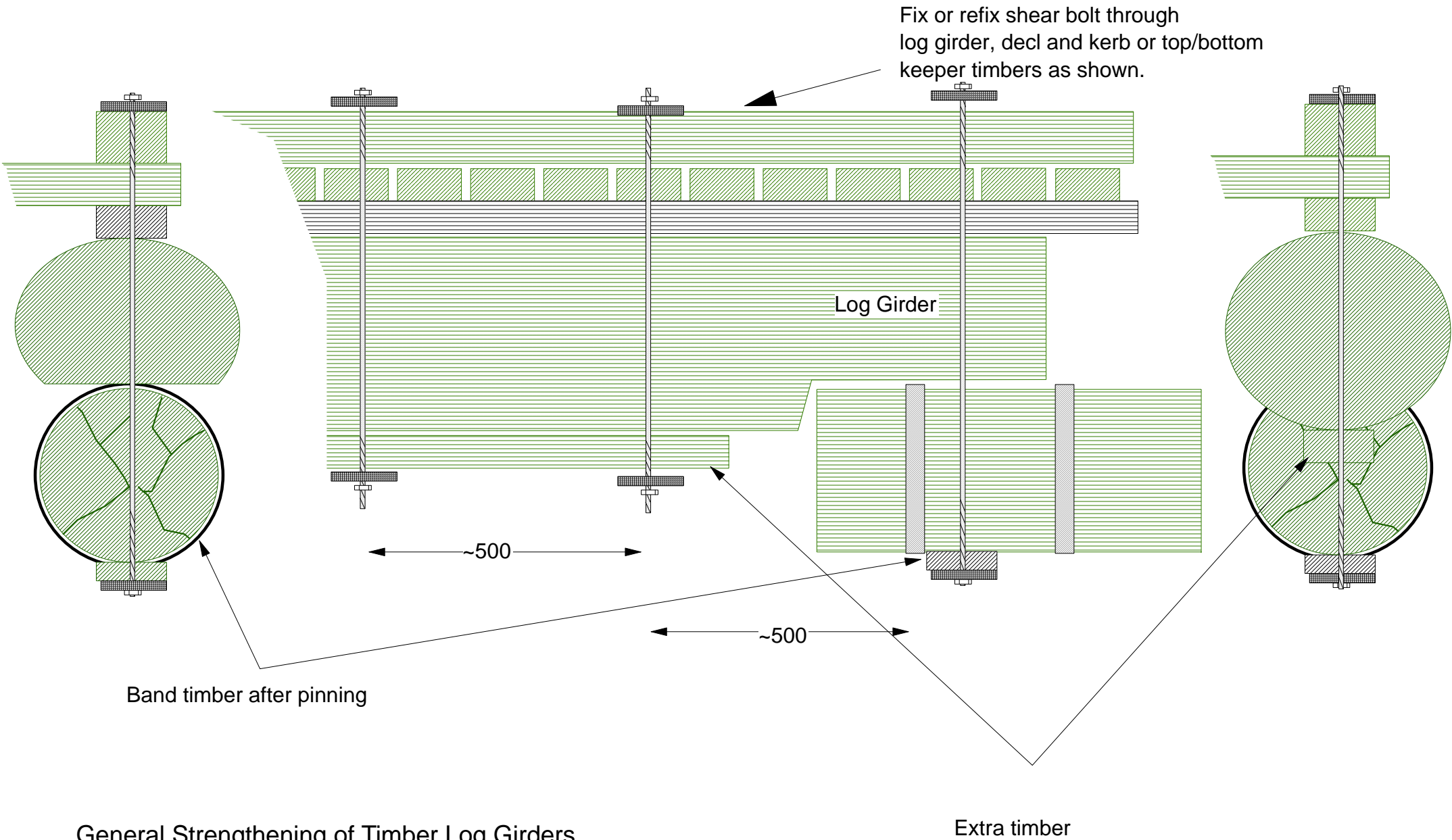
Corble support
With new steel column

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



General Strengthening of Timber Log Girders
Supports over cut or over scarfed
Span reduction

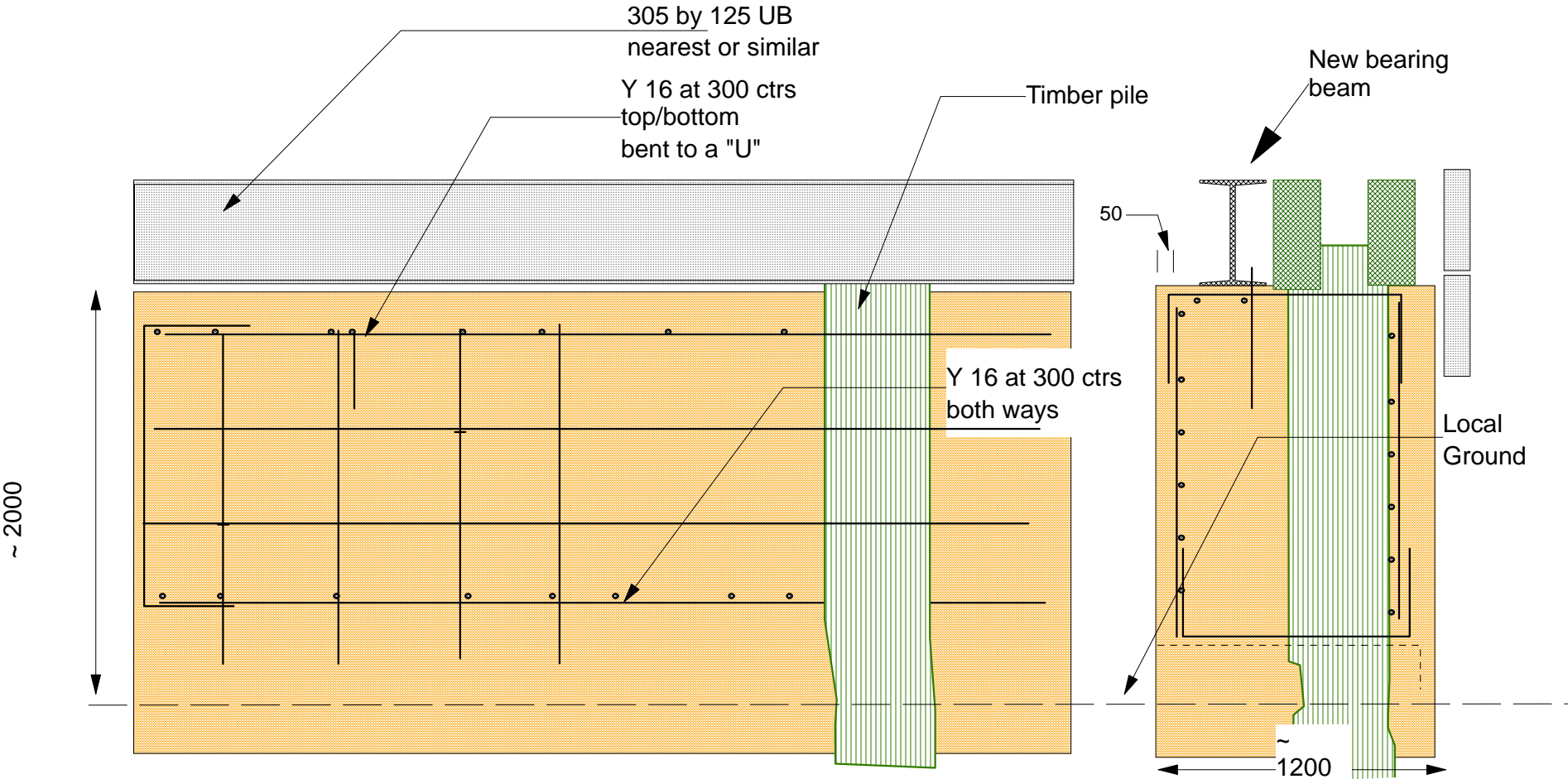
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



General Strengthening of Timber Log Girders

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

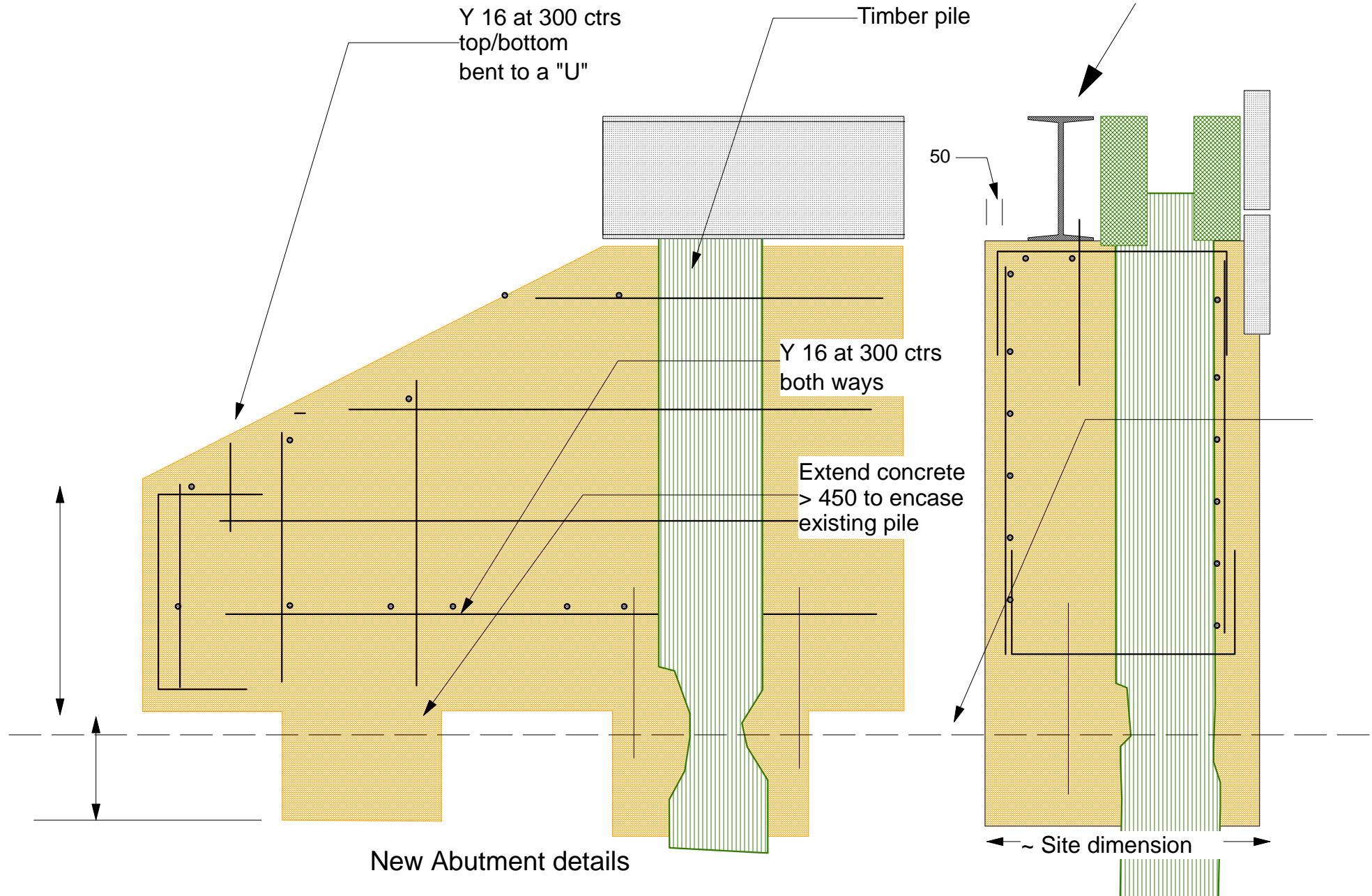
Bridge Repairs



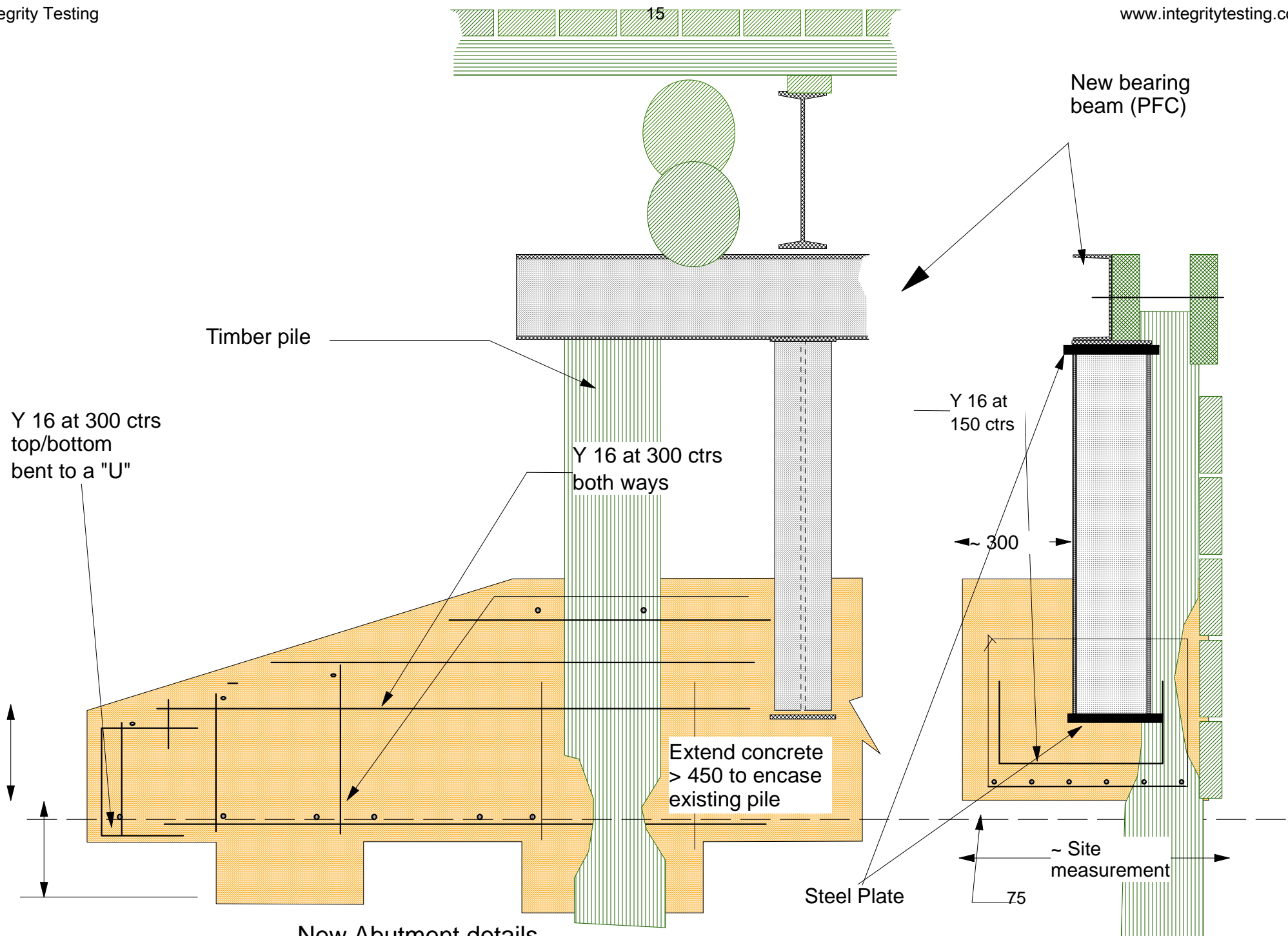
New Abutment details

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

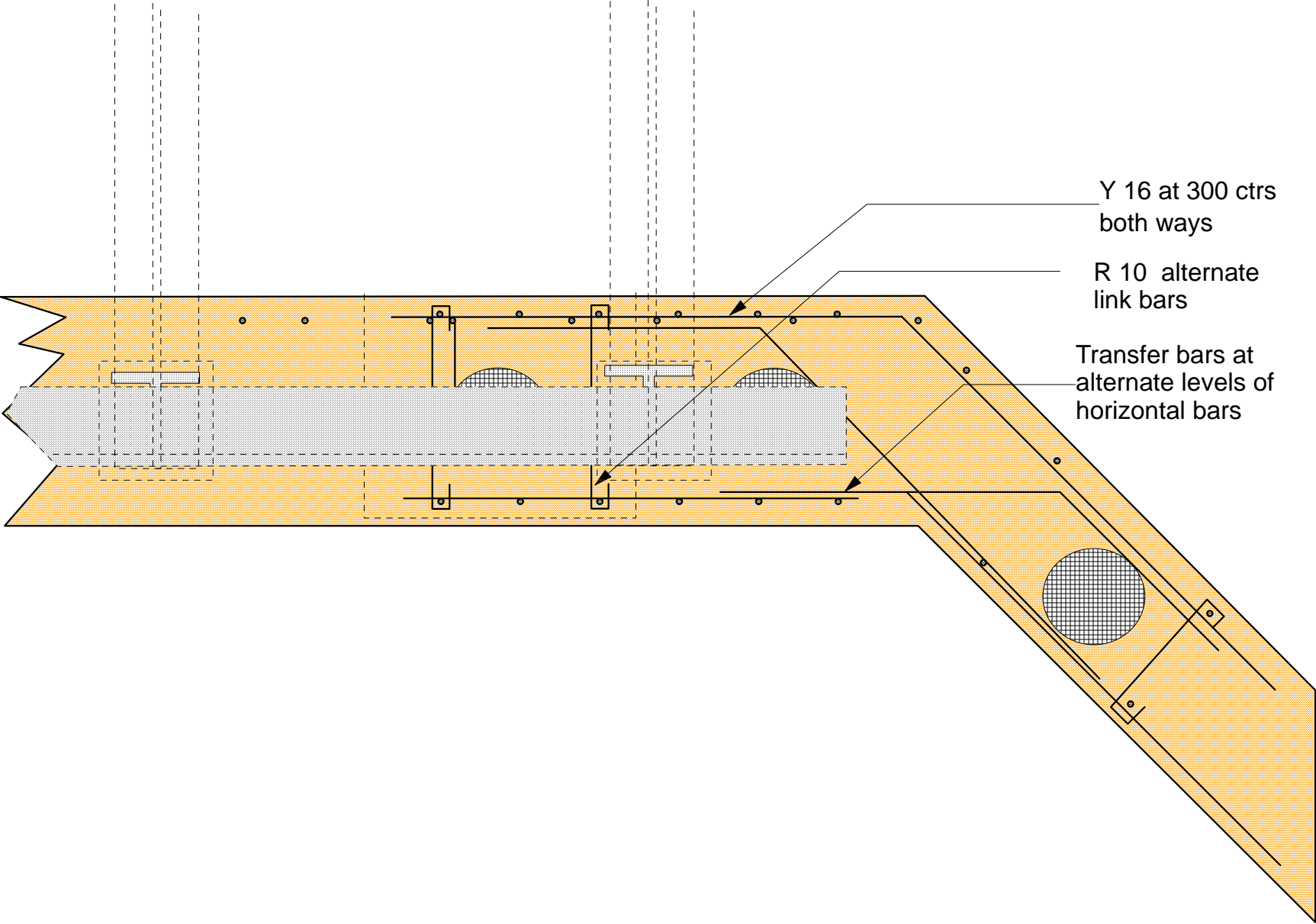
Bridge Repairs



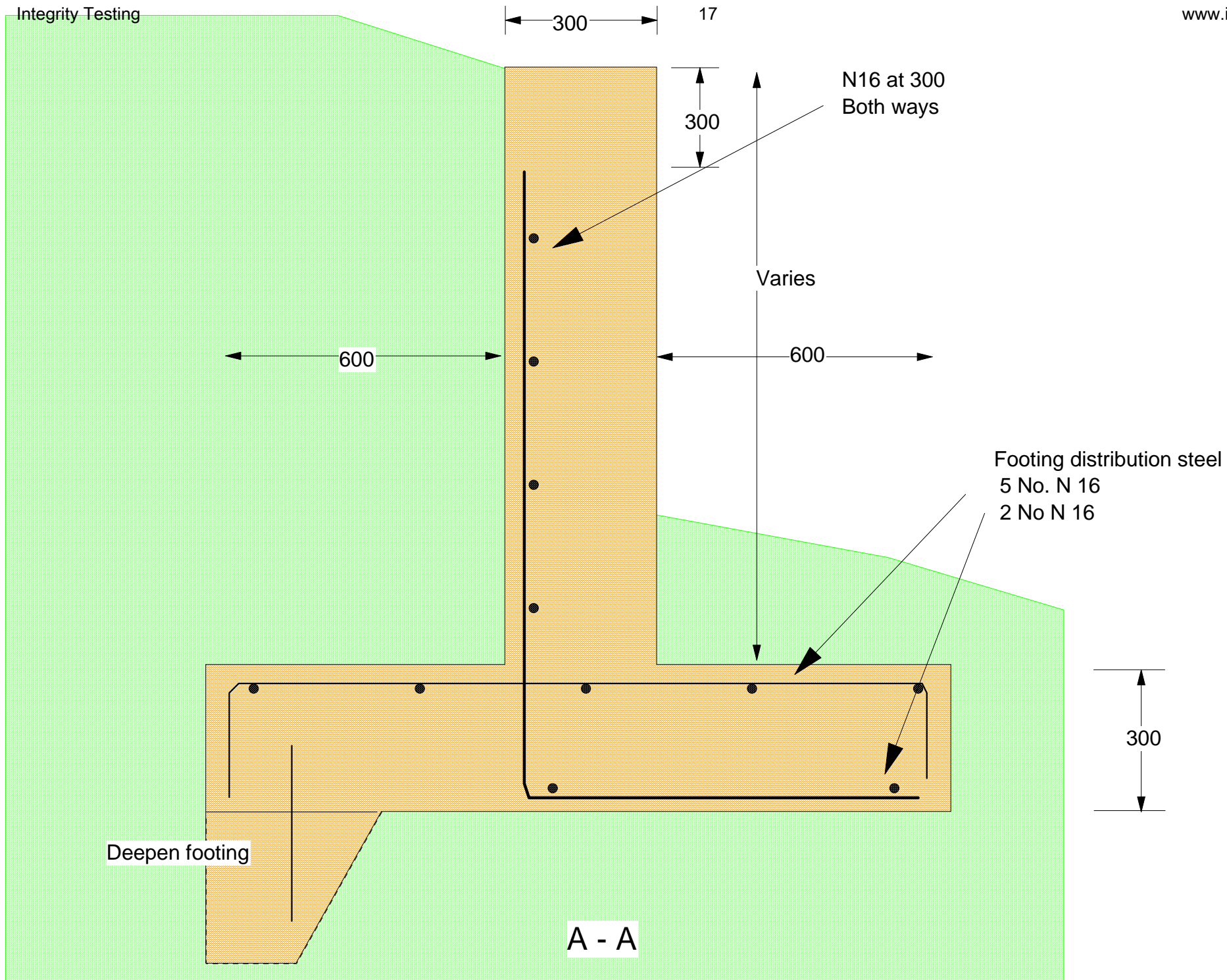
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Date	02/02/2006	Testing	Drawn By	JSH

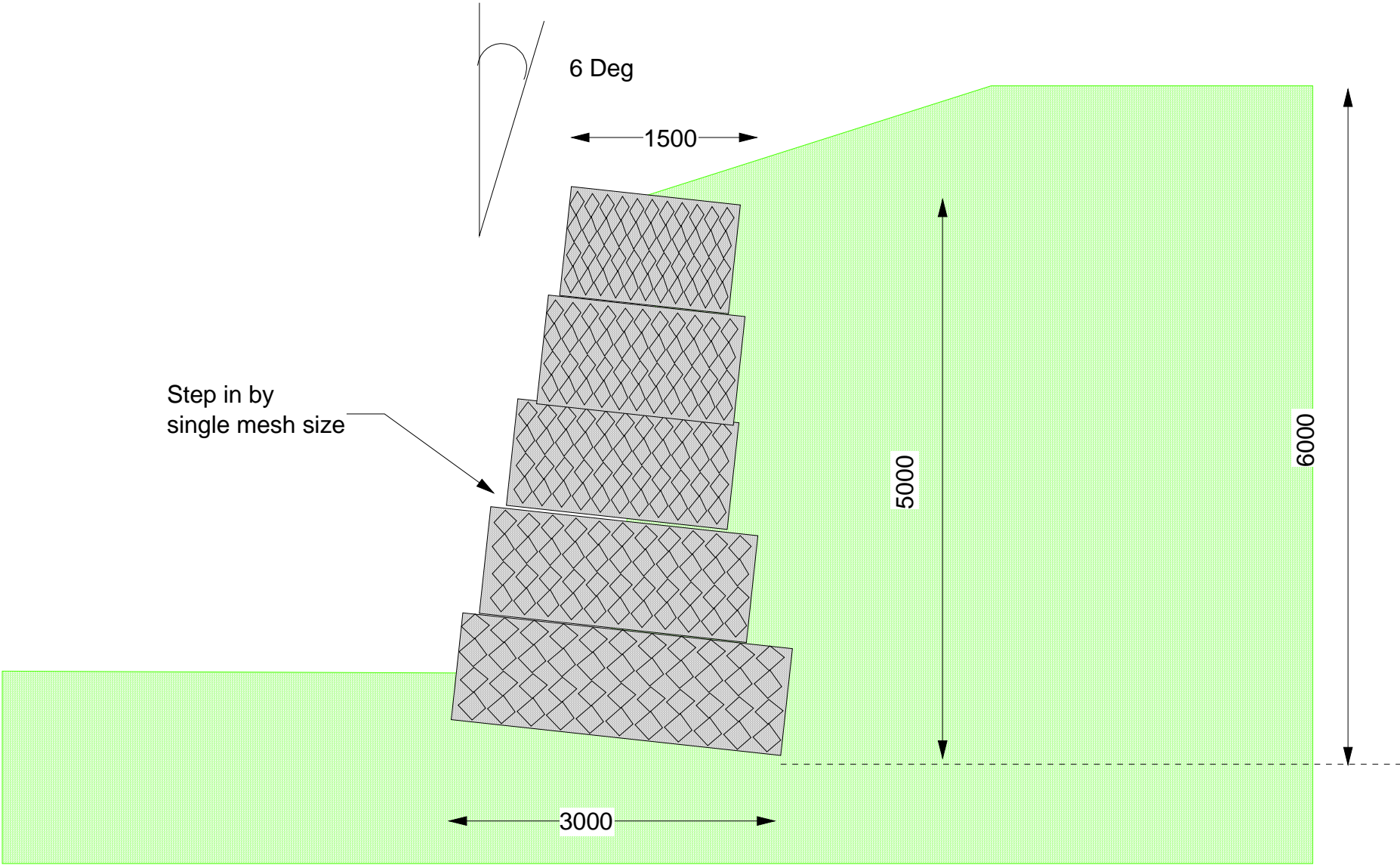


Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



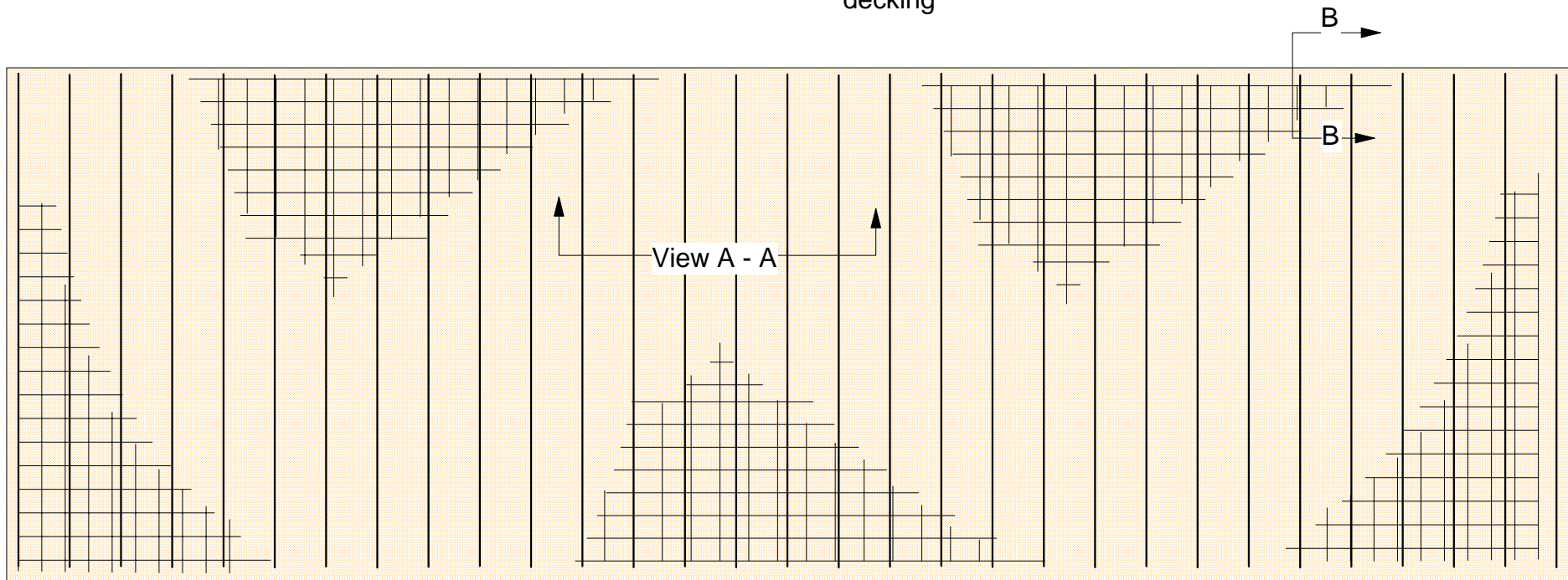
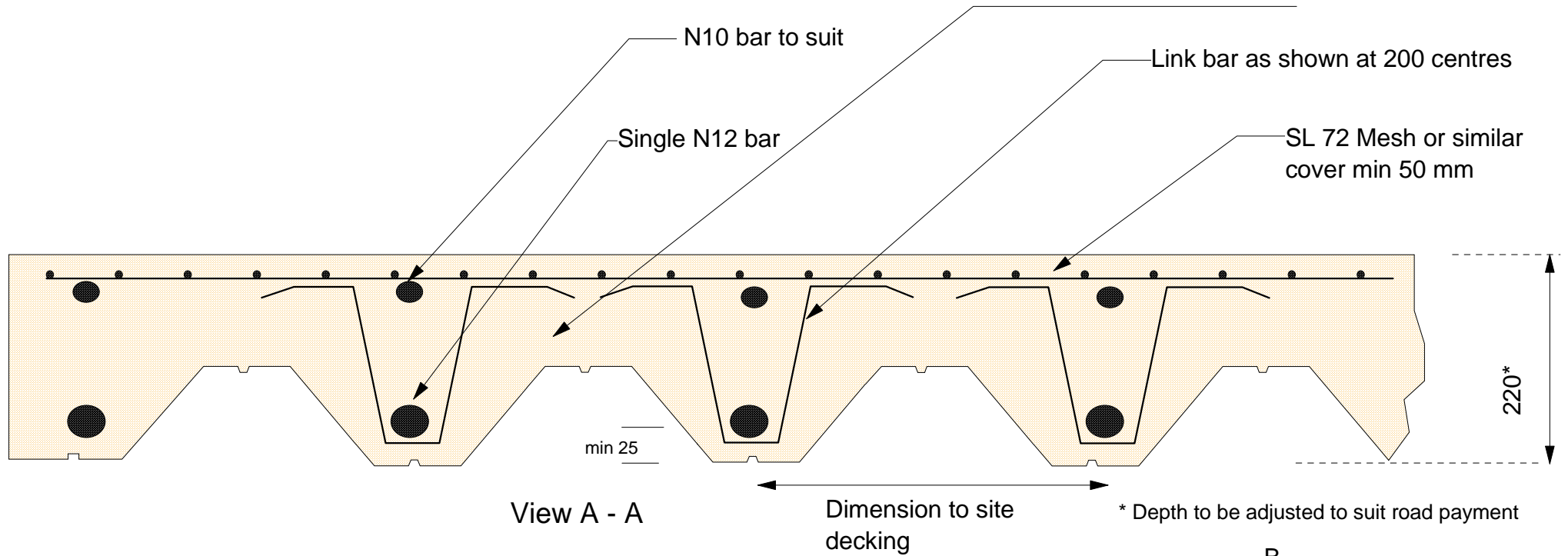
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Date	02/02/2006	Testing	Drawn By	JSH

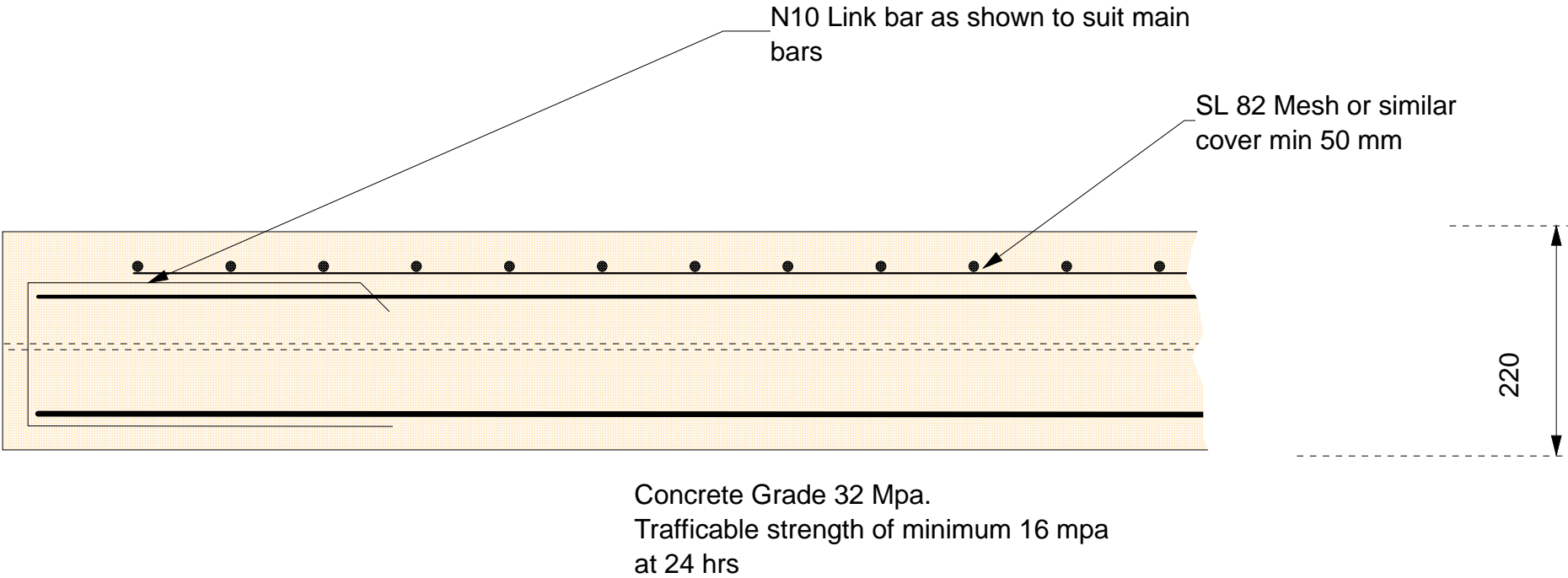




Gravity gabion retaining wall

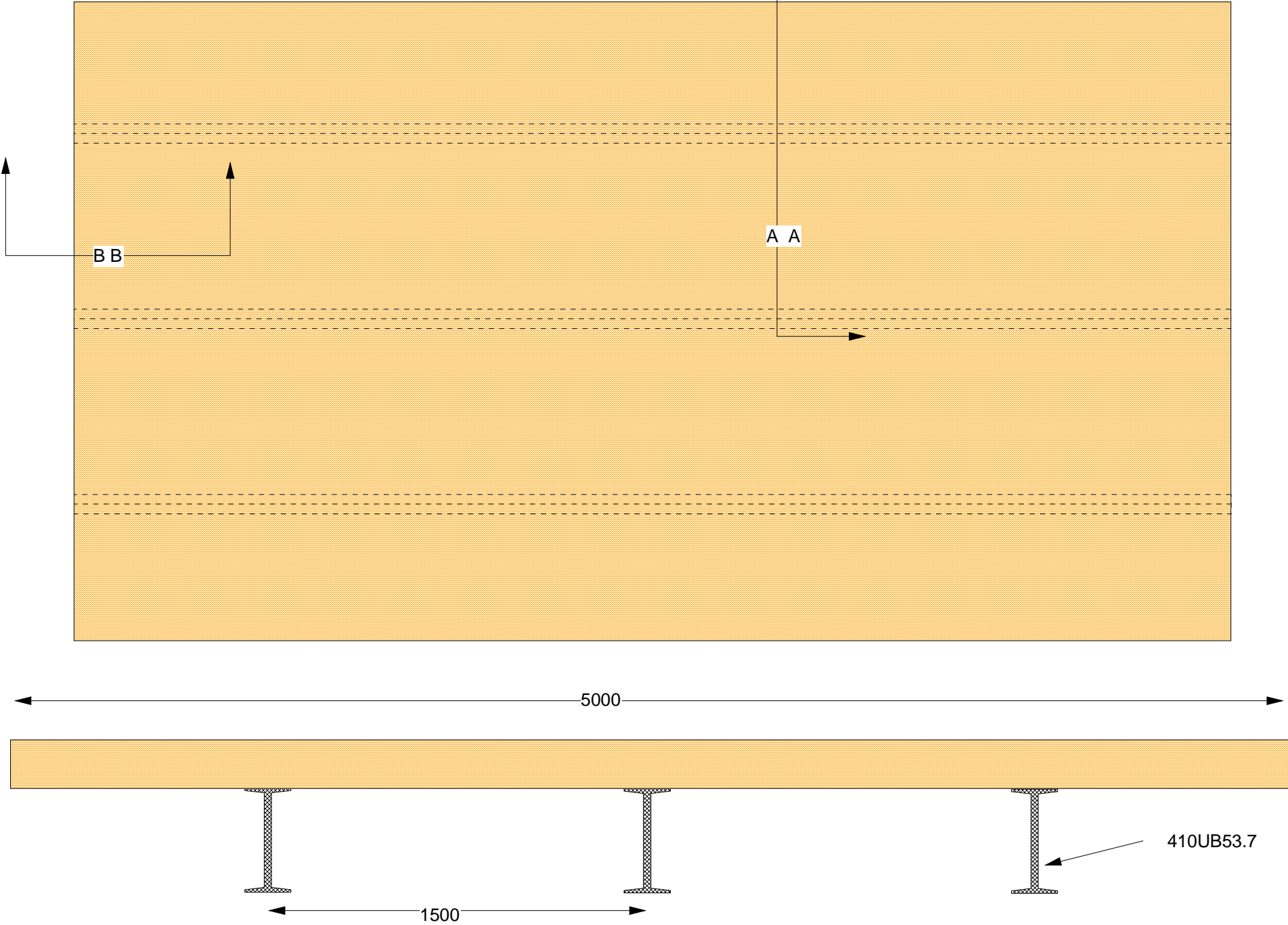
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Date	02/02/2006	Testing	Drawn By	JSH



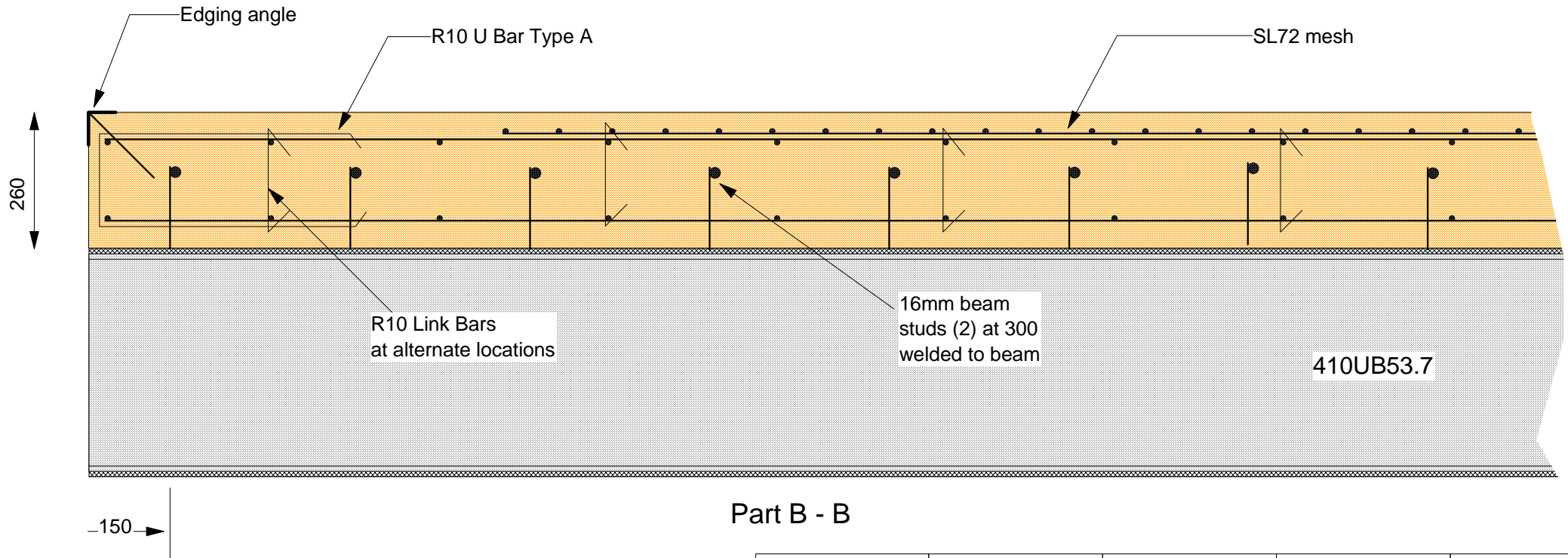
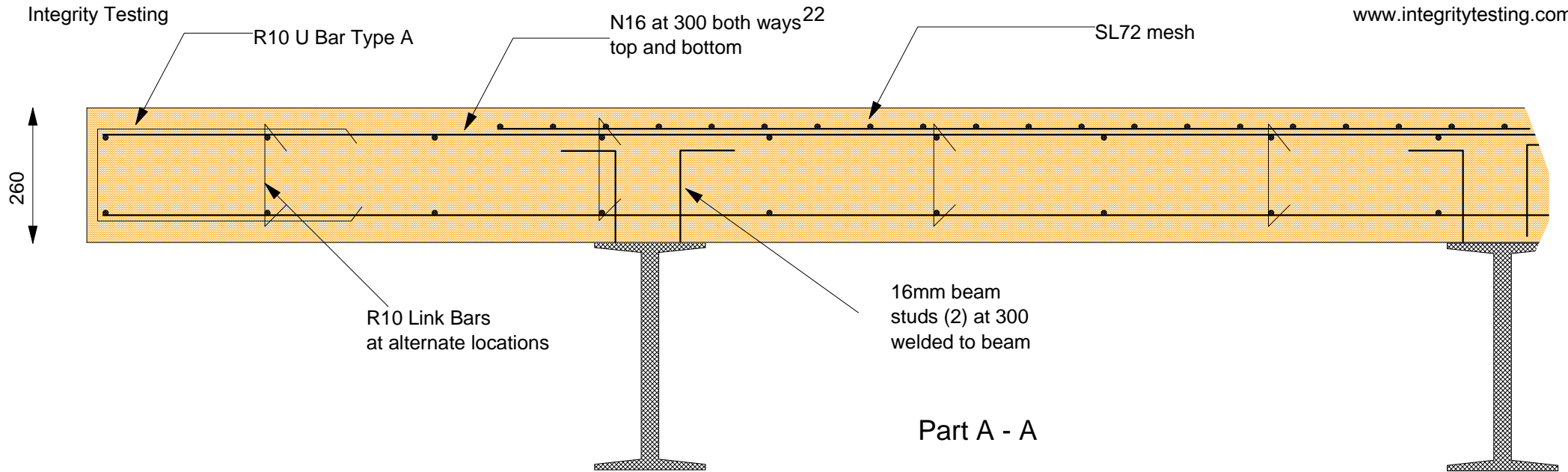


Reinforcement Layout for Bridge Deck
Edge detail
View B-B

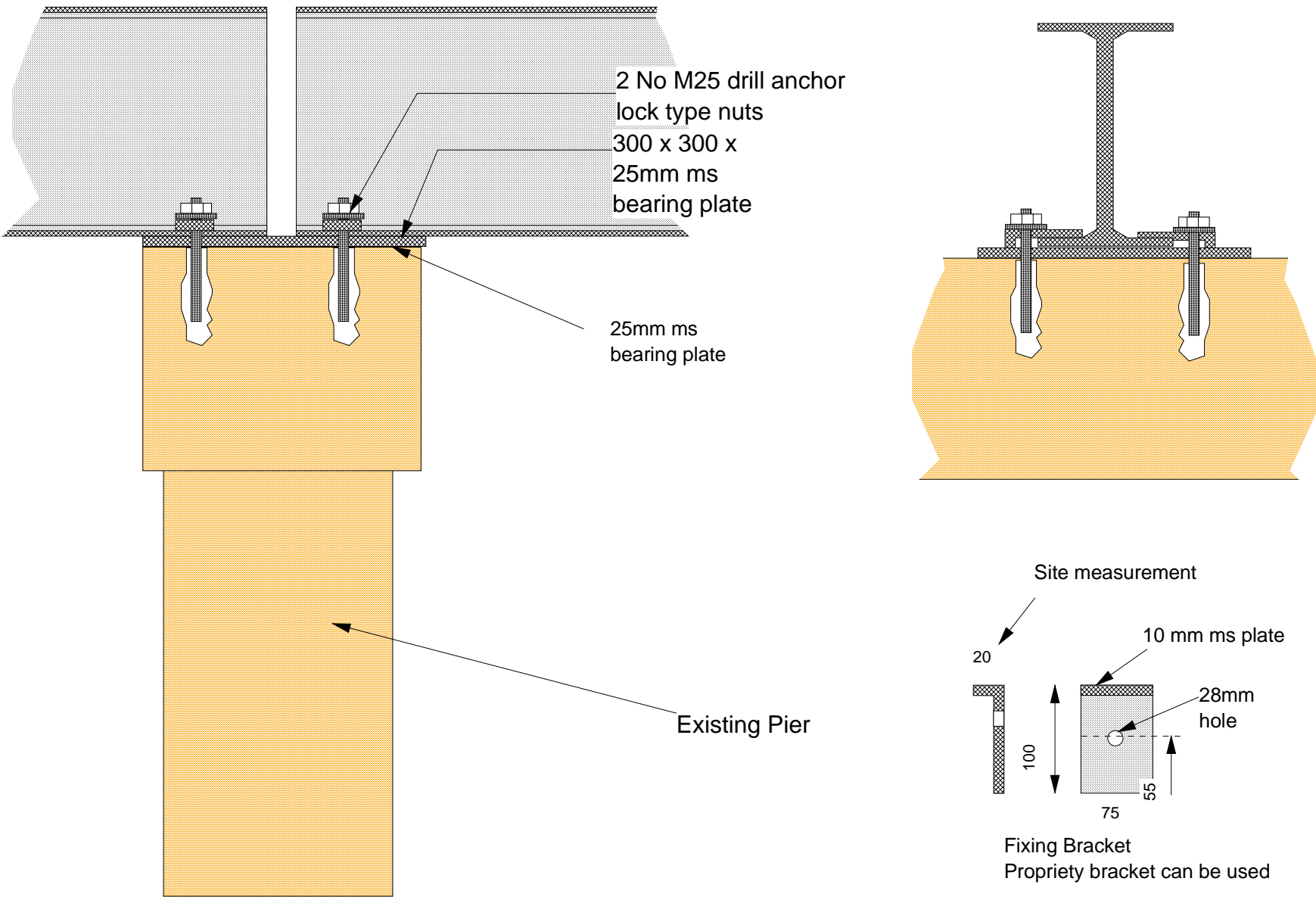
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



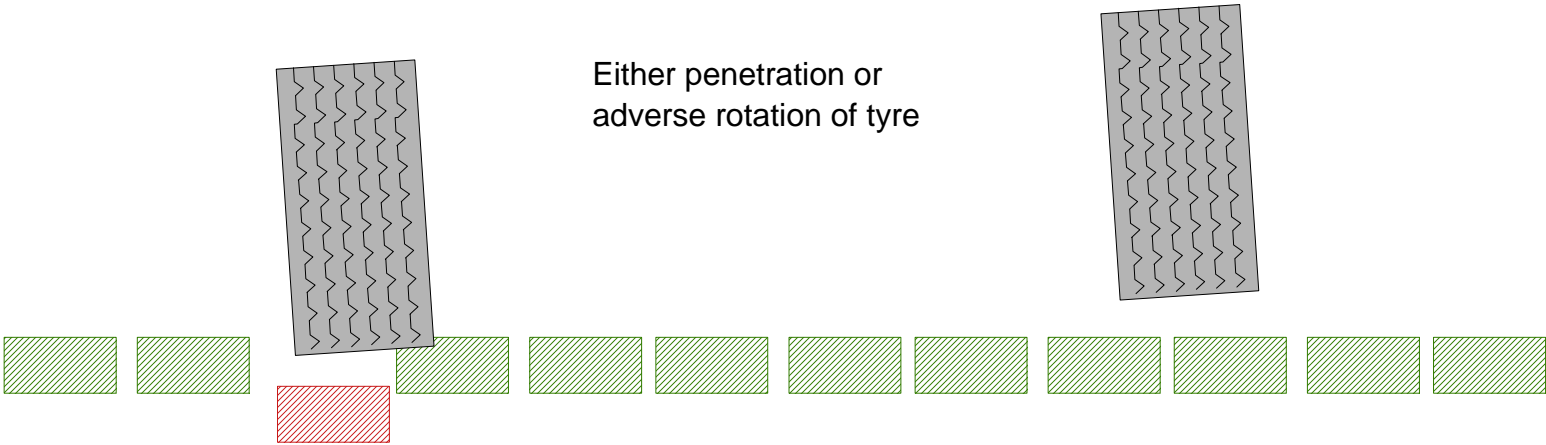
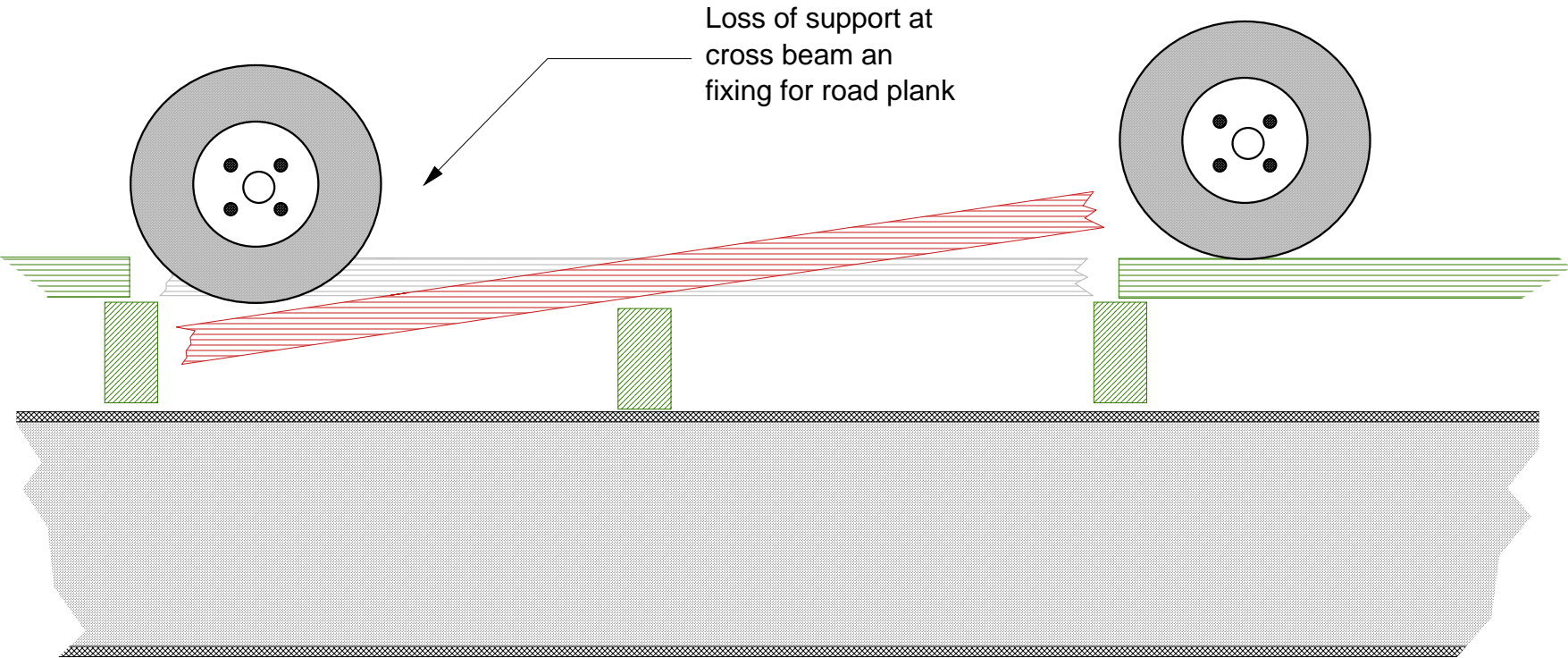
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



Fixing Detail at Piers

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

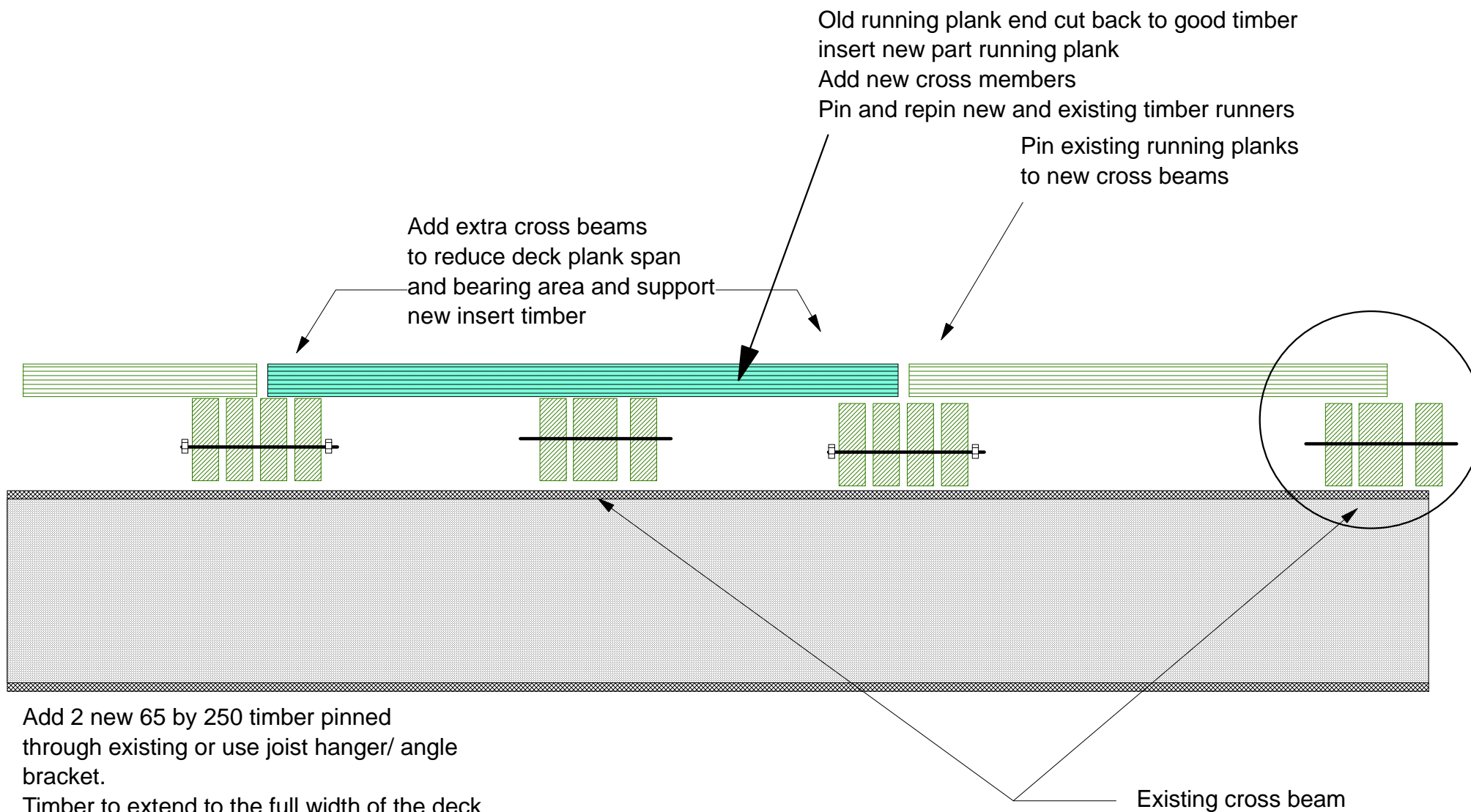
Bridge Repairs



Failure mode of Timber deck

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

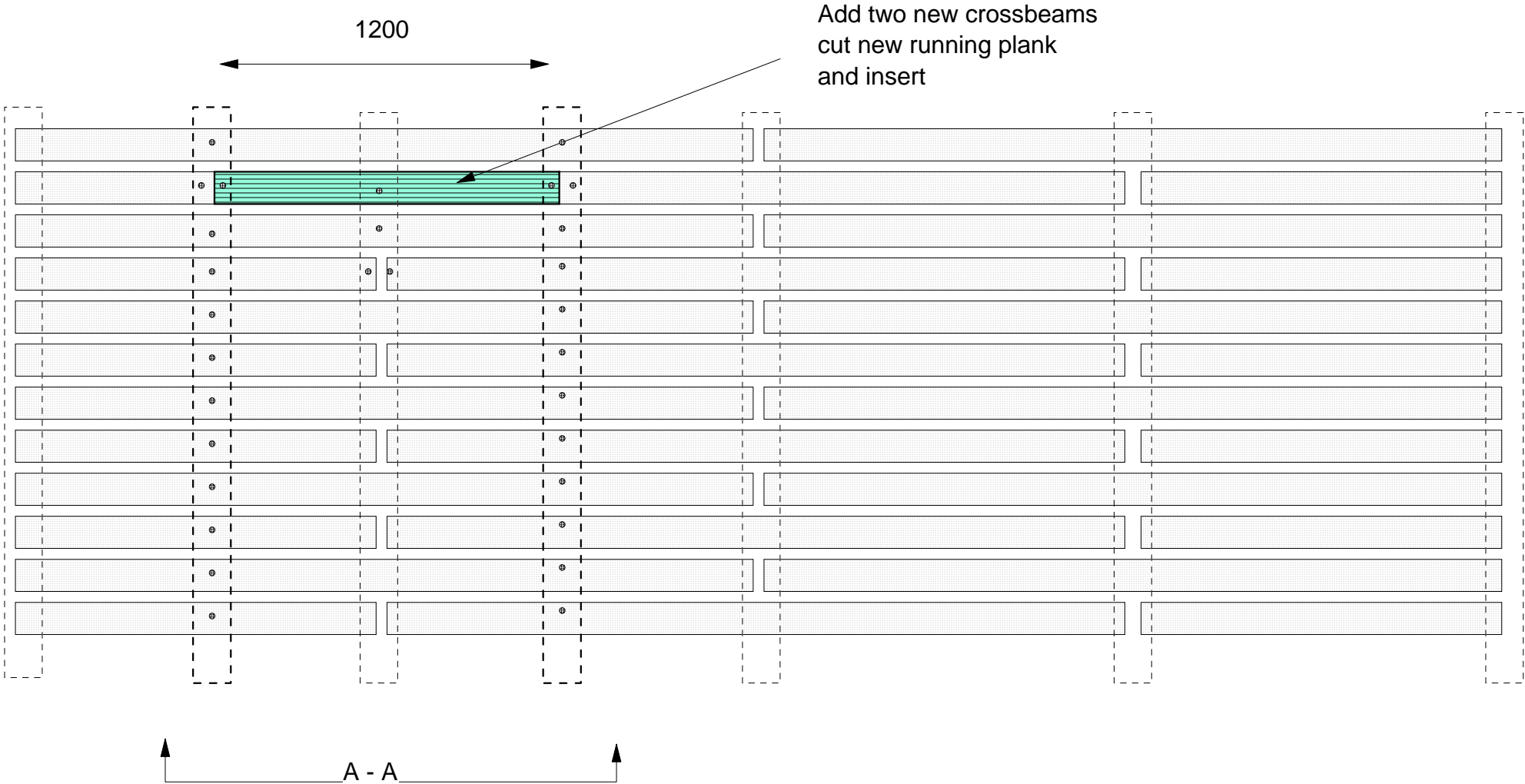
Bridge Repairs



Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

Bridge Repairs

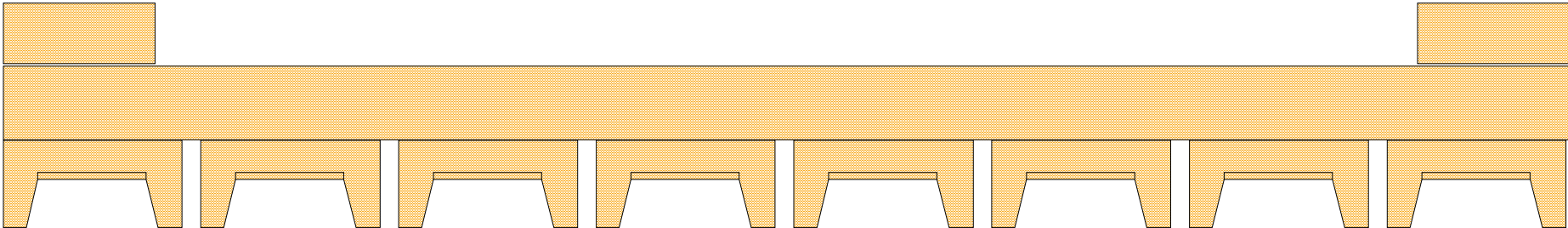
26



All dimensions to suit site

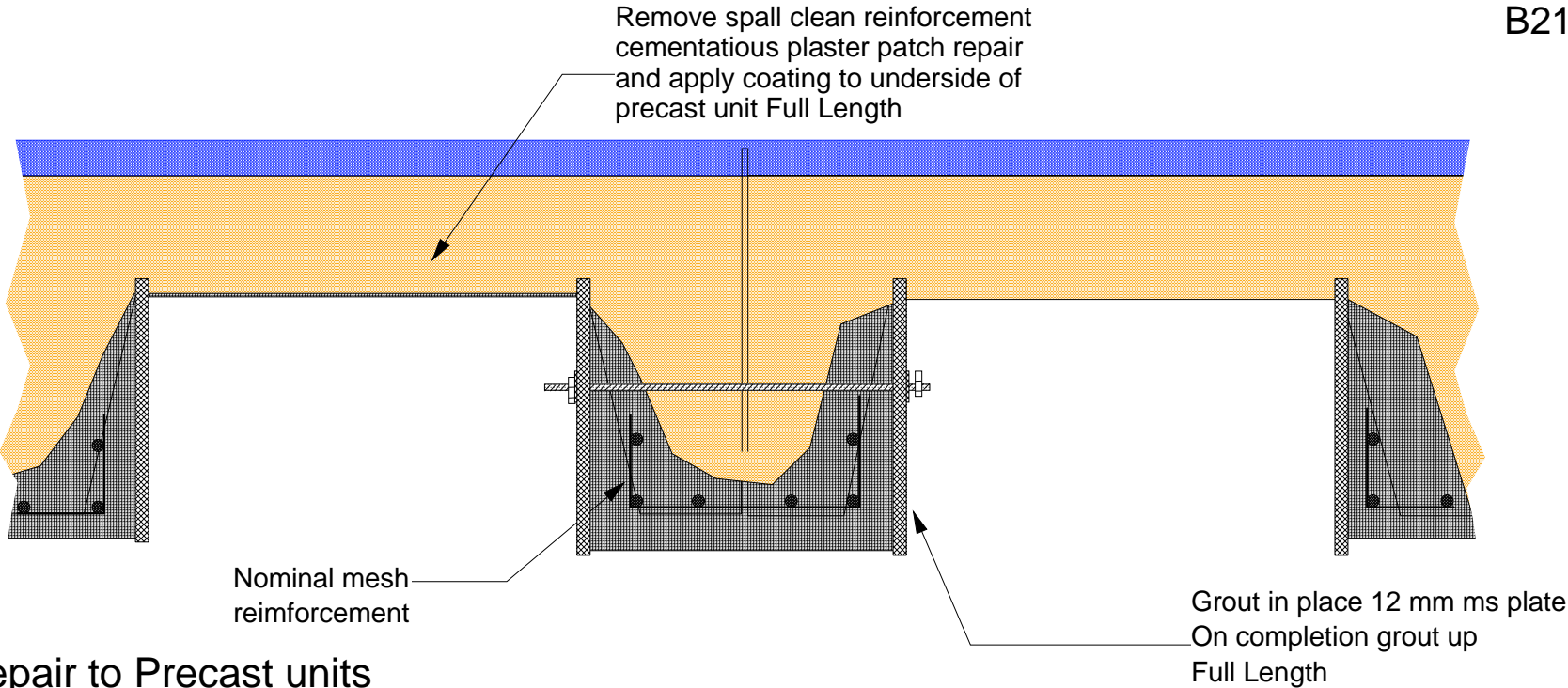
Deck Plank Replacement

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

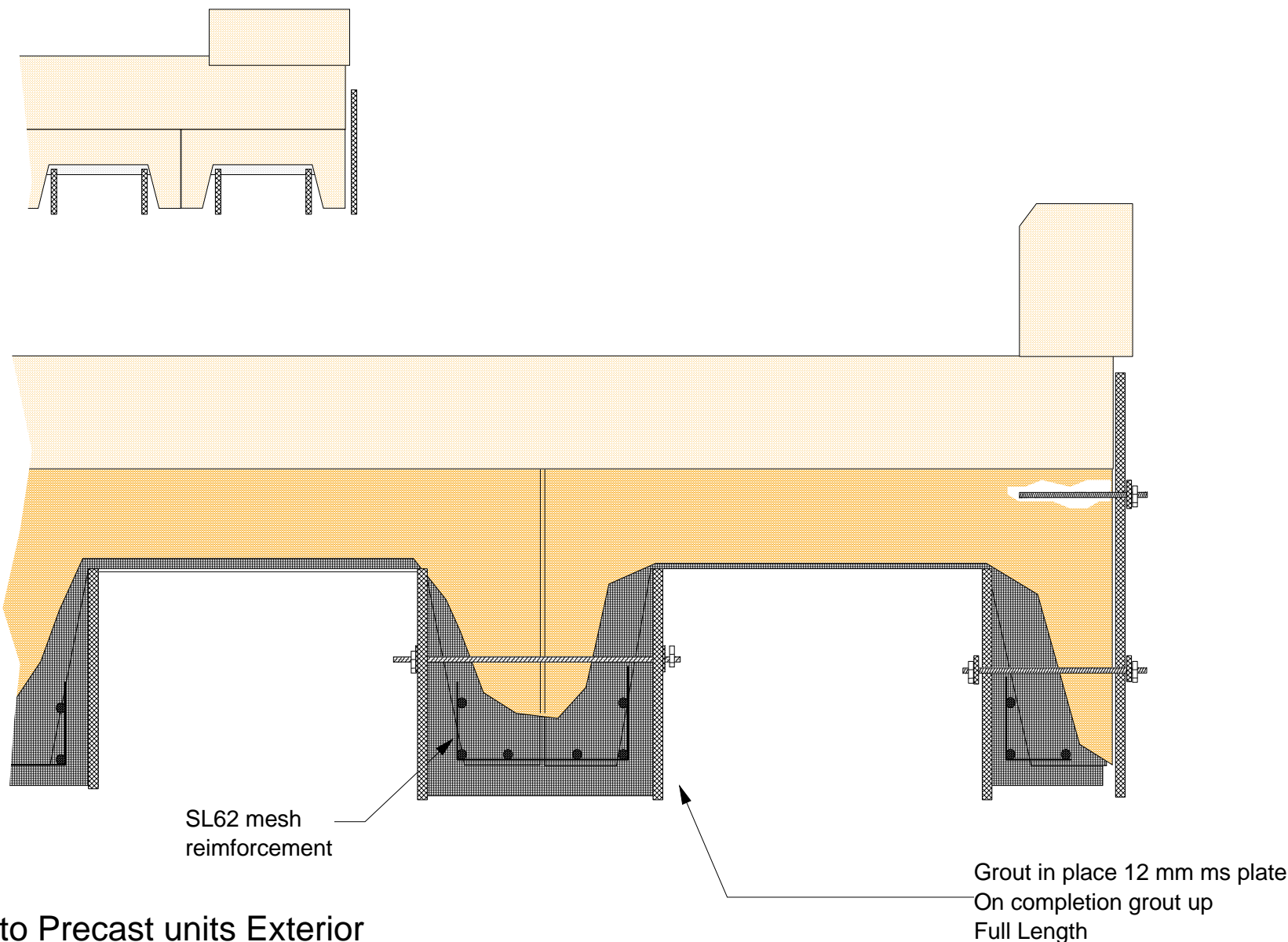


B28

B21

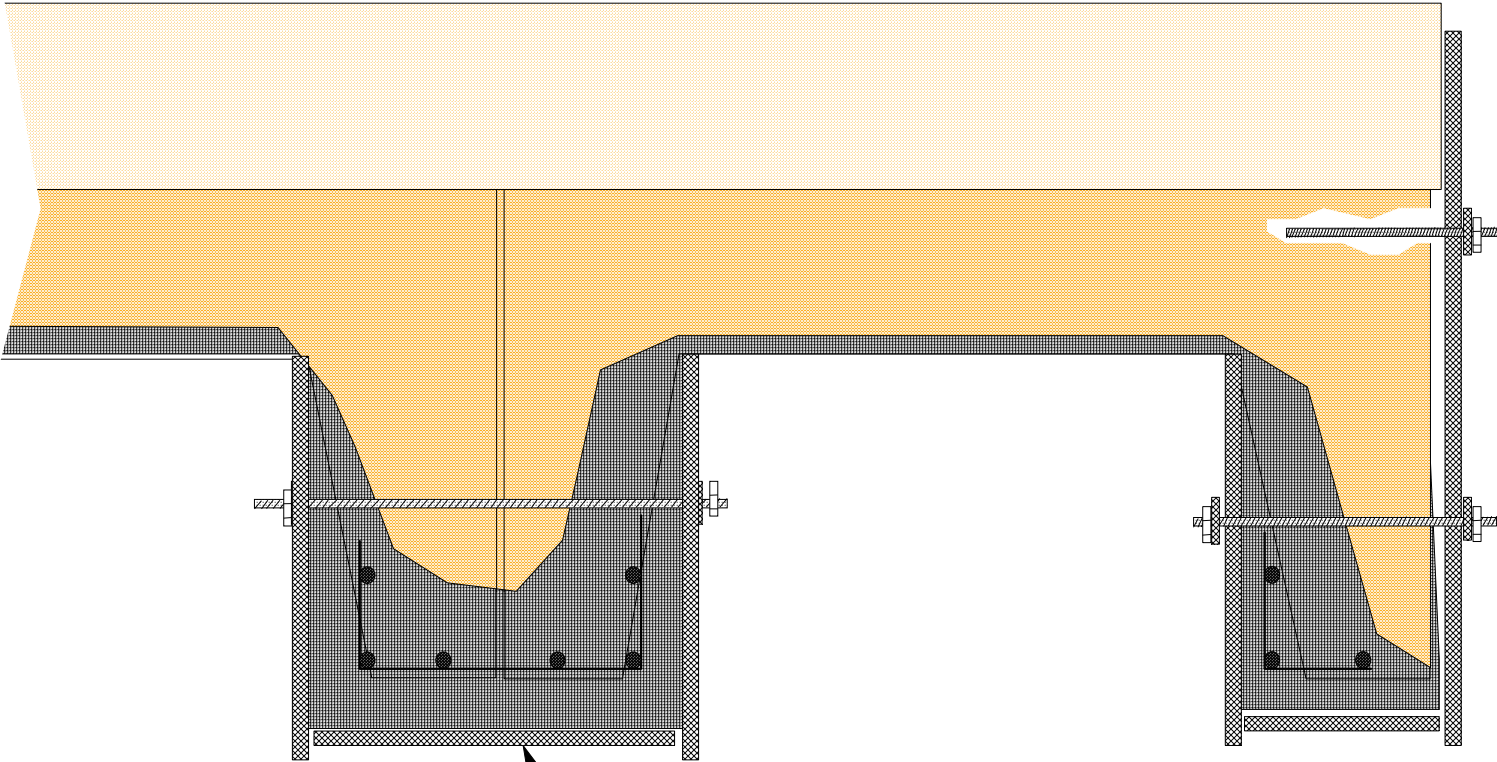


Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



Repair to Precast units Exterior
Plating

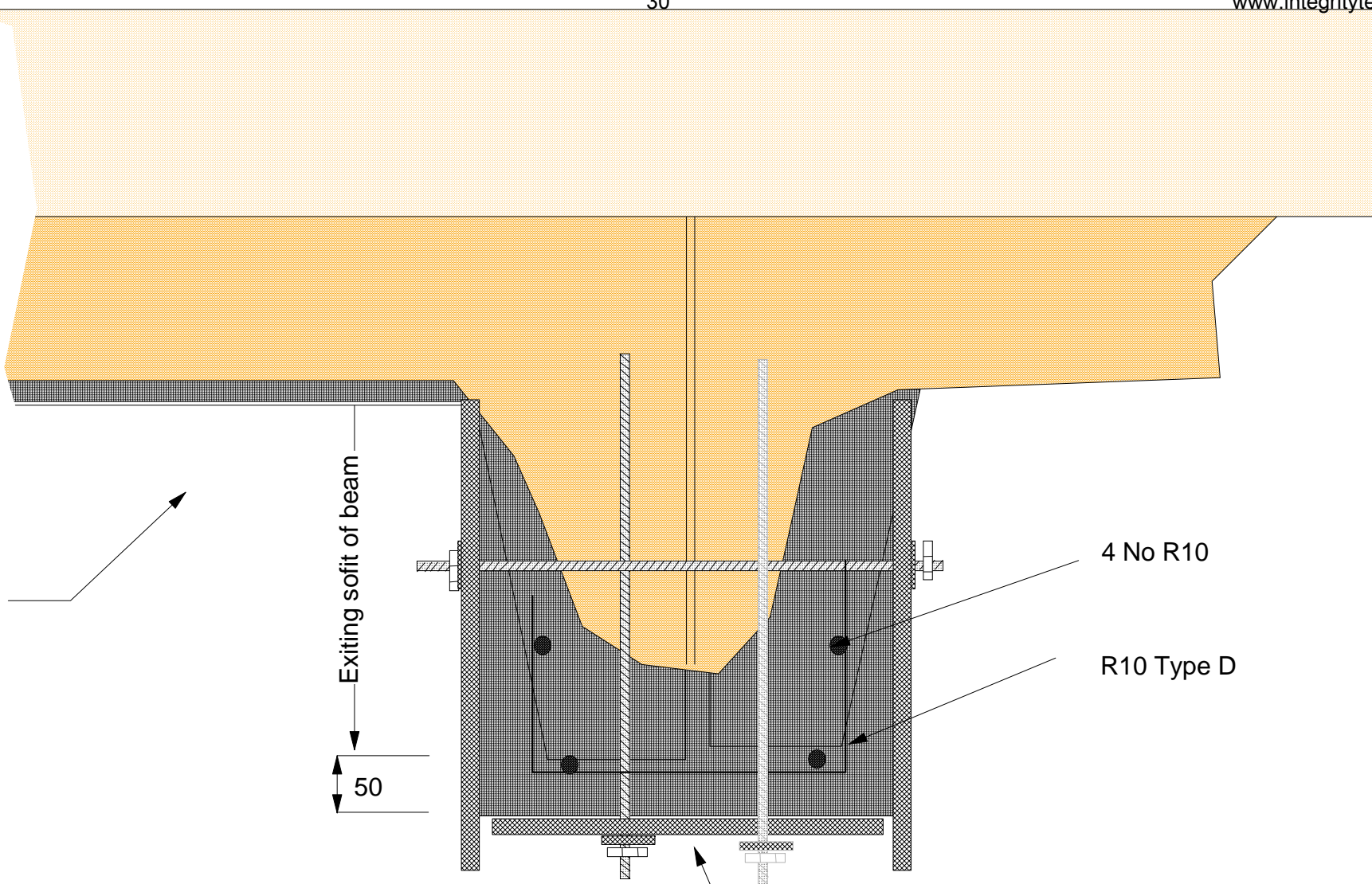
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



Grout in place 12 mm ms plate
On completion grout up
Full Length

Repair to Precast units Exterior
Plating

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



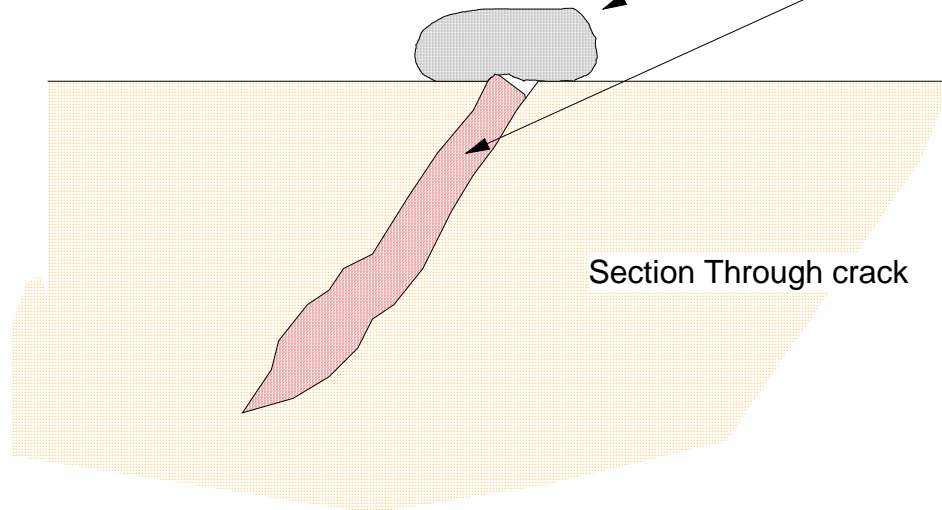
Repair to Precast units Exterior
Plating

SL62 mesh
reinforcement

Grout in place 12 mm ms plate
On completion grout up
Full Length vertical anchors at
500 ctrs alternate beams

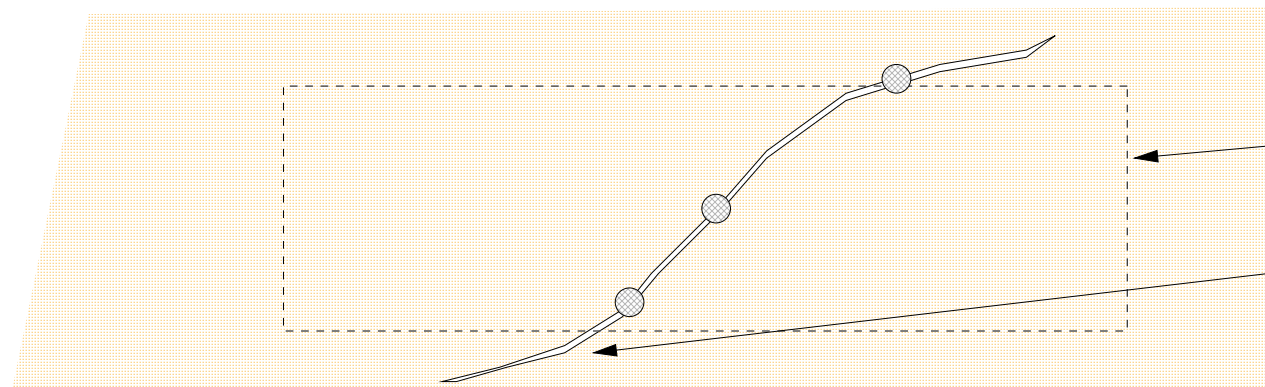
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH

Silicone Bead to seal
crack surface.
Cracks filled a low viscosity
epoxy grout Concreasive 2552
or similar.
grout poured in.



Section Through crack

Drill through crack with
16 mm or bigger drill at
3 app. locations
Insert grout pipe
and pour grout in starting
at the lowest



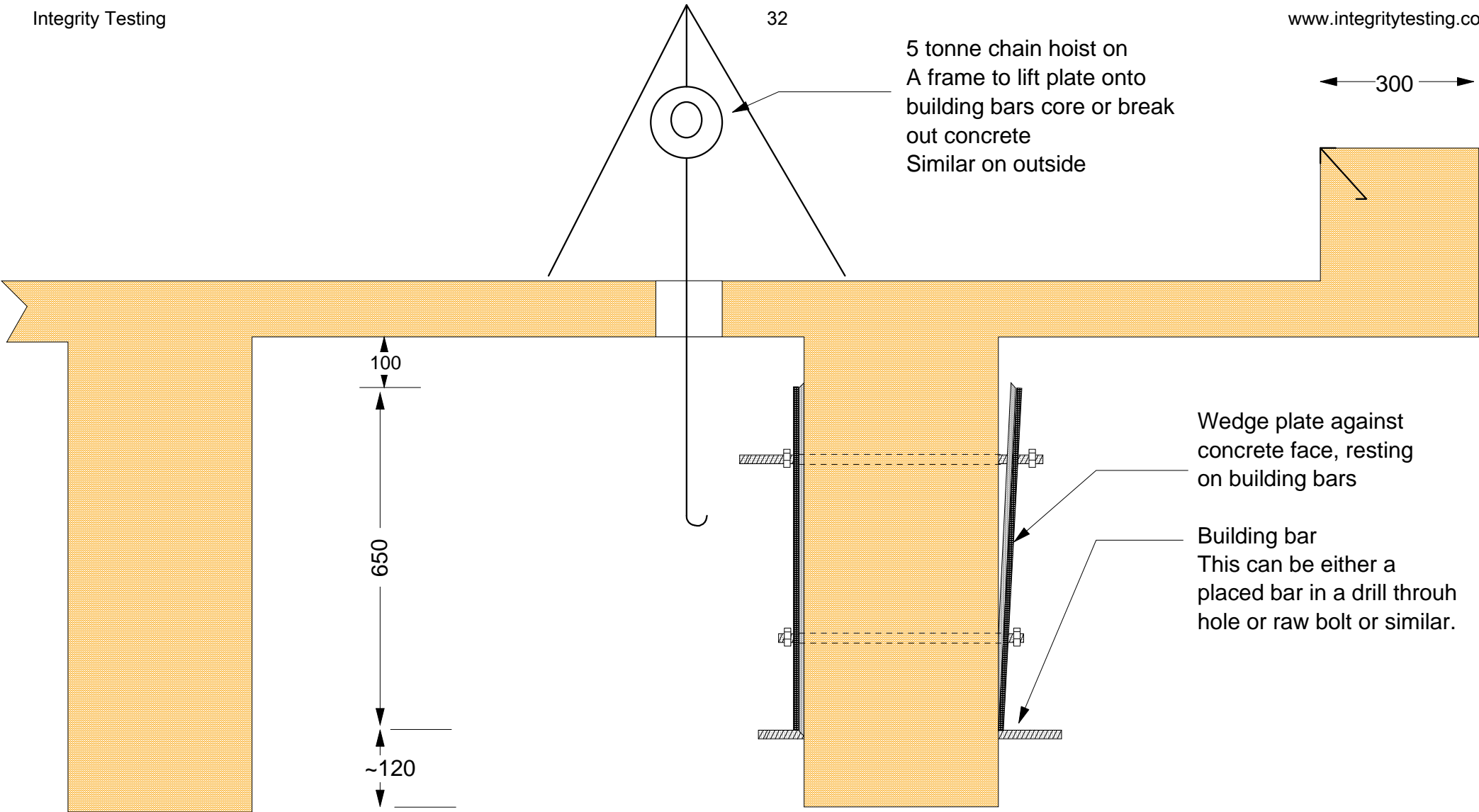
Steel plate location

Seal locations below plate
position.

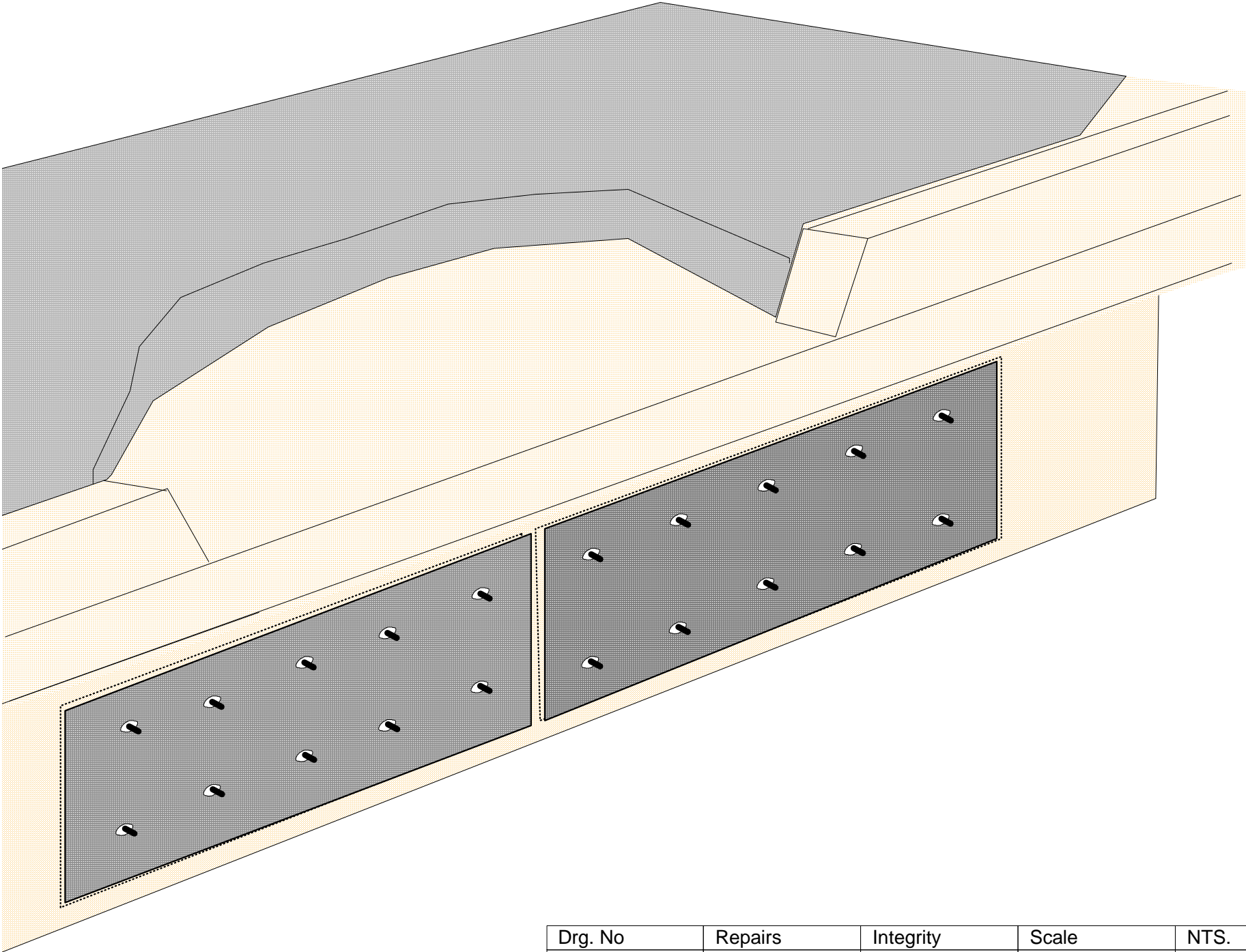
Removal all silicone prior to
installing the ms plate.

Elevation

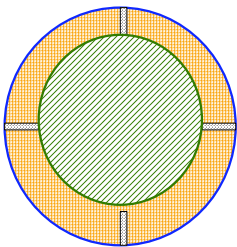
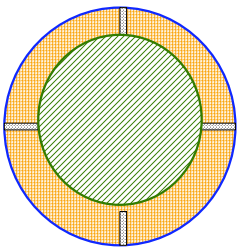
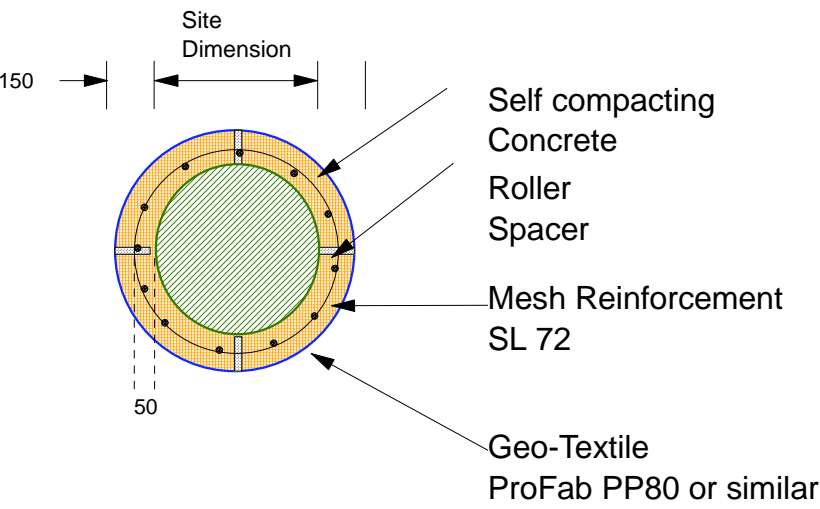
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



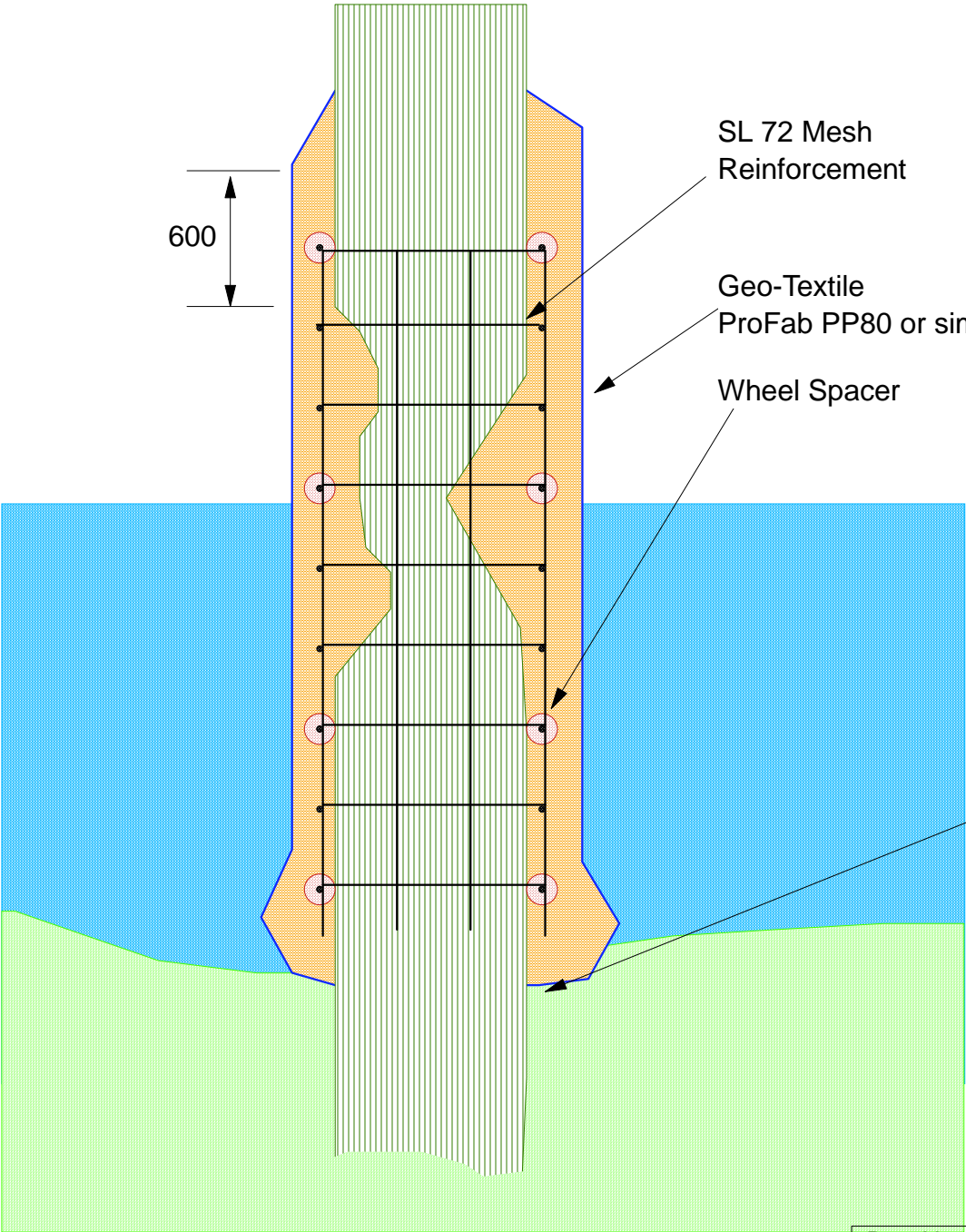
Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/02/2006	Testing	Drawn By	JSH



Plan

Concrete sock concrete encasement
of existing timber piles

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/10/2011	Testing	Drawn By	JSH



SL 72 Mesh
Reinforcement

Geo-Textile
ProFab PP80 or similar

Wheel Spacer

The manufactured concrete should be high strength, impervious and durable.

The client requires a 50 Mpa/10 mm mix with 125 to 150 mm slump, Fly ash permitted and minimum shrinkage of 0.6% after 56 days.

Our proposed mix is a 80 Mpa/6 mm mix with 150 mm slump, fiber nylon reinforced concrete with shrinkage a nominal 0.2% after 56 days.

Nominal design

Cement	400 Kg
W/C ratio	< 0.4
Sand/Aggregate ratio	0.65
Maximum aggregate	6 mm
Fiber content	2.5% volume (8 kg /m3)
(Polypropylene 0.8 Gpa tensile strength	
Silica fume	5% of cement
Add mixture	As Manufacture's recommendations

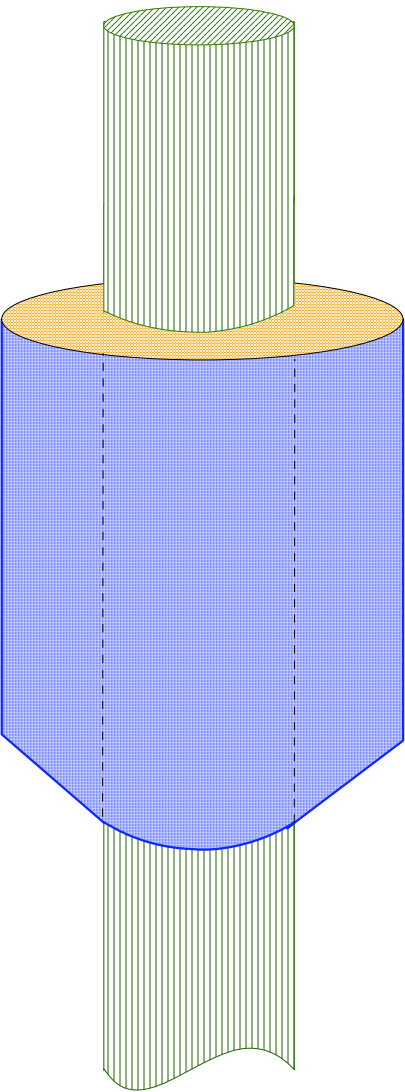
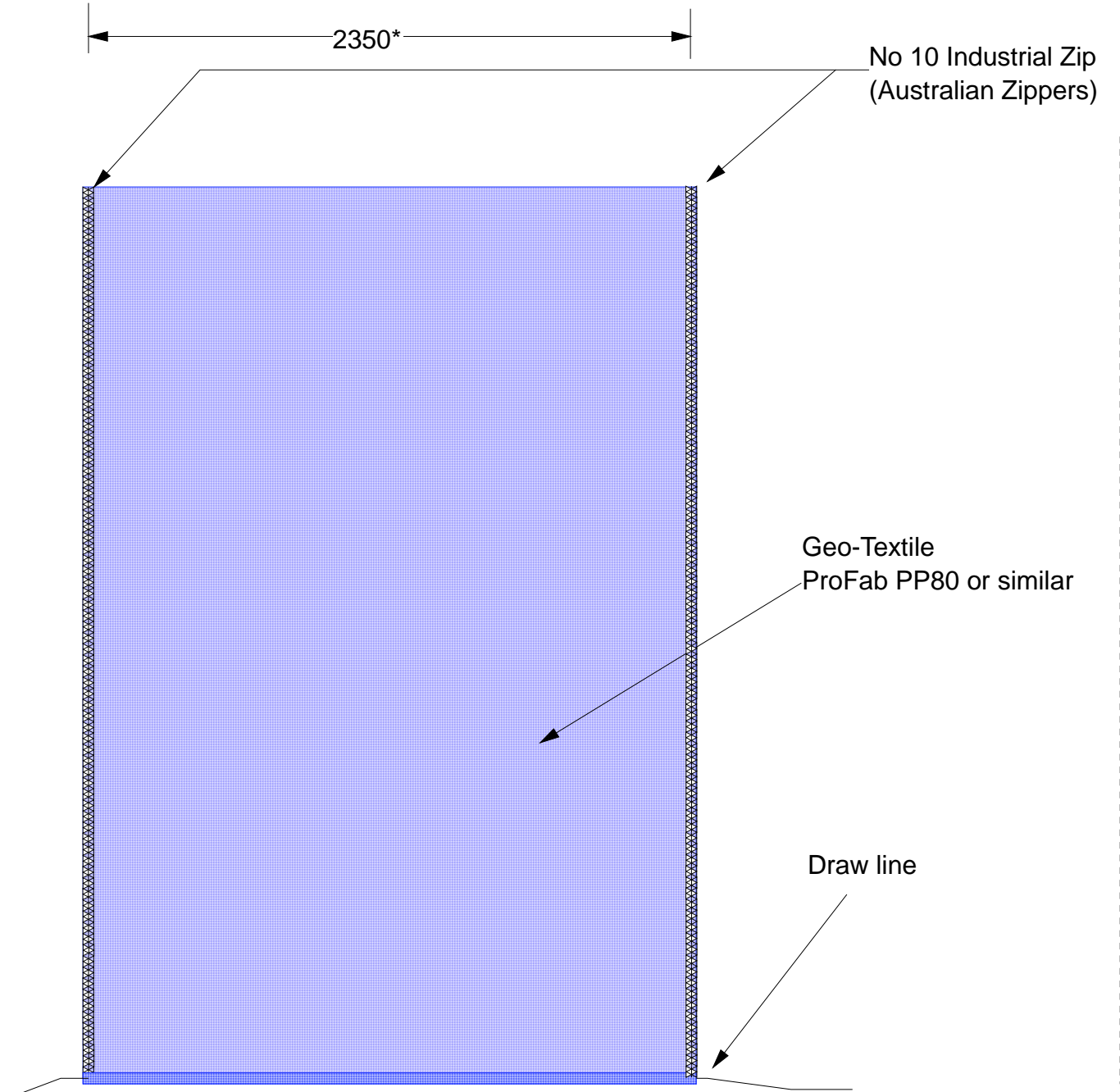
Nominal compressive strength 80 Mpa.

Nominal tensile strength 6 Mpa

Use draw string
to seal off bottom

Concrete sock concrete encasement of existing timber piles

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/10/2011	Testing	Drawn By	JSH



* -Note to be site dimension

Drg. No	Repairs	Integrity	Scale	NTS.
Date	02/10/2011	Testing	Drawn By	JSH