Snoline spa

S A B

INSTALLATION

&

MAINTENANCE

INDEX

SAB INSTALLATION

SAB system is installed on a pre-existing barrier. For the description of the installation procedure, please refer to figures 1 and 2 at pages 5 and 6.
The operations to be executed are listed below:

1. Define axis of transition, using the drawing string.
   Measure with wheel rule and mark clearly the points where sleeves for extractable tubes will be inserted. Please refer to figure 2 at page 6. The distance L is not standard and it has to be defined before. Distances must be calculated from one of the two extremes of passage, starting from the last picket of existing barrier.

2. Insert sleeves at the defined distances (figure 1). The sleeves must be inserted with pile-driver using the push-rod included in the equipment: the push-rod has to be inserted into the sleeve during the operation. To avoid embedding of the 2 pieces, it should be utilized some liquid lubricant (as oil). Verify that the push-rod beats vertically by means of a spirit-level. At the end of this operation, verify that the flange of sleeve is in contact with the road pavement (figure 2).

3. Arrange elements along the axis of barrier. To move manually the element it's necessary lowering and rotating the wheels group, taking care of inserting the fixing pin (figure 3).

4. Insert extractable tubes inside elements and corresponding sleeves (figure 4). During this operation, connect winch cable with tube (figure 5).

5. Insert pivots (figure 6). Verify that these can be easily removed. Otherwise it's necessary to rearrange elements position making proper use of plays between fixing plate and tubes.

6. Clamp lightly the fixing plates around the tube and fix them; verify that tubes can be easily lifted. Lift the wheels group.

7. Arrange backup supports; insert pivots verifying that these can be easily removed (figure 7).

8. Insert the anchorage picket of the first backup support (figure 8). Verify that it's not more than 1.20 m up from the pavement level. Insert the 2 reaction pickets, verifying that these aren't more than 0,2 m up from the pavement level. Pickets have to be inserted with pile-driver.

9. Repeat operation 8 for the second backup support.

10. Fix wheels shifting tubes of the first transition.

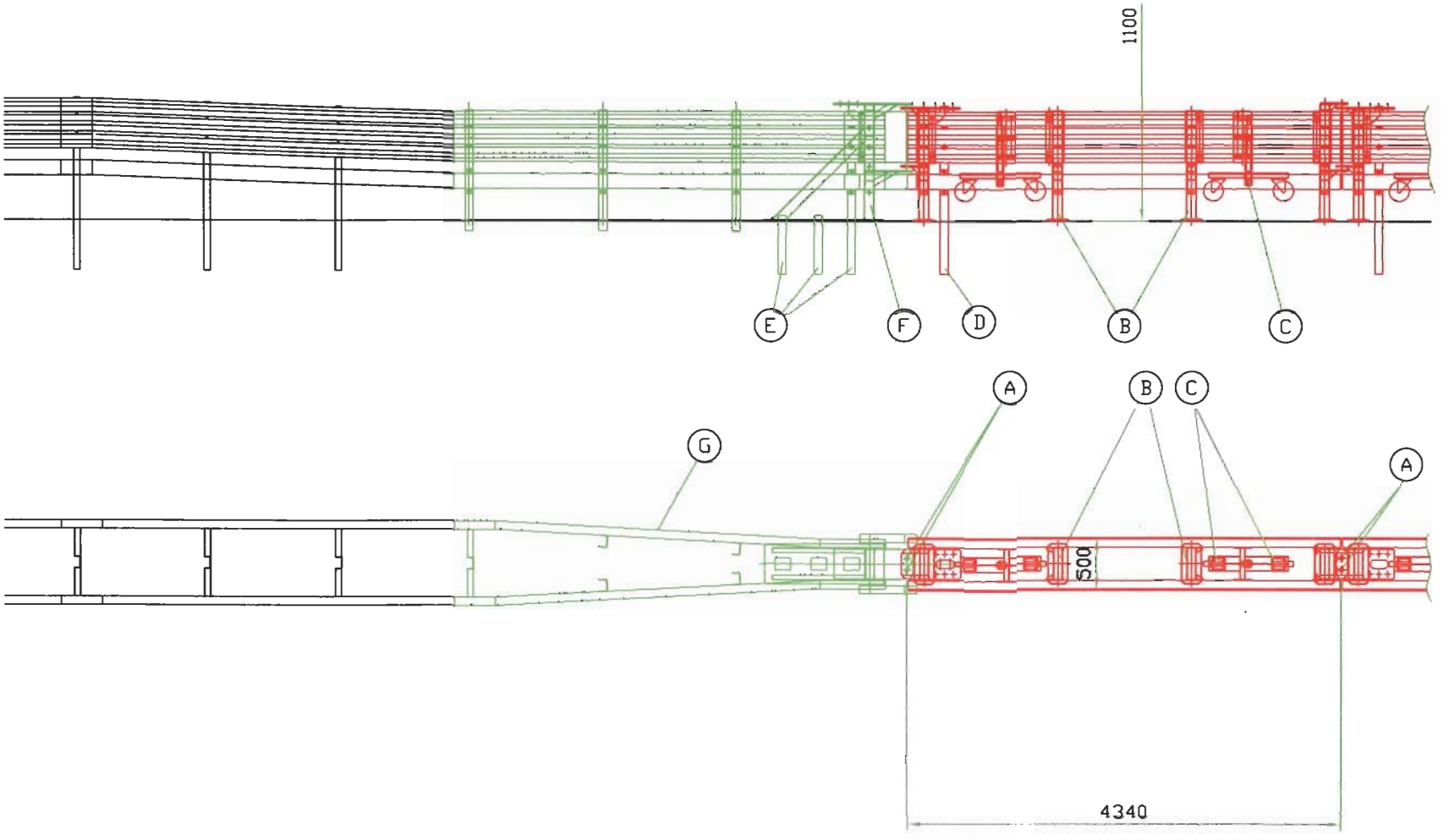
11. Insert barrier pickets, looking for corrispondence between the holes of wheels shifting tubes and the ones of pickets.

12. Fix the transition beams.

13. Fix the closing wheels shifting tube and beam.

14. Fix wheels shifting tube and transition beam to the existing barrier.

15. Repeat operations 11, 12, 13, 14, 15 for the second terminal.



A - Pivots
B - Vertical feet
c - Wheels group
D - Extractable tubes
E - Anchorage pickets
F - Backup support
G - Connection

DIMENSIONS IN mm

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POS.	QUA.	DENOMINAZIONE	DIS./ COD.	NOTE

Snoline spa.
Via F. Baracca, 19/23 - 20056 Trezzo S/A MI - Italia

OGGETTO

COMMITTENTE

REV	DESCRIZIONE	DATA	FIRMA

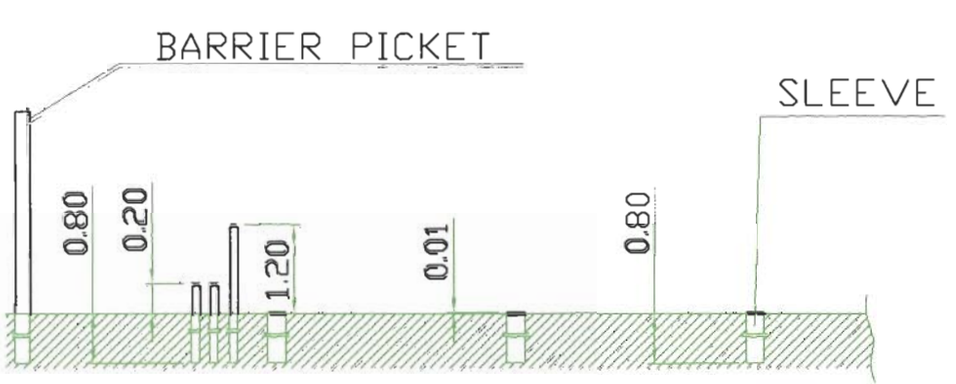
MATERIALE | FINITURA

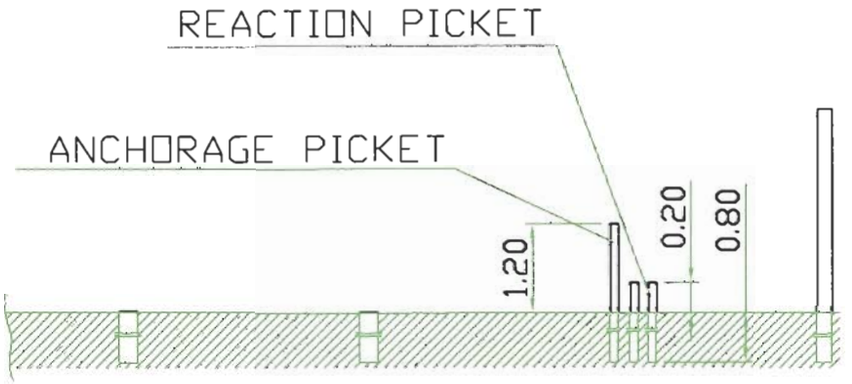
DIS. ANTONIOLI | DATA 10.12.'01 | SCALA | VISTO

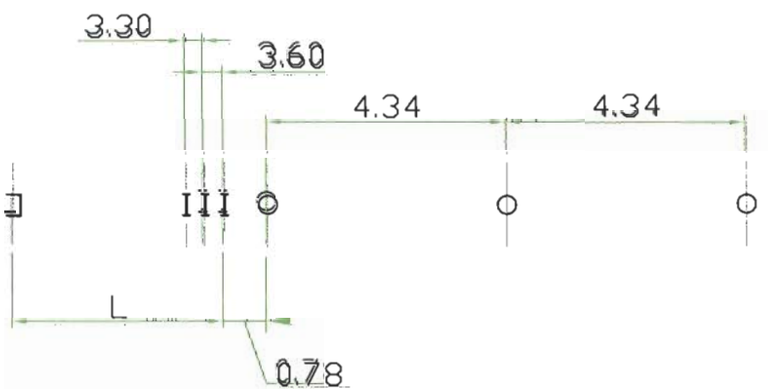
SOST. IL DIS. N. | SOST. DAL DIS.

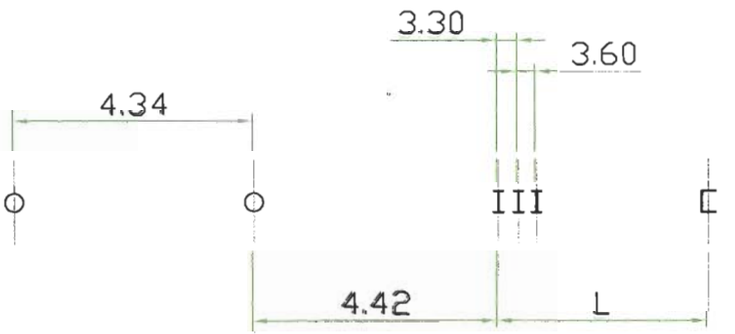
DIS N. 1 | REV.

FOUNDATIONS









Dimensions in m.

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REV.	DESCRIZIONE	DATA	FIRMA

OGGETTO: SAB

MATERIALE | FINITURA

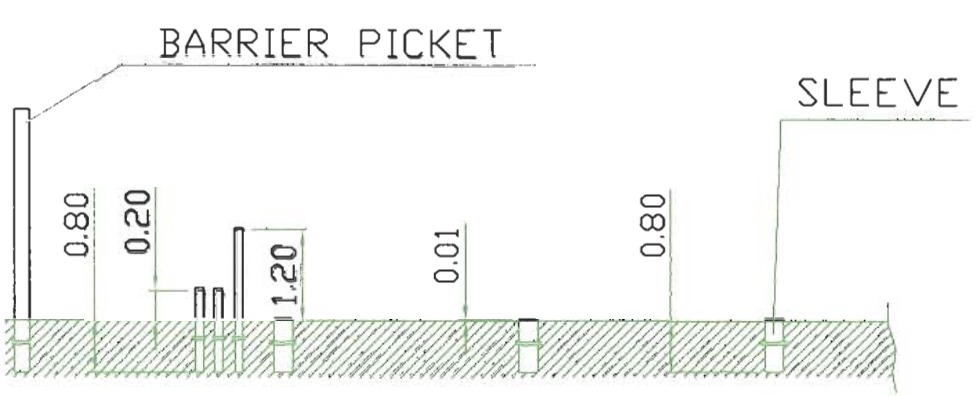
COMMITTENTE

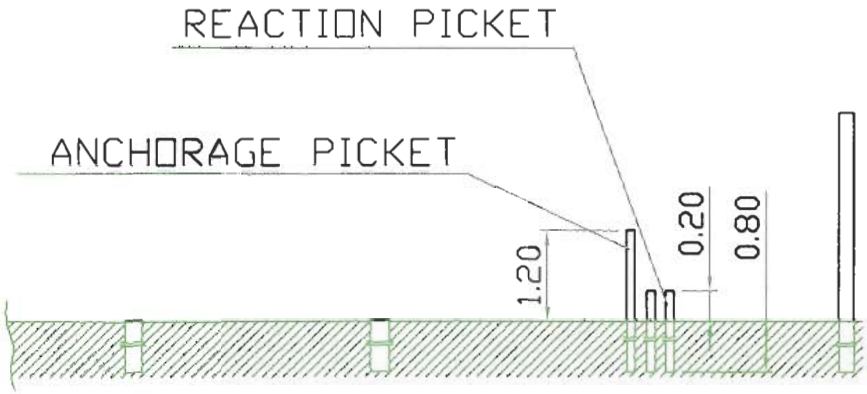
DIS. ANTONIOLI	DATA 08.05.02	SCALA	VISTO	DIS N° 2	REV
SOST. IL DIS. N.		SOST. DAL DIS.			

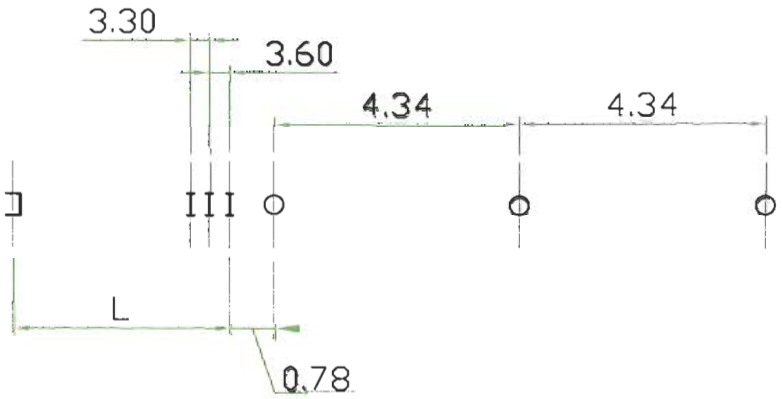
Figure 1 – Inserting of sleeve

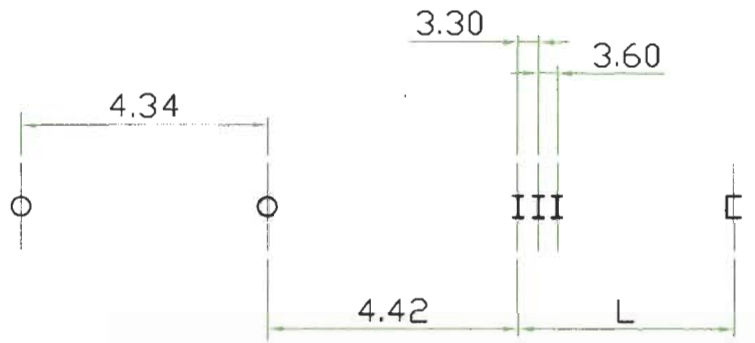
Figure 2 – Inserted sleeve

FOUNDATIONS









Dimensions in m.

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REV	DESCRIZIONE	DATA	FIRMA

OGGETTO: SAB
COMMITTENTE:
MATERIALE | FINITURA

DIS. ANTONIOLI	DATA 08.05.'02	SCALA	VISTO	DIS N	REV
SOST. IL DIS. N.		SOST. DAL DIS.		2	

Figure 3 – SAB element

Figure 4 – Extractable tube inserted

Figure 5 – Winch cable connected with tube

Figure 6 – SAB elements connected with pivots

Figure 7 – Positioning of backup support

Figure 8 – Inserting of anchorage picket of backup support

INSTALLATION: SITE PREPARATION

Site pavimentation must permit the passage opening. So it's recommended to follow the instructions listed below:

- Level the pavement surface, in case of insufficient plainness. One solution could be a bituminous layer.

- Remove the unevenness of the ground.

- Sweep the ground from particles that might cause troubles.

GAP OPENING

There are 2 different ways of opening:

a) WIDE OPENING. Passage of a 1 or 2 lanes road: in that case it's necessary to rotate the elements around one or both the last pivots. This can be done by removing all the extractable tubes and 4 pivots. Please refer to drawing SAB.12.

b) EMERGENCY OPENING. Emergency passage: removal of only one element. It's necessary to extract the 4 pivots of the element and lift the extractable tube. Please refer to drawing SAB.13.

Opening needs 5 to 10 minutes to be carry out. No particular tools or qualified personnel are required.

There are some instructions that have to be followed for moving an element:

- Extract the pivots.
- Lift the tube by means of manual winch.
- Lower and rotate the wheels group using the manual crank.
- Fix wheels group by means of pin.

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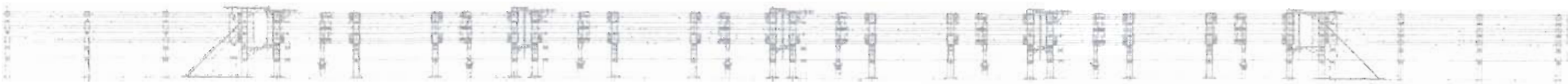

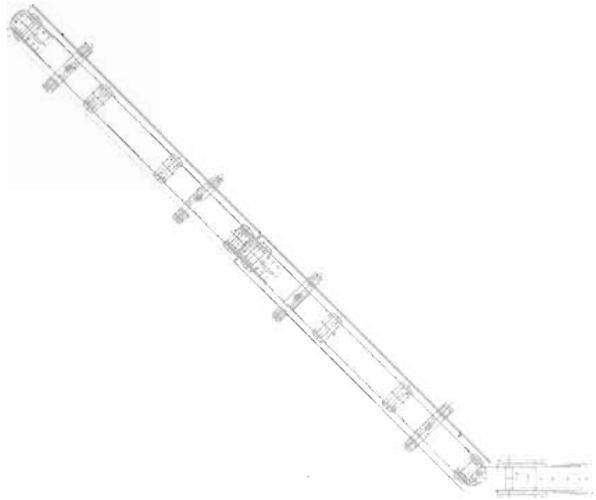

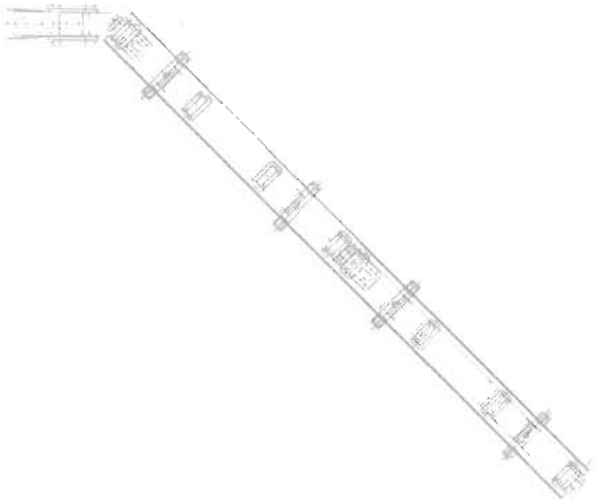

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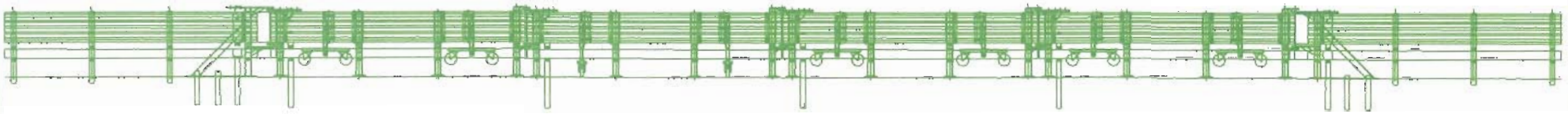
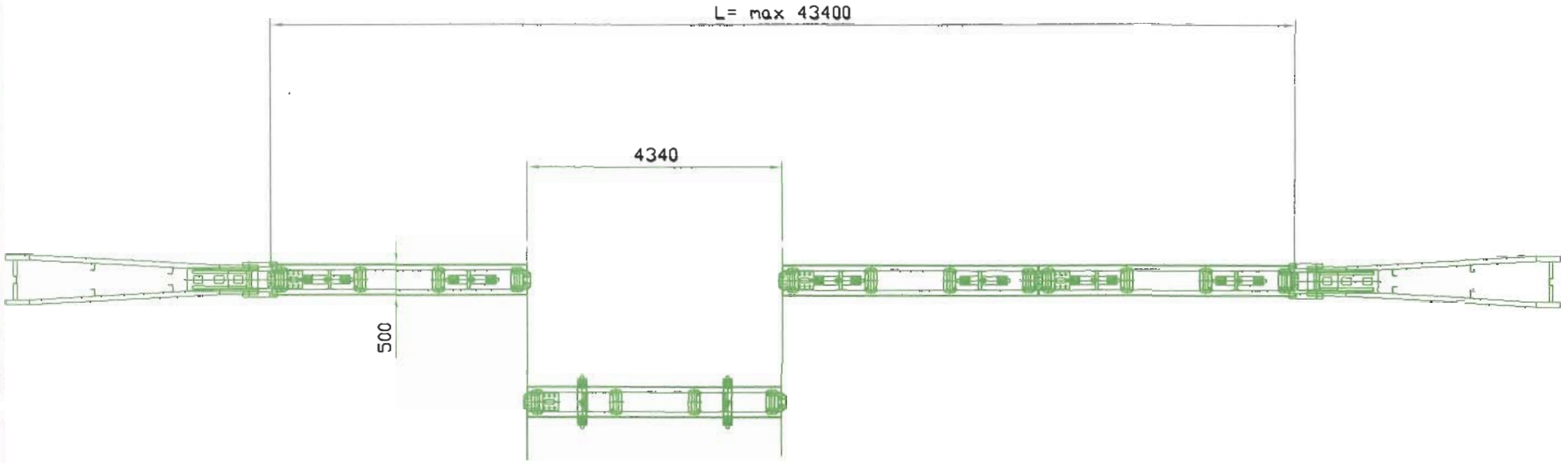
SAB WIDE OPENING

ANTONIOLI 10.12.'01

SAB. 12





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POS.	QUA.	DENOMINAZIONE	DIS./ CDQ	NOTE

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REV.	DESCRIZIONE	DATA	FIRMA

OGGETTO
SAB EMERGENCY OPENING

COMMITTENTE

DIS. ANTONIOLI	DATA 10.12.'01	SCALA	VISTO
SOST. IL DIS. N.		SOST. DAL DIS.	

MATERIALE	FINITURA

DIS N.
SAB. 13

REV.

CONNECTIONS

Connections can't be projected and realized in a standard way: these are function of gap lenght and barrier type (guard rail or New Jersey). Lenghts and angles of both transition frames and wheels shifting tubes are variable. Disposition and number of pickets are function of dimensions and angles of transition.

During installation pickets should be inserted after that wheels shifting tubes have been mounted (please refer to "Installation" paragraph, page 4). Otherwise it's necessary to have a drawing with the exact points in which picket will be inserted.

There are 2 groups of connections:

1. 3-beam panels for connection to New Jersey. They are fastened to New Jersey by means of mechanical connections.

2. Panels for connection to standard metallic guard-rail. They are fastened to guard rail by means of bolts.

ORDINARY MAINTENANCE

- Verify structural conditions of the whole system, in particular of extractable pickets, pivots and wheels groups.

- Clean and lubricate mechanical parts as winches and wheels groups.

TOOLS

- Drawing string
- Pile-driver
- Lorry with crane and 4 arms cable
- Series of fork spanner (17, 19, 22, 24, 30 mm)
- Series of socket ratchet spanner
- Tape line
- Wheel rule
- Spirit-level
- Spray paint or coloured pieces of chalk
- Tool case with different screwdrivers, hacksaw, pipe spanner