

Snoline spa

S A B

INSTALLATION

&

MAINTENANCE

INDEX

Installation.....	2
Installation: site preparation	11
Gap opening	12
Connections.....	15
Maintenance	16
Tools	17

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 correspondence between the holes of wheels shifting tubes and the ones of pickets.

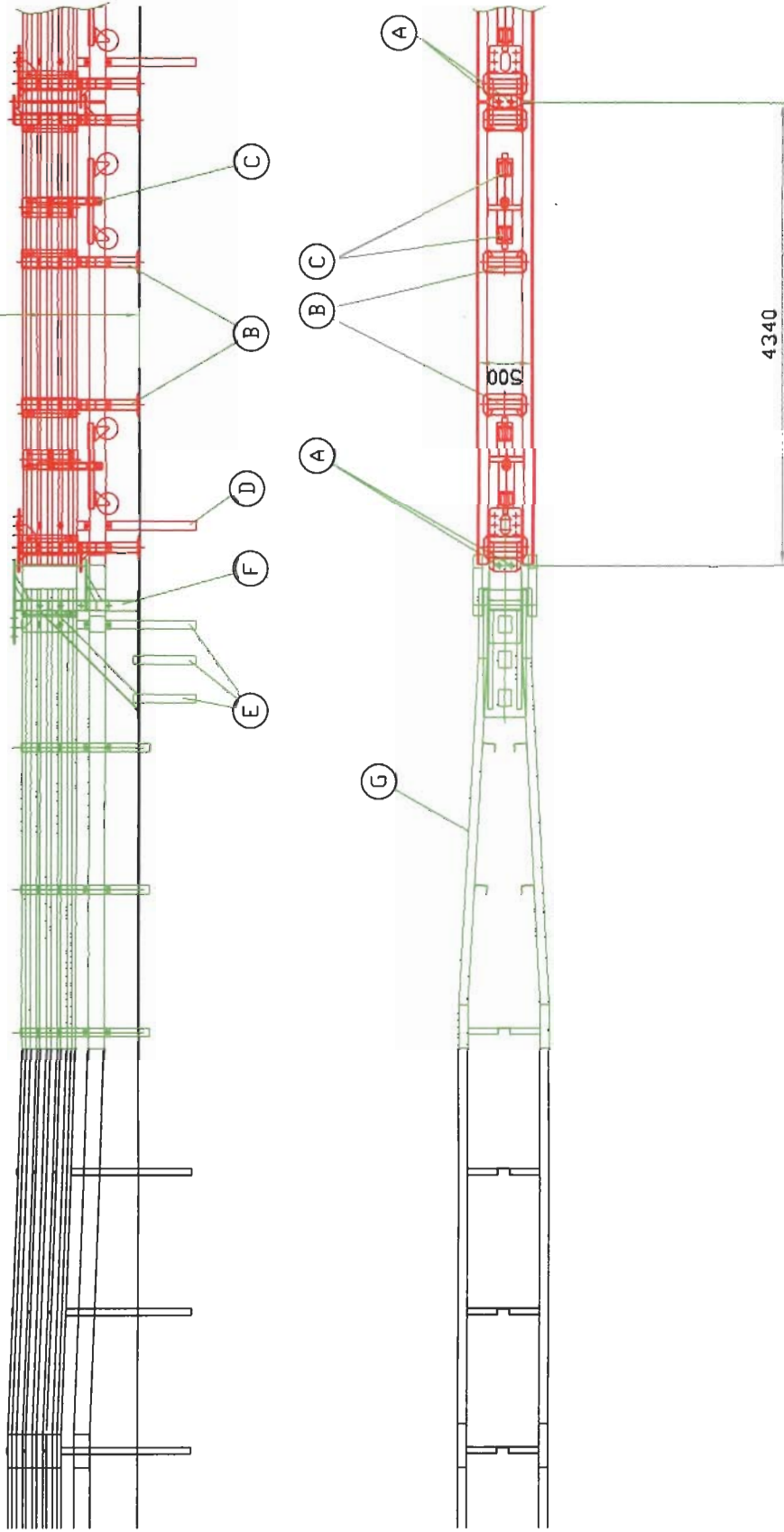
12. Fix the transition beams.

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.

1100



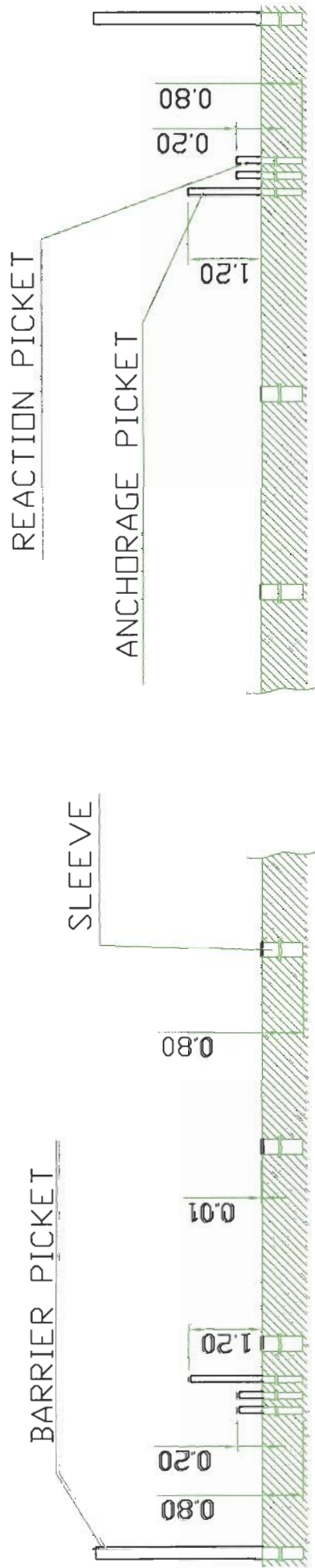
- A - Pivots
- B - Vertical feet
- C - Wheels group
- D - Extractable tubes
- E - Anchorage pickets
- F - Backup support
- G - Connection

DIMENSIONS IN mm

POS.	QUANT.	DENOMINAZIONE	DIS / COD.	NOTE
 Via F. Boracchi, 19/23 - 20056 Trezzano S/A MI - Italia				
OGGETTO				
COMMITTENTE				
DIS. AUTENTICATA	DATA	SCALE	VALUTAZ.	REV.
SOSS. IL DIS. N.		SOSS. JAN. DIS.		
MATERIALE			DESCRIZIONE	DATA
			FINITURA	
DIS. N.			1	REV.

Il presente disegno è in formato in scala 1:1
 Sono escluse le parti di dettaglio e di montaggio
 E' vietata, senza permesso scritto, la ristampa o l'uso non autorizzato
 ogni riproduzione, totale o parziale.

FOUNDATIONS



Dimensions in m.

POS.	QUA.	DEMINAZIONE	DIS. / COD.	NOTE
 Via S. Braccio, 19/23 - 20096 Trezzano S/A MI - Italia				
DOGGIOTTI FERRMENTE				
DIS. AUTOMAT. DATA		SCALA	VISTO	REV
SOST. IL DIS. N.		SOST. DAL DIS.	DIS. N.	2
DESCRIZIONE	DATA	FINESTRA	DATA	FINESTRA
MATERIALE	SAB	FINESTRA	DATA	FINESTRA

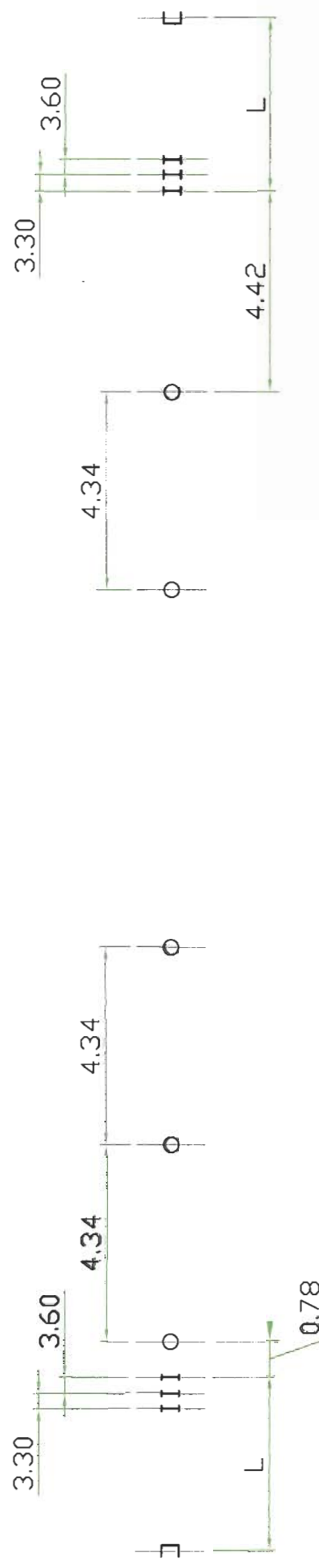
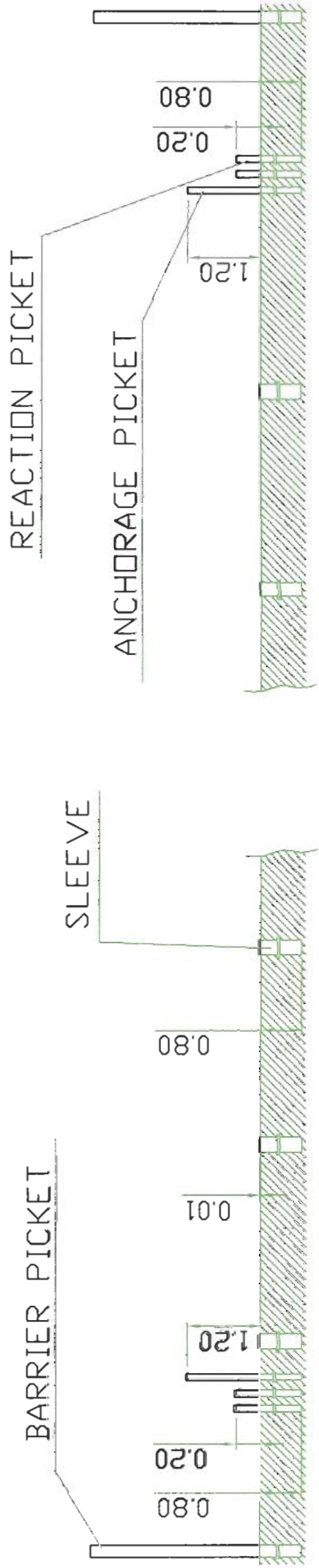


Figure 1 – Inserting of sleeve



Figure 2 – Inserted sleeve

FOUNDATIONS



PDS	QUA	DEMINIAZIONE	DIS / COD	NOTE
 Snoline spa. Via F. Baracca, 19/23 - 20056 Trezzo S/A MI - Italia				
OGGETTO		COMMITTENTE		
SAB		SAB		
REV	DESCRIZIONE	DATA	FRAMA	
	MATERIALE		FINITURA	
DIS. AUTOMAT. DATA 08/05/02		SCALA	VISTO	
SOST. IL. DIS. PL.		SOST. DAL. DIS.		
		DIS. N°	2	REV

Dimensions in m.

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Figure 3 – SAB element



Figure 4 – Extractable tube inserted

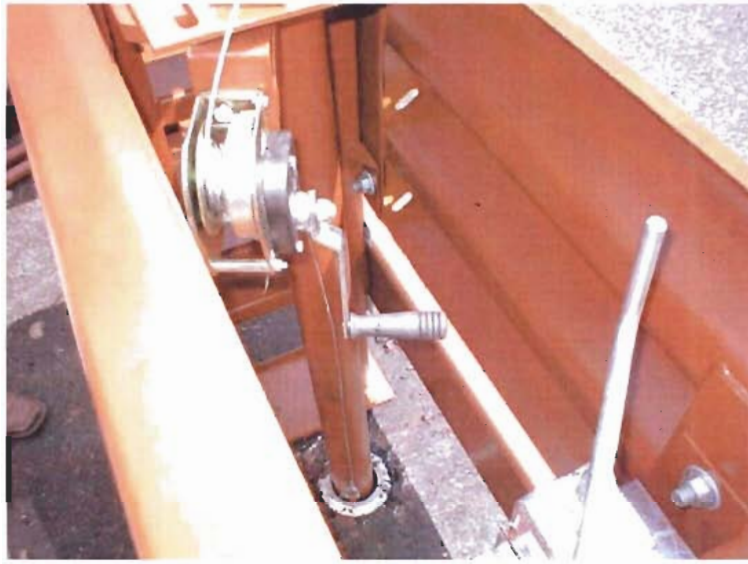


Figure 5 – Winch cable connected with tube



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 pavement 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.

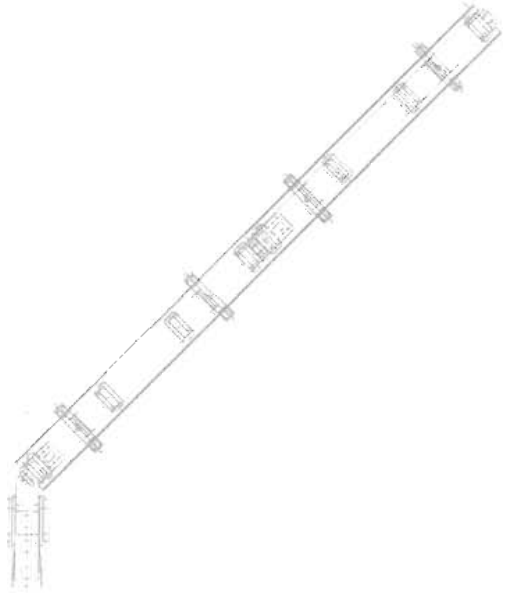
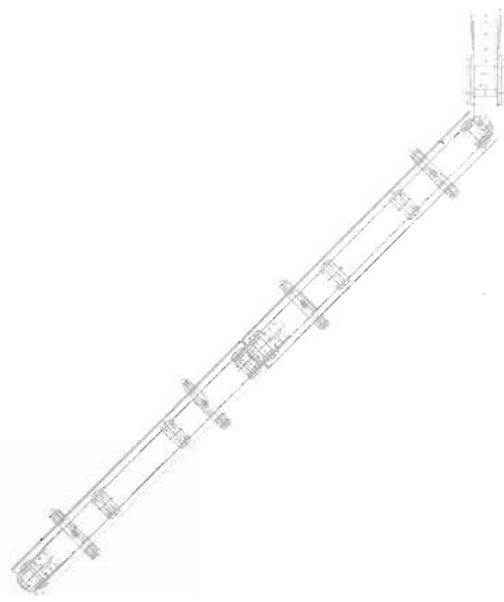
- b) **EMERGENCY OPENING.** Emergency passage: removal of only one element. It's necessary to extract the 4 pivots of the element and lift the extractable tube. Please refer to drawing SAB.13.

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.

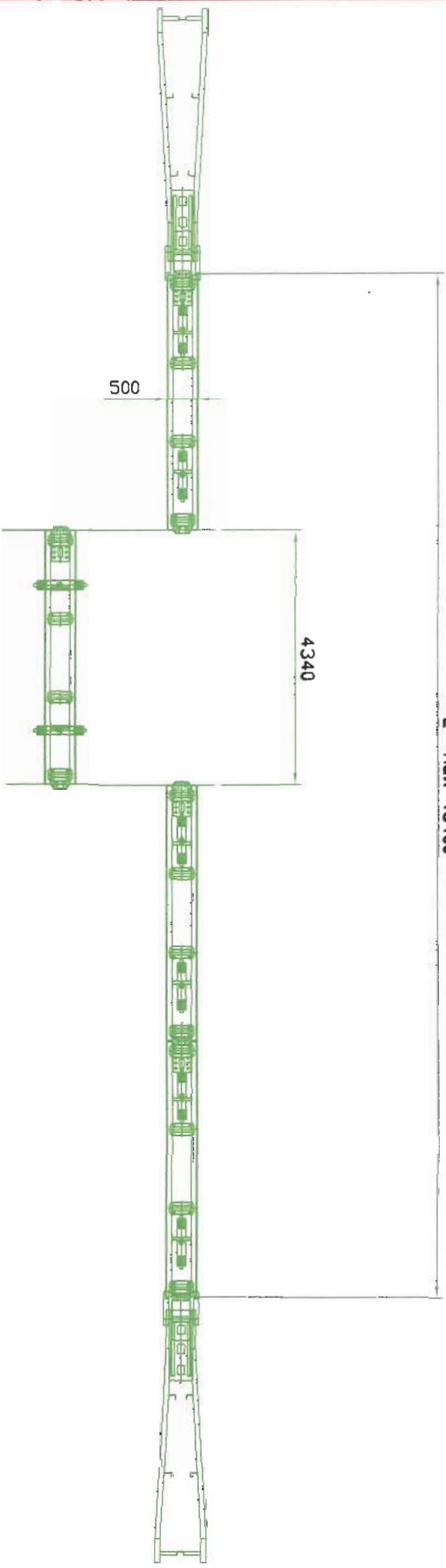
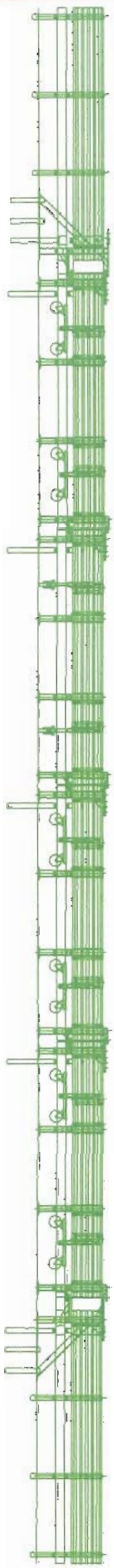
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SAB WIDE OPENING

ANTONIO DI 10.12.01

SAB. 12



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POS.	QUA.	DENOMINAZIONE	BIS / COD	NOTE
 Via F. Berseca, 19/23 - 00196, Firenze SPA - Italia				
DOCCIE FITO SAB EMERGENCY OPENING				
COMPARTIMENTO				
BIS	ARTICOLI	DATA	10/12/01	SCALA
SOST.	IL DIS. N.	SOST.	PAL. DIS.	VISTO
DIS. N.				REV.
SAB, 13				REV.
REV.	DESCRIZIONE	DATA	FINITA	
MATERIALE	FINITURA			

CONNECTIONS

Connections can't be projected and realized in a standard way: these are function of gap length and barrier type (guard rail or New Jersey). Lengths 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