



TECHNICAL
SPECIFICATION
FOR
GREEN TROUGH
Elevated System

May 2020 Version

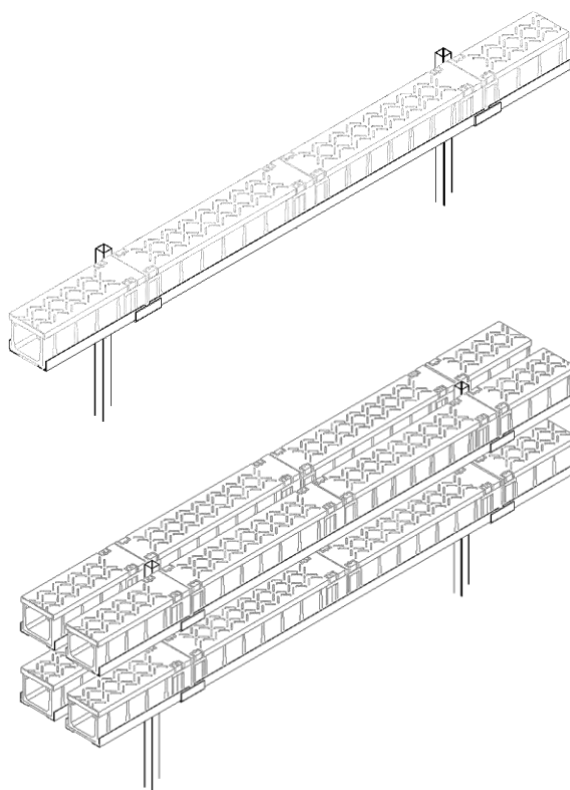
1. Scope

This specification applies to the elevated system developed for the support of TTS Green Trough where it is necessary to provide an above ground level cable management solution. It details the available parts and their respective dimensions. The support system has been developed for use with four of the six sizes of the Green Trough system at the smaller end of the range, these being the 90, 135, 150 & 200 Series (see www.ttsrail.co.uk for detail of other sizes).

2. Structure

The structure and components of the elevated system for straight trough units are as shown in Figure 1 and Table 1. The standard finish is galvanised.

The structure of the elevated system has been designed to incorporate posts concreted into the ground at 2 metre intervals with ladders bolted to brackets, suspended from the posts. The 1 metre Green Trough units sit in the ladder connected to each other via male and female joints to form a continuous run. Horizontal Bends and Gradient change ladders are available as part of the system.



Note: Sketch showing one single trough route on one ladder with standard posts.

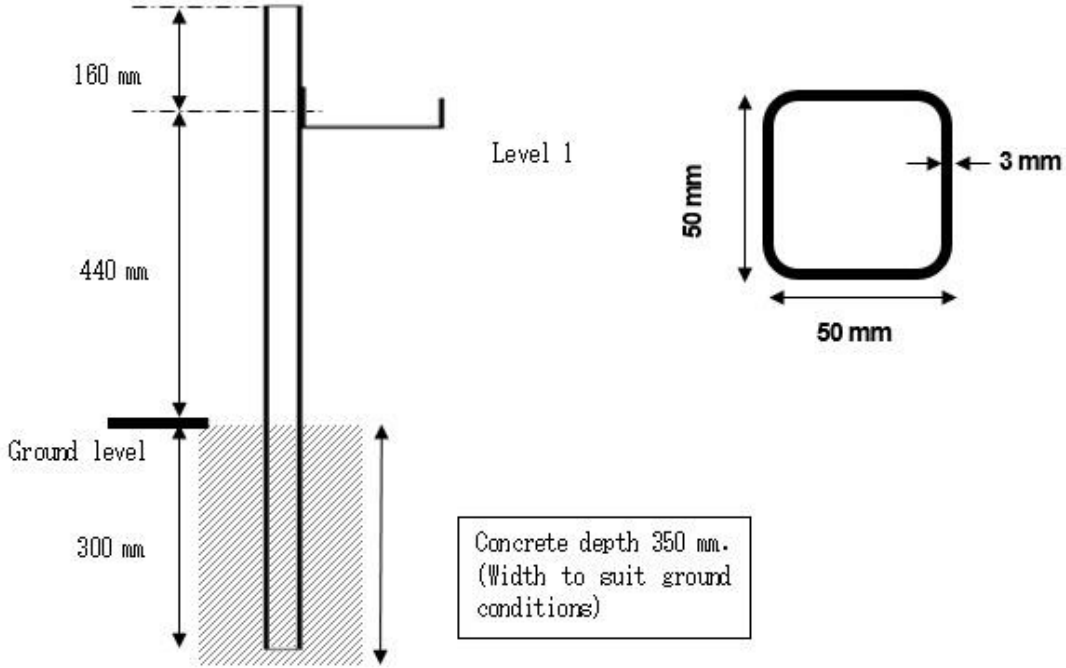
Note: Sketch showing four trough routes on four ladders suspended from a higher two-level post.

Figure 1: Examples of the elevated system

Table 1. Components

Item	Quantity	Material
Post	1 Piece	Galvanised low carbon steel
Ladder	1 Piece	

Appendix 1: Standard (single level) Post

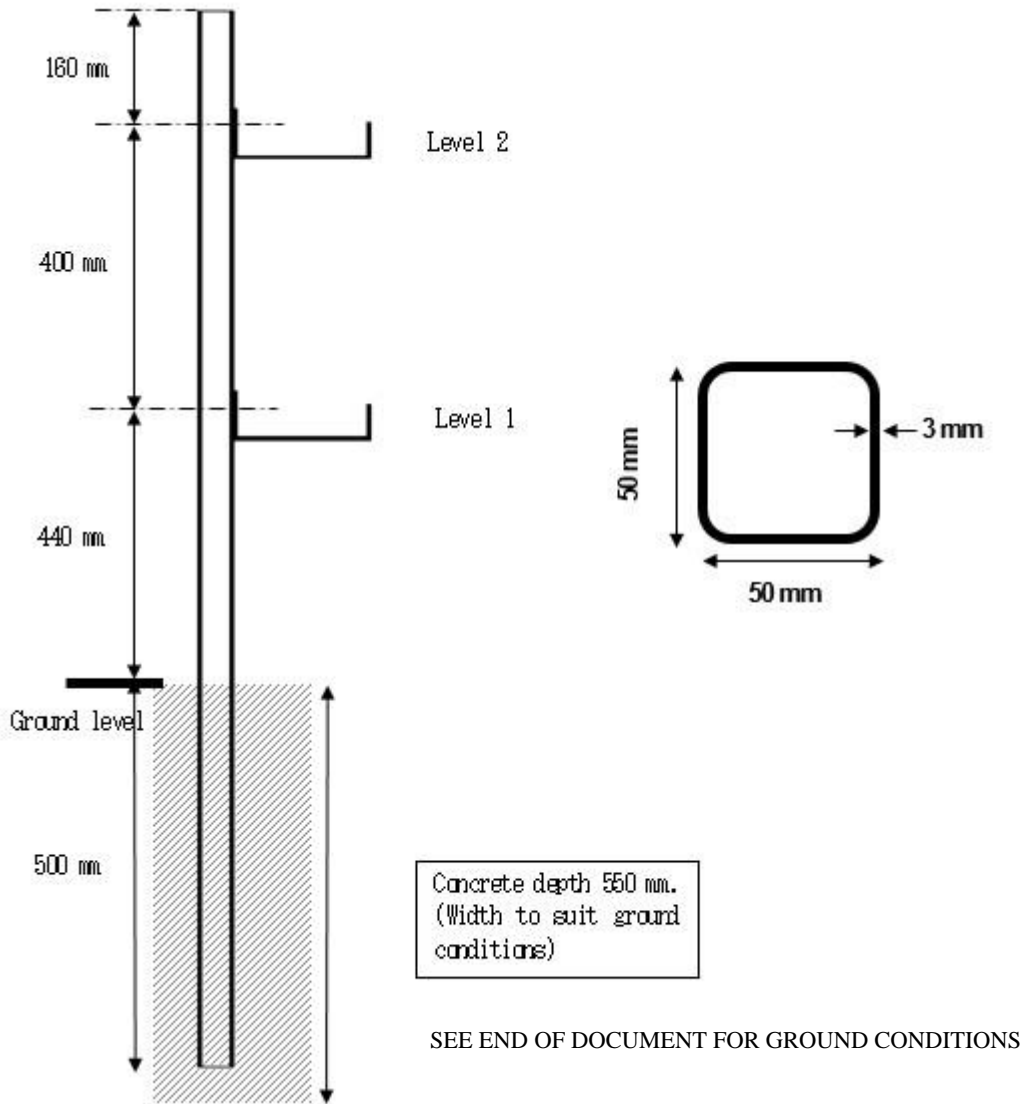


SEE END OF DOCUMENT FOR GROUND CONDITIONS

Total length: 900 mm

Note: The standard post allows for a single or 2 cable troughing routes to be fitted (back to back) at 400mm above ground level.

Appendix 2: Two level Post



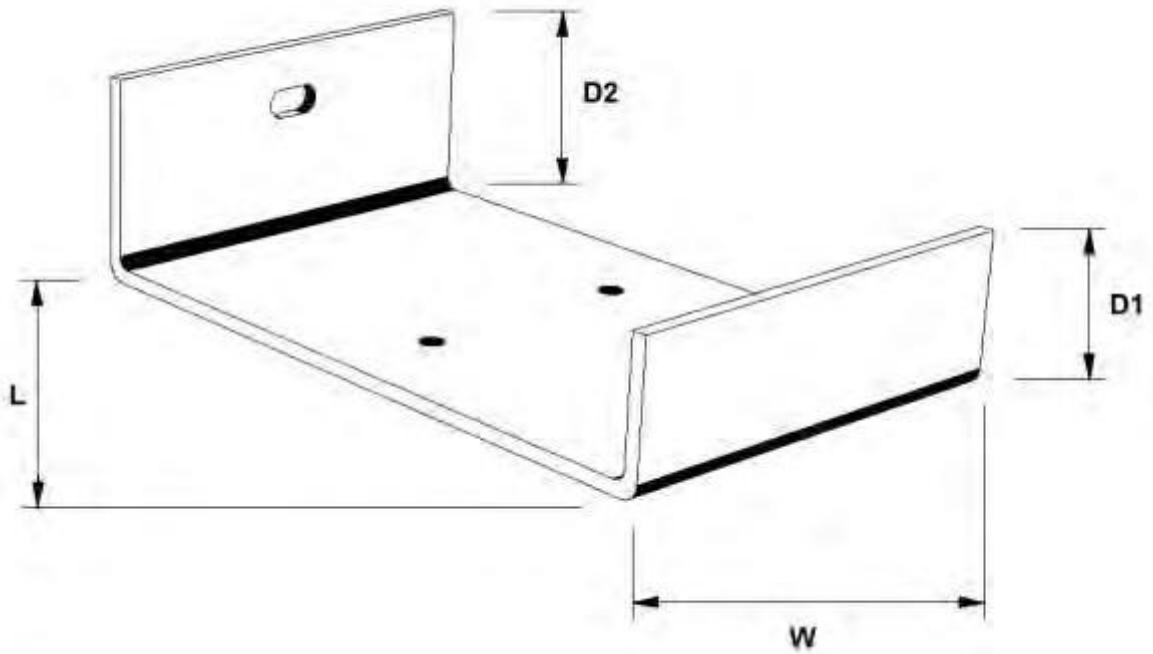
Total length: 1,500 mm

Notes: The post allows for up to 4 cable troughing routes to be fitted. Please refer to the installation manual for the various implementation of routes possible.

Please also note that special safety consideration should be given to this option as this configuration will impede track access and egress for site personnel due to the height of the assembled units.

Longer posts can be provided for special ground conditions.

Appendix 3: Ladder Support Bracket

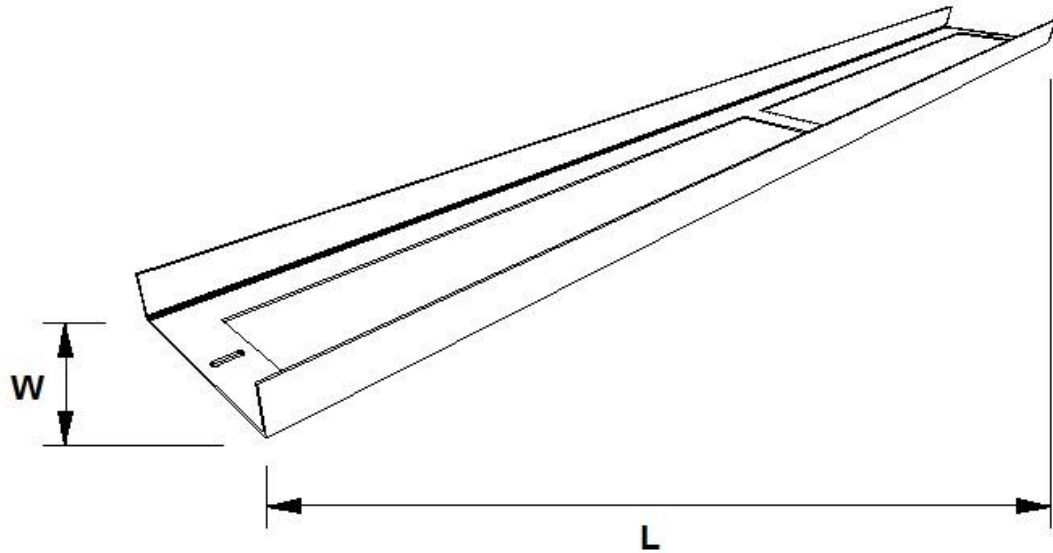


(Unit: mm)

Series	Part No.	W	L	D1	D2
90	TE90B	150±1	150±1	50±1	70±1
135	TE135B	150±1	200±1	50±1	70±1
150	TE150B	150±1	240±1	50±1	70±1
200	TE200B	150±1	300±1	50±1	70±1

Note: The bracket is supplied with post fixing bolt.

Appendix 4: Straight Ladder



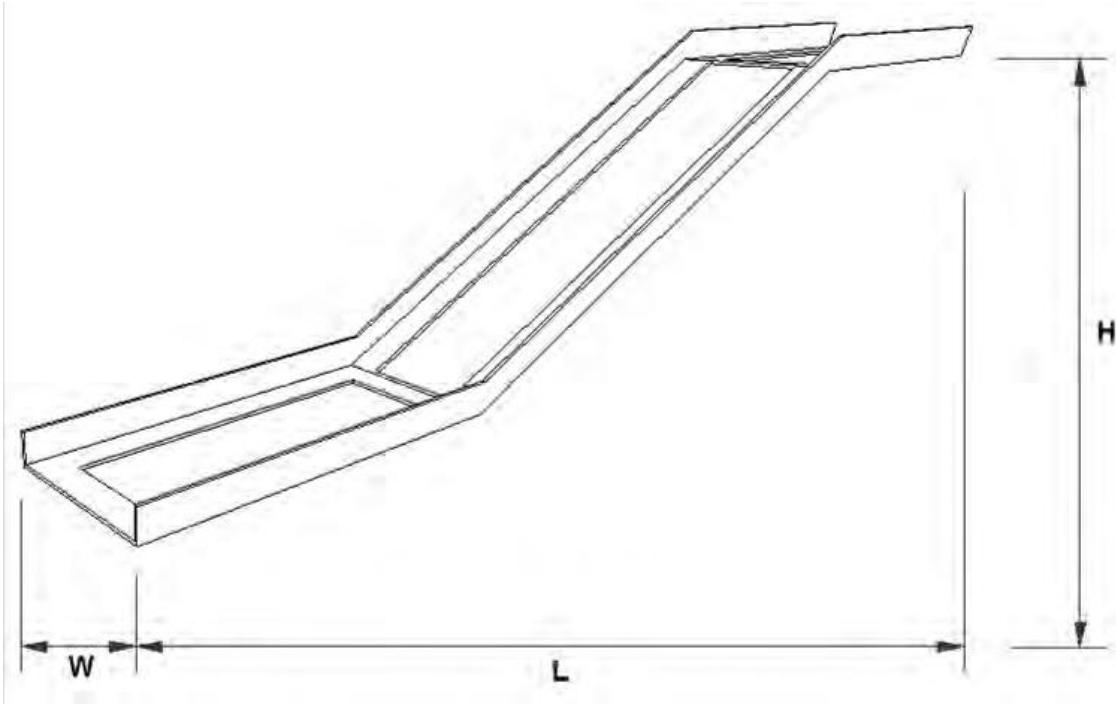
(Unit: mm)

Series	Part No.	W	L
90	TE090L	130±3	1980±10
135	TE135L	180±3	
150	TE150L	220±3	
200	TE200S	280±3	

Note: Ladders are supplied complete with bracket fixing bolts and can be installed at either Level 1 (440mm above ground) or Level 2 (840mm above ground) on the post.

Ladders are also available to accommodate for gradient changes, to go from Level 1 to Level 2 or to go from Ground Level to Level 1.

Appendix 5: Gradient Ladder



(Unit: mm)

Series	Part No.	W	H	L
90	TE090G	130±3	400±10	1980±10
135	TE135G	180±3		
150	TE150G	220±3		
200	TE200G	280±3		

Appendix 6: Bolt and locking nut



Type	Size
Post to bracket Fixation (1 per bracket)	M10 x 80mm
Bracket to ladder Fixation (2 per ladder)	M10 x 30mm

For further information contact TTS

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Tel: 01302 343 633

Ground Conditions

A – Weak ground – 700mm wide foundations.

Very soft clay, loose.

Easy to dig by hand, sides of hole liable to collapse after short time.

B – Medium Ground – 300mm wide foundations.

Firm clay, compact sand & gravel, or mixed.

May be readily dug by hand, sides stand up during excavation.

C – Hard Ground – 200mm wide foundations.

Stiff clay, very dense well-graded granular.

Difficult to dig by hand, generally requires mechanical auger.

D – Solid Ground – Rock / concrete.

Requires mechanical breakers.

Hole requires to be just sufficient to insert post and grout into place.

In very solid rock, consideration may be given to reduced embedment or alternative base plate.