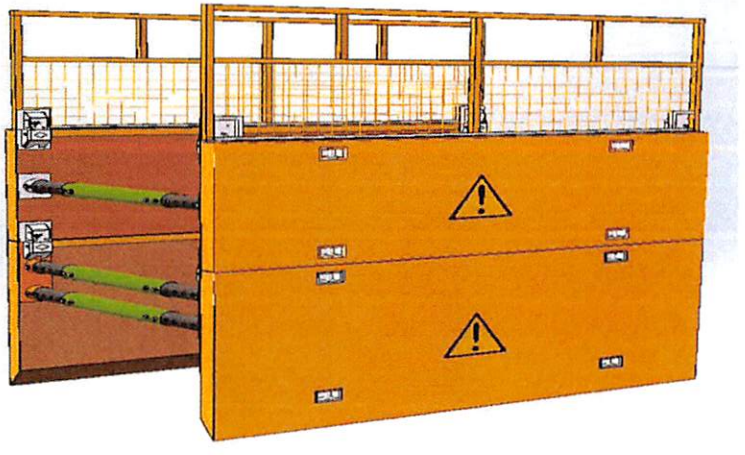
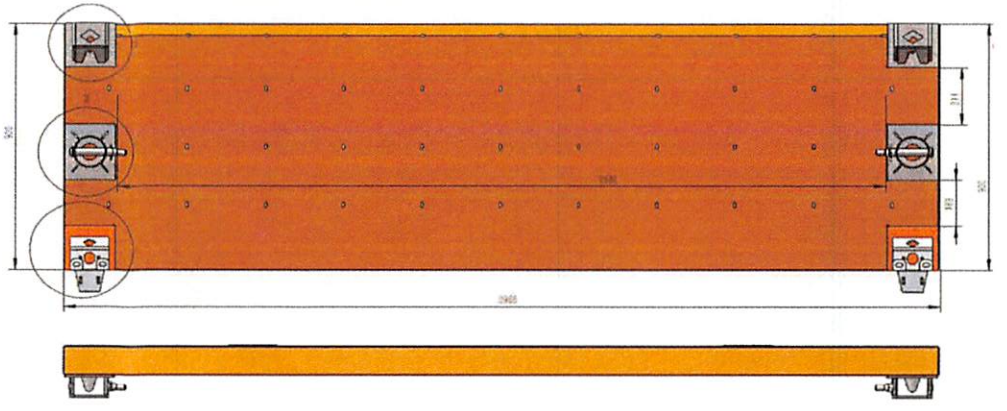
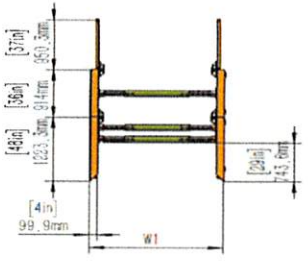
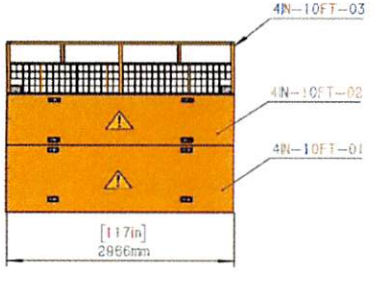
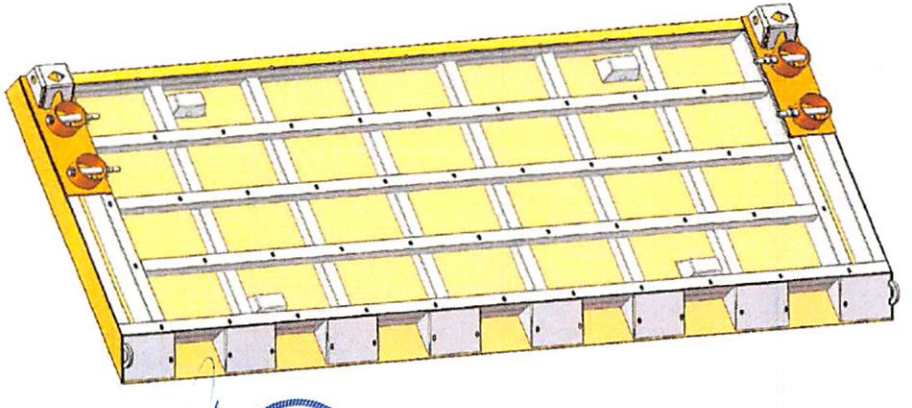
H75-116
SEP

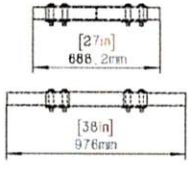




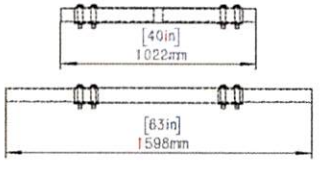








W1 : 3ft to 4ft



W 1 : 4ft to 6ft

INGÉNIEUR
Slimane Naguime
136332
QUÉBEC

2020.09.14

opting Solution	General construction	
	TRENCH SHIELDING AND SHORING 4IN-10FT-XX *	
	* Plans and drawings in PDF and DWG (18 pages) provided by Suihe Technology	
Date: 2020-09-14	*All dimensions in mm and without scale*	Rev.1

Additional information for TRENCH SHIELDING AND SHORING 4IN-10FT-XX[1]

Excerpt from "Soil Classification-1926 Subpart P App A OSHA":

"Type A" means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Exemples of cohesive soils are : clay, silty clay, sandy lay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cimented soils such as aliche and hardpan are also considered Type A. However, no soil is Type A if:

(i) The soil is fissured; or

(ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or

(iii) The soil has been previously disturbed; or

(iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or

(v) The material is subject to other factors that would require it to be classified as a less stable material.

"Type B" means :

(i) Cohesive soil with an unconfined, compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or

(ii) Granular cohesionless soils including : angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.

(iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.

(iv) Soil that meets unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or

(v) Dry rock that is not stable; or

(vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

"Type C" means :

(i) Cohesive soil with an unconfined, compressive strength of 0.5 tsf (48 kPa) or less; or

(ii) Granular soils including gravel, sand, and loamy sand; or

(iii)Submerged soil or soil from which water is freely seeping; or

(iv)Submerged rock that is not stable; or

(v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

Model XXX-Ht.Lg.	Height (Ht) mm	Length (Lt) mm	Width max. mm	Weight Kg	Shoring height (mm)	Shielding force[2] (Kea) PSF	Depth allowed by OSHA[3] (m)		
							Type A	Type B	Type C
XXX-712†	2 137	2 966	1 598	1 420	744	(86) 1800	21	12	9

[1] - All steel shapes must be Q345B quality steel. Min Fy = 50 KSI

[2] - Calculations are based on temporary loading conditions. Overloads of 3.4 kPa are included in the data.

[3] - Permitted depths are based on soil types A, B and C, listed in sub-division 1926 P of the 29th U.S. Standard OSHA, with Type A not exceeding 25 lb/sft per foot of depth, Type B not exceeding 45 lb/sft per foot of depth and Type C not exceeding 60 lb/sft per foot of depth.

† it means : 2 137 mm (7 feet) and 2 966 (± 12 feet).

Restriction and responsibility

1. The data used to validate the shoring system is based on U.S. safety requirements as defined in 29 CFR Part 1926, Section P-Trenching and Excavation.
2. This data must be used by a soil engineer or an expert in the field. The expert must have experience and knowledge of trenching and excavation procedures, shoring systems and soil identification.
3. All voids between the excavated soil and the face of the shoring system must be filled with excavated soil or other approved fill material before workers enter the excavation.
4. Opting Solution will not supervise and will not assume any responsibility for the following: the contractor's construction means, methods, techniques, sequences or procedures; the related safety measures and programs; or any failure by the contractor to comply with the laws and regulations applicable to the execution of the work.
5. Data should only be used for the soil conditions indicated. Data is not considered adequate when the loads imposed by structures, equipment, traffic or materials stored in the vicinity of the trench exceed the design surcharges.

INGÉNIEUR
Slimane Naguime
136332
QUÉBEC

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	TRENCH SHIELDING AND SHORING 4IN-10FT-XX	
	Additional information	
Date: 2020-09-14	By: Slimane Naguime Ing.,	Rev.1