

REALLY DEEP

TRENCH PANEL

Really Deep LLC
Trench Panel Manual, Diagrams,
and Tabulated Data
2024



Really Deep Trench Panels

Marketed by Dunright LLC

Really Deep Trench Panels are an ultra high strength, expandable, stackable, closed sheeting system that reduces cofferdam/trench wall installation time.

The panels and knuckles are made of fully extruded 6061 T6 aluminum. The panels weigh about 10 pounds per foot. Standard panels are 5 feet long (50 pounds per panel) with an effective 16 in width. Knuckles come in 8 foot sections. Panels stack in a compact configuration for easy transport.

The following document is a guide for using our product. It includes helpful diagrams as well as the tabulated data that has been collected.

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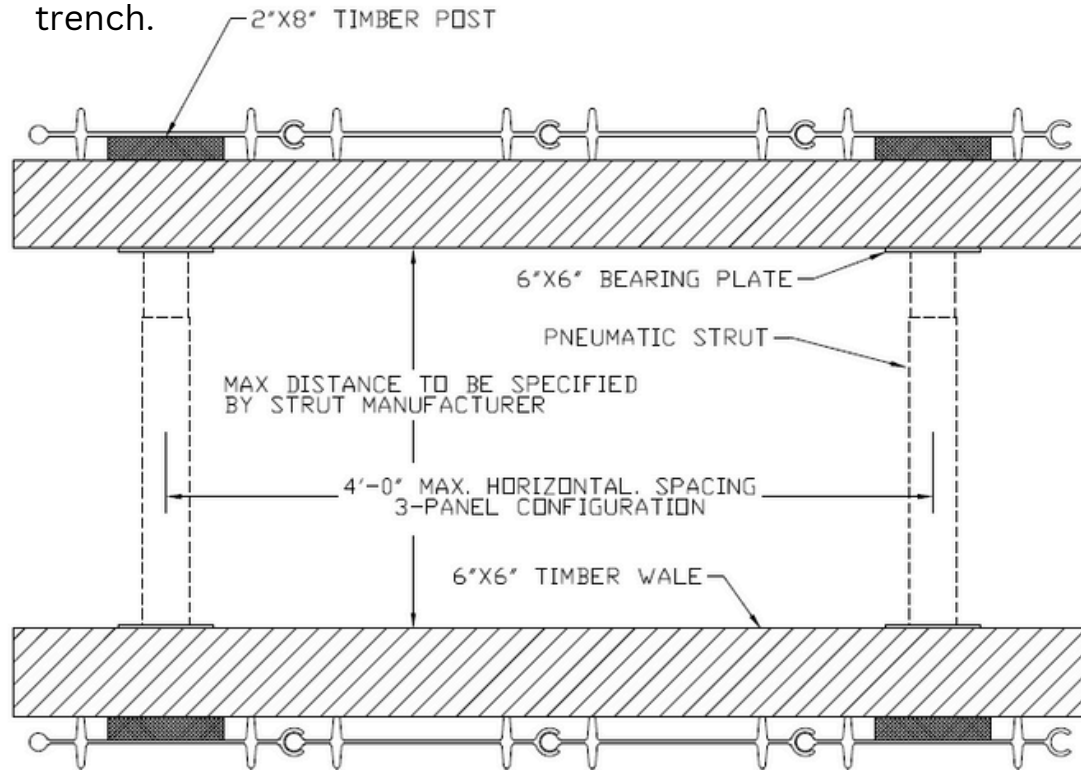
TRENCH PANEL

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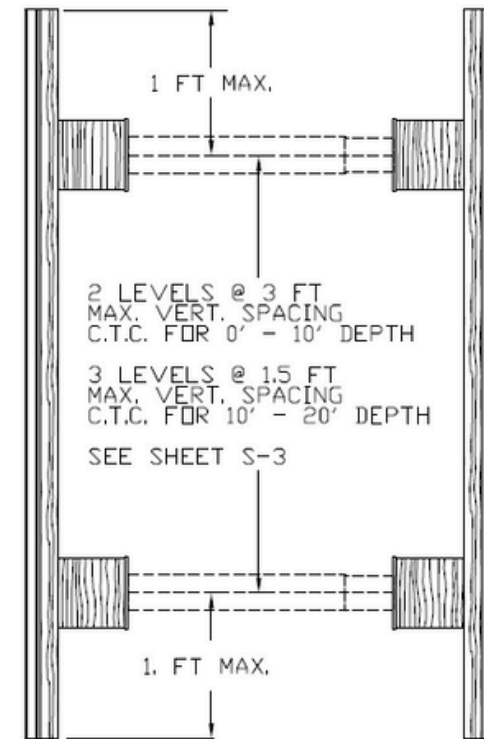
The Trench Panels are aluminum and do transmit electricity. Shut off all power in the area before placing panels in a trench that may have electric/underground power.

Key Items for Installation:

- There is no upside down when starting a wall. Trench walls are stable both horizontally and vertically with the use of Really Deep Trench Panels. Place the panels with the deepest rail to the dirt side of the trench.



PLAN



SECTION

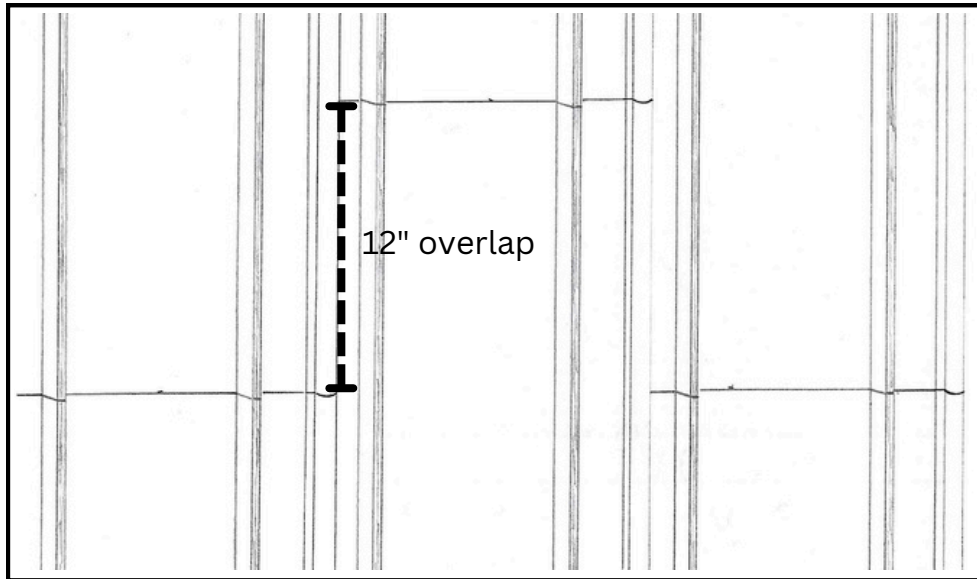
GENERAL NOTES:

C.T.C. = CENTER-TO-CENTER
ALL TIMBER SHALL BE #2 GRADE SOUTHERN PINE OR EQUIV.
ALLOY: 6061-T6

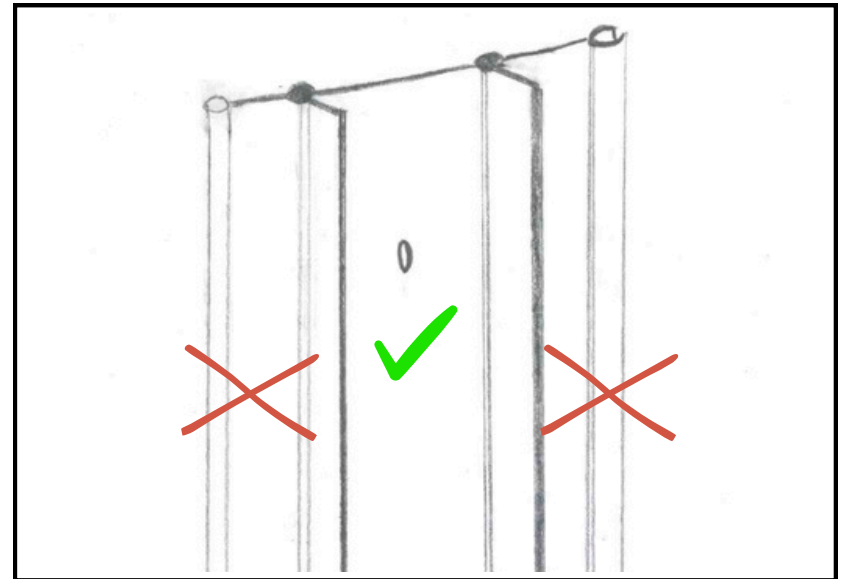
Note: Seepage and leaking of wet granular soils is eliminated.

- Walers and struts should be located within 12 inches of the top and bottom of the 5 foot panels.

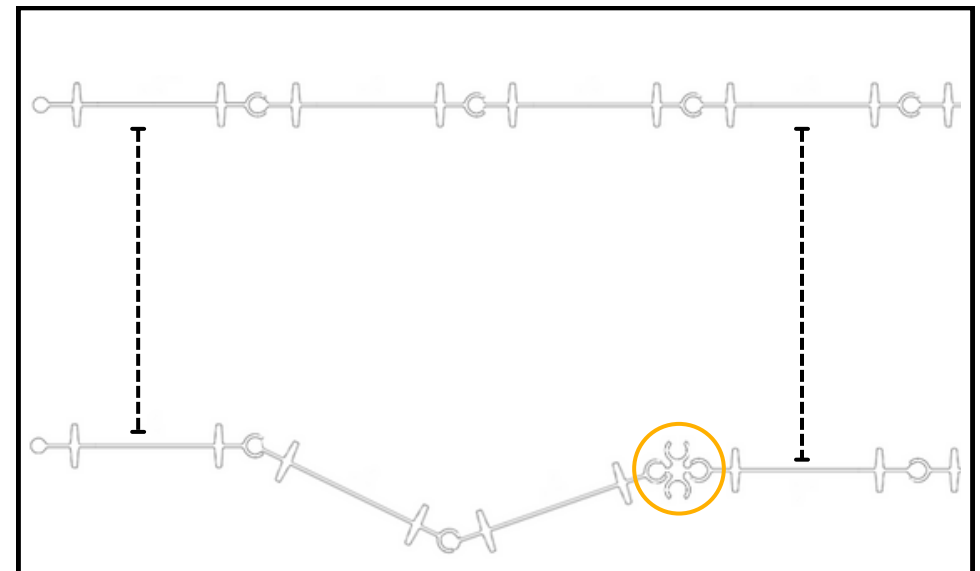
- When vertically stacking, a 12 inch overlap on 2 side by side panels is required to maintain trench wall strength.



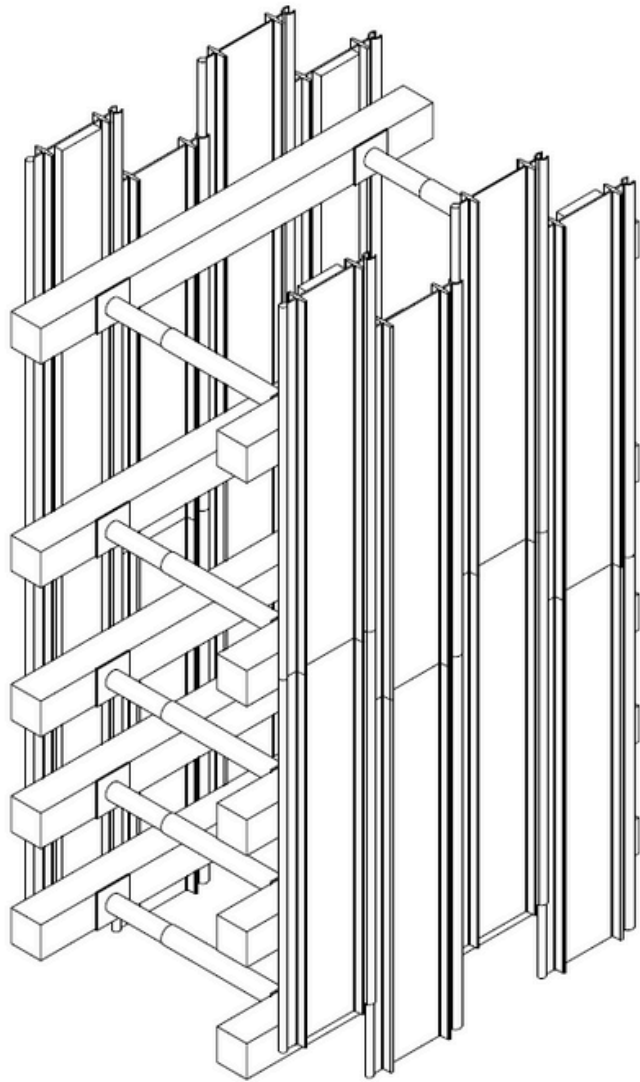
- Do not drill in the rails or webbing themselves, only drill additional mounting holes between the two inside rails.



- Working around normal trench wall collapse issues, such as improper alignment of struts, when building a trench wall are reduced or eliminated by keeping the struts shooting at opposing 90 degree angles. When one wall collapses and the other maintains integrity the length of the opposing walls become different. By simply using a spacer/knuckle, you can keep the opposing panels shot/shooting at 90 degrees.

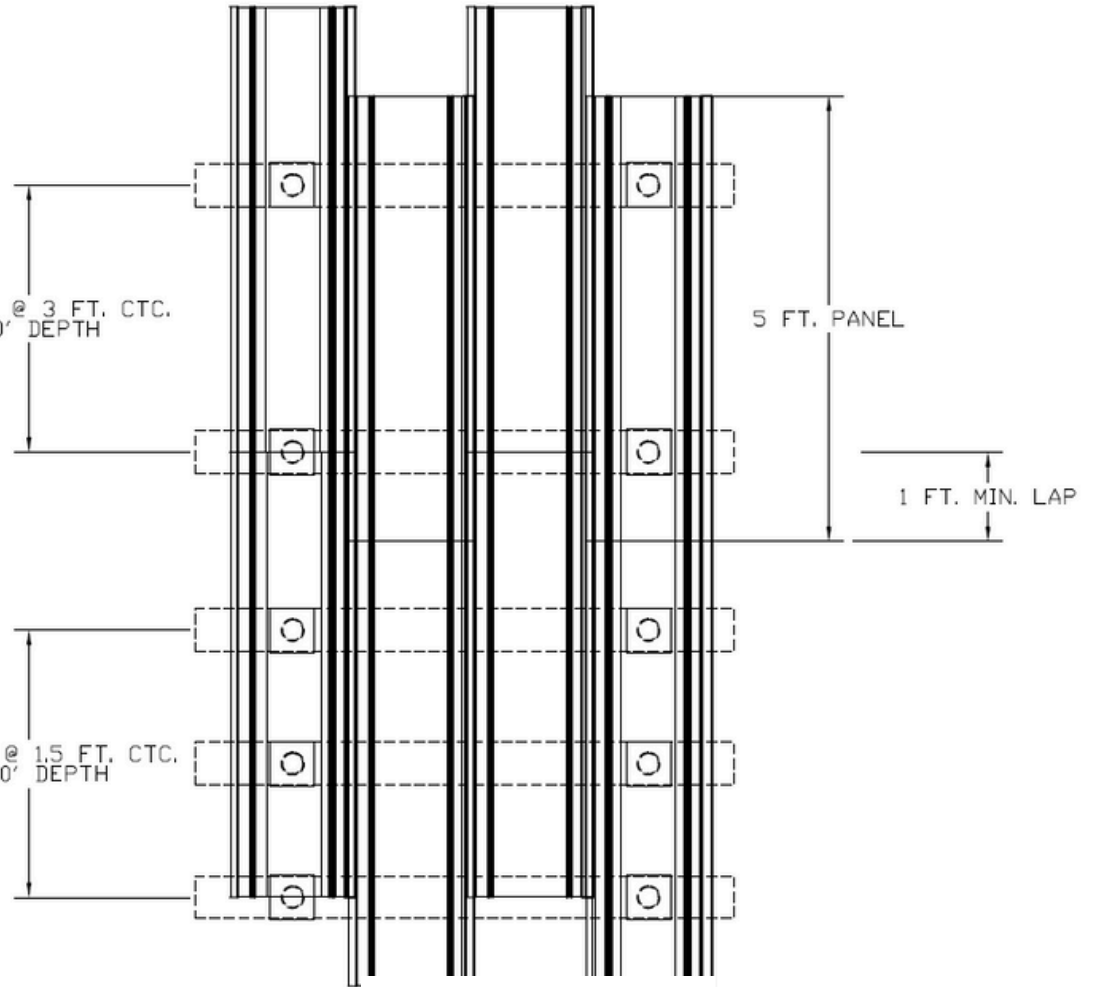


Note: the use of strong backs is minimized but not eliminated. Strongbacks are only required at the panel where the strut is placed on the walers.



2 WALES @ 3 FT. CTC.
FOR 0'-10' DEPTH

3 WALES @ 1.5 FT. CTC.
FOR 10'-20' DEPTH



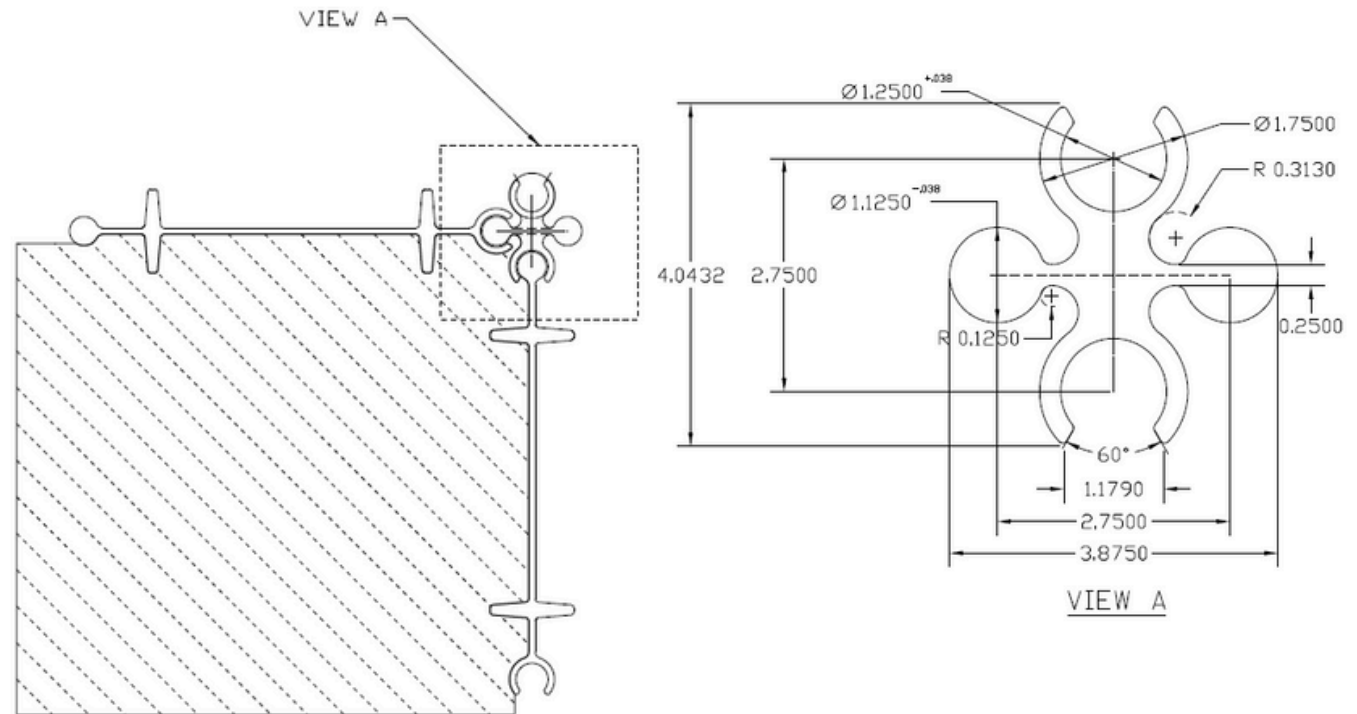
GENERAL NOTES:

C.T.C. = CENTER-TO-CENTER
ALL WALES ARE 6" X 6", #2 GRADE SOUTHERN PINE

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- Use double headed nails to attach Strongbacks to the Trench Panels via the mounting holes in the panels.
- Although the engineering and tab data shows the use of 6x6 #2 southern yellow pine, aluminum walers can be substituted as long as they meet the engineering specs of 6x6 #2 southern yellow pine. Contact your strut and waler provider for their strut and waler specifications.

- Corners: Knuckles make the installation of an inside or outside corner simple. You can start at the corner and work either way, or start at one end and work to the corner and beyond.
- **Our advice:** Do not start at both ends and work in to the middle as it will likely end up off center once you get to the middle point.



Cleaning & Maintenance

Simply pressure wash the panels and knuckles removing any dirt, oil, grease, or other filth. Lubricate the inside of the socket with a silicone lubricant. The ball can be lubricated also, but it will get on your hands during the next use.

TRENCH PANEL TABULATED DATA

as supplied by REALLY DEEP LLC.

SOIL CLASSIFICATION	DEPTH RANGE	BULK DENSITY	AT-REST COEFFICIENT	ACTIVE PRESSURE @ PIT BOTTOM	FACTOR OF SAFETY*	PANEL CONFIGURATION	TIMBER CONFIGURATION
		PCF	(K ₀)	PSF			
C-40	0' - 5'	120	0.33	282.2	6.91	3 PANEL SPACING	TWO (2) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-40	5' -10'	120	0.33	521.9	3.68	3 PANEL SPACING	TWO (2) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-40	10'-15'	120	0.33	681.5	3.47	3 PANEL SPACING	THREE (3) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-40	15'-20'	120	0.33	880.4	2.65	3 PANEL SPACING	THREE (3) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-60	0' - 5'	120	0.5	425.2	4.49	3 PANEL SPACING	TWO (2) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-60	5' -10'	120	0.5	725.0	2.42	3 PANEL SPACING	TWO (2) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-60	10'-15'	120	0.5	1024.9	2.31	3 PANEL SPACING	THREE (3) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER
C-60	15'-20'	120	0.5	1324	1.76	3 PANEL SPACING	THREE (3) LEVELS OF BEAMS, WITH STRUTS ON 2X8 VERTICAL TIMBER

* Indicates net Factor of Safety that is calculated as a prescribed Allowable Strength Factor (Ω) divided by an element's utilization ratio

** Allowable Strength Factor (Ω) for Panel in Flexure taken as 1.65

*** Allowable Strength Factor (Ω) for Timber Wale in Shear taken as 1.5

<u>FACTOR OF SAFETY</u>		PANEL UTILIZATION			TIMBER BEAM UTILIZATION		
SOIL CLASSIFICATION	DEPTH RANGE	(STAAD PRO, ALUMINIUM DESIGN MANUAL SECTION F.1)			(ENERCALC, NDS 2018)		
		F.E.M RESULT (KSI)	F/ Ω (PSI)	UTL. RATIO *	SHEAR	FLEXURE	BEARING
C-40	0' - 5'	1211.68	23030.30303	0.053	0.147	0.217	0.193
C-40	5' -10'	2145.98	23030.30303	0.093	0.277	0.408	0.362
C-40	10'-15'	3090.84	23030.30303	0.134	0.293	0.432	0.383
C-40	15'-20'	4027.09	23030.30303	0.175	0.384	0.565	0.501
C-60	0' - 5'	1831.76	23030.30303	0.080	0.227	0.334	0.296
C-60	5' -10'	3235.53	23030.30303	0.140	0.422	0.620	0.550
C-60	10'-15'	4649.15	23030.30303	0.202	0.441	0.650	0.576
C-60	15'-20'	6057.48	23030.30303	0.263	0.578	0.852	0.755

* Indicates the a ratio of an element's load demand against a safety-adjusted load limit (i.e. adjusted by an Allowable Strength Factor Ω)