

How to Size a Trench Shield



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Below are eight essential questions to be answered to properly determine the model, size, and spreaders needed for a trench shield. The answers to these questions will allow the user of the trench shield to not only have the correct trench shield for the project, but also enable them to minimize site restoration costs.

1. What type of project is it? _____
Sewer, Repair, Water main, Manhole, Bore pit, etc... The type of project may dictate the style of trench shield that will need _____ to be used. If the project is a bore pit, smaller shields may be used, but they may require a height adapter to provide the _____ vertical clearance need for the bore machine.
2. Depth of cut? _____
Knowing the required depth of the project will shed light a few items like, how tall the shield(s) need to be, is stacking gear required and how thick the sidewalls will need to be.
3. Soil Conditions or type? _____
What is the soil like? Dry, wet, standing water, rocky...?
4. Outside diameter of pipe\structure (at largest point)? _____
To minimize the amount of soil to remove, and to provide adequate working room, it is recommended that a trench shield be 12" wider than pipe\structure.
5. Overall bucket width (including side cutters)? _____
In cases that the pipe or structure is small, the overall width of the excavator bucket can be used to gauge what the internal width of the system should be. It is recommended that inside width of trench shield be 12" wider than bucket width.
6. Pipe\Structure length? _____
It is recommended that a trench shield be 4' longer. This allows for the pipe or structure to be lowered directly into the shield instead of trying to snake the pipe or structure between smaller shields. This will protect the workers when they are working on the end of the pipe in case of a cave-in.
7. Lift capacity of machine? _____
1.5 times the overall weight of the trench shield plus spreaders, at 20' (6m), at grade level. This assures that not only will the machine be able to set the trench shield system, but it also should be able to remove the system as well.
8. Minimum vertical pipe clearance needed? _____
Space from top of pipe\structure to bottom of excavation.