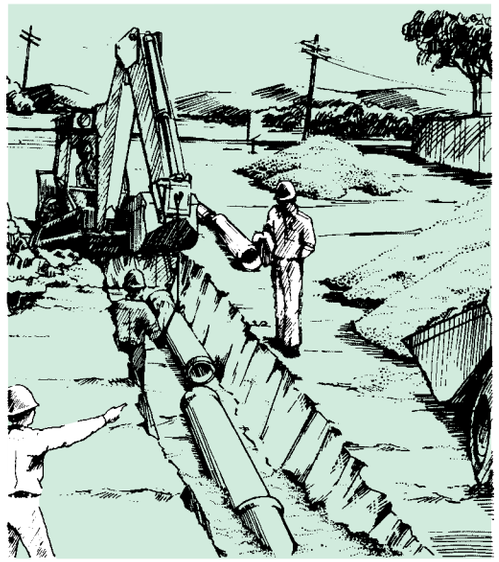
Concrete Pipe Installation Procedures



Concrete Pipe Installation Procedures briefly outline some important steps in concrete pipe installation. They are intended only as a guide and do not replace or supersede project specifications or contract documents.

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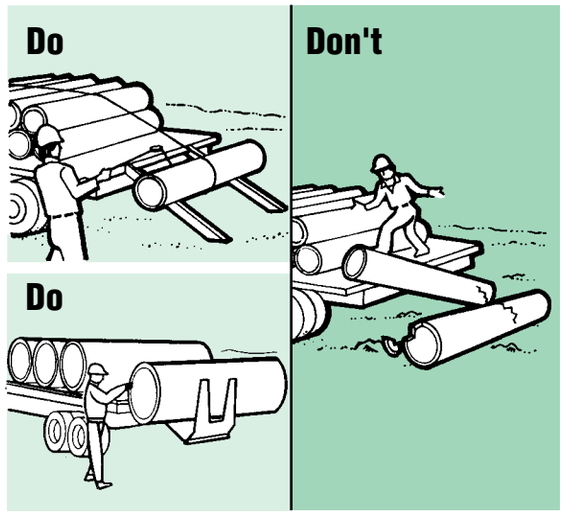
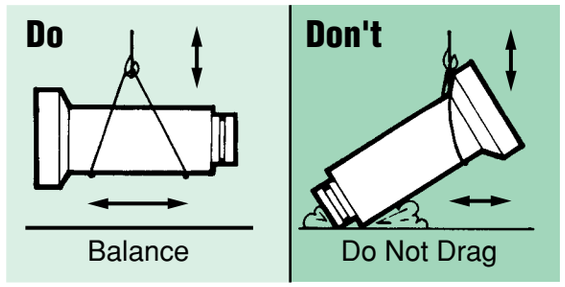
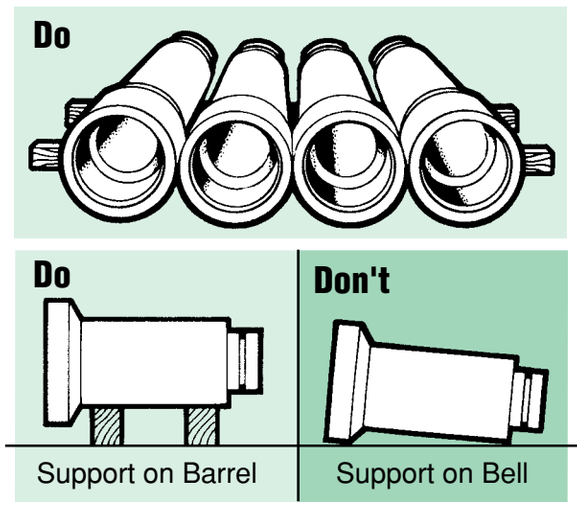
Unloading



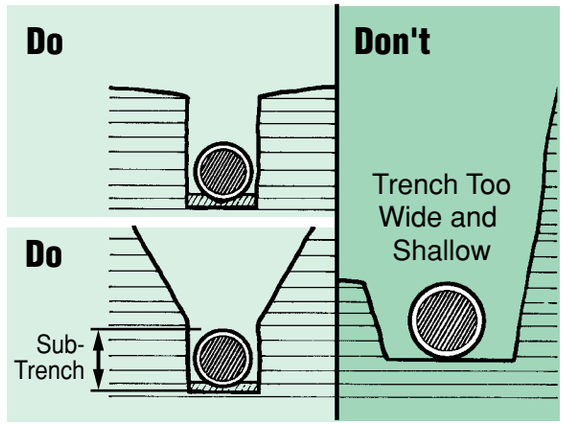
Handling



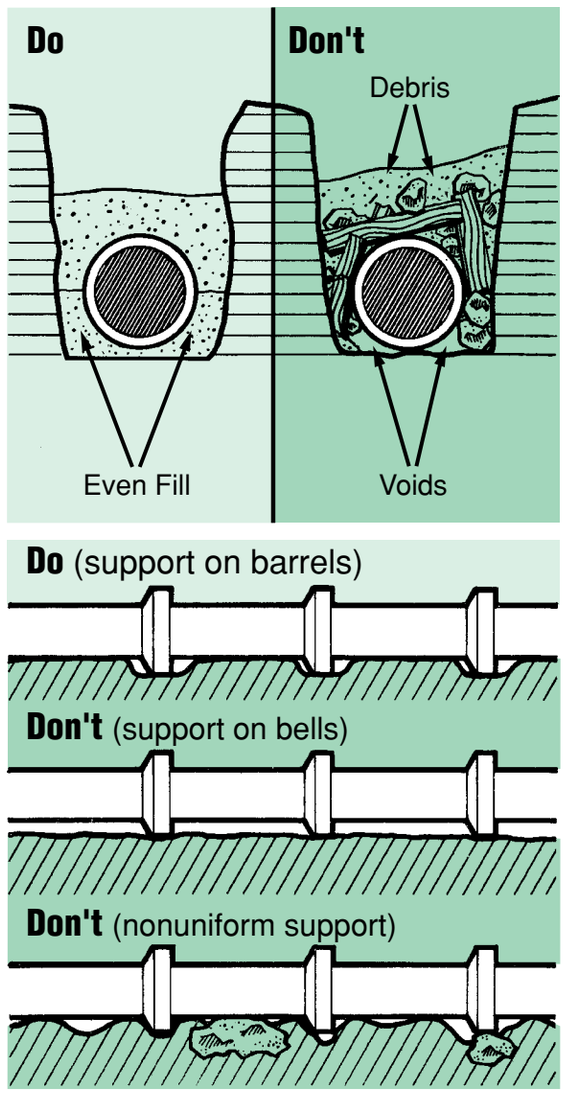
Stockpiling



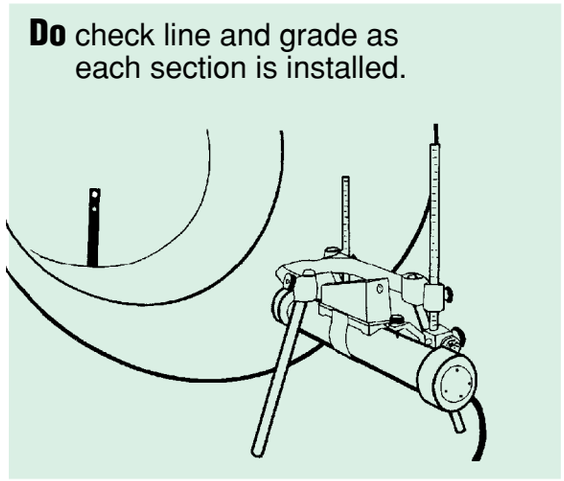
Excavation & Foundation Preparation



Pipe Bedding

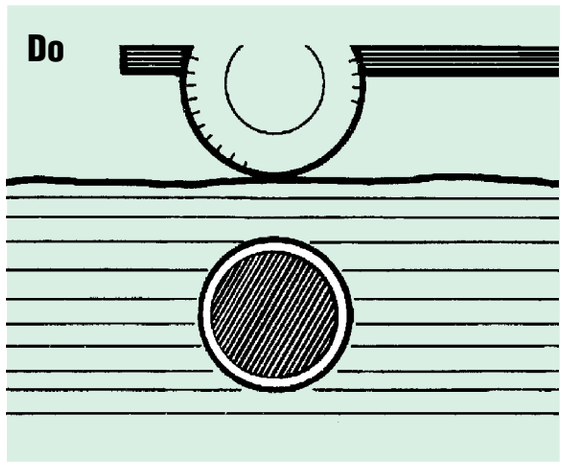


Alignment Line & Grade



Don't adjust pipe alignment or grade with pipe in the home position.

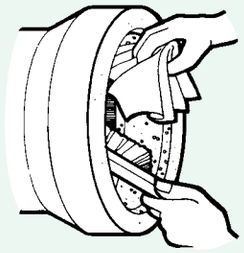
Warning



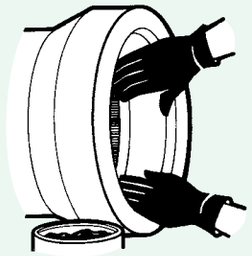
Don't operate heavy construction equiptment over the pipe until adequate cover is in place.

Preparation & Jointing

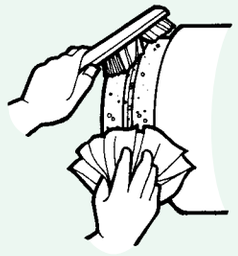
Doing



Carefully clean all dirt and foreign substances from the joining surfaces of the bell or groove end of pipe.



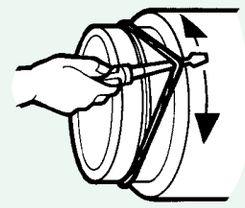
Lubricate bell jointing surface liberally. Use a brush, cloth, sponge or gloves to cover entire surface. Only approved lubricant should be used.



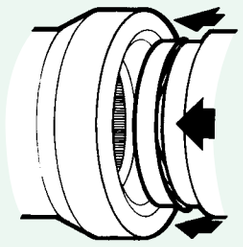
Carefully clean spigot or tongue end of pipe, including the gasket recess.

Lubricate the spigot or tongue end of the pipe, including the gasket recess.

Lubricate the gasket thoroughly (unless it is self lubricating) before it is placed on the spigot or tongue.

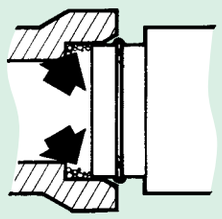


Fit the gasket carefully. Equalize the rubber gasket stretch by running a smooth, round object, inserted between gasket and spigot, around the entire circumference several times.

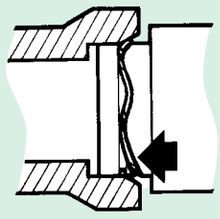


Align bell and spigot of pipes to be joined. Before homing the joint, check that the gasket is in contact with the entry taper around the entire circumference. Make sure pipe is aligned.

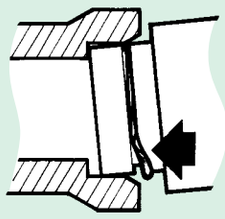
Prevents



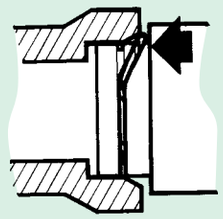
Improper prepared bell jointing surface may prevent homing of the pipe.



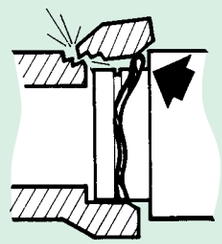
A bell not lubricated or improperly lubricated may cause gasket to roll and possibly damage the bell.



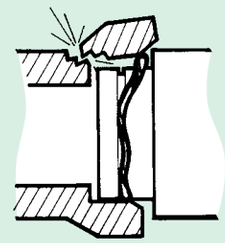
Improperly prepared spigot and gasket recess may prevent gasket from sealing properly.



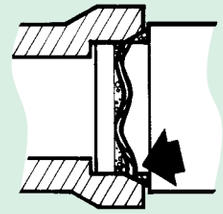
Gasket may twist out of recess if lubricant in recess is lacking or insufficient.



Excessive force will be required to push the pipe to the home position if gasket is not well lubricated.



Unequal stretch could cause bunching of gasket and may cause leaks in the joint or crack the bell.



Improper alignment can dislodge gasket causing leaks or possibly break the bell.

Jointing Procedures

Small Pipe

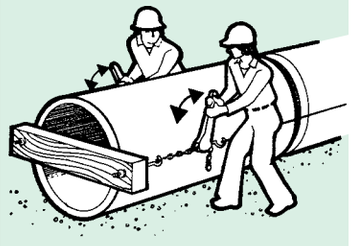
Wedge bar against a wood block placed horizontally across the bell end of the pipe. Pressure on the bar pushes the pipe into the home position.

Do

Medium Pipe

Mechanical pipe pullers or “come-along” devices are anchored to an installed pipe section several sections back and connected by a cross beam to the section to be installed. By mechanical force, the joint is brought into the home position.

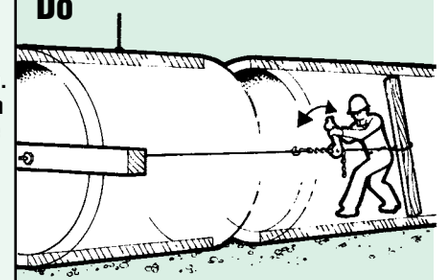
Do



Large Pipe

Join by placing a dead man blocking inside the installed pipe several sections back from the last installed section. This is connected to a wooden cross beam placed across the bell end of the pipe section being installed by a chain or cable and mechanical pipe puller. By mechanical force, the joint is brought into the home position.

Do



Warning

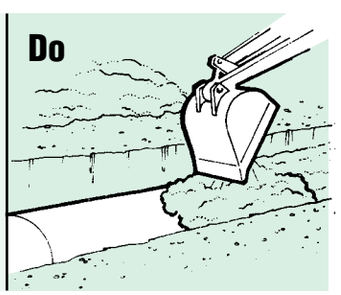
Shoving pipe sections together with excavating equipment should be avoided unless provisions are made to prevent localized overstressing of the pipe joint.

Backfilling

Backfilling Around Pipe

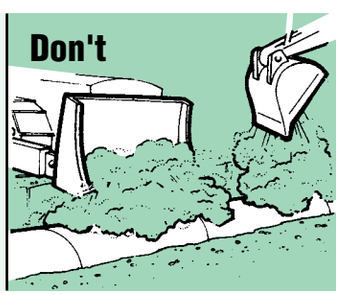
Approved backfill material should be placed carefully along the pipe and compacted under the haunches. Material should be brought up evenly in layers on both sides of the pipe.

Do



Backfill material should not be bulldozed into the trench or dropped directly on the pipe. Material should be placed in such a manner so as not to displace or damage the installed pipe.

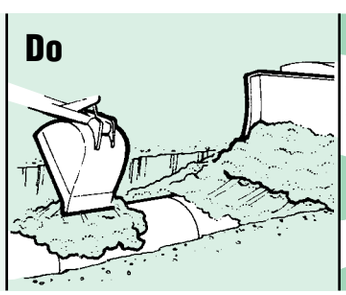
Don't



Final Backfill

Backfill material should be readily compactible and job excavated material should not contain large stones, boulders, frozen lumps or other objectionable material. Backfill should be placed and compacted in layers as specified.

Do



Don't