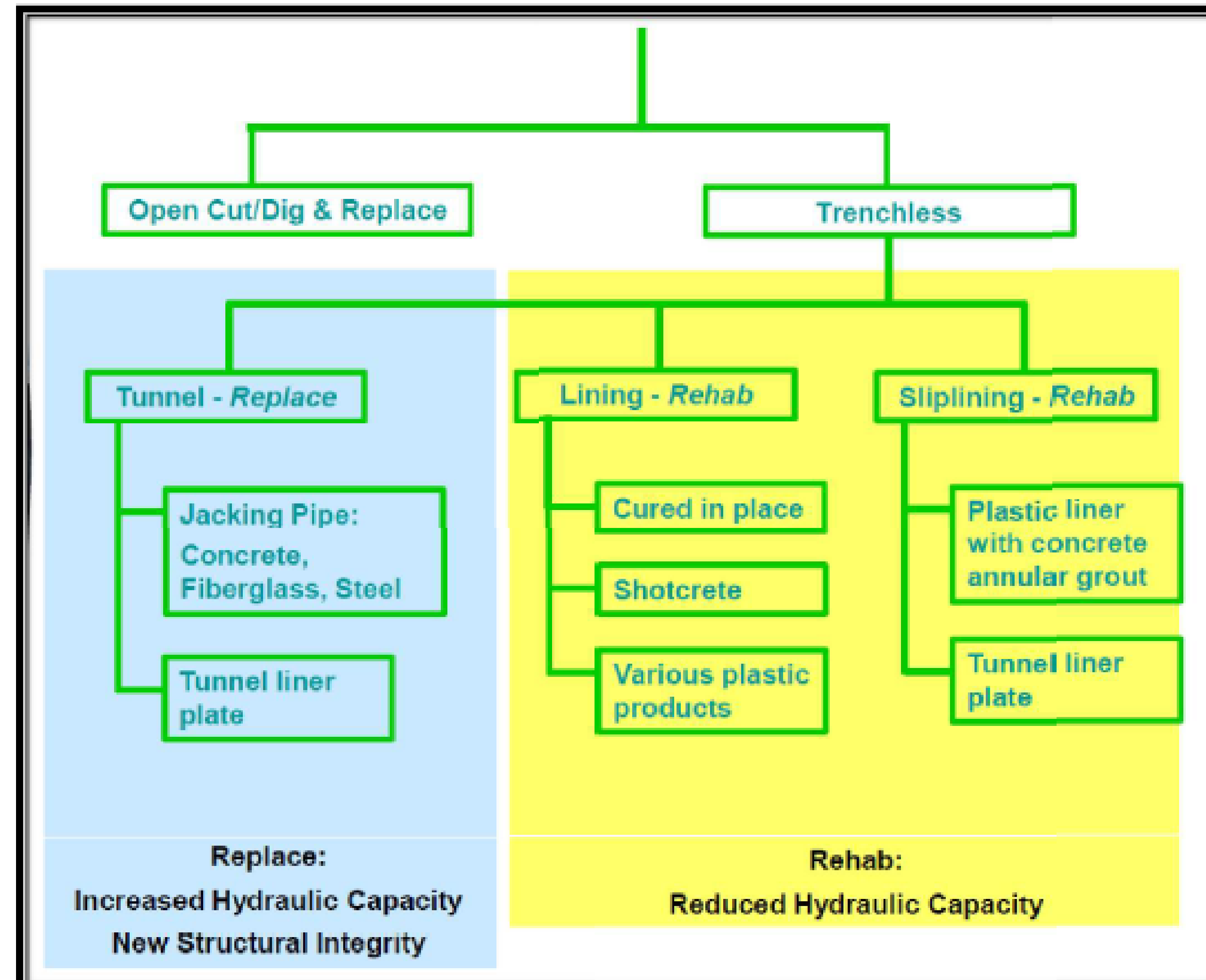




SOLUTIONS FOR FAILING CULVERTS

Possible Solutions:

STEP 1: CAUSES	STEP 2: CONSIDERATIONS	STEP 3: SOLUTIONS
LOAD	CONDITION OF PIPE	REPLACE
Live (Design)	Squatted Pipe	Open cut / Dig
Dead (Soil)	Culvert Sagged	Tunneling
Construction	Backfill / Bedding Eroded	REHABILITATION
CONDITIONS	Environment	Lining
Increased Runoff	Is pH tolerable?	Sliplining
Environment	MISCELLANEOUS	
Undermining/Washout	Liner's impact on hydraulics	
Improper Cover	Structural strength of pipe	
	Liner's impact on velocities	
	Axial Thrust- Jacking Forces	



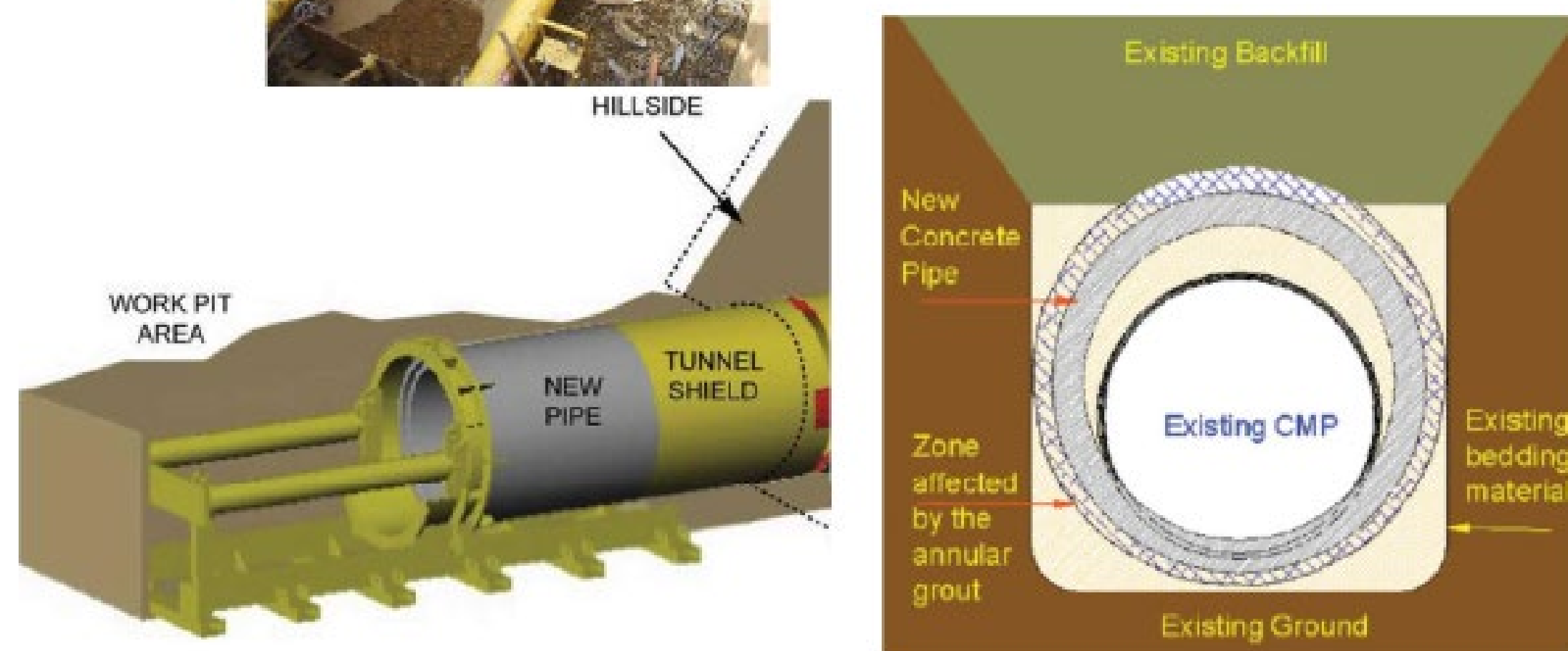
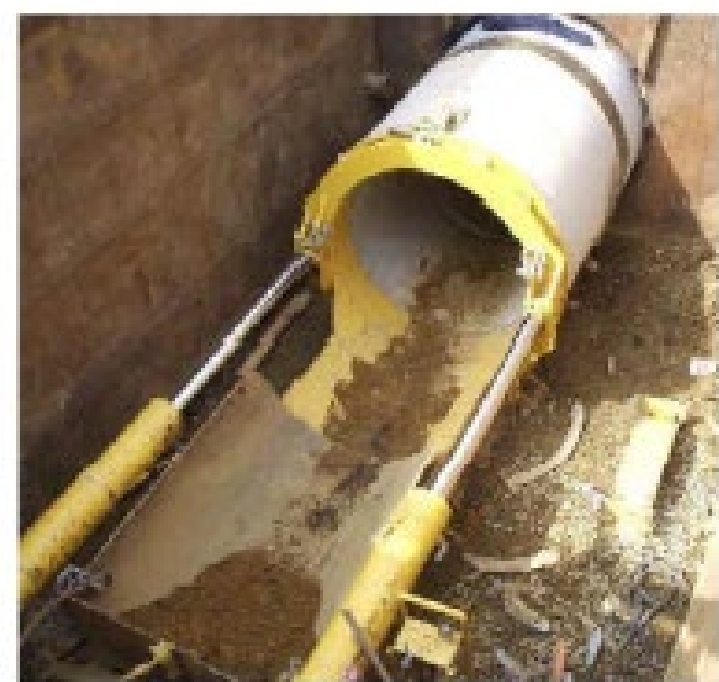
SLIPLINING



CURED IN PLACE (CIP) LINER



SPIRAL WOUND LINER



PIPE JACKING

