

LITHIFIED TECHNOLOGIES EXECUTIVE SUMMARY

NEW STABILIZATION CLASS: LITHIFIED SOIL

1. KEY ADVANTAGES

A. Road Bases Superior to Traditional Designs

- Recycle materials already paid for
- Extend time to work soil with superior results
- Applicable for use under any surface - asphalt, concrete, chip seal

B. Unprecedented Combination of Benefits

- Low and slow permeability
- High ductility (stress/strain)
- High strengths
- Passes EPA Method 1312 (no harmful chemicals leach into the environment)
- Low shrink/swell characteristics

C. Value Engineered Projects

- High structural credits allowed in designs to reduce materials and lower cost
- Eliminates waste – reduces costs for removal or replacement of failing materials
- Faster production times reduce overall project length and cost
- Performance based specifications that include design criteria for permeability and ductility
- Better product with lower lifecycle costs

2. BACKED BY COMPREHENSIVE TEST BANK – FUTURE PERFORMANCE INDICATORS

A. Lithified Soil Structural Base Design Projects Uses a Design Bank that Tests:

Soil Test	Protocol	LithTec Design Bank Minimum Requirement ^{1,2}
California Bearing Ratio (CBR)	ASTM D1883-16 or AASHTO T193-13	100
Permeability (K)	ASTM D2434, ASTM D5084 or AASHTO T 215	10 ⁻⁷ cm/sec
Resilient Modulus (M _R)	AASHTO T 307 or AASHTO T 208 Modulus Derivative	100,000 psi
Unconfined Compressive Strength (UCS) - Strain at Failure	ASTM D2166M-16 or AASHTO T 208-15	0.90%
Unconfined Compressive Strength (UCS) - Stress at Failure	ASTM D2166M-16 or AASHTO T 208-15	300 psi

¹LithTec Design Bank testing approach requires that the minimum results for each soil test are met for the specific project, unless waived by the engineering firm, project designer, customer or due to circumstances unique to the project or soil.
²Tx-DOT 113E Compaction Energy (22,918 lb-ft/ft³).

- Design bank testing exposes weak spots
- Cement, geo-textiles, lime, polymers may excel at one or another but no other product has demonstrated it meets all 5 minimum requirements