



# INDIANA DEPARTMENT OF TRANSPORTATION

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**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

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## TESTING MEMORANDUM 22-01

To: Industry and INDOT Representatives

Thru: Jim Reilman, PE  
State Materials Engineer *JER*

From: Michael Nelson, PE *MWN*  
Concrete Engineer

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A transition to portland limestone cement, PLC, (aka Type 1L) is progressing rapidly for many certified cement suppliers in our region. This material has minor differences from the typical portland Type I or I/II cements currently being used. Type 1L cement is more environmentally friendly and creates a lower carbon footprint during the manufacturing process. Type 1L has been recognized in the standard specification since 2015, but the EPA's desire to lower the carbon footprint and other environmental initiatives have made Type 1L much more desirable. It is anticipated to become the primary cement used in nearly all applications.

To assist industry with the challenges of transitioning to Type 1L cement, effective immediately INDOT will allow Type 1L cement to be substituted one-to-one into existing concrete mix designs without the need for a new trial batch. The contractor shall notify INDOT Construction in writing when Type 1L cement is going to be substituted into an existing concrete mix design. The Department understands that the concrete supplier will likely need to make minor adjustments to water and admixture dosages when substituting Type 1L. It is expected that the concrete supplier will fully vet the mix performance prior to requesting the change of cement type and the Department accepts no responsibility for changes in performance of the concrete. If the producer determines that performance is not equivalent and the quantity of cement needs to be changed when using Type 1L cement, a new mix design shall be submitted and processed via normal protocol.

Also, effective immediately, Type 1L cement will be allowed in all soil applications including chemical modification of soils per section 215 and cement stabilized subgrade soil per section 219. However, these applications **will** require new mix designs and substitution will not be allowed. Type 1L is also permitted in flowable backfill applications per section 213 and cellular concrete fill per section 216. A trial batch **will** be required for all new and existing mix designs per 213.03(b) and 216.03. Type 1L cement shall not be mixed with other types of cement.