

REVIEW OF MRWA DENSITY COMPLIANCE SYSTEMS FOR SUBGRADE AND EMBANKMENT CONSTRUCTION



Review of various aspects related to density compliance of sand subgrade and embankment construction works

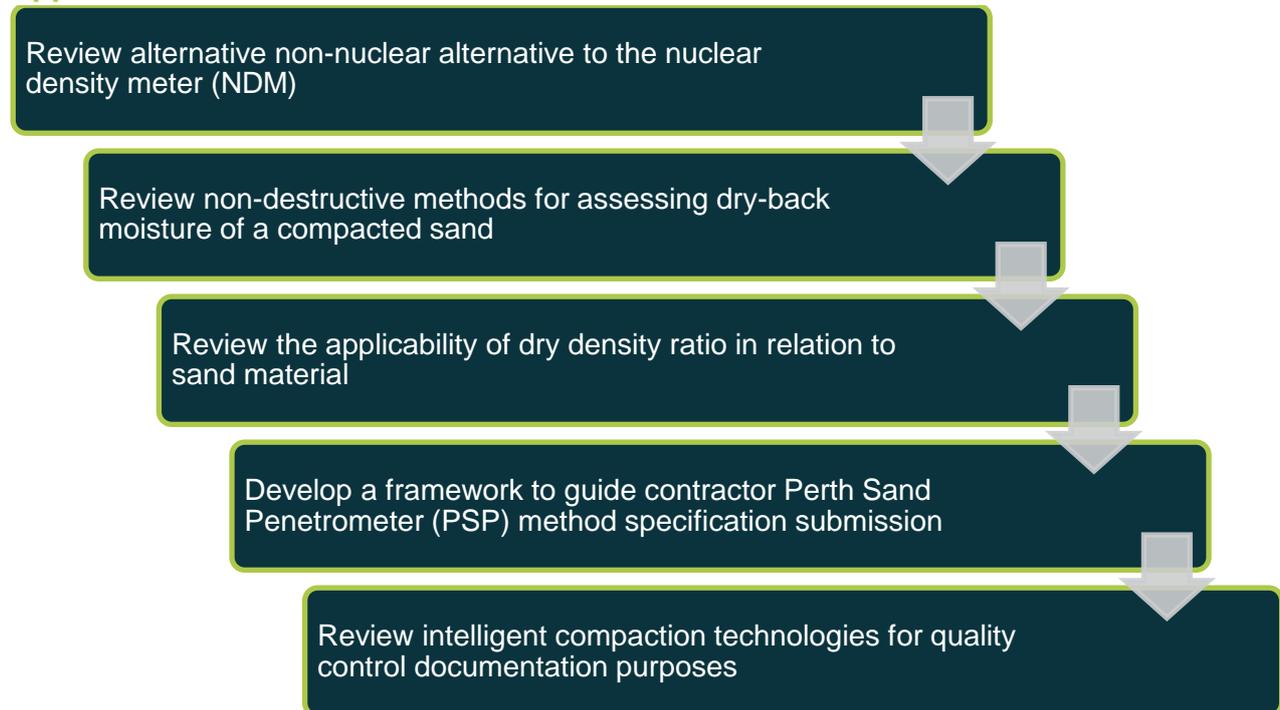
In an effort to assist Main Road WA find more efficient and cheaper methodologies, WARRIP reviewed several aspects of the Main Roads WA density compliance process for the compaction of subgrade and embankments to identify areas for future investigation.

Background

The current density compliance processes for subgrade and embankment construction used by Main Roads WA have operational limitations, require destructive testing and can produce varying results. This process is time consuming and resource intensive.

WARRIP reviewed several aspects related to the density compliance process to identify alternatives to the current methods which can optimise time and reduce cost, but also ensure a high-quality outcome.

Approach



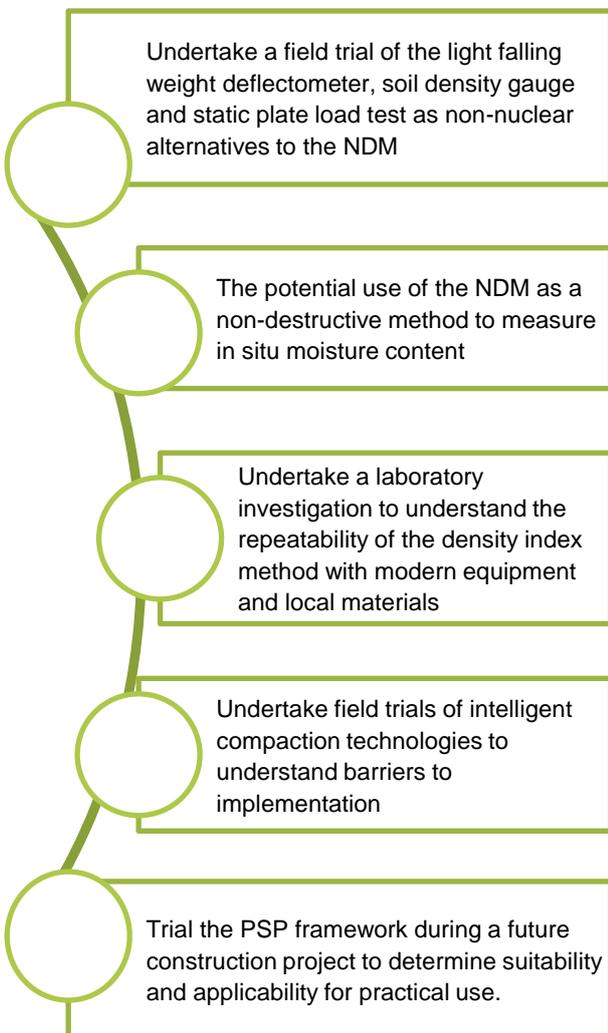
This project undertook a vast review of national and international literature on the above aspects related to density compliance to identify more efficient techniques which could be investigated further for inclusion into MRWA specifications.





Outcome

The literature review identified some areas which warrant further investigation through separate WARRIP projects. These future projects included:



In depth review of national and international practice for density compliance processes to identify improved methods



Submission of a PSP method specification framework to be trialled during a future construction project



Future WARRIP projects to be scoped based on several promising findings

FUTURE CONSIDERATIONS

Field trials of non-nuclear alternatives such as the light falling weight deflectometer, static plate load and soil density gauge

Field trials of intelligent compaction to test QA/QC documentation quality

Laboratory investigation into repeatability of density index for sands

