APPENDIX 2: CASE STUDY

Caltrans Contract No.: **11-413604**

Location: **Interstate 8 in Imperial County near El Centro From 0.6 Mile West of Anderholt Road Overcrossing To 0.5 Mile East of East Highline Canal Bridge.**

Reference: **David Evans, Caltrans District 11 Pavement Engineer**

PROJECT PROFILE

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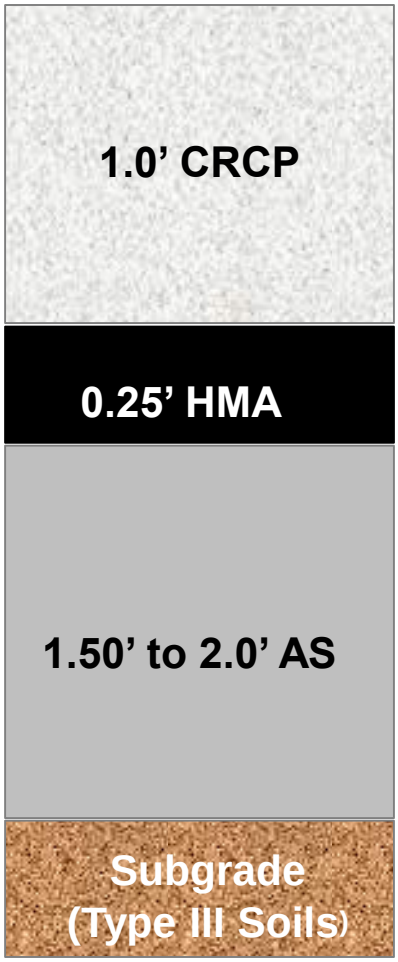
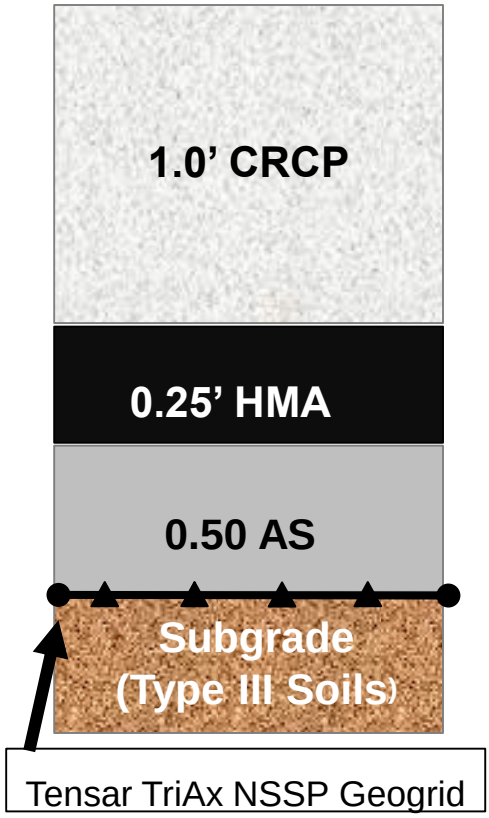
ROADWAY IMPROVEMENT SYSTEM

Alternate Non-Stabilized Section



TriAx Geogrid NSSP Enhanced Section



Caltrans I-8 Update

PROJECT NAME

Contract No. 11-413604 (Segment 1)
Interstate 8 in Imperial County near El Centro From 0.6 Mile West of Anderholt Road Overcrossing To 0.5 Mile East of East Highline Canal Bridge

PRODUCT

TriAx® Geogrid Non-Standard Special Provision (NSSP)

QUANTITY

200,000 square yards

OWNER

Caltrans

CONTRACTOR

Coffman

INSTALLATION DATE

2016

PROJECT DETAILS

The project consisted of many challenges:

- Unsuitable Subgrade
- Overbudget
- Time Delays

Caltrans District 11 chose to use Tensar TriAx NSSP geogrid with 0.5’ Class 2 Aggregate Subbase (AS), which provided a firm unyielding surface for the Asphalt Paver. The mechanically stabilized geogrid layer (MSL) provided the following savings:

1. Reduced Road Section Thicknesses
2. Reduced environmental impact, material and time savings
   time savings estimated:
   - 60,000CY OF Imported AS material
   - 60,000CY of Export Subgrade
   - 11,000 Trucks
3. Improved Pavement Performance and Longevity

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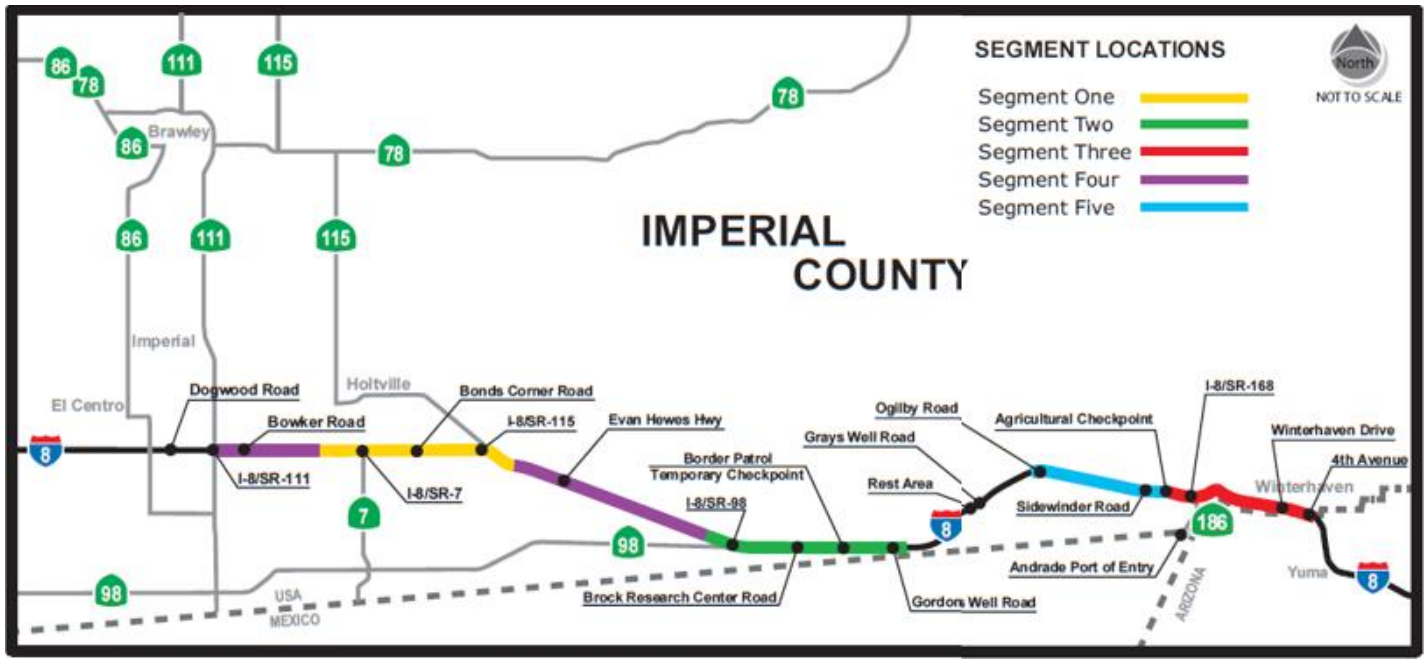
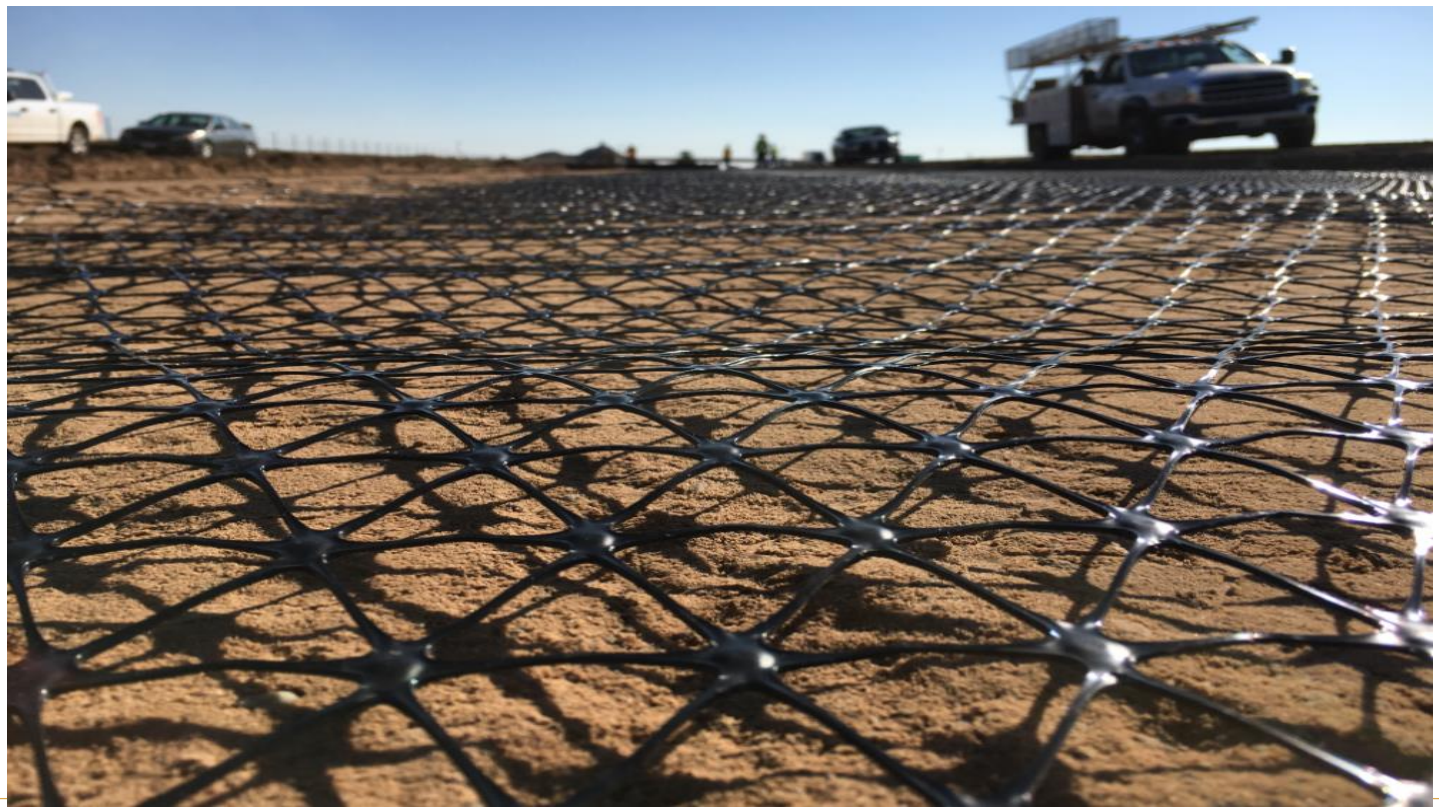
ROADWAY IMPROVEMENT SYSTEM

Location

Reconstruction of Interstate 8 (SEGMENT LOCATION ONE)





PROJECT PROFILE

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Caltrans I-8 Update

PROJECT PROFILE

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PROJECT PROFILE

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RESEARCH

Tensar contracted with Ingios to perform Automated Plate Load Testing on the stabilized section to measure the resilient modulus(Mr) of the:

- Subgrade (Type III)
- Mechanically Stabilized Layer(MSL), consisting of 0.50 Feet AS Placed on TriAx Geogrid and
- Composite section, MSL and subgrade

The purpose of the testing was to verify the performance of the planned CRCP section along the westbound lanes. Additionally, in situ measurements can assist in a potential redesign of the forthcoming construction of the eastbound lanes. Additionally, the testing provides further validation for Tensar's mechanistic design capabilities.

RESULTS

- The MSL of 0.50 Feet AS Placed on TriAx Geogrid placed on Type III subgrade, provided both a firm an unyielding surface for construction equipment and the final surface provided support characteristics of a Type I subgrade.
- Estimated Savings on the project by using the TriAx MSL design and not using the alternative of over-excavating an additional 1.0 to 1.5 feet was $24/SY to $36/SY.

Tensar®

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