Three Bridges & I-95 ETL
LESA to LDCC VE's

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Quick Overview

- MD-151 & Wharf Rd
- Prime Contractor
  - Six M

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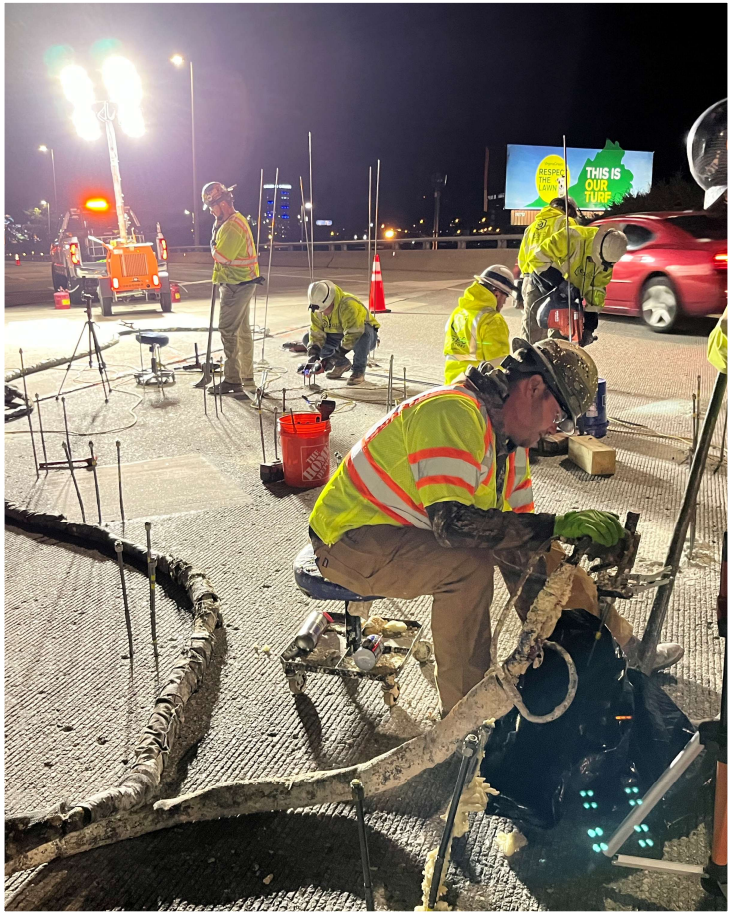
Geotechnical Challenges

- Need to Raise Grades
  - Without Causing Settlement
- Underlying Compressible Soils
- Potentially Contaminated Embankment Fill



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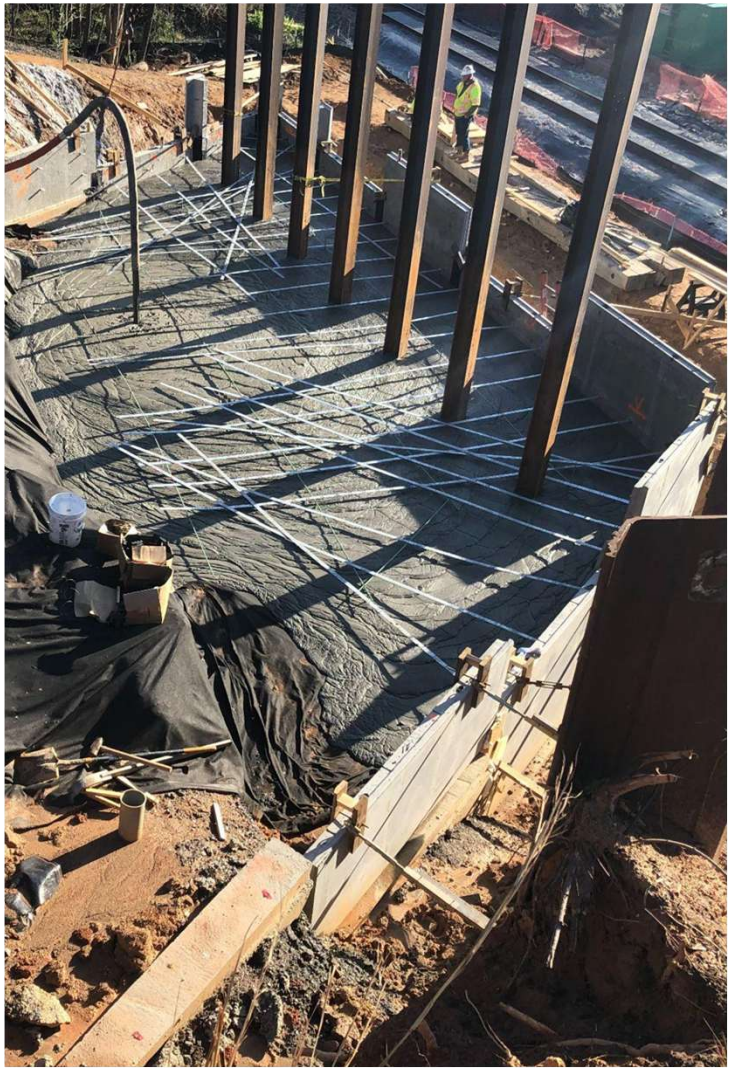
Constructability Challenges

- Material logistics
  - 2020/2021 trucking meltdown
  - Albany or Charlotte
- Space
  - Limited laydown areas
  - No room for stockpiles



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Proposed Change

- Design change after bid
  - Already designed
  - Already approved
  - Already bid
- LDCC
  - 25lb/cuft
- Footprint
  - Kept the same
  - Significant load reduction
    - Reduces anticipated settlement
  - Eliminated Geotextile Inclusions

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Physical Properties

- Embankment Mix
  - 25lb/cuft
  - 80psi @ 28 days (ASTM C495)
- MSE Wall Mix
  - 30lb/cuft
  - 140psi @ 28 days (ASTM C495)

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Implementation

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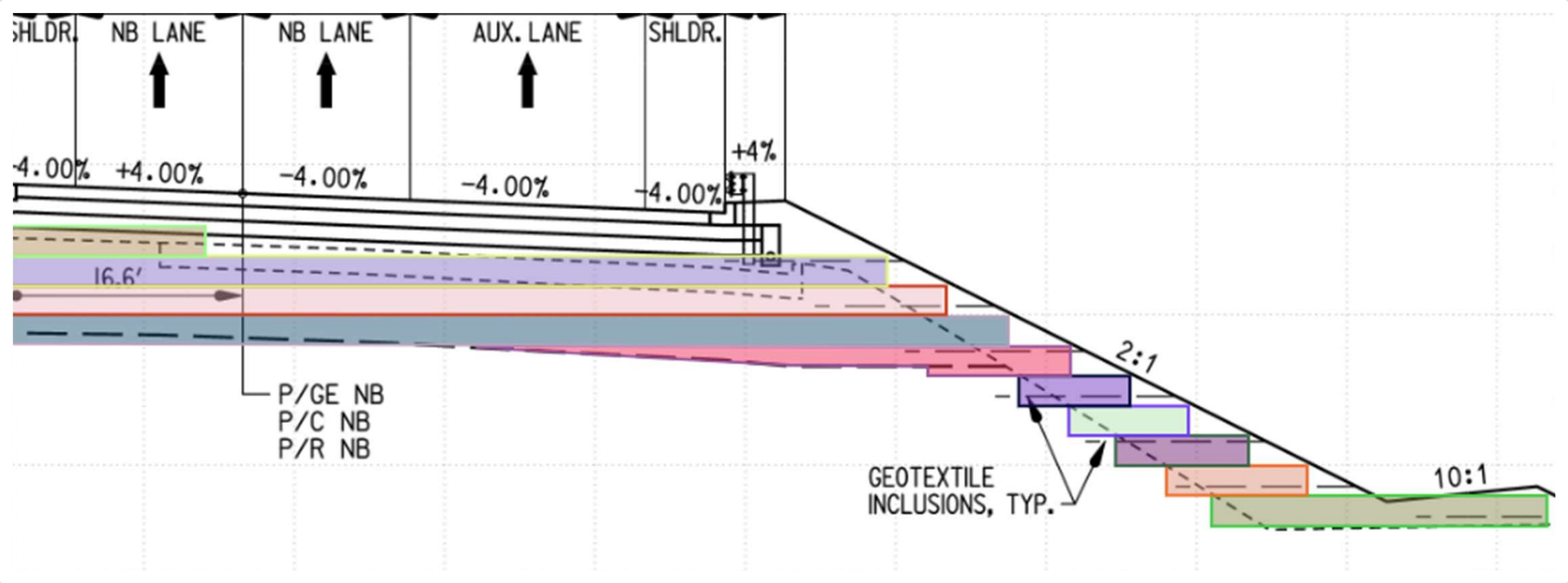
Implementation



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Implementation

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Insights

- Alternative product improved performance:
  - Less anticipated settlement
    - Within foundation materials
    - Within existing embankment
    - No waiting period
  - Faster construction
  - Reduced logistics risks

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MSE Wall Backfill

- I-95 ETL
- Originally LESA
  - Heavy
  - Expensive
- VE Alternative
  - 17.5’ 30lb/cuft LDCC
  - 7.5’ 57 stone

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