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APPENDIX B

FIGURES

Figure B.1: Frequency of Thick Layers of Ice or Ice Rich Soils in the Boreholes Drilled along the Railway Line

Figure B.2: Creep Deformation Pattern after 25 Years - 25m High Embankment - No Berms

Figure B.3: Creep Deformation Pattern after 25 Years - 25m High Embankment – with Berms

Figure B.4: Track settlements after 25 years vs Embankment Height

Figure B.5: Track Settlements vs Time – 10m and 25m High Embankments – No Berms

Figure B.6 Track Settlement after 25 Years vs Embankment Height - No Berms

Figure B.7 Track Settlement after 25 Years vs Embankment Height – Berms are 1/6 of Embankment Height.

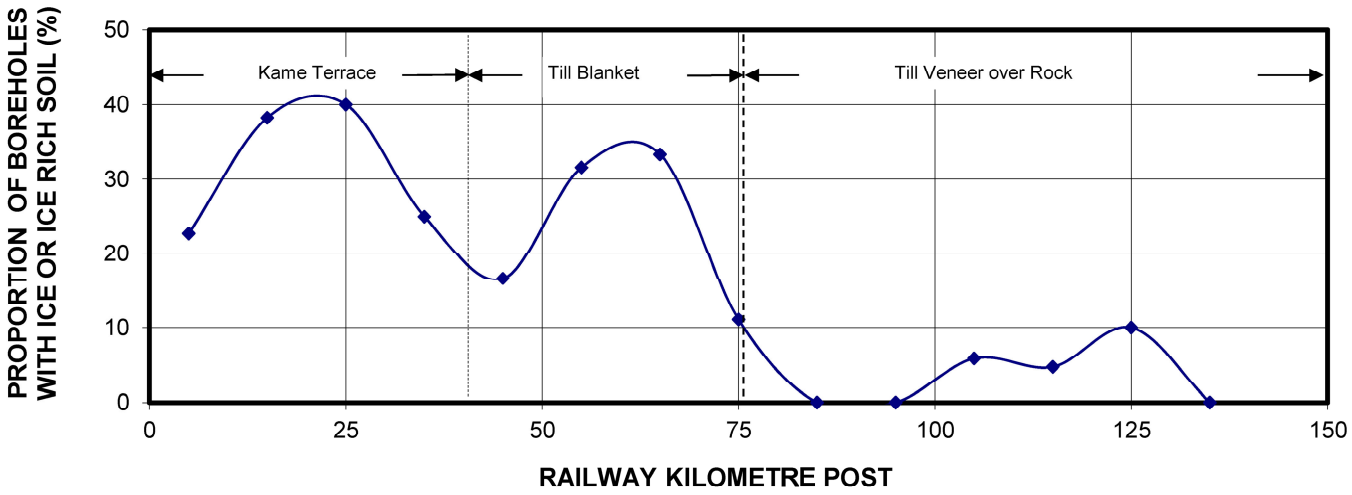
Figure B.8 Track Settlement after 25 Years vs Embankment Height – Berms are 1/3 of Embankment Height.

Figure B.9 Culvert Deformation Patterns after 25 Years for Various Berm Heights

Figure B.10: Culvert Settlement after 25 Years vs Embankment Height – No Berms

Figure B.11 Culvert Settlement after 25 Years vs Embankment Height – with Berms

Figure B.12 Conceptual Cut Slope Configuration



NOTES:

ICE DISTRIBUTION IS BASED ON INFORMATION CONTAINED IN BOREHOLES DRILLED IN 2006, 2007, AND 2008.

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FREQUENCY OF THICK LAYERS OF ICE OR ICE RICH SOILS IN THE BOREHOLES DRILLED ALONG THE RAILWAY LINE

FIGURE B.1

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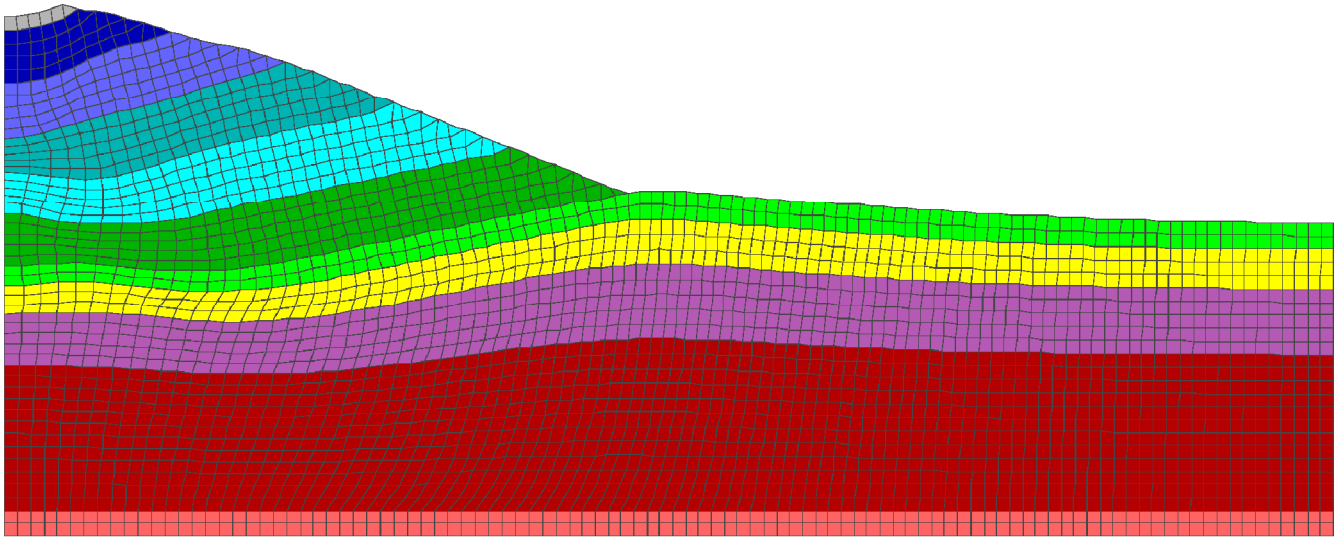

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CREEP DEFORMATION PATTERN AFTER 25 YEARS -
25 m HIGH EMBANKMENT - NO BERM

FIGURE B.2

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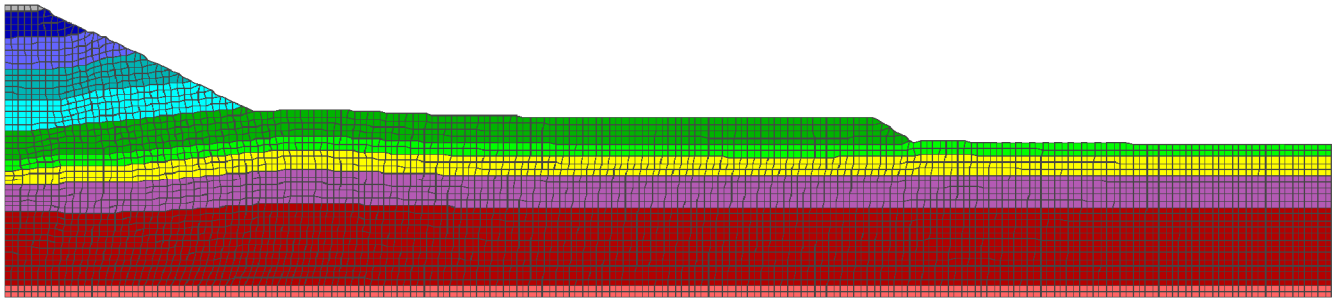
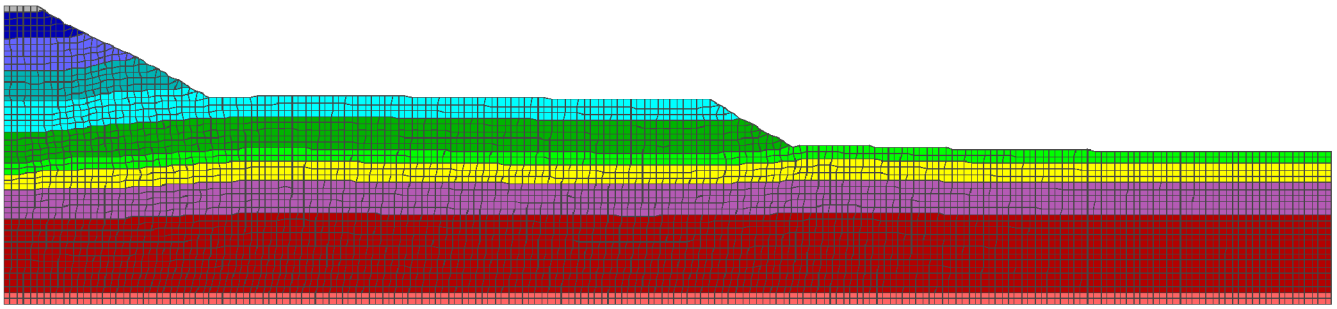


a.) CREEP DEFORMATION PATTERN – 25 m HIGH EMBANKMENT – 4.2 m HIGH BERMS



b.) CREEP DEFORMATION PATTERN – 25 m HIGH EMBANKMENT – 8.3 m HIGH BERMS

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CREEP DEFORMATION PATTERNS AFTER 25 YEARS

FIGURE B.3

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