

## **ACHIEVEMENTS:**

- Guidelines on Design and Construction of Reinforced Earth Structures (for trial application in Railway sidings)
- Guidelines for Design & Construction of Tunnels
- Guidelines for safety in Tunnels during Construction
- Guidelines for Civil Engineering Maintenance and Safety in existing Tunnels
- Development of Small Width Vibratory Roller for compaction of earthwork in gauge conversion works and narrow width portion
- Study report on Ground improvement by Stone Column
- Issue of Working Procedure for use of Nuclear Gauges to measure in- situ dry density and moisture content in earthwork.
- Issue of Guidelines for Design/Construction of formation on Indian Railway Track, rationalizing the thickness of Blanket Layer and/or Prepared Subgrade
- Guidelines on Drainage System for Station Yards
- Issue of Revised "Specification of Track Ballast"(IRS:GE-I,June'2016)
- Method Statement for Investigation, Planning and Execution of Cuttings in Soil for Railway Projects
- Specification for Non-Woven Geo textile to be used as separator/filtration layer for railway formation.
- Specification for Geo-composite Drain (Vertical) to be used behind Bridge abutment/Retaining wall.
- Specification for Geo-composite Drain (Horizontal) to be used at the base of the embankment for Railway formation.