

## Dr. DEEPAK MANJUNATH

E-mail: [deepak.manjunath@terre-armee.com](mailto:deepak.manjunath@terre-armee.com)

Phone: +91-7574887547

---

Dr. Deepak Manjunath has a PhD in Geotechnical Engineering and has a total of 15 years of experience in the fields of Geotechnical Engineering, Geology, Transportation Engineering. Through the course of his Geotechnical Engineering, he has held several technical managerial positions and has been responsible for design, site characterization, technical analyses, project management, cost estimating, Geosynthetics application & testing and Engineering team management.

His design experience includes Design of Gravity Retention structures and Reinforced Soil Walls & Slopes in accordance with International and Domestic codal standards (BS 8006:2010, FHWA-NHI-10-024 & FHWA-NHI-10-025, IRC SP 102:2014, IS 1893:2003).

His experience with Geotechnical Design & Analysis software includes experience with SLOPE/W, UTEXAS, SLIDE, PLAXIS, LPILE, GRLWEAP, DRIVEN, SEEP/W, Two-dimensional Coulomb Stress computation software, MSEW, ReSSA and FoSSA besides several custom made spreadsheets for design of ground improvement using Geosynthetics.

### EDUCATION:

**Ph. D., Civil Engineering - Geotechnical Engineering (2008)**

University of Missouri- Columbia, MO, USA.

**M. S., Geological Sciences (2008)**

University of Missouri- Columbia, MO, USA.

**M. S., Civil Engineering - Transportation Engineering (2002)**

University of Missouri- Columbia, MO, USA.

**B. Tech., Civil Engineering (1999)**

National Institute of Technology, Surat, India

### WORK EXPERIENCE:

**Terre Armee India Pvt. Ltd.**

**Vice President - Design & Engineering**

**August 2019 – present**

- Project co-ordination, planning, interaction with client for collection of input data
- Preparation and Issuance of Design Reports for Reinforced Earth Walls
- Co-ordination with client/consultant for approval of design and drawing
- Preparation of BOQ (Bill of Quantities) / Variance Analysis Report
- Preparation of monthly “Design and Drawing” Activity Sheet Report
- Supervise and monitor activities of CAD Department, timely and error free generation and dispatch of drawings
- Preparation of proposals, case study and preliminary design for cost estimation.
- Interfacing with Business Managers on technical proposals
- Developing soil investigation procedures and design parameters for MSE Walls and Precast Structures
- Supervising, supporting, mentoring, and training members in the team including junior engineers
- Contributing to development of design engineering technology and tools & training further team members
- Checking quality and content of engineering deliverables with regard to the geotechnical side
- Ensuring compliance with corporate and project QMS and HSES procedures

**Geotechnical Consultant (Independent)**

**April 2019 - August 2019**

**Job Duties:**

Head the technical department of the company through timely, effective and efficient technical support for Business Development activities as well as bagged projects involving design, supervision and/or execution of projects involving use of geosynthetics viz.

- Mechanically Stabilized Earth Walls using Segmental Panel, Modular Block and Gabion facia,
- Mechanically Stabilized Earth Slopes using geosynthetic wrapped around geotextile bags as well as mechanically woven mesh wrap around systems,
- Efficient drainage by means of drainage composite and ground improvement by means of basal reinforcement,
- Acceleration of consolidation using Wick Drains,
- Track bed stabilization using Geogrids,
- Pavement reinforcement using Glass grids,
- Canal lining using geosynthetic concrete grout mattress and
- Erosion control of earthen slopes using Geotextile bags.

**Responsibilities also include:**

- Approval of Design and Drawings before delivery to the client. Technical guidance to clients when necessary.
- Coordination with site personnel (internal construction team / external contractor) to clarify design matters and to incorporate deviations in design conditions observed during progress of work at site and to initiate design and BoQ revisions when necessary.
- Obtaining technical approval of designs from third-party design vetting bodies when required.
- Developing resources and updating the knowledge base on engineering design practices as per international and national advancements in technology through continuous training programs (on the job training).

**Geosynthetic Testing Services Pvt. Ltd. – Ahmedabad, India**

**Jan 2015 – March 2018**

(A Joint Venture company of TRI Environmental Inc., USA  
& BTTG Testing & Certification Ltd, UK)

**Operations Head**

**Job Duties:**

- Successfully implemented the standard test procedures as per ASTM, ISO & other National Standards for various Index and Performance Tests of Geosynthetics products (Reinforced and Unreinforced Geomembranes, Woven and Nonwoven Geotextiles, Uniaxial and Biaxial Geogrids, Drainage composites, Wick Drains, Geosynthetic Clay Liners) viz. Density, Carbon Black Content, Carbon Black Dispersion, Strip, Grab and Wide-width Tensile Properties, Tear Resistance, Puncture Resistance,, Stress Crack resistance (NCTL), Permittivity and Permeability by Constant or Falling Head methods, Transmissivity / In-plane flow, Apparent Opening Size, Characteristic Opening Size, Interface Friction Angle of Geogrids and Geostrips, Derivation of Installation damage and Creep Reduction factors for designing with geosynthetics along with achieving accreditation of the testing facility under Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP, USA) within a year of commissioning of test equipment.
- Technical training and supervision of staff, and to provide effective technical services as per recognized and accredited standards of quality and accuracy.
- Regular interaction and follow-up with existing and prospective clients to build pipeline of regular testing work.

Divisional Manager – Design, Pune & Gurgaon, India Feb 2011 – Jan 2015

**Job Duties:**

- Final Checking, approval of designs and drawings before delivery to the client and interacting and convincing clients whenever necessary
- Design of Gravity Retention, Hydraulic and Erosion control structures and Reinforced Soil Walls & Slopes in accordance with International and Domestic codal standards (BS 8006:2010, FHWA-NHI-00-043, SANS 1580:2010, IS 1893:2003)
- Leading a team of around 30 Engineers and coordination of design and drafting activities for Maccaferri subsidiaries spread across the globe viz. India, Italy, France, Central Europe, Spain, USA, UK, Australia & New Zealand, as per respective national and international standards.
- Coordination with site personnel (either internal EPC wing or external contractor) to clarify design matters and to incorporate deviations in design conditions observed during progress of work at site and to undertake design and BoQ revisions when necessary.
- Technical approval of designs from third-party design vetting bodies when required.
- Developing resources and updating the knowledge base on design and drafting practices as per the international and national advancements in technology through continuous training Programs (on the job training)

**Some key projects:**

- ***Four Laning of Kiratpur-Ner Chowk section of NH-21 in state of Punjab / Himachal Pradesh:*** Four Laning of Kiratpur to Ner-Chowk Section of NH-21 from Km 73.200 to Km 186.500 in the States of Punjab & Himachal Pradesh, executed as BOT (Toll) on DBFO pattern under NHDP Phase – III  
Design and construction coordination for reinforced soil structures varying in height from 10 m to 45 m. This is a typical hill road project in Seismic Zone – V where all reinforced soil structures support the NH-21. Was also responsible for design approval from Independent Engineer.
- ***River Bank protection and storage capacity augmentation at Joshiyara Barrage, Uttarakhand:***  
Design and construction coordination for river front gravity retention structure and scouring apron undertaken to increase storage capacity at Joshiyara barrage location on the banks of River Bhagirathi. Also responsible for design approval from Central Building Research Institute (CBRI), Roorkee.
- ***Enhancement of Red Mud storage capacity project for Hindalco, Muri, Jharkhand:***  
Design and construction coordination for construction of reinforced soil structures at Hindalco, Muri, Jharkhand to enhance red mud storage capacity. Also responsible for design approval from CBRI, Roorkee and provided technical support to Hindalco to obtain system clearance from Central Pollution Control Board (CPCB).
- ***Earth Retention structures for South Western Railways Nelamangala Bangalore:***  
Design finalization and approval from South Western Railway design wing for gravity retention structures along Nelamangala section of South Western Railway line in outskirts of Bengaluru.

- ***DLF Panchkula***  
Design and construction coordination for construction of reinforced soil structures at DLF housing project in Panchkula. Also responsible for design approval from IIT Roorkee.
- ***Retaining structures for North Toll Plaza and Dump area, Chenani Nashri Tunnel project***  
Design and construction coordination for construction of reinforced soil structures at North Toll Plaza and Dump Area locations of \$500m Chenani-Nashri Tunnel Project.
- ***Mountain Road Project – Ras Al Khaimah, UAE***  
Design coordination for retention structures to support highest road in UAE. The entire stretch consists 36 km of road with a maximum structure height of 32m. All initial design work for approval of project was done in the design center in India under my supervision. Was also responsible to answer technical clarifications sought by Halcrow International Partnership during approval stage. The project under Maccaferri Middle East was winner of GeoME award in 2015 in the category “Best Geosynthetics Project”.

**Some key techno-commercial proposals:**

- Runway extension at Bhuntar Airport by river diversion, Kullu, Himachal Pradesh. Proposal submitted to Airports Authority of India.
- River front development at Chauras campus of HNB Garhwal University along river Alaknanda. Proposal submitted to HNBGU campus.
- DPR for Uttarakhand flood disaster mitigation. Proposal submitted to PWD, Uttarakhand.
- Flood protection work at Mangala processing terminal in Rajasthan block. Proposal submitted to Cairn India.
- Erosion control and scour protection for Gangapath in Patna, Bihar.
- Enhancement of storage capacity at Hindalco, Renukoot. Proposal submitted to Hindalco, Renukoot.
- River bank protection works near Joshiyara barrage, Uttarakhand. Proposal submitted to PWD and UJNVL, Uttarakhand.
- Development of new airport at Kannur. Proposal submitted to KIAL and L&T.
- Jammu Central University. Proposal submitted to Jammu Central University.

**GEODATA – Delhi, India**

**Nov 2010 – Jan 2011**

**Geotechnical Engineer**

- Chenani – Nashri Tunnel Project: It is a \$500m contract to build a tunnel in India’s Jammu region. Geodata had been charged by Leighton with the responsibility of developing the detailed design and doing the subsequent construction follow up of the Patnitop Tunnel.
  - Responsible for reporting, monitoring and execution of all the site activities including preparation of daily and weekly reports, client liaison and attending project meetings.

**URS Corporation – Denver, Colorado, USA**  
**Geotechnical Engineer**

**April 2008 – July 2010**

**Job Duties:**

- City of Dallas Pump Station Levees: Geotechnical Design and Analyses as part of 35% design level effort. Task leader of Geotechnical Analysis Group (Shear strength characterization, Seepage analyses, Slope stability analysis and Consolidation & Settlement analysis).
- New Orleans Levees: Investigation for levee upgrade and Seepage analysis to estimate design safe water levels at Inner Harbor Navigation Canal (IHNC) Reach II. Role includes assigning laboratory tests (UU, CU, CU', Consolidation, etc.) and seepage modelling using GeoStudio.
- Natomas NWS Levees: Evaluation of geotechnical design and analyses performed for the project. Role includes seepage analysis and slope stability analysis for reach 4.
- Hefner Dam: Geotechnical investigation and design of a surficial slope failure at Hefner Dam. Role includes prepare and execute geotechnical investigation plan and perform slope stability and seepage analysis to provide recommendations.