CURRICULUM VITAE — VIJAYKUMAR J.SHARMA

Date of Birth :21st May 1981

Contact Details:

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PROFILE

- Qualified design Engineer with a Doctorate in Geotechnical Engineering. Experience in vast geotechnical applications across pan India projects.
- 17 years of exposure to geotechnical engineering domain. Expertise includes preparing detailed soil investigation plans, calculation & assessment of the bearing capacity for shallow and deep foundations on soil and rocks, finalizing foundation schemes, and solving construction problems encountered during execution.
- Engaged as a consulting engineer for design approval of reinforced earth walls design, ground improvement design by basal reinforcement for highway and railway embankment projects on soft soil, design of stone columns, prefabricated vertical drain, etc.
- Knowledge of Indian standard codes (IS), Indian road congress (IRC), MORTH, RDSO guidelines, British design codes, ASTM, etc. related to Geotechnical engineering.
- Involved in business development, interaction with client, vendors and consultants to prepare proposals for winning future projects.

EDUCATION

Doctor of Philosophy — **2015**
Sardar VallabhBhai National Institute of Technology, Surat
Majoring in Geotechnical Engineering
PhD in Civil engineering

Post-graduation — **2007**
National Institute of technology Karnataka, Surathkal — CGPA 7.19/10.0
Majoring in Geotechnical Engineering
Master of Technology

Graduation — **2002**
Regional Engineering College Kurukshetra, Haryana — Percentage 67.4%
(lately known as National Institute of technology, Kurukshetra) (Aggregate% 59.3)
Major in Civil Engineering
Bachelor of Technology

AREA OF EXPERTISE

Geotechnical Investigation planning and coordination, Solutions in problematic black cotton soil, weak collapsible soil, liquifiable soil, etc., Soil selection for Railway formation & plot filling, Bored cast In-situ Piles, under-reamed pile, Pile-raft simulation, Ground Improvement, Geotextile & Geocells, Laboratory & In-situ tests on soil & rock, Embankment design, Slope Stability.

PROFESSIONAL EXPERIENCE

Current job (October 2019 till date)

Organization: M/s Adani Logistic limited, Ahmedabad (part of Adani group)
Designation: Manager (Geotechnical Engineering)

Nature of Work

- Leading the Adani logistics & Adani Agri- logistics projects in the Geotechnical Engineering domain. Managing a team of five Engineers.
- Finalization of optimized foundation schemes. Analysis and working out soil bearing capacity for various structures related to Agricultural storage Silos, warehouses & Private Freight terminals.
- Preparation & finalization of BOQs (Bill of Quantities) & TORs (Term of references) for subsoil investigation & Geo-physical survey.
- Providing suitable Ground improvement solution to meet the desired bearing capacity requirement at site.
- Recommendation & review of Geotechnical laboratory tests for selecting/finalizing borrow earth soil as per site requirement. The borrow soil is used for Railways, Roads & General Backfilling applications. Guidelines of RDSO & Ministry of road transport & highways (MORTH) were strictly followed.
- Preparing subsoil investigation budget estimates for upcoming lined up projects. Writing proposals to win new projects based on preliminary soil data.
- Optimizing foundation design solutions to minimize the CAPEX.

Noticeable Assignments /Projects

- Adani Agri-logistic project, Panipat (Client: Food Corporation of India (FCI))
  Responsibilities: Calculating & providing soil bearing capacities at founding levels for the various structural entities of agricultural grain storage Silos and its loading/unloading arrangements to Structural consultant.
- Adani Agri-logistic project, Kannuj (Client: Food Corporation of India (FCI))
  Responsibilities: Calculating & providing soil bearing capacities at founding levels for the various structural entities of Agricultural grain storage silos and its loading/unloading arrangements. Working on Ground improvement solution such as soil removal - refill of the existing soil at shallow depths to meet the desired bearing capacity requirement was done.
- Adani Agri-logistic project, Dhamora (Client: Food Corporation of India (FCI))
  Responsibilities: Providing soil bearing capacities at founding levels for the various structural entities of Agricultural grain storage Silos. Removal–refill Ground improvement technique of the existing soil at shallow depths to meet the desired bearing capacity requirement and to mitigate the liquefaction potential safely was analysed & recommended.
- Adani Agri-logistic project, Darbhanga (Client: Food Corporation of India (FCI))
  Responsibilities: Working out optimized foundation scheme w.r.t the available detail Geotechnical investigation report. Providing soil bearing capacities at founding levels for the various structural entities of Agricultural grain storage Silos and its loading/unloading arrangements including road & rail connectivity. Designed & proposed stone columns solution in Silos footprint area. Estimated the quantity of stone columns & crushed aggregates from techno-commercial perspective.
- Adani Agri-logistic project, Samastipur (Client: Food Corporation of India (FCI))
  Responsibilities: Working out optimized foundation scheme w.r.t the available detail Geotechnical investigation report. Providing soil bearing capacities at founding levels for the various structural entities of agricultural grain storage Silos. Designed & recommended stone columns & bored Cast in-situ piles solutions in the Silo footprint area. Estimated the quantity of stone columns & crushed aggregates from techno-commercial perspective.
- Dedicated Freight Corridor Corporation of India limited (DFCCIL project), Palghar.

	Responsibilities: Providing Ground improvement solution & its cost estimation for railway facility i.e., loading & unloading platform, reach stacker movement, etc. on existing thermal power plant fly ash dump yard. • Private Freight terminal, Nagpur Responsibilities: Preparation of detail soil investigation plan along with BOQ & TOR. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the ware- houses and entities related to it. Reviewing Geotechnical laboratory test results of the borrow earth soil for using at site. • Private Freight terminal, Taloja Responsibilities: Preparation of detail soil investigation plan. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the ware- houses and entities related to it. Reviewing Geotechnical laboratory test results of the borrow earth soil for using at site. • Private Freight terminal, Mundra Responsibilities: Preparation of detail soil investigation plan. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the ware- houses and entities related to it. Reviewing Geotechnical laboratory test results of the borrow earth soil for using at site. • Indore Ware housing facility Responsibilities: Preparation of detail soil investigation plan. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the Ware- houses and entities related to it. Finalizing the CNS (Cohesive non-swelling soil) soil solution to be used over existing Black cotton soil to tackle its swelling & Shrinkage characteristics. • Ambivali NRC warehouse facility Responsibilities: Preparation of detail soil investigation plan. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the Ware- houses and entities related to it. Preparation & finalization of rock fill placement & compaction methodology. Review of plate load test results on the rock fill to verify the desired bearing capacity requirement. Review of seismic refraction survey report to understand the subsoil stratification throughout the undulated plot area. • Muriya Warehouse facility Responsibilities: Preparation of detail soil investigation plan. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the Warehouses and entities related to it. Designing pile foundation & stone columns to provide optimized foundation solution. Exploring the option of Geosynthetic reinforcement below the warehouse floor area to increase the load dispersion area & reduce the settlement. • Private Frieght terminal, Virochannagar Responsibilities: Preparation of detail soil investigation plan. Coordination with soil investigation agency & finalization of the Geotechnical investigation report. Providing soil bearing capacities at founding levels for the Ware- houses and entities related to it. Reviewing Geotechnical laboratory test results of the borrow earth soil.

Previous Job (July 2018 to October 2019)

Organization: M/s Maccaferri Environmental solutions private limited, Navi Mumbai
Designation: Senior Manager

Nature of Work

- Leading the technical design team in ground improvement application across Pan India.
- Training newcomers regarding the techno-commercial aspects of various available ground improvement solutions
- Establishing new contacts for the promotion of ground improvement solutions as per available site conditions.
- Coordinating with the client for the design approval.
- Acting as facilitator between the Quality team and all the regional technical groups
- Writing proposals to win projects based on preliminary available data.

Noticeable Assignments /Projects

- Widening of Pipli-Bhavnagar-Section: Package-1 (Client: Kalthia Group)
  Responsibilities: Carried out basal reinforcement design as per IRC 113 & BS 8006 using MacBars software. Basal reinforcement below the embankment served the purpose of reducing differential settlement.
- Guyana construction of a new dual carriageway roadway (Client: RITES Limited)
  Responsibilities: Carried out design of Prefabricated Vertical drain along with the basal reinforcement below the highway embankment to tackle the differential settlement. Global stability of the embankment was checked using Macstars w software.
- Ground improvement below the proposed structure of ROB at LC 236 (Kutch salt junction) between Gandhidham and Deendayal Port (Client:M/s. Ranjit Buildcon)
  Responsibilities:The scheme of Prefabricated Vertical drain along with basal reinforcement was proposed. Reviewed the entire design, BOQ and the embankment stability results.
- Dhamra Railway double lining project, Odisha (Client Howe Engineering Projects (India) Pvt. Ltd)
  Responsibilities: The scheme of Prefabricated Vertical drain along with the basal reinforcement was proposed. Carried out the BOQ preparation, design and the embankment stability check.
- **Previous Job (January 2014 to June 2018)**
  Organization: Matoshri College of Engineering and Research Centre, Nashik (Affiliated to Savitaribai Phule Pune University)
  Designation**:** Assistant Professor, later promoted to Associate Professor Grade

Nature of Work

- Teaching under-graduates and post-graduates Civil engineering students. Taught eight hours/week post-graduate course modules related to Advance foundation engineering, Ground improvement techniques, slope stability analysis, etc.
- Conducting site visit related to Geotechnical engineering as a part of the academic curriculum.
- Guiding Geotechnical projects at Post graduate level

Noticeable Assignments /Projects

- Appointed as subject expert by the University Grants Commission (UGC) selection committee grade.
- Appointed as member of ME Geotechnical Syllabus revision committee for 2017 revised pattern by the University.
- Appointed as a senior supervisor (Internal) by the college for two consecutive end semester examinations held by the University.
- Appointed as a course coordinator for ME Geotechnical engineering course by the

college civil engineering department.

- Geotechnical laboratory In-charge, leading the laboratory and field tests related to soils and rocks.
- Successfully guided 18 Masters Dissertations and an undergraduate project.

Previous Job (Jan 2010 to Jan 2014)

Organization: Sardar Vallabhbhai National Institute of Technology, Surat
Designation: Research Scholar

Nature of Work

- Conducted Engineering mechanics tutorials & laboratory assignments for undergraduate civil engineering students.
- Worked as exam invigilator for mid semester & end semester examinations conducted by the institution.
- Involved in conducting conferences organized by the department at national level.
- Carried out thorough literature survey & research analysis work. Learned sophisticated Midas GTS NX software for detail research analysis.
- Writing & publishing technical papers in national & international journals. Presenting paper in conferences (list of publication is mentioned below).

Noticeable work

- Carried out research work on cushioned composite piled raft foundation under axial & lateral loads. The work was aimed at (i) understanding behaviour of composite piled raft foundation under axial load, i.e., axial stresses along the piles, shear forces along piles and the raft, settlement of the raft and normalized contact pressure along the raft. (ii) Load sharing among piles and subsoil. (iii) Study of foundation system subjected to lateral seismic forces in addition to gravity loading
- Initially a detailed parametric study was carried out varying the modulus of cushion, thickness of cushion, length of long pile, thickness of the raft and short piles modulus under axial load which was considered critical for design. After deciding the various parameters, the foundation system was checked under seismic behaviour considering time histories of Koyna 1967, Sanfer 1971 and T2-I-2 1995

Previous Job (March 2008 to December 2009)

Organization: Consulting Engineering Services (I) Pvt. Ltd. Vashi, Navi Mumbai. (Lately the company merged in Jacobs engineering India Pvt. Ltd.)
Designation: Geotechnical Engineer

Nature of Work

- Involved in the preparation of sub-soil investigation programme, interpretation of Geotechnical investigation report and recommendations.
- Design of shallow foundation, pile foundation and earth retained structures as per latest provisions of IS codes and IRC.
- Responsible for the approval of detailed assessment report in concordance with codes as per the client's requirement. Also involved in the modification of existing facilities/structures and establishment of the new infrastructure developments in the states of Maharashtra, Madhya Pradesh, and Goa.

Noticeable Assignments /Projects

- Anik-Paranjpole link road (Client: Mumbai urban infrastructure projects)
- Santacruz-Chembur link road (Client: Mumbai metropolitan regional development authority)
- Eastern Freeway (Client: Mumbai metropolitan regional development authority)
- Thane Satis (Client: Thane Municipal Corporation)
- Bhosari Flyover (Client: Pimpri-Chinchwad Muncipal Corporation)

- Goa Flyover (Client: Mormugoa Port trust)
- Widening of NH-17 (Client: Mormugoa Port trust)
- Residential building and office complex (Client: Hindustan Petroleum Corporation limited)
- SEZ Pharma additional Lote Pershuram (Client:Maharastra Industrial Development Corporation)

Responsibilities: In the aforesaid projects the workload included preparing BOQ for Soil investigation work. Review and approval of the Geotechnical investigation report and laboratory test results on soil and rock samples as per IS codes. Review of mechanically stabilized earth wall design, analysis of pile load test results and ground improvement solution of Prefabricated vertical drain results. Carried out slope stability analysis as well.

Previous Job (May 2003 to June 2005)

Organization: Shinde associates consulting engineers Pvt.Ltd., Bhusawal
Designation: Site Engineer

Nature of Work

- Involved in the sub-soil investigation, survey, laboratory testing, etc.
- Responsible for the preparation of detailed assessment report in concordance with codes, as per client's requirement

Noticeable Assignments /Projects

- Polavaram Project (Client: Andhra Pradesh Irrigation department)
  Responsibilities: Involved in preliminary survey, input study of soil stratification and laboratory test results on soils and rocks as per IS codes

LIST OF PUBLICATIONS

INTERNATIONAL/NATIONAL JOURNALS

1. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2015), "Study of Cushioned Composite Piled Raft Foundation Behaviour under Seismic Forces", Australian Journal of Civil Engineering Volume 13, Issue 1:32–39
2. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2015)., "Behaviour of Cushioned Composite Piled Raft Foundation under Lateral Forces", Indian Geotechnical Journal, Volume 45, Issue 1:89-97 **awarded as best paper in the area of Pile foundation by Indian Geotechnical Society in Dec 2017 at IIT Guwahati**
3. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2014), "Behaviour of Load Bearing Components of Cushioned Composite Piled Raft Foundation under axial loading", Slovak Journal of civil engineering, Volume 22, Issue 4:25 – 34
4. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2012), "Composite Piled Raft Foundation with Intermediate Cushion in Layered Soil under Seismic Forces", Computational Methods in Civil Engineering, Volume 3, Issue 2:15-28
5. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2013).,"Effect on Modulus of elasticity due to inclusion of Geotextile Double layer in Sand Cushion", New building Material and construction world, Volume 19, Issue 3:162-166
6. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2012), "Behaviour of Composite Piled Raft Foundation with Intermediate Cushion in Layered Soil under Seismic Forces", International Journal of Applied Engineering and Technology Volume 2, Issue 3:36-48.
7. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2012), "Effect of Cushion on Composite Piled Raft Foundation in Layered Soil under Seismic Forces", International journal of scientific Engineering and Technology Volume 1, Issue 6:314-322.
8. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2012), "Improvements in Modulus of Elasticity of Sand Cushion Using Single Layer of Geotextile", International Journal of

	Multidisciplinary Research and Advances in Engineering, Volume 4, Issue 2:195-200. 9. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2012), "Comparison of increase in E for sand cushion with single layer and double layer of geotextiles", Global Journal of Engineering and Applied Sciences, Volume 2, Issue 1:37-40 10. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2011), "Effect of Cushion on Composite Piled – Raft Foundation", Journal of Engineering Research and Studies, Volume 2, Issue 4:132-135 11. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2011), "Recent Studies on Piled-Raft Foundation: State of Art", Journal of Information, Knowledge and Research in Civil Engineering, Volume 1, Issue 2:38-46 **CONFERENCES** 1. Deshmukh R.R, **Sharma V.K** (2016), "A Three-Dimensional Computer Simulation of Laterally Loaded Taper Finned Pile Foundation for Offshore Wind Turbine", Proceedings of National Conference on Recent Advances in Civil Engineering: 1-8 2. Deshmukh R.R, **Sharma V.K** (2016), "Three-Dimensional Computer Simulation of Laterally Loaded Monopile Foundation for Offshore Wind Turbine", Proceedings of sixth International Congress on Computational Mechanics and Simulation 3. Deshmukh R.R, **Sharma V.K** (2016), "Three-Dimensional Computer Simulation of Cushion-taper Finned pile Foundation for Offshore Wind Turbine", Extended Abstract Volume of International Geotechnical Engineering Conference on suitability in Geotechnical Engineering Practices and Related Urban Issues (IGS Mumbai Chapter):1-4 4. **Sharma V.J**, Vasanvala S.A, Solanki C.H (2014), "Behaviour of Load Bearing Components of Cushioned Composite Piled Raft Foundation", Proceedings of 3rd International Conference on Recent Trends in Engineering & Technology: 821-828 **5. Sharma V.J**, Vasanvala S.A, Solanki C.H (2012), "Effect of Elasticity Modulus Of Cushion On Properties Of Composite Pile Raft Foundation", Structural Engineering conference: 549-553
COMPUTING SKILLS	
	• General Packages: Microsoft office, AutoCAD • Geotechnical Packages: NISA-II, Midas GTS NX & PLaxis-2D
MEMBERSHIPS	
	• Life member of Indian Geotechnical Society, Mumbai Chapter • Associate Member IEI (Institution of Engineers India), CEng (Chartered Engineer IEI)
AWARDS AND ACADEMIC ACHIEVEMENTS	
	• IGS- Prof. Dinesh Mohan Biennial award-2017 for best paper on Pile Foundation (based on Ph. D research work) by the Indian Geotechnical Society at IIT Guwahati in Dec 2017 • Spot Recognition Award in September 2022 by Adani Logistics limited management for providing a cost optimized solution by replacing traditional pile foundations with Vibro-stone columns ground improvement technique. The cost saving was approximately INR 60 million. • Qualified NPTEL exams on Introduction to Geographic Information Systems (conducted by IIT Roorkee), Geotechnical engineering laboratory (conducted by IIT Bombay), Earth sciences for Civil Engineering- part 2 (conducted by IIT Kanpur) • Secured 4th all India rank in NPTEL exam on Introduction to Geographic Information Systems conducted by IIT Roorkee in February 2018 • 50 citations on Google scholar & 38 citations on Research gate.

I declare hereby that the information furnished above is true to the best of my knowledge and belief.

Vijaykumar J. Sharma