

POSITION : Principal Geotechnical Engineer

NAME : **IR. GURPREET SINGH**

DATE OF BIRTH : 1965

NATIONALITY : Malaysian

EDUCATION : Master of Civil Engineering (Geotechnical)
University Technology Malaysia, 1989

Bachelor of Civil Engineering (Hons)
University Technology Malaysia, 1988

LANGUAGE AND : English - Spoken :
Good

DEGREE OF : Written : Good

PROFICIENCY

Bahasa - Spoken : Good

Malaysia - Written : Good

MEMBERSHIP OF

PROFESSIONAL : Member of Board of Engineers, Malaysia

SOCIETIES Professional Engineer.

Familiarity with geotechnical computer software:-

1. GEOSLOPE - program written in FORTRAN capable of analysing stability of cut slopes and fill embankments.
2. CONSOL - program written in FORTRAN capable of carrying out settlement analysis.
3. UTEXAS2 - program written in FORTRAN capable of analysing stability of cut slopes and fill embankments.
4. GEOSYNTH - program used to design geotextile reinforcement for various sorts of engineering problems.
1. STABGM - program used to design embankments reinforced with geotextiles.
6. MURO - program used to design gabions.

7. TECHBASE - geotechnical database software.
8. PILE GROUP - 3 dimensional analysis of pile group for foundation design.
9. WALL-LSA - program to design reinforced concrete retaining walls to BS8110.

EMPLOYMENT RECORD

2001 (September) – Present : GL Konsult Sdn Bhd (Director)

- **Kuala Lumpur –Putrajaya Highway**

Detailed geological mapping of proposed site and preparation of geological report
 Planning of suitable soil investigation scope of work
 Preparation of soil investigation Bills Of Quantities, specification and tender documents.
 Specification of laboratory testing schedules and monitoring of quality and progress of site work
 Design of foundation systems for piers and buildings in limestone areas.
 Analysis of foundation systems in limestone using computer software “PIGLET”.

- **Proposed Electrified Double Track Project Between Ipoh and Padang Besar**

Review of preliminary soil investigation results carried out by Government’s Contractor
 Project management of soil investigation works for pre-bid stage.
 Preparation of preliminary subsoil profile and ground treatment design
 Preparation of costing for various ground treatment options based on rate per-sq.m of base area
 Coordination with Design Consultant on ground treatment during revised submissions
 Technical audit of preliminary ground improvement design by Design Consultant
 Assist IRCON with negotiating the intent of the Statement of Needs in particular the settlement criteria and related geotechnical aspects
 Liaison with IRCON, Design Consultants and soil investigation contractors to ensure quality and progress of work
 Carried out technical audit of Consultants design to ensure compliance with Statement of Needs
 Value engineering and optimisation of Consultants design for ease of construction and cost viability
 Independent design review and checking of Consultants design
 Liaison with Client, Design Consultants to check conforming ground treatment designs
 Review and recommendation of alternative ground treatment proposals both in terms of cost and technical viability
 Checking and verification of ground treatment Bills of Quantities submitted by Design Consultant
 Assist IRCON in preparation of costing for all aspects of ground treatment, instrumentation and field laboratory setup

- **Electrified Double Track Project Between Sedenak and Johor Baru**
 Review of preliminary soil investigation works by Government Contractor
 Site reconnaissance and recommendation of additional soil investigation works to verify initial information.
 Project management and site supervision of additional soil investigation works
 Preparation of preliminary design for ground treatment and bridge foundations for pre-bid stage
 Preparation of costing for ground treatment, instrumentation
- **Electrified Double Track Project Between Rawang And Ipoh**
 Geotechnical auditor and technical audit of final designs and technical support on ground improvement site issues
 Review of instrumentation proposals and pricing submitted by Sub-Contractor
 Review of alternative designs for ground treatment works submitted by Specialist Contractor
 Design Consultant for temporary works i.e. anchored sheetpiles in construction of culverts along track mainline.
- **Proposed Development On PT12336, Phase 5 Of Genting View Resort , Mukim Bentong, Daerah Bentong, Pahang Darul Makmur**
 Desk study of available information i.e. geological maps, topo maps, S.I. information etc.
 Detailed geological mapping of proposed site and preparation of geological report
 Planning of suitable soil investigation scope of work
 Preparation of soil investigation Bills Of Quantities, specification and tender documents.
 Specification of laboratory testing schedules and monitoring of quality and progress of site work
 Collection and evaluation of all field and laboratory investigation results and preparation of Geotechnical Interpretative Report suitable for submission to relevant authorities for approval of Hillside development
 Slope stability analysis of cut and fill slopes and design of slope stabilisation systems
 Design and detailing of deep foundation systems for structures on hillside slopes
- **Proposed Development Of 7 Blocks Low Cost Apartments, 18 Storeys With 896 Units, Swimming Pool and Public Hall On Lot 48569, District Of Batu, Bandar Sri Menjalara, Kuala Lumpur**
 Design of slope stabilisation scheme comprising soil nailing to cut slope adjacent to apartment blocks
 Project management of slope stabilisation works
 Monitoring of site progress and quality of work
- **Cadangan Pembangunan Fasa 1 Universiti Teknologi Petronas Diatas Lot-Lot 13157 Mukim Bota Dan Tanah Kerajaan Plot 1 Mukim Bota Serta Plot 2 Mukim Layang-Layang Daerah Perak Tengah Di Bandar Sri Iskandar Perak Darul Ridzuan**
 Design of slope stabilization scheme comprising gabions with tieback mesh to failed cut slopes within the University site

1996 – 2001 (September) : **TERRA GEOTECHNICS SDN. BHD.**

- **Electrified Double Track Project Between Rawang And Ipoh**
 Assist Client with negotiating the intent of the Statement of Needs in particular the settlement criteria and related geotechnical aspects
 Project management of soil investigation works for detailed design.
 Liaison with Client, Design Consultants and soil investigation contractors to ensure quality and progress of work
 Carried out technical audit of Consultants design to ensure compliance with Statement of Needs
 Value engineering and optimisation of Consultants design for ease of construction and cost viability
 Independent design review and checking of Consultants design
 Preparation of Independent Design Auditors work brief
 Liaison with Client, Design Consultants and Independent Design Auditors to check conforming ground treatment designs
 Preparation of technical evaluation reports for Client
 Carried out technical presentations of ground treatment designs for Client
 Preparation of tender documents and management of alternative ground treatment tender exercise
 Review and recommendation of alternative ground treatment proposals both in terms of cost and technical viability
 Preparation of tenders and review of tender documents and tender exercise for instrumentation and field laboratory setup.
- **Express Rail Link**
 Geotechnical audit and review of soils investigation work carried out for preliminary and detailed design
 Carried out technical audit of Consultants design to ensure compliance with Statement of Needs
 Value engineering and optimisation of Consultants design for ease of construction and cost viability
 Periodic construction management supervision to ensure quality of ground treatment work
 Preparation of Technical Evaluation Report for Client
 Presentation of Consultants design to Client
- **Rail Link from Senai to Tg. Pelepas**
 Desk study, planning and management of soil investigation works
 Preparation of Bills of Quantities and Specification for soils investigation
 Summarise geotechnical data from soils investigation and laboratory works
 Prepare geotechnical interpretation of soil investigation data and compilation in a comprehensive Geotechnical Interpretive Report
- **Kuantan – Kerteh Railway Project**
 Desk study, site reconnaissance, planning, supervision and management of soil investigation works
 Preparation of Bills of Quantities and Specification for soils investigation
 Summarise geotechnical data from soils investigation and laboratory works
 Prepare geotechnical interpretation of soil investigation data and compilation in a comprehensive Geotechnical Interpretive Report
- **KLCC Car Park Ramps (Cut and Cover Tunnel)**
 Review of temporary and permanent works design for cut and cover tunnel in limestone formation

Planning, supervision and management of soil investigation
Instrumentation design for temporary works
Preparation of geotechnical interpretative report.
Geotechnical design check for permanent structure including checking for flotation

- **Mines Wonderland Business Park**

Planning, supervision and management of soil investigation
Design of foundation works (bored piles) for 10-Storey office blocks in limestone formation
Design of instrumentation to monitor the stability of existing pond slope.

- **Projek Laluan Jalan Pantai Kota Kinabalu - Sulaman, Sabah**

Detailed soils investigation design
Preparation of Bills of Quantities and Specification for soils investigation
Supervision of soils investigation and laboratory works especially for boreholes in soft ground areas and swamps
Summarise geotechnical data from soils investigation and laboratory works
Complete ground treatment design for alignment traversing soft ground areas and swamp
Detailed design of geotextile reinforced embankments, preloading design, settlement analysis etc.
Detailed design of instrumentation for embankments on soft ground
Design of cut slopes and fill embankments
Estimation of pile capacity and depths for bridge structures
Design of slope stabilisation measures ie. Rock bolts etc
Design of prefabricated vertical wick drains for embankments on soft ground

- **Northport to Westport Bridge**

Detailed Soils Investigation Design
Preparation of Bills Quantities and Specification and Engineers cost estimate
Call for Soils Investigation Tender and Administration of Tender exercise. Prepare Tender Evaluation Report.
Supervision of Soils Investigation and Laboratory Works.
Summarise and Reduce Geotechnical Data from the Soils Investigation and Laboratory Works.
Prepare Geotechnical Interpretation of S. I. Data and Compile in a Comprehensive Geotechnical Interpretative Report.
Carried out design for Pier Foundations
Ground treatment design for approach embankment to bridge structure

- **Sekim Perumahan Dan Rekreasi Atas Tanah Kerajaan Mukim Ulu Kinta - Kledang Heights**

Geological/Geotechnical desk study
Geological/Geotechnical mapping and site reconnaissance
Design of detailed soils investigation
Geotechnical assessment report

- **North South Expressway Central Link And KLIA Expressway Putrajaya Interchange And Link Road – Package 3D**

Planning and design of soil investigation works
Overall management of soil investigation works and issuing instructions to

Contractors on requirements of soil investigation
Ground treatment design incorporating lightweight fill (EPS), reinforced concrete slab piled embankment and geogrid reinforced piled embankment with individual pile caps.

Estimation of pile capacity and depths for bridge structures

1994 – 1996 : **PENGURUSAN LEBUHRAYA BERHAD**
(Kinta Kellas)
Geotechnical Engineer

- **Malaysia-Singapore Second Crossing Bridge Project**
Auditing and review of geotechnical and earthworks design.
Providing support to construction management team on site
Management and design of soil investigation works for the various packages of the Expressway
On-site geotechnical assessment of the stability of slopes including guiding the Consulting Engineer on the design of instrumentation for slopes.
- **East-Coast Highway**
Planning, supervision and management of soil investigation works for proposal stage
Preliminary geotechnical design of highway embankments and slopes for proposal stage
Geotechnical mapping and stability assessment of existing slopes.
- **North-South Expressway**
Site visits and review of slope designs and geotechnical designs of embankments
Geotechnical mapping and stability assessment of existing slopes including design of slope stabilisation measures.
- **Bombay-Poone Expressway, India (Proposal)**
Preliminary conceptual design of highway embankment, slopes and tunnel
Review of consulting engineers design report
- **Customs and Immigration Complex, Johor Bahru**
Review and audit of consultant's design
Geotechnical support to site problems involving geotechnical issues and earthworks
Guiding the Contractor and Consulting Engineer in the identification and determination of unsuitable material.

1988 – 1994 : **HSS INTEGRATED SDN. BHD.**
Geotechnical Engineer

- **Improvements to Kuala Lumpur - Seremban Expressway**
Site supervision and management of soil investigation works along the Kuala Lumpur - Seremban Expressway.
Issuing instructions to soil investigation Contractors on criteria for field works as well as maintaining the quality of work.
Preparation of field soil investigation progress reports and laboratory testing schedules.

Design of earth retaining structures such as reinforced concrete cantilever retaining walls, gabions and rubble retaining walls and associated foundation design for these earth retaining structures.

Stability analysis of cut slopes and fill embankments using UTEXAS and GEOSLOPE computer programs.

Design of slope rehabilitation measures for existing slope failures along the expressway.

Design of foundations for bridge structures including pile length estimation, analysis of pile group settlement etc.

Checking and verifying soil investigation Contractors final claims.

- **Proposed Condominium Development for Mount Pleasure Corporation in Batu Feringhi, Penang**

Design of pad footings for Block F2G

Design of earth retaining structures such as reinforced concrete cantilever retaining walls and rubble retaining walls.

- **Cadangan Kerja-Kerja Infrastruktur Bagi Rumah Keluarga di Kem Bentong, Pahang Darul Makmur untuk Kementerian Pertahanan**

Stability analysis of cut slopes and fill embankments.

Design of anchored reinforced concrete retaining walls for slope stabilisation.

Design of soil nailing for high cut slopes and preparation of specifications.

Preparation of earthworks drawings incorporating slope stabilisation measures such as soil nailing and anchored reinforced concrete retaining walls.

Preparation of geotechnical interpretative report and design report.

- **Proposed Hindu Temple, Petaling Jaya**

Foundation design for building structure including pile length estimation as well as type and size of piles required.

- **Merekabentuk Terperinci Cadangan Menaikkan Taraf Jalan dari Lojing (Penangau) ke Pos Blau di Daerah Gua Musang, Kelantan Darul Naim**

Geotechnical mapping and slope stability assessment of existing conditions along the alignment.

Preparation of geotechnical mapping and slope assessment drawings and report.

Planning and design of soil investigation works including the preparation of Bills of Quantities, Specifications for soil investigation works and drawings.

Preparing detailed cost estimate of proposed soil investigation work.

- **Design, Construction, Completion and Commission of Railway Bridges, Overhead Road Bridges, Underpasses and Tunnel (Package B & C), for Indian Railway Construction Company Limited**

Design of proposed soil investigation works at locations of abutments for railway bridges

Supervision of soil investigation works and preparing laboratory testing schedules.

Preparation of geotechnical interpretative reports and drawings of soil profiles.

Design of abutments for railway bridges.

Design of earth retaining structures such as reinforced concrete cantilever retaining walls and gabions.

Carrying out bearing capacity checks for open foundations at some locations of

railway bridges.

Estimation of pile length and spacing for bridge foundation.

Stability analysis of cut and fill slopes along the railway embankment including design of instrumentation for slopes.

- **Pembinaan Lintasan Keretapi Bertingkat di laluan-laluan Kuala Lumpur - Port Klang, Kuala Lumpur - Rawang dan Kuala Lumpur - Seremban, Pakej VII**
Design of reinforced concrete cantilever retaining walls and associated foundation design.
Design review of reinforced earth (RE) wall submitted by Contractor as alternative design
Preparation of soil profile drawings.
Design of embankment stabilisation measures incorporating geotextiles for road embankment on soft ground.
Design of instrumentation to monitor the performance of the embankment and fill slopes.
- **Detailed Design and Supervision Of The Privatisation of Roads and Interchanges in Kuala Lumpur for Metramac Corporation Sdn. Bhd.**
Geotechnical mapping and site reconnaissance of existing ground conditions along expressway.
Planning and design of soil investigation works along the existing alignment.
Preparation of Bills of Quantities and cost estimate for the proposed soil investigation.
Site supervision and overall management of soil investigation works
Preparation of field investigation progress reports and laboratory testing schedules
Checking and verifying soil investigation Contractor's final claims.
Stability analysis of cut and fill slopes
Design of reinforced concrete retaining walls and associated foundation design for high retaining walls.
Preparation of geotechnical interpretative report and geotechnical design report.
- **Consultancy Services for the Proposed Port Klang Distripark for LPK Distribution Park Sdn. Bhd.**
Planning and design of soil investigation works
Overall management of soil investigation works and issuing instructions to Contractors on requirements of soil investigation.
Preparation of laboratory testing schedules
Preparation of soil profile along the site
Pile length estimation for foundation and analysis of pile group settlement.
Checking and verifying soil investigation Contractor's final claims.
- **Membina dan Menyiapkan Tembok Pagar Keselamatan dan Menara Kawalan di Sempadan Malaysia/Thailand, UUM, Sintok**
Stability analysis of cut and fill slopes.
- **Lemal/Rantau Panjang Flood Protection Scheme**
Planning and design of soil investigation works for the purpose of flood mitigation works
Preparation of Bills of Quantities and Specifications for soil investigation.
Preparation of tender evaluation report and recommendation of suitable Contractor for soil investigation

Supervision and management of soil investigation work.
Preparation of laboratory testing schedules.
Analysis of geotechnical parameters for bund design

- **Membina dan Menyiapkan Jalan dari Kampung Raja, Cameron Highlands ke Sempadan Kelantan**
Planning and design of soil investigation works for the design of road from Kampung Raja to the Kelantan border.
Preparation of Bills of Quantities and Specifications for soil investigation.
Preparation of tender documents and drawings for tender purposes.
Preparation of cost estimate for field soil investigation works.
Site supervision and overall management of field works
Preparation of progress reports and laboratory testing schedules.
Preparation of geotechnical interpretative report
Geotechnical assessment of existing slope conditions.
Design of reinforced concrete cantilever retaining walls and gabions for slope rehabilitation.
Design of slope stabilisation measures incorporating soil nailing and ground anchors.
- **Proposed New Nilai Township for Negeri Sembilan Industrial Corporation Sdn. Bhd.**
Planning and design of soil investigation works
Preparation of Bills of Quantities, Specifications and drawings for tender purposes.
Evaluation of tender and preparation of tender evaluation report.
Coordination of field works and preparation of laboratory testing schedules.
Preparation of geotechnical interpretative report and analysis of geotechnical parameters to be used for design.
Stability analysis of cut and fill slopes.
- **Proposed Condominium at Wangsa Maju R10 Phase 2B**
Field inspection of slope failure and design of slope rehabilitation measures.
Geotechnical assessment of existing slope conditions including design of monitoring programme for slopes.
- **Engineering Design for Kuala Lumpur International Airport -Bulk Earthworks and Drainage Design Contract**
Geotechnical parameter checking and processing
Computer operation of geotechnical database software called 'TECHBASE'
Preparation of geotechnical interpretative reports
Planning of soil investigation works for proposed Light Rail Transit from Brickfields station to airport site.
Slope stability analysis of cut and embankments
Settlement analysis for soft ground areas
Design and preparation of earthworks drawings incorporating various measures of ground improvement.