

HAMZA SAMOO

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DOB: 2nd of May, 1998

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Karachi, Sindh, Pakistan

EDUCATION

Master of Geotechnical and Earth Resources Engineering

August 2021 - May 2023

Asian Institute of Technology, Bangkok, Thailand

3.73 CGPA out of 4.00

Thesis Topic: Cyclic Triaxial Testing of Soft Clayey Soil: A Comparative Study of Saturated and Partially Saturated Conditions.

Bachelor of Civil Engineering

November 2016 - December 2020

Mehran University of Engineering and Technology.

3.96 CGPA out of 4.00

Thesis Topic: Evaluating Compaction Characteristics of Bentonite Clay with varying proportion of Marble powder.

ACADEMIC PROJECTS

PVD Quality Assurance

Testing Physical Vapor Deposition (PVD) in the Lab and Reporting its Quality to be used for Suvarnabhumi Airport Runway Extension

Shibaura Institute of Technology, Japan

Presented my research work and did teamwork, learnt how to work in a team with Engineers from different nationalities.

KEY SPECIALIZATIONS

Geotechnical Engineer with experience in designing of:

- Design of Earthand Rockfill dams,
 - Desin of Tunnel support system,
 - Design of Flood/ River protection embankments (levees),
 - Design of shallow and deep foundations,
 - Design of Transition Filters both granular and geotextile,
 - Planning and supervision of Site investigations, assessment and interpretation of data and preparation of geotechnical assessment reports,
 - Conducting laboratory tests(basic and advanced level, i.e. static and dynamic triaxial testing) and interpretation of soil behavior,
 - Selection of appropriate geotechnical design parameters,
 - Characterizing of rock properties and behavior.
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EXPERIENCE

Senior Engineer

Associated Consulting Engineers ACE (PVT) LTD

Employment Record

- Junior Engineer at Associated Consulting Engineers ACE (PVT) LTD
April, 2021 - July, 2021
- Studied at Asian Institute of Technology – AIT Bangkok for Master of Engineering
August, 2021 - May, 2023
- Junior Engineer at Associated Consulting Engineers ACE (PVT) LTD
June 2023 - June 2025
- Senior Engineer at Associated Consulting Engineers ACE (PVT) LTD
July 2025 - To date

Key Tasks

Project: Mangi Dam Project (Balochistan)

The Mangi Dam is located on the Khost River. It is a Concrete Face Rockfill Dam (CFRD) with a height of 49 m (elevation 1617 m) and a gross storage capacity of 46.43 MCM. At elevation 1593.5 m, the dam features a diversion tunnel and inspection adits. Geological assessments indicated that in some reaches the surrounding rock is of poor to fair quality.

Given these conditions, a support system for the diversion tunnel and inspection adits has been evaluated and designed to address composite loads requirement, including rock, soil, and water pressures at full reservoir levels.

Project: Awaran Dam Project (Balochistan)

Awaran Dam Project is situated on Mashkai river. The Earth Core Rockfill Dam (ECRD) having 49m height, will create a reservoir with a gross storage capacity of 190 MCM at normal conservation level of 625 m. The dam will provide about 8.31 m³/s of water for the irrigation of 12,000 ha (29,652 acres) of land located on downstream of dam.

Prepared sub-surface investigation programme, analysed the field and laboratory test results and prepared Geotechnical Investigation Report.

Designed and developed detailed construction drawings for the alignment and construction of an irrigation canal network within the dam project, covering command area of 14,815 ha. The network included 2.55 kms of main canal and 29.2 kms of branch canals to ensure efficient water distribution.

Project: Remodeling of Akram Wah Canal (Sindh)

Akram Wah, previously known as Lined Channel, is a perennial canal off-taking from the left bank of Kotri Barrage. Its design capacity at the head is 3,714 cusecs and length of about 76.5 canal miles (382 RDs). Conducted a detailed site visit and evaluated the structural and hydraulic condition of structures on the Akram Wah Canal and summarize the findings in Conditional Assessment Report of Structures on Akram Wah (Canal). Carried out geotechnical design of canal lining including design of underdrainage system with geotextile filters and pressure relief system.

Project: Winder Dam (Balochistan)

Winder Dam Project is situated on Winder river about 125 km from Karachi. The dam site lies in Lassbela district of Balochistan. The Earth Core Rockfill Dam (ECRD) having 40m height, will create a reservoir with a gross storage capacity of 67.218 MCM at normal conservation level of 112.0 m.

Designed and analyzed the Earth Core Rockfill Dam (ECRD) (40m height) with a gross reservoir capacity of 67.218 MCM. Conducted slope stability and seepage analysis for the embankment, designed seepage control measures for the dam, and prepared construction and instrumentation drawings to ensure structural integrity and safety.

Involved in monitoring and evaluation of foundation grouting work.

Project: Construction and Design of Sohni and Jalbani Dhoros (Sindh)

Revival of natural water ways and providing drainage facility to left over areas of district Naushahro feroze (jalbani dhoros). It involves rehabilitation and construction of dhoros and drains, with their appurtenant structures. Analyzed and designed foundations for pumping stations, culverts, and bridges of surface drains, ensuring structural integrity and compliance with engineering standards.

Project: Mazarani Dam (on going) (Sindh)

Designing the Mazarani Earth Core Rockfill Dam (110 ft height), including material selection, stability analysis (slope, seepage, and seismic), and implementation of seepage control measures (filters, drains). Ensuring dam safety through rigorous engineering analysis and optimized design solutions.

SOFTWARES AND TECHNICAL TOOLS

Geo Slope	Slope Stability Analysis, Seepage Analysis and Seismic Analysis
HEC-RAS	Canals and Drainage Network Modelling to assess and optimize their capacity
ARC-GIS	Analyze and Delineate Stream Networks and Catchment Areas
Auto CAD	Developing Plan and Sections of Structures, Canals, Drains, and Embankments
Plaxis 2D	Stability Analysis of a Dam to Evaluate Structural Integrity
Examine 2D	Modeled tunnel stability under high stress
