

**Name** : **ENGINEERING SCIENCE LIMITED**

**Nature of Professional Services** : Engineering Science Ltd. provides comprehensive professional services in the following fields:

- |                                      |  |
|--------------------------------------|--|
| ✓ Physical Planning and Architecture | ✓ Water Resource Development             |
| ✓ Structural Engineering             | ✓ Land use and Urban Planning            |
| ✓ Highway Engineering                | ✓ Environmental Engineering              |
| ✓ Rural and Feeder Roads             | ✓ Management and Institutional Studies   |
| ✓ Jetties and Marine Structures      | ✓ Agriculture and Socio-economic Studies |

ESL has been engaged in providing wide ranging services in various fields which include project preparation, feasibility studies, planning and investigation, design and documentation, supervision and quality control, monitoring and evaluation and maintenance inspection.

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**Name of the Managing Director** : Mr. Md. Fazlul Majid

**Direct Land Phone** : 8118597

**Name and Position of the Person next to Managing Director** : G.A. Moinul Islam  
Director

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***Date of Incorporation in the Office of the Registrar of Joint Stock Companies and Firms*** : Registered as a Private Limited Company on 21-10-1982. The Registration No : C-10303/196.

***TIN Number*** : 211-200-4718, Company Circle – 183, Zone-9, Dhaka

***Trade License No.*** : 0612291, Dhaka City Corporation

***Field of Activities*** : Attached Matrix Form

***Name of 10 major completed /ongoing projects*** : Attached

Name of the Project : Upgrading the National Highways and Zila Roads under Sub-Regional Transport Project Preparatory (Road Component – Package 2) of Roads and Highways Department – ADB TA.

Nature of the Project : The project is aimed to prepare feasibility studies and detailed engineering design for upgrading the national highways and zila roads that have significant implication to sub-regional development to four-lane highways.

Nature of services performed by the Member-Firm : The services include (a) visual condition survey of the Project Roads; (b) feasibility study and detailed engineering design for the Project Roads including structures & bridges; (c) cost estimates; (d) economic analysis; (e) social & environmental assessment; (f) bidding documents and (g) procurement assistance.

Duration : 1 year 8 months

Date of Completion : August 2014

Name of the Employer : Roads and Highways Department / ADB

Volume of the Project : -

Name of the Project : Market Infrastructure Development Project in Charland Regions of LGED financed by IFAD.

Nature of the Project : The objective of the project is to improve the well-being and reduce the poverty of primary producer of charbased traders, landless and single woman and their household. Major components of the projects are :- a) Infrastructure Development, b) Production and Market Group Development, c) Rural Enterprise Development and d) Policy, Institution and Management Support.

Nature of services performed by the Member-Firm : Carry out detailed engineering surveys, design and prepare tender documents for all infrastructure works; prepare land acquisition plans; prepare detailed design and implement the improvement schemes relevant to markets and ghats, impart training to the project/NGO staff as well as beneficiaries; assist LGED in all respects of procurement processing, evaluation of tender and award of contract, support for strengthening of capacity building of LGED, support in monitoring of physical and financial progress of the project.

Duration : 5 years 5 months

Date of Completion : June 2013

Name of the Employer : Local Government Engineering Department / IFAD

Volume of the Project : US Dollar 30.40 million

Name of the Project : Greater Rajshahi Division Integrated Rural Development Project of LGED financed by IDB.

Nature of the Project : The nature of projects are to help in the efforts to reduce poverty of the rural population of the project area by providing better road transportation network, increase the agricultural productivity and diversity, expand the commercial activities in the project area through development of markets identified as growth center.

Nature of services performed by the Member-Firm : Carryout detailed engineering Surveys, Design and Prepare tender documents for all selected schemes of civil works, construction supervision of all infrastructure works, certify payments Contractors, certify all reimbursement claims for the works done under Islamic Development Bank, prepare all monthly, quarterly reports including Project Completion Report, coordinate all work with the Livelihood and Capacity Development Team engaged to conduct the soft component of the Project.

Duration : 4 years 10 months

Date of Completion : December 2014

Name of the Employer : Local Government Engineering Department / IDB

Volume of the Project : US Dollar 4.16 million

Name of the Project : Design and Supervision of Connector Road under Chittagong Port Trade Facilitation Project financed by ADB.

Nature of the Project : This connector roads includes 1.7 km access-controlled road with a flyover, viaduct and apron along with surface road to provide a crossover of the Chittagong to Patenga Road. This road has a direct and separate connection with Chittagong Container Terminal and New Mooring Container Terminal which will free the Chittagong Patenga Road from the major portion of the port container traffic and relieve this important city road from congestion.

Nature of services performed by the Member-Firm :

- Topographical and land use survey
- Hydrological and Geotechnical Investigation
- Environmental and Social Assessment
- Preparation of land acquisition plan
- Preparation of design, drawings, cost estimates and tender documents
- Assist RHD during the tender process and tender evaluation
- Full time construction supervision including quality control of works
- Certification of Contractor's bill
- Prepare physical progress reports
- Provide on job training for counterpart staff.

Duration : 5 years

Date of Completion : June 2011

Name of the Employer : Roads and Highways Department

Volume of the Project : US Dollar 111.28 million

Name of the Project : Construction Supervision of 3<sup>rd</sup> Buriganga and 2<sup>nd</sup> Shitalakhya Bridge of RHD under KFAED financing.

Nature of the Project : Construction of the two major bridges on the western and eastern outskirts of Dhaka City to expand the road network on the western side of Dhaka and improve traffic congestion over the 1<sup>st</sup> Shitalakhya bridge connection Dhaka with the eastern and south-eastern part of the country.

Nature of services performed by the Member-Firm :  
-Review of all detailed Design, Drawing, Tender Document etc.;  
- Construction Supervision and Quality control of works;  
- Check Contractor's invoices and certifying payment;  
- Monitoring progress and prepare progress reports;  
- Prepare and recommend variation orders;  
- Bridge toll-related activities;  
- Transfer to Technology and Staff training;  
- Environmental Management and Monitoring;  
- Operation and Maintenance;  
- Reporting

Duration : 4 years 1 month

Date of Completion : July 2010

Name of the Employer : Roads and Highways Department

Volume of the Project : US Dollar 21.69 million

Name of the Project : Bridge Replacement Project of RHD funded by DFID

Nature of the Project : The Bridge Replacement Project Work Package-3 comprises detail design and reconstruction of 3 nos. of pre-stressed concrete girder bridges and inspection and maintenance of 61 nos. of small bridges and culverts located on National and Regional Highways within RHD zones of Rajshahi and Rangpur. The bridges are narrow single lane structures on two-lane highways and are to be replaced with wider structures, maintenance to other existing structures on the road links concerned will also be carried out under the project funded by DFID.

Nature of services performed by the Member-Firm : Consultancy services for Phase-1 includes topographical and land use survey, geotechnical investigation, environmental impact assessment and design of the structures, preparation of land acquisition plans, preparation of tender dossiers for each construction contract package. Assistance to RHD during the tender process and tender evaluation and award of construction contracts. Phase 2 services for the project include:

- (a) supervision of the construction works included in the Construction Contracts.
- (b) supervision of the maintenance works included in the Construction Contracts.
- (c) verification and certification of the Contractors' submissions for Interim Payment.
- (d) monitoring and enforcement of the Contractors' implementation of the Environmental Management Plan.
- (e) monitoring and enforcement of the Contractors' implementation of the Health and Safety Management Plans.
- (f) application of quality assurance and quality control procedures, including implementation of site quality plans and quality audits of the Contractors, reporting of physical and financial progress.

Duration : 4 years 7 months

Date of Completion : July 2007

Name of the Employer : Roads and Highways Department / DFID

Volume of the Project : US Dollar 2.67 million



Name of the Project : Improvement of Feeder Road Type A, National and Regional Road Maintenance, Road Safety Improvement and Axle Load Control (RRMP-III)

Nature of the Project : There are about 700 number Feeder Road Type A Thana connecting roads belonging to RHD. Many of these roads were constructed without proper design. The bridges and culverts on these roads were not of adequate specification. The network generally requires widening and raising of the embankment, reconstruction and widening and strengthening of pavement, reconstruction of existing bridges and construction of additional bridges and drainage structures.

The project components include (a) Improvement of Feeder Road Type A about 500 km. (b) Structures – pre-stressed concrete girder bridges 22 nos. (single/multi-span, 20 m to 138m long), (c) Periodic Maintenance of National and Regional roads 620 km. (d) Road Safety Improvement (e) Axle Load Control.

Nature of services performed by the Member-Firm :  
-Pre-award activities and design review for the first year's programme for Feeder Roads Type A;  
- Planning and design for second and third years' program for Feeder Roads Type A.;  
- Preparation of tender document and evaluation of bids for Feeder Roads Type A;  
- Planning, design, bid preparation/evaluation for Periodic Maintenance of National and Regional Roads;  
- Construction supervision of project works;  
- Verification and certification of the Contractors submissions for Interim and final payment certificates;  
- Environmental and socio-economic aspects;  
- Training of RHD personnel

Duration : 6 years 2 months

Date of Completion : June 2005

Name of the Employer : Roads and Highways Department

Volume of the Project : US Dollar 140.46 million

Name of the Project : Noakhali District Rural Infrastructure Development and Maintenance Project

Nature of the Project : The development objective of the project is increased rural income and reduced rural poverty. The purposes of the project are more efficient rural transport and trading infrastructure in Noakhali district, which responds to local priorities and benefits the poor. Increased technical and financial sustainability of improved rural transport and trading infrastructure and strengthened institutional capability for the participatory development of efficient rural infrastructure.

The project components are Upgrading of the Core LGED Rural Road Network, Maintenance of the Core Road Networks, Improvement of Markets, Improvement of Ghats, Sustainable Development of Local Level Infrastructure, Complementary Poverty Reduction Measures, Institutional Development and Training and Project Support.

Nature of services performed by the Member-Firm : The services include assistance and support LGED in project planning, monitoring, reporting and financial management. This includes advise on technical specifications, engineering design for physical infrastructure works, contract documentation, evaluation of tender and award, assistance in land acquisition assistance in supervision and quality control of works, certifying payments, assistance in establishing road maintenance planning, budgeting, contracting, implementation, supervision, monitoring and reporting procedures, advise LGED in all aspects of institutional development and training.

Duration : 6 years

Date of Completion : June 2004

Name of the Employer : Swiss Agency for Development & Cooperation (SDC)/ LGED

Volume of the Project : US Dollar 11.23 million

Name of the Project : Construction of Bhairab Bridge

Nature of the Project : Phase 1- Project development (including establishment of design criteria of each component of works), development of environment management plan and social management plan. Phase 2- The project comprises construction of a highway bridge across the Meghna river at Bhairab together with the provision of river training work and bank protection, the construction of new highway approach embankments and connecting roads and the upgrading of adjacent sections of existing road to National Highway standards.

Nature of services performed by the Member-Fiem : Phase 1 - The services provided include supervision & control of topographic survey and fixation of vertical and horizontal alignment, the study of effect of progressive movement of the char downstream and identify the limited dredging requirement to distribute the flow in the channel, carry out utilities survey with the object of relocating them during the design phase.  
Phase 2 – Construction Supervision of the construction work of the project components: Main bridge – length 929m, with 7 spans (110 m) and 2 back spans (79.5 m) and 262 long viaducts; River Training Works - 980 m long, revetment with maximum slope of 1:3.5 in one bank and 1:6 on other bank, falling apron on existing river bed (width 15-24m in one bank and 10-15m on other bank); Approach road – 1.8 km; Bridge end Facilities – Toll plazas, control buildings, security buildings etc. The services also include verification and certification of the Contractors’ submissions for Interim Payment; Monitoring and enforcement of the Contractors’ implementation of the Environmental Management Plan, quality assurance and quality control procedures including implementation of site quality plans and quality audits of the Contractors.

Duration : 3 years 11 months

Date of Completion : July 2002

Name of the Employer : Roads and Highways Department

Volume of the Project : US Dollar 105.83 million

Name of the Project : Dhaka-Sylhet Road Rehabilitation ( RRMP-III) of RHD financed by The World Bank

Nature of the Project : The road between Dhaka and Sylhet 260 km is part of National Route 2, which extends from Sitalakhya to Tamabil located on the border with India. The alignment of the road was developed from inter-village link roads and is not satisfactory for a National Road. The overall condition of the pavement is poor with low embankments in sections, which are subject to flooding. The volume of traffic has increased considerably since the road was built and the 2-lane road section requires to be widened and strengthened to meet the increase traffic demand. There are a large number of bridges and culverts including a floating bridge. Most of these bridges are single lane with steel girders and decks constructed in 1940, which require replacement.

Nature of services performed by the Member- Firm : The services include review and updating of the Feasibility study already undertaken for the road in order to confirm its viability by evaluation of each sub-section of the road and the road section as a whole after determining the economic profiles, study hydrological characteristics, Traffic surveys, Axle load surveys design of pavement and structures and economic evaluation by calculating the IRR. Conduct Environmental Assessment (EA) and an assessment of the resettlement requirements, preparation of detailed environment and resettlement action plans. Undertake detailed Topographic survey, Soil and Material Investigation, Hydrological Investigation, Geometric design of road, design of embankment & pavement, design of bridges and culverts prepare engineering plans and drawings, cost estimates, specification and Tender documents.

Duration : 1 year 3 months

Date of Completion : July 1998

Name of the Employer : Roads and Highways Department

Volume of the Project: US Dollar 123.33 million

Name of the Project : Feeder Roads Type A (RRMP-III) of RHD financed by The World Bank

Nature of the Project : The main road network of the country comprises some 3100 km of national roads catering to through traffic, about 2900 km of regional roads serving regional traffic and a length of 11,010 km of Feeder Roads Type A serving predominantly rural traffic and linking the Thana headquarters to the main network. Generally the overall network is considered adequate in terms of length, but is in poor condition. The objective of the current project is to assist the Government in identifying and preparing a prioritized programme for the improvement of Feeder Roads Type A This programme has the following components. A Techno -economic feasibility study, preparation of a proritized list of roads, identification of the project in particular the first years programe, Environmental impact assessment of these roads and preparation of detailed design and bid documents for the first years programme. The total length of Feeder Roads to be screened is approximately 10,000 km and the length of roads to be included in the programme for which detailed analysis is to be prepared is 5000 km and the length of road to be designed for inclusion in first years programme is about 250 km.

Nature of services performed by the Member-Firm : The services provided by the Consultant for the Feasibility Study include review of all relevant data and Reports, preparation of economic profiles served by the roads, study hydrological characteristics, traffic pattern including traffic counts, O-D suveys and Axle load surveys, identify standards for road geometry, pavement design and drainage structures, economic evaluations taking into account various economic factors for calculating IRR and other suitable indicators for priority ranking. After identification and ranking of the roads and finalisation of first years programme conduct detailed topographical surveys, hydrological, pavement and geotechnical investigations and traffic surveys prepare detailed design of roads, pavements and drainage structures, prepare detailed drawings, cost estimates and tender documents and prequalification of contractors for implementation of the first years programme.

Duration : 1 year 8 months

Date of Completion : August 1998

Name of the Employer : Roads and Highways Department

Volume of the Project : US Dollar 140.46 million