

# **Statement of Qualifications**

## **Infrastructure Development, Highways, Bridges & Flyovers**



**SECON Private Limited**

<http://www.secon.in>



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## **1) Profile of SECON Private Limited**

SECON is an ISO 9001:2000 certified GIS Driven Multidiscipline Engineering company with over 850 personnel. SECON is a financially sound, stable, zero-debt company that was established in 1981. SECON is one of the leading multidiscipline engineering consulting firms and the largest and oldest surveying and mapping firm in India with over 27 years of experience. Most of SECON's clients are repeat and long-term clients.

SECON provides world-class GIS services and software solutions at cost-effective rates by using the global delivery model. SECON is an ESRI Business Partner and a member of the Autodesk Developer Network (ADN).

SECON has long-term partnerships with international engineering firms and can operate in most areas of Asia, the Middle East, and North Africa. SECON prefers the partnering model for its US and European areas of operations.

The key differentiator for SECON is that the company is not just an offshore services firm, but a well-established (established in 1981) Multidiscipline Engineering firm. The SECON QA/QC staff working on the surveying and mapping projects have firsthand experience in dealing with SECON's Engineering Consulting staff that provide input while working on SECON's engineering consulting projects.

SECON personnel have access to SECON's engineering talent and domain expertise in:

- Oil and Gas Pipeline Transportation Routing
- Water and Sanitation Engineering
- Highway and Transportation Engineering
- Civil and Structural Design
- Irrigation and Flood Control Engineering
- Electrical Engineering
- Environmental Engineering
- Geotechnical Engineering
- Cadastral and Parcel Mapping
- Land Surveying and Mapping
- Photogrammetry, LIDAR and Image Processing
- GIS Driven Software Development
- GIS Data Conversion and Maintenance

SECON has the following standing in India:

- The largest private (non-government) surveying and mapping firm in India
- The dominant pipeline corridor mapping firm in India
- The largest private (non-government) mapping and design firm for irrigation and water management projects
- One of the largest private (non-government) highway mapping and design firms in India



SECON has executed over:

- 52,000 km of large-scale Pipeline Corridor Mapping – this includes Route Engineering, Topographical and Cadastral Mapping and Rights-of-Way Acquisition assistance and management. This is the largest amount of Pipeline Corridor mapping done by any corporation in India.
- 10000 km of mapping, design, and construction supervision of highways
- 1,000,000 Hectares (3,861 sq miles) of large-scale mapping (topographical and cadastral) for Irrigation projects
- 600,000 Hectares (1,550 sq miles) of Irrigation and Water Management design projects
- 600 infrastructure development projects (includes subdivision/township mapping, design and planning)
- 600,000 meters of geotechnical investigation and drilling in various soil strata.
- SECON has also extracted the Detailed Project Report data for 7,300 km of National Highways in India and collated this data for entry into the NHAI Road Information System.
- SECON is currently short-listed for the pioneering National Highway Asset Inventory project in India. This project is to perform the asset inventory of 5,700 km of National Highways in India.
- SECON is currently executing a major multimillion dollar mapping and consulting project for the planning and design of the Water and Sanitation system for 13 municipalities (119 settlements) in Libya.
- SECON was the only firm selected in India by OPUS, New Zealand (<http://www.opus.co.nz>) to be their offshore design center.

## **2) Expertise in Highways and Infrastructure Development**

SECON is one of the very few organizations in India that has the capability of both Investigation and Design. We are presently carrying out both Design Consultancy as well as construction Supervision Projects for the National Highways Authority of India (NHAI), the premier organisation of Highways in India. SECON has executed projects all across India, Afghanistan and some parts of Africa.

SECON has executed projects in Infrastructure Development Services for Refineries, Terminals, Airports, Roads & Highways, Power Plants, Chemical Plant and Off-shore Missile Launching sites.

SECON's supervision teams have been deputed to work with major multinational engineering and construction companies operating in India as well as leading public and private sector agencies. Our teams have actively involved in construction supervision and project management as well as contract management.

Details of projects is furnished in Appendix ' B'

### **a. Preparation of Basemap (for US Markets and International Markets)**

- Topographic/Planimetric/ mapping

- Digital Terrain models
- Preparation by data collection and processing from:
  - Satellite Images
  - Field Surveys
  - Aerial Photos and Lidar

**b. Surveys and Investigation (for Asian, Middle East and African Markets)**

***Pre Construction***

- Establishing GPS control for the command area based on National Network of Control
- Extension of primary control by Total Station based on coordinates of GPS control points
- Providing bench marks and connection of the same to the National Datum
- Monumentation of the Planimetric and Height control
- Topographical survey of the entire area including cross sections and longitudinal sections
- Computer aided downloading, processing, digitisation, development of Digital Terrain Model (DTM), data management for engineering application.
- Preparation of horizontal and vertical profile on selected centerline
- Traffic Studies including Demand Forecasting
- Environment Resettlement and Rehabilitation Studies
- Data acquisition and preparation of land schedules for acquisition.

***During Construction***

- Checking the stability of control points
- Setting out of co-ordinates of the final road centreline
- Checking coordinates and levels for foundation, substructure, bearing and superstructure as per construction drawing;

**c. Soil and Material Investigation (for Asian, Middle East and African Markets)**

- Drilling 150mm dia. boreholes in all kinds of strata for structures and high embankment
- Conducting Standard Penetration Tests (SPT)
- Collecting 100mm dia. undisturbed soil samples in cohesive layers;
- Identification of quarries for road metal, sand, gravel, fill material, etc
- Testing of the samples and quantum available
- Subgrade Investigation by trial pitting and conduction of Dynamic Cone Penetration Tests and field CBR Tests

In addition to above, following laboratory tests are conducted at our in-house laboratory.

- ✓ Grain size analysis – Both Sieve and Hydrometer analysis;
- ✓ Atterberg Limits;
- ✓ Natural Moisture Content;
- ✓ Bulk and Dry Density;
- ✓ Specific Gravity;
- ✓ Direct Shear Test;
- ✓ Triaxial – UU Test;

- ✓ Consolidation Test;
- ✓ Crushing Strength of Rock;
- ✓ Specific Gravity of rock;
- ✓ Water absorption of rock;

**d. Design and Detailed Engineering (for US and International Markets)**

- Traffic Demand Estimates
- Detail Engineering for Road, Pavement, Junctions, Intersection and Inter-changes
- Horizontal and Vertical geometrics design
- Pavement Design
- Analysis, design and preparation of construction drawing for Bridges, Culverts, Flyovers, Interchange, Vehicular and pedestrian underpass and other ancillary structures.
- Preparation of Bill of Quantities, rate analysis and estimate.
- Site selection and complete design of Toll Plazas
- Site selection and complete design for Rest areas and Truck Parking facilities.
- Design of landscaping, site grading and roadside arboriculture.
- Value analysis/value engineering
- Economic analysis and BOT viability studies
- Preparation of technical specifications, Bill of Quantities, cost estimate and detailed tender documents.

**e. Resource Based Construction Scheduling (for US and International Markets)**

- Preparation of detail resourced based program covering general methods, arrangements, order and timing for all the activities by MS Projects;
- Identification of corridor for transportation of personnel and heavy equipments for execution.
- Checking of milestone progress of work;

**f. Construction Supervision and Generation of As Built Drawings (for Asian, Middle East and African Markets)**

- Construction supervision and project management
- Preparation of Inspection Checklist for critical items including material testing and investigation
- Assistance in obtaining project related clearances from the concerned Authorities.
- Contract management involving various aspects of Civil Engineering Construction
- Supervision of bulk earthwork handling, site grading, high embankments, controlled filling of low-lying areas, alignment and survey control, storm water drainage, flexible and rigid payments, landscaping, etc.
- Checking and Certification of quantities executed as per the specifications laid down in the tender document
- Verification of bills
- Assisting Client in clearing arbitration and Disputes
- Identification of approved variations from the Tender drawings



- Preparation of as built drawings incorporating the changes, if any for effective management.

**g. GIS Based Asset Management (for US and International Markets)**

- Field Survey and Data collection
- GIS Data Development (converting hardcopy/CAD plans/asbuilt drawings into GIS database)
- Development of Enterprise GIS applications for Asset management and Environmental monitoring
- Generation of Network Mapbooks (generation of network system maps in hard copy and digital format viewable on web based systems)

### **3) Security at SECON's ISO 9001:2000 Certified Operations Center**

SECON has a state-of-the-art 105,000 sq. ft. ISO 9001:2000 certified Operations Center that is fully owned by the company.

The Operations Center is a secure facility and has robust security controls:



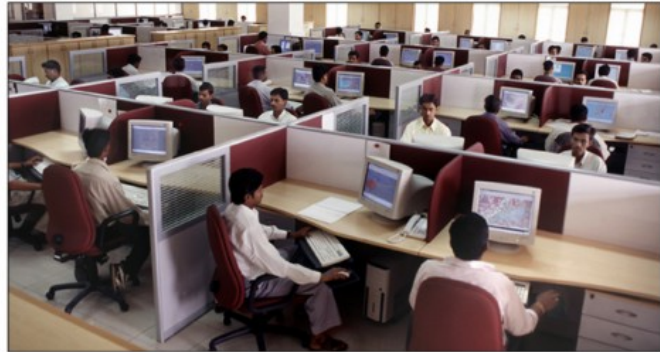
*Aesthetically designed 105,000 sq. ft. Company owned office space*

#### **Security - Physical Controls**

- 24X7 security guards
- Access Control Devices to restrict access to the different areas of the Operations Center.

#### **Security - Technical Controls**

- Network Monitoring Tools
- Web content filtering tools to restrict websites and ftp sites
- Anti-Virus Tools
- Firewalls
- Secure Servers
- Encryption
- Restricted and controlled access to floppy drives, zipped drives, and CD/DVD writers--these are disabled on all machines. Disabled USB drive data transfer on all machines. Only the network administrator can perform data transfer to external devices and closely controls this external data transfer.
- Restricted access and monitoring of SECON FTP site
- Regular backup of data on daily and weekly intervals
- Power Backup with UPS and Generators
- Leased Line Backup for Internet Connectivity



### **4) SECON's Global Delivery Model**

#### ***Project Management***

Weekly progress reports will be sent by email from SECON to the client project manager. The SECON Project Lead will interact on a frequent basis (more than 2-3 times a week) with the technical lead from the client during the project.

SECON will extensively use webconferencing tools, such as Webex and Citrix Online to interact with the client on an as-required basis. Project documentation will be exchanged by Microsoft Word, Excel, Visio, and MS Project.



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**Communications Protocols**

Email will be the preferred method of communication. In addition, teleconferencing and webconferencing will be used. File transfer will be accomplished through FTP.

**5) Offices and Contact Information**

<p><b>India</b> 147, 7B Road, EPIP, Whitefield Bangalore 560066 Phone:91-80-41197778 Fax:91-80-41194277 Email: <a href="mailto:feedback@SECON.in">feedback@SECON.in</a></p>	<p><b>USA</b> 10460 Roosevelt Blvd N, Ste 387 St Petersburg, FL 33716 Phone: 727-493-2214 Fax: 727-499-6945 Email: <a href="mailto:dhyan.appachu@secon.in">dhyan.appachu@secon.in</a></p>
<p><b>LIBYA</b> SECON Private Limited PO Box 13456, Tripoli,Libya Phone: (218)914624857  Rupesh Jang Shah Email: <a href="mailto:Rupesh.shah@SECON.in">Rupesh.shah@SECON.in</a></p>	

## 6) Appendix 'A' Infrastructure Resources

### a. Precision Survey Instruments

Sl. No.	Description and Make	Quantity	Remarks
1.	Dual Frequency Real Time (RTK) Global Positioning System (GPS) - LEICA	1	
2.	Hand-held GPS – Garmin, Magellan	17	
3.	Total Stations High-end – LEICA, TOPCON, TRIMBLE, PENTAX	62	
4.	Electronic Distance Meter (EDM) – SOKKISHA, LEICA	3	
5.	Glass Arc Theodolite - CARL ZEISS THEO	1	
6.	Theodolites – WILD, NIKKON, THEO	15	
7.	Self Reducing Tacheometer – WILD	1	
8.	Automatic Levels – WILD, NIKKON, SOKKIA, PENTAX, TRIMBLE	58	
9.	Pipeline Locator - Fisher	4	

Sl. No.	Description and Make	Quantity	Remarks
10.	Compact Flash GPS	4	
11.	Video Camera	2	
12.	Camera digital	5	
13.	Soil Resistivity Meter - Aquameter	13	
14.	Current Meters - Professional	2	
15.	Type 'N' Schmidt Concrete Test Hammer	1	
16.	Benkalmen Beam Apparatus - AIMIL	1	
17.	Echo Sounder	1	By Arrangement

**b. Computers and Peripherals**

Sl. No.	Description and Make	Quantity	Remarks
1.	Personal Computers- Intel Pentium, AMD Athlon, Cyrix	Over 600	
2.	Laptop Computer – Toshiba, Acer, Vesta, Compaq	65	
3.	Compaq Ipaq	4	
4.	Largeformat Design Jet Plotter - HP	10	
5.	Laser Jet Printer – Rex Rotary, HP	16	
6.	InkJet Printer - EPSON	15	
7.	Dot Matrix – Wipro, TVS	4	
8.	Digitizers - Calcomp	6	
9.	CD Writer – HP, LG	4	
10.	Modems - D-link	10	
11.	Hubs	7	
12.	Switches	3	
13.	Scanner - HP	2	
14.	UPS	300 kVA	
15.	Captive Power Generator – Kirloskar, Simpson, Escon	750 kVA	

**c. Software**

**Photogrammetry and LIDAR Processing**

- ❖ Aerial Triangulation:
  - Match AT from Inpho, Germany
- ❖ DTM Extraction (Automatic):
  - Match T from Inpho, Germany
- ❖ Ortho Rectification:
  - OrthoMaster from Inpho, Germany
- ❖ Mosaicing/ Tiling/ Seam Editing:
  - OrthoVista from Inpho, Germany
- ❖ Feature collection/ Editing:
  - SummitEvolution from DATEM, USA
  - AutoCAD Map from AutoDesk
  - Microstation V8 from Bentley
  - ArcView / ArcInfo from ESRI
- ❖ Image Enhancement:
  - Adobe Photoshop CS
- ❖ Image Compression:
  - GeoExpress with Mr.SID
  
- ❖ LIDAR Data Processing:
  - Terrasolid TerraScan, TerraScan, TerraModeler, TerraPhoto and TerraMatch.  
Custom classification macros.

**GIS**

- AutoCad Map 3D, Autodesk Raster Design, Autodesk MapGuide
- ArcGIS ArcView, ArcGIS ArcInfo, ArcGIS Spatial Analyst, ArcGIS 3D Analyst
- ArcSDE, ArcIMS, ArcGIS Server
- ArcEngine, ArcPad
- MicroStation, Geographics, Descarte

**CAD**

- AutoCAD, MicroStation V8, MicroStation J, IntelliCAD, Surfer

**Software Development**

- Visual Studio.NET Enterprise
- Visual Studio.NET Enterprise Architect
- Visual Studio.NET Professional
- Visual Studio Enterprise Developer
- MSDN Universal
- Mantis

**Civil Design**

- AutoDesk Land Development Desk Top
- AutoCad Revit Structure

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- Auto Civil Rel. 8.0, Autodesk Civil 3D,
- Staad Pro, Geopak, Nova Point Road Professional, MXRoadMax
- WaterCAD, WaterGEM, SewerCAD, SewerGEM, StormCAD

SECON has an extensive library of custom in-house developed software for all its areas of operation.

**Computers and Peripherals**

Description and Make	Quantity
Personal Computers- Intel Pentium, AMD Athlon, Cyrix	Over 450
Laptop Computer – Toshiba, Acer, Vesta, Compaq	8
Compaq Ipaq	4
Large format Design Jet Plotter – HP	7
Laser Jet Printer – Rex Rotary, HP	16
InkJet Printer – EPSON	15
Dot Matrix – Wipro, TVS	4
Digitizers – Calcomp	6
CD Writer – HP, LG	4
Modems - D-link	10
Hubs	7
Switches	3
Scanner – HP	2
UPS	300 kVA
Captive Power Generator – Kirloskar, Simpson, Escon	750 kVA

**d. Geotechnical and Soil Investigation Field Equipment**

Sl. No.	Description and Make	Qty	Remarks
1	Rotary boring & drilling rigs – Radha, Coimbatore	20	Upto 60 m depth
a.	Standard penetration test - Kit	20	
b.	Undisturbed sampling outfit	20	
2	Static Cone Penetration Test - HEICO	1	10t capacity (Hyd. operated)
3	Shell & Auger Boring kits Post hole Augers	49	
4	Plate load testing kit with 2 Nos. of 50t & 100t jack – HEICO & ALFOMEGA, Chennai	3	Upto 100t/sq m load Intensity
5	Field Vane Shear Test in Borehole sets of blades – PMS (37.5, 50 & 70mm)	03	Upto 30 m depth For soft clay
6	Field California Bearing Ratio - HEICO	1	
7	Dynamic Cone Penetration Test – AIMIL	2	40mm
8	Field Permeability Test Kit (Packer Method)	2	
9	Field density kit – AIMIL	3	
10	Pocket Penetrometer Test Kit – AIMIL	2	
11	Benkelman beam deflection, AIMIL	1	For NH projects
12	Dynamic Cone Penetrometer, AIMIL	1	For NH projects
13	High Volume Sampler, APM 430 & 411, PMS	1	

Sl. No.	Description and Make	Qty	Remarks
14	Current resistivity meter, ANVIC	13	
15	Water current meter, LYNX	02	

e. **Laboratory Soil Testing Equipment**

Sl. No.	Description and Make	Qty	Remarks
1	Rapid Moisture meter–upto 50% - TIC, Bangalore	1	
2	Natural Moisture content cups	100	
3	Grain size Sieve Shaker - TIC /AIMIL, Bangalore	1 set	
4	Hydrometer analysis – TECHNO, Bangalore	2	
5	Atterberg limit apparatus (liquid, plastic & shrinkage cups) - TIC, Bangalore	2	
6	Cone Penetrometer - PMC, Bangalore	1	
7	Direct shear apparatus - AIMIL, Bangalore	1	
8	Consolidation Oedometer - JDEW, Bangalore	6	
9	Compaction Test Apparatus (Standard & Modified Proctor) – ALPHATECH, Bangalore	5	
10	Auto Compactor equipment – AIMIL, Bangalore	1	
11	Laboratory California Bearing Ratio - ASEW, New Delhi	1	
12	Additional moulds for Lab CBR Test - JDEW, Bangalore	22	
13	Proving Ring Test Equipment - AIMIL, Bangalore	1	
14	Triaxial Shear Test - PMC, Bangalore	1	
15	Salinometer - Datta Scientific, Bangalore	1	
16	Laboratory Permeability Test Kit – Alphatech	1	
17	Pycnometer, Techno Instruments, Bangalore	2	
	Other Accessories – Sieves, Dial Gauge, etc.		Reqd No.
	Chemical Analysis of Soil & Water		
18	Research Microscope - P.C.Tech, Bangalore	1	
19	Electronic Weighing Balance – Techno & Sansui	3	
20	Mechanical Shaker (Chemical) - TIC, Bangalore	1	
21	Vacuum pump - AIMIL, TIC, Bangalore	2	
22	Hot air ovens – APOLLO & ELITE, Mumbai	2	
23	Distillation Unit – SRINIVASA, Bangalore	1	
24	Nephelometer, ELICO, Bangalore	1	
25	Hot plate - VASA, Bangalore	1	
26	pH Meter Digital – Systronics	1	
27	Calorimeter (Digital) – Systronics	1	
28	Flame photometer - Systronics, Bangalore	1	
29	Digital Conductivity Meter - Elico, Bangalore	1	
30	Other glass apparatus		Reqd No.

f. **Laboratory Concrete testing equipment**

Sl. no.	Description	Qty	Remarks
1	100T (1000 Kn) Compression Testing Machine, Pragathi-Bangalore	1	
2	Vicat Needle Apparatus with complete accessories, HEICO, Bangalore	1	
3	Slump Cone Test Apparatus with complete accessories, HEICO, Bangalore	1	
4	Cube moulds of size 150 x 150 x 150mm, ISI mark, Pragathi, Bangalore	6	
5	Cube moulds of size 7.06cm without ISI mark, Heico, Bangalore	3	
6	Cube moulds of size 7.06cm with ISI mark, Heico, Bangalore	6	
7	Le Chatelier's mould with ISI certification mark and the accessories – Split cylinder 30mm dia. 30mm high with two indicator arms, two glass plates and a lead weight – HC 38.05 – Heico, Bangalore	1	
8	Blaine's Air Permeability apparatus and the accessories – Permeability cell, U tube manometer with stop clock mounted sunmica wooden stand, perforated metal disc, plunger, rubber stopper, rubber tube with rubber bulb – Aimil, Bangalore	1	



## **7) Appendix 'B' Past Experience**

<b>Project Name:</b> Project Management Consultancy services for Upgradation of important road corridors in Bangalore Urban and Rural Districts for a length of 1004Km.		<b>Country:</b> India
<b>Project Location within Country:</b> Bangalore	<b>Professional Staff Provided by your Company</b> <b>No of Staff:</b> 4	
<b>Name of Client:</b> PWD, Bangalore	<b>No. of Person-Months:</b> 288 Manmonths	
<b>Start Date (Month/Year):</b> January 2007	<b>Total Project Cost in Rupees :</b> 6,835,600,000	
<b>Completion Date (Month/Year) :</b> January 2008	<b>Approx. Value of services in Rupees :</b>	
<b>Name of Associated Firm(s), if any:</b> Nil	<b>No of Person-Months of Professional Staff Provided by Associated Firm(s):</b> Nil	
<b>Detailed Narrative Description of Project:</b> Public Works Department (PWD), Bangalore Division has taken up structural and functional improvements of important road corridors spread over in 11 Taluks in Bangalore Urban and Rural Districts covering a length of 1004Km. The scope broadly covers repair and rehabilitation of existing roads, structures, drainage system, geometric improvement of curves and formation of new roads wherever required.		
<b>Detailed Description of Actual Services Provided by your Company:</b> <ul style="list-style-type: none"> <li>• Monitoring Progress and Reporting</li> <li>• Preparation of catch up plans</li> <li>• Quality Control and Quality Assurance</li> <li>• Ensuring adherence to safety measures during execution</li> <li>• Submission of Monthly Progress Report indicating progress, Contractor's performance, Quality of Works and the Project's financial status &amp; forecast</li> <li>• Certification of measurements for payments</li> <li>• Evaluating and recommending extra claims and extension of time</li> <li>• Reporting to the PWD / higher authorities of the Government during various stages of activities by means of presentation incorporating videographs, photographs and graphical representation of progress.</li> <li>• Submission of checklist before issuance of provisional acceptance certificate</li> <li>• Submission of close out report for each road</li> </ul>		

<b>Project Name:</b> Consulting Services for Construction Supervision and Project Management of Widening & Improvements to existing road from Yadgir to Shahpur for a length of 34.80 Km		<b>Country:</b> India
<b>Project Location within Country:</b> Gulbarga District, Karnataka	<b>Professional Staff Provided by your Company</b> <b>No of Staff:</b> 07	
<b>Name of Client:</b> KRDCL	<b>No. of Person-Months:</b> 192 Manmonths	
<b>Start Date (Month/Year):</b> October 2006	<b>Total Project Cost in Rupees :</b> 5622.90 Lakh	
<b>Completion Date (Month/Year) :</b> October 2008	<b>Approx. Value of services in Rupees :</b>	
Name of Associated Firm(s), if any: <b>Nil</b>	<b>No of Person-Months of Professional Staff Provided by Associated Firm(s): Nil</b>	
<b>Detailed Description of Actual Services Provided by your Company:</b>		
<ul style="list-style-type: none"> <li>• Study and verification of data of detailed project report.</li> <li>• Verification of Planimetric and Vertical Control Points.</li> <li>• Checking the engineering drawings with actual conditions</li> <li>• Co-ordination with Contractor and client</li> <li>• Checking laboratory and field tests of construction materials</li> <li>• Checking working drawings and job layout</li> <li>• Establishing mix design procedure and checking mix designs</li> <li>• Planning of shifting of underground and above ground utilities</li> <li>• Construction supervision of each layer of road, bridges, culverts and other structures</li> <li>• Progress monitoring and preparation of catchup schedules</li> <li>• Quality control and Quality assurance during construction</li> <li>• Certification of invoices and recommendation of variation statement</li> <li>• Certification of as built alignment of road and as built drawings of structures</li> <li>• Ensuring safety during construction stage</li> </ul>		



<b>Project Name:</b> Construction Supervision for 4 laning and strengthening of existing two lane stretches from Krishnagiri-Ranipet (Km 1.44 to Km 144.21) on NH-46 (Easterly Bypass 2.275 Km on NH-7 and Walajahpet Bypass of 7.5 Km) on NH-46 and NH-7 in the State of Tamilnadu (Contract Package Nos. KR-1, KR-2 & KR-3).		<b>Country:</b> India
<b>Project Location within Country:</b> Krishnagiri, Tamilnadu	<b>Professional Staff Provided by your Company</b> <b>No of Staff:</b> 18	
<b>Name of Client:</b> NHAI, New Delhi	<b>No. of Person-Months:</b> 378	
<b>Start Date (Month/Year):</b> October 2002	<b>Total Project Cost (US\$ equivalent):</b> US\$ 116 Million	
<b>Completion Date (Month/Year) :</b> August 2005	<b>Approx. Value of services (US\$ equivalent):</b>	
<b>Name of Associated Firm(s), if any:</b> RITES, SOWIL	<b>No of Person-Months of Professional Staff Provided by Associated Firm(s):</b> 630	
<p><b>Detailed Narrative Description of Project:</b>  Existing two lane stretch was converted into 4-lane road including Easterly bypass on NH-7 and at Walajahpet. The stretch is located in the state of Tamil Nadu between Krishnagiri and Ranipet. The project was executed strictly as per latest guidelines of IRC and specifications.</p> <p><b>Length : 143 Km Lane Configuration : 4 / 6 lanes</b></p>		
<p><b>Detailed Description of Actual Services Provided by your Company:</b></p> <ul style="list-style-type: none"> <li>• Study and verification of data of detailed project report.</li> <li>• Verification of Planimetric and Vertical Control Points.</li> <li>• Checking the engineering drawings with actual conditions</li> <li>• Co-ordination with lead partner / Contractor and client</li> <li>• Checking laboratory and field tests of construction materials</li> <li>• Checking working drawings and job layout</li> <li>• Establishing mix design procedure and checking mix designs</li> <li>• Planning of shifting of underground and above ground utilities</li> <li>• Construction supervision of each layer of road, bridges, culverts and other structures</li> <li>• Progress monitoring and preparation of catchup schedules</li> <li>• Quality control and Quality assurance during construction</li> <li>• Certification of invoices and recommendation of variation statement</li> <li>• Certification of as built alignment of road and as built drawings of structures</li> <li>• Ensuring safety during construction stage</li> <li>• Planning of road arboriculture</li> <li>• All required documentation as suggested by lead partner / client</li> </ul> <p><b>Funding Agency:</b> NHAI</p>		

<b>Assignment Name:</b> Consulting services for Quality Assurance and Supervision of State Highway Maintenance in Belgaum, Chikkodi, Dharwad, Bijapur, Bagalkot, Haveri, Karwar (UK) and Gadag Divisions (Q.A. Package II)	<b>Country :</b> India
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<b>Location within Country:</b> Various Districts of Karnataka		<b>Professional Staff Provided by your firm:</b> <b>No. of Staff</b> : 16
<b>Name of Client:</b> KRDCL		
<b>Address:</b>		<b>No. of Staff Months</b> : 240 months <b>Duration of Assignment</b> 15 months
<b>Start Date (Month/Year)</b> August 2005	<b>Completion Date (Month/Year)</b> November 2006	<b>Approximate Value of Services in USD:</b>
<b>Name of Association Firm(s) if any:</b> Nil		<b>No. of Months of Professional Staff provided by Associated Firm(s):</b> NA
<b>Narrative Description of Project:</b>		
<p>The Government of Karnataka has privatized the upgradation and maintenance of the road network in the State. In order to supervise the contractor's work, Supervision consultants have been appointed to check the quality of the work.</p>		
<b>Description of Actual Services Provided by your Staff:</b>		
<ul style="list-style-type: none"> <li>Review of all available reports and published information about the project influence area</li> <li>Complete Traffic surveys and studies</li> <li>Environmental, social studies and impact analysis including rehabilitation and resettlement studies</li> <li>Detailed topographic surveys using Total Station and GPS;</li> <li>Material investigations;</li> <li>Embankment soil, Subgrade and sub-soil investigations for road and embankment design;</li> <li>Detailed design of road and cross-drainage structures, flyovers, underpasses, subways, etc.</li> <li>Identification of junctions and design of the same;</li> <li>Utility shifting drawings and the scheme for their relocation</li> <li>Preparation of detailed project report, cost estimate, rate analysis, detailed bill of quantities.</li> <li>Detailed Land Acquisition Plans</li> <li>Viability studies, identification of contract packages and implementation schedule</li> </ul>		



<b>Assignment Name:</b> Detailed Project Report for Improvement of selected road corridors in the city of Kochi		<b>Country :</b> India
<b>Location within Country:</b> Kochi, Kerala		<b>Professional Staff Provided by your firm:</b> <b>No. of Staff</b> : 10
<b>Name of Client:</b> KRFB		
<b>Address:</b> Kerala		<b>No. of Staff Months</b> : 50 <b>Duration of Assignment</b> 6 months
<b>Start Date (Month/Year)</b> September 2005	<b>Completion Date (Month/Year)</b> March 2006	<b>Approximate Value of Services in current USD :</b>
<b>Name of Association Firm(s) if any:</b> Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s):</b> NA		
<b>Narrative Description of Project:</b>		
<p>The city of Kochi is one of the important commercial hubs of Kerala. The Government of Kerala propose to improve a few selected roads within City of Kochi including widening, strengthening, provision of bus bays, parking areas, grade separators etc. As a first step, it is decided to prepare the Detailed Project Report for these identified road stretches so that these can be directly taken up for implementation.</p>		
<b>Description of Actual Services Provided by your Staff:</b>		
<ul style="list-style-type: none"> <li>Review of all available reports and published information about the project influence area</li> <li>Complete Traffic surveys and studies</li> <li>Environmental, social studies and impact analysis including rehabilitation and resettlement studies</li> <li>Detailed topographic surveys using Total Station and GPS;</li> <li>Material investigations;</li> <li>Embankment soil, Subgrade and sub-soil investigations for road and embankment design;</li> <li>Detailed design of road and cross-drainage structures, flyovers, underpasses, subways, etc.</li> <li>Identification of junctions and design of the same;</li> <li>Utility shifting drawings and the scheme for their relocation</li> <li>Preparation of detailed project report, cost estimate, rate analysis, detailed bill of quantities.</li> <li>Detailed Land Acquisition Plans</li> <li>Viability studies, identification of contract packages and implementation schedule</li> </ul>		



<b>Assignment Name :</b> Consultancy Services for Preparation of Detailed Project Reports for four laning of Hyderabad - Vijayawada (km 4/0 to km 160/0) section of National Highway No.9 under NHDP Phase III - Lot IV Group 'E'		<b>Country:</b> India
<b>Location within Country:</b> Andhra Pradesh		<b>Professional Staff Provided by your firm:</b>
<b>Name of Client :</b> NHAI, New Delhi		
<b>Address:</b> G-5 & G-6, Sector – 10, Dwarka, New Delhi – 110 045.		<b>No. of Staff</b> : 12
		<b>No. of Staff Months</b> : 120 <b>Duration of Assignment</b> 10 months
<b>Start Date (Month/Year)</b> August 2005	<b>Completion Date (Month/Year)</b> June 2006	<b>Approximate Value of Services in Indian Rupees :</b>
<b>Name of Association Firm(s) if any:</b> NIL		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> NIL		
<b>Narrative Description of Project:</b> This project is taken up under National Highway Development Programme of National Highways Authority of India and is 40km from the highly developed capital city of Andhra Pradesh, Hyderabad. The project is proposed to be taken up on BOT basis.		
<b>Description of Actual Services Provided by your Staff:</b> To prepare detailed project report for rehabilitation and upgrading of the existing two lane National Highway section to a four / six lane divided Carriageway configuration. To prepare project report incorporating aspects of value engineering, quality audit and safety audit requirement in design and implementation, and bid documents required for tendering the project on commercial basis for international and local competitive bidding. Proposal for widening work within the existing right of way Suggest possible locations and design of toll plaza, wayside amenities required on tolled highway. Strengthening of the carriageways, Studies for financing options like BOT, Annuity, SPV at the Feasibility Study stage. Preparation of good for construction' drawings Environmental Impact Assessment, Environmental Management Plan and Rehabilitation and Resettlement Studies meeting the requirements of the lending agencies like ADB/ World Bank/ JBIC etc. Obtain 'No Objection Certificate' from Ministry of Environment and Forest and also incorporate the estimates for shifting of utilities of all types involved from concerned local authorities in the DPR. Obtain all types of necessary clearances required for implementation of the project on the ground from the concerned agencies Prepare all Land Acquisition papers (i.e. all necessary schedules as per L.A. act) for acquisition of land either under NH Act or State Act. Prepare and deliver the bid documents for both the possibilities/options. i.e. as BOT project and also considering on budgetary support basis.		



<b>Assignment Name :</b> Consultancy Services for Feasibility Study and Detailed Project Report for Four/Six Laning from Nelamangala to Hassan (Length 163 Km) of NH-48 in the state of Karnataka under NHDP Phase III Programme, Package No.NHDP- III/DL4/02		<b>Country :</b> India
<b>Location within Country:</b> Karnataka		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 12
<b>Name of Client :</b> NHAI, New Delhi		
<b>Address:.</b>		<b>No. of Staff Months</b> : 175 <b>Duration of Assignment</b> 12 months
<b>Start Date (Month/Year)</b> July 2005	<b>Completion Date (Month/Year)</b> July 2006	<b>Approximate Value of Services in Indian Rupees :</b>
<b>Name of Association Firm(s) if any:</b> NIL		<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> NIL
<b>Narrative Description of Project:</b> This project is taken up under National Highway Development Programme of National Highways Authority of India. Road connectivity in this stretch is of vital importance because of its cultural importance and tourist attraction. The project stretch NH48 Nelamangala to Hassan starts at Nelamangala which is located about 29 Km North West of Bangalore towards Tumkur. NH 48 joins NH4 at Nelamangala. It includes 9 kms of bypass road to Hassan. The project terminates at 192 Km, the end of Hassan Bypass.		
<b>Description of Actual Services Provided by your Staff:</b> <ul style="list-style-type: none"> <li>To prepare detailed project report for rehabilitation and upgrading of the existing two lane National Highway section to a four / six lane divided Carriageway configuration.</li> <li>To prepare project report incorporating aspects of value engineering, quality audit and safety audit requirement in design and implementation, and bid documents required for tendering the project on commercial basis for international and local competitive bidding.</li> <li>Proposal for widening work within the existing right of way</li> <li>Suggest possible locations and design of toll plaza, wayside amenities required on tolled highway.</li> <li>Strengthening of the carriageways,</li> <li>Studies for financing options like BOT, Annuity, SPV at the Feasibility Study stage.</li> <li>Preparation of good for construction' drawings</li> <li>Environmental Impact Assessment, Environmental Management Plan and Rehabilitation and Resettlement Studies meeting the requirements of the lending agencies like ADB/ World Bank/ JBIC etc.</li> <li>Obtain 'No Objection Certificate' from Ministry of Environment and Forest and also incorporate the estimates for shifting of utilities of all types involved from concerned local authorities in the DPR.</li> <li>Obtain all types of necessary clearances required for implementation of the project on the ground from the concerned agencies</li> <li>Prepare all Land Acquisition papers (i.e. all necessary schedules as per L.A. act) for acquisition of land either under NH Act or State Act.</li> <li>Prepare and deliver the bid documents for both the possibilities/options. i.e. as BOT project and also considering on budgetary support basis.</li> </ul>		



<b>Assignment Name :</b> Design of Major bridge over Pulo Sokhrao River on Kabul - Jalalabad Highway section and Structures on Jalalabad Bypass.		<b>Country :</b> Afghanistan
<b>Location within Country:</b> Jalalabad		<b>Professional Staff Provided by your Firm/entity (profiles):</b>  <b>No. of Staff</b> : 05
<b>Name of the Client :</b> EC Delegation to Afghanistan		
<b>Address:</b> No.2, Street No. 1, East Wazir Akbar Khan, Kabul.		<b>No. of Staff Months; duration of assignment</b> : 10
<b>Start Date (Month/Year)</b> May 2005	<b>Completion Date (Month/Year)</b> Ongoing project	<b>Approximate Value of Services in USD:</b>  <b>Number of Months of Prof. Staff provided by Associated Consultants :</b> 30
<b>Name of Associated Consultants, if any:</b> WSP Group International Ltd. UK		
<b>Narrative Description of Project:</b> Design and Detailed Engineering for proposed construction of one major bridge on Kabul – Jalalabad Highway Section; Design and Detailed Engineering for proposed construction of four structures on Jalalabad Bypass.  The project site is in the vicinity of 20km from Jalalabad Town. <b>Project Cost: USD 1,750,000</b>		
<b>Description of Actual Services Provided by your Staff:</b> Detail engineering Design Technical Specifications Bill of Quantities Preparation of Rate Analysis of Items Cost Estimates		



<b>Assignment Name:</b> Integrated Road Development Project		<b>Country :</b> India
<b>Location within Country:</b> Kanpur		<b>Professional Staff Provided by your firm:</b> <b>No. of Staff</b> : 13
<b>Name of Client:</b> Kanpur Development Authority		
<b>Address:</b> Kanpur Development Authority Motijheel Kanpur – 208 002		<b>No. of Staff Months</b> : 126 <b>Duration of Assignment</b> 6 months
<b>Start Date (Month/Year)</b> April 2005	<b>Completion Date (Month/Year)</b> October 2005	<b>Approximate Value of Services in USD:</b>
<b>Name of Association Firm(s) if any:</b> Nil		<b>No. of Months of Professional Staff provided by Associated Firm(s):</b> NA
<b>Narrative Description of Project:</b>  Kanpur is the second largest metropolis in entire northern India and the largest in Uttar Pradesh. Increase in population, Commercial activities coupled with high growth in vehicle population and lack of Public Transport System have resulted tremendous pressure on the existing road networks, ultimately resulting in slower overall growth of City. Therefore it has been proposed to take up upgradation of city roads to international standards.		
<b>Description of Actual Services Provided by your Staff:</b>  Preparation of detailed project report for upgrading the existing road sections to 4-lane road with provision of different road elements Selection of Contractor for executing the project Supervision of construction activities Quality control & Quality Assurance Preparation of job close out report. Preliminary Design and Cost Estimates		



<b>Assignment Name:</b> Feasibility Studies and preparation of Detailed Project Report of proposed RUB at Km 83.980 and ROB at km 99/4 of NH:208		<b>Country :</b> India
<b>Location within Country:</b> TamilNadu		<b>Professional Staff Provided by your firm:</b> <b>No. of Staff</b> : 6
<b>Name of Client:</b> National Highways, Tirunelveli		
<b>Address:</b> Tirunelveli - 11		<b>No. of Staff Months</b> : 40 <b>Duration of Assignment</b> 4 months
<b>Start Date (Month/Year)</b> February 2005	<b>Completion Date (Month/Year)</b> July 2005	<b>Approximate Value of Services in USD:</b>
<b>Name of Association Firm(s) if any:</b> Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s):</b> NA		
<b>Narrative Description of Project:</b>  The entire road where the ROB/RUB proposed is of two lane with a carriage way of 7.00 m. The width of the carriageway is 5.95m at the RUB location at Km-83/930 and the vertical clearance is 4.25m. The level crossing of NH-208 in Tamilnadu section at km 99/400 comes in the Tenkasi-Kollam meter gauge line.		
<b>Description of Actual Services Provided by your Staff:</b>  <ul style="list-style-type: none"> <li>Topographical Survey</li> <li>Reconnaissance Survey</li> <li>Traffic Studies</li> <li>Road Inventory</li> <li>Condition survey of bridges, structures, hydraulic and hydrological studies</li> <li>Geotechnical &amp; Material Investigations</li> <li>Social Evaluation and Impact Assessment</li> <li>Preliminary Design and Cost Estimates</li> <li>Economic Analysis</li> <li>Engineering Design</li> <li>Pavement Marking and Traffic Signs</li> <li>Estimation of Quantities and Costs, BOQ</li> </ul>		



<b>Assignment Name:</b> Consultancy services for construction of high level bridge across Piparia River near Agriculture Farm in U.T of Dadra & Nagar Haveli and Construction of High level bridge in place of Cause Way across Satarkod River at Talavli		<b>Country :</b> India
<b>Location within Country:</b> Dadra & Nagar Haveli		<b>Professional Staff Provided by your firm:</b> <b>No. of Staff</b> : 8
<b>Name of Client:</b> Central Public Works Department, Vadodara		
<b>Address:</b> Vadodara - 390 002.		<b>No. of Staff Months</b> : 80 <b>Duration of Assignment</b> 4 months
<b>Start Date (Month/Year)</b> May 2005	<b>Completion Date (Month/Year)</b> Sept 2005	<b>Approximate Value of Services in USD:</b>
<b>Name of Association Firm(s) if any:</b> Nil		<b>No. of Months of Professional Staff provided by Associated Firm(s):</b> NA
<b>Narrative Description of Project:</b>  High-level bridge across river Piparia is to be constructed on The Silvassa-Khilwani Randhwa road. The proposed length of bridge is 100m with a 7.5m carriageway and 1.5m footpath on either side with approaches. Talavli Bridge is located across river Sakartoda on the Khanvel-Talavli road and proposed width of the bridge is 7.5m carriageway, 1.5m footpath on either side and approaches. Length of the bridge is 120m.		
<b>Description of Actual Services Provided by your Staff:</b>  Detailed topographical, hydraulic and hydrological surveys Conducting feasibility studies viz. Axle load survey, Sub-soil and material investigation Detailed engineering design and cost estimates Preparation of strip plans and drawings Preparation of bill of quantities, technical specifications and tender documents Submission of Technical Reports		



<b>Assignment Name :</b> Detailed project Report for 4/6 laning of Kanyakumari to Trivandrum Section of NH-47		<b>Country :</b> India
<b>Location within Country:</b> Kerala and Tamil Nadu		<b>Professional Staff Provided by your firm:</b>
<b>Name of Client :</b> National Highways Authority of India, New Delhi		<b>No. of Staff</b> : 23
<b>Address:</b> New Delhi – 110 045.		<b>No. of Staff Months</b> : 172 <b>Duration of Assignment</b> : 10 months
<b>Start Date (Month/Year)</b> June 2004	<b>Completion Date (Month/Year)</b> Ongoing Project	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b> NIL		<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> NIL
<b>Narrative Description of Project:</b> Consultancy Services for Feasibility Study and Detailed Project Report for 4/6 of Kanyakumari to Trivandrum ,Scope of work - various surveys to be conducted including Pavement condition survey, Building Survey, environmental screening, feature survey, analysis of the same along with preparation of detail project report.		
<b>Description of Actual Services Provided by your Staff:</b> Feasibility Studies Topographic survey Pavement and Subgrade investigation Geotechnical investigation Traffic Studies and Analysis Alignment planning and design Design of bridges, flyover, RoBs, underpasses and culverts Design of PIU, toll plazas, truck parking and rest areas. Preparation of bill of quantities, cost estimates and rate analysis. Preparation of detailed project report. Preparation of Technical Specifications and Bid Documents Prepared Utility Shifting Plan for relocation of existing utilities. Cadastral Survey Land Acquisition Plan / Schedule. Environmental Impact Assessment and Social studies Preparation of Environmental Management Plan and Resettlement Action Plan		



<b>Assignment Name :</b> 4/6 laning of selected project under Group A of NHDP-II – Farukhnagar to Kottakota section of NH-7		<b>Country :</b> India
<b>Location within Country:</b> Andhra Pradesh		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 22
<b>Name of Client :</b> National Highways Authority of India, New Delhi		
<b>Address:</b> New Delhi – 110 045.		<b>No. of Staff Months</b> : 170 <b>Duration of Assignment</b> : 10 months
<b>Start Date (Month/Year)</b> Nov 2003	<b>Completion Date (Month/Year)</b> Ongoing project (Draft DPR submitted)	<b>Approximate Value of Services in USD:</b>
<b>Name of Association Firm(s) if any:</b> NIL		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> NIL		
<b>Narrative Description of Project:</b> Consultancy Services for Feasibility Study and Detailed Project Report for 4/6 laning of selected project under Group A of NHDP-II – Farukhnagar to Kottakota section of NH-7 from km 34/8 to km 133/0 in the state of Andhra Pradesh,		
<b>Description of Actual Services Provided by your Staff:</b> Feasibility Studies Topographic survey Pavement and Subgrade investigation Geotechnical investigation Traffic Studies and Analysis Alignment planning and design Design of bridges, flyover, RoBs, underpasses and culverts Design of PIU, toll plazas, truck parking and rest areas. Preparation of bill of quantities, cost estimates and rate analysis. Preparation of detailed project report. Preparation of Technical Specifications and Bid Documents Prepared Utility Shifting Plan for relocation of existing utilities. Cadastral Survey Land Acquisition Plan / Schedule. Environmental Impact Assessment and Social studies Preparation of Environmental Management Plan and Resettlement Action Plan		

<b>Assignment Name :</b> DPR for 4 laning of NH5 for Nellore bypass between km 165/200 and km 178/200.		<b>Country :</b> India
<b>Location within Country:</b> Andhra Pradesh		<b>Professional Staff Provided by your firm:</b>
<b>Name of Client :</b> National Highways Authority of India, New Delhi		
<b>Address:</b> New Delhi – 110 045.		<b>No. of Staff</b> : 18
		<b>No. of Staff Months</b> : 46 <b>Duration of Assignment</b> : 3 months
<b>Start Date (Month/Year)</b> August 2001	<b>Completion Date (Month/Year)</b> November 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b> KM International, Sweden		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> 0.67		
<b>Narrative Description of Project:</b> Detailed Project Report for Proposed 4-lane Nellore Bypass, with partial access control, north of Buja Buja Tank, km 165/200 and south of ROB, km 178/200. Project included survey, pavement and material investigation, geotechnical investigation, tree enumeration, proposal for relocation of utilities for the 17.1 km bypass including 5 minor bridges, 5 underpasses, 1 ROB, 51 culverts and 884.13 m long major bridge across Pennar River. The project is proposed to be constructed on Annuity Basis.		
<b>Description of Actual Services Provided by your Staff:</b> Feasibility Studies Topographic survey Pavement and Subgrade investigation Geotechnical investigation Traffic Studies and Analysis Alignment planning and design Design of bridges, RoB, underpasses and culverts Design of PIU, toll plazas, truck parking and rest areas. Preparation of bill of quantities, cost estimates and rate analysis. Preparation of detailed project report. Preparation of Technical Specifications Preparation of Bid Documents for undertaking the project on Annuity Basis. Prepared Utility Shifting Plan for relocation of existing utilities. Cadastral Survey Land Acquisition Plan / Schedule. Environmental Impact Assessment and Social studies Preparation of Environmental Management Plan and Resettlement Action Plan		



<b>Assignment Name :</b> Bridge cum Barrage across Bhima River		<b>Country :</b> India
<b>Location within Country :</b> Kallur – “B”, Gulbarga District, Karnataka, India		<b>Professional Staff Provided by your firm:</b>
<b>Name of Client :</b> KBJNL		
<b>Address:</b> Bangalore – 560 001.		<b>No. of Staff</b> : 12
		<b>No. of Staff Months</b> : 26 <b>Duration of Assignment</b> : 3 months
<b>Start Date (Month/Year)</b> June 2001	<b>Completion Date (Month/Year)</b> September 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b>  Design of 250m long RCC bridge, selection of site, Detailed Design, Geotechnical Investigation, Design of gates, Preparation of detail working drawings, detailed estimates including BOQ and Technical Specifications.		
<b>Description of Actual Services Provided by your Staff:</b>  Design of 250m long RCC bridge Reconnaissance Survey and selection of appropriate site for bridge cum barrage Conducted river study by taking cross section of river at 100m c/c for 15 km upstream and 1 km downstream of the proposed barrage upto Full Reservoir Level (FRL) for the entire width of the river basin. Studied several alternate arrangements of gates. Carried out geotechnical investigation by drilling 150mm dia bore holes at 50m c/c upto 15 to 20m along the length of the barrage. Standard Penetration Tests were conducted at 2m intervals or at change of strata in all the boreholes. Conducting laboratory tests for crushing strength of rocks, physical properties of soil using UDS and disturbed samples. Preparation of General Arrangement Drawings, detailed designs and detailed working drawings. Preparation of Draft Technical Proposals, Detailed Estimates and Bill of Quantities.		



<b>Assignment Name :</b> Proposed International Airport at Devanahalli, Bangalore		<b>Country :</b> India
<b>Location within Country :</b> Devanahalli, Bangalore, Karnataka		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 20
<b>Name of the Client :</b> Karnataka State Industrial Investment & Dev. Corpn. Ltd. (A Govt. of Karnataka undertaking)		
<b>Address:</b> Bangalore -560052		<b>No. of Staff Months</b> : 35
<b>Start Date (Month/Year)</b> December 2000	<b>Completion Date (Month/Year)</b> January 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b> Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not applicable		
<b>Narrative Description of Project :</b> Topographical Survey, Geotechnical investigation, hydro-geological investigation, meteorological data, for the proposed Bangalore International Airport at Devanahalli, Karnataka covering an area of 4300 Acres		
<b>Description of Actual Services Provided by your Staff:</b>  Establishment of planimetric and height control network using DGPS and Auto levels. Detailed topographical survey using Total Stations Geotechnical Investigation - 40 boreholes and 40 test pits, analysis and report. Hydro-geological investigation and collection of meteorological data. Generation of computerised maps and reports.		



<b>Assignment Name :</b> Consultancy services for sites and services scheme at Anjanapura, Uttarhalli Hobli, Bangalore South Taluk		<b>Country :</b> India
<b>Location within Country :</b> Bangalore, Karnataka State, India		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 15
<b>Name of Client :</b> Bangalore Development Authority		
<b>Address:</b> Bangalore Development Authority T. Chowdaiah Road, Kumara Park West, Bangalore – 560 020.		<b>No. of Staff Months</b> : 45 <b>Duration of Assignment</b> : 4 months
<b>Start Date (Month/Year)</b> November 2000	<b>Completion Date (Month/Year)</b> April 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b> Nil		<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> (Not applicable)
<b>Narrative Description of Project :</b> Topographical survey, Design of pavement & internal roads, CDs, storm water drainage system, electrical supply & distribution system, water supply and sanitary scheme, preparation of bill of quantities, cost estimates, geotech investigation, material investigation and Consultancy Services for Sites and Services Scheme, for proposed township development at Anjanapura, Uttarhalli Hobli, Bangalore South Taluk. (190 Ha) 500		
<b>Description of Actual Services Provided by your staff:</b> Establishing Planimetric and Height control using DGPS and Auto levels Topographical survey using Total Stations Preliminary geotech and material investigation. Design of Layout including public and civic amenities. Design of road alignments, pavement and Cross Drainage works. Design of storm water drainage system, electrical supply & distribution system, water supply and sanitary scheme. Preparation of bill of quantities, cost estimates and finalisation of Tender Documents. Generation of all reports and drawings in computer.		



<b>Assignment Name :</b> Approach Road to Dolphin Hill Range		<b>Country :</b> India
<b>Location within Country :</b> Visakhapatnam, Andhra Pradesh		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 10
<b>Name of Client :</b> Ship Building Centre, Navy		
<b>Address:</b> Ship Building Centre, Naval Base, Visakhapatnam – 530 014		<b>No. of Staff Months</b> : 22 <b>Duration of Assignment</b> : 5 months
<b>Start Date (Month/Year)</b> August 2000	<b>Completion Date (Month/Year)</b> January 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b> Detailed topographical survey, preliminary geotechnical investigation and material investigation for the construction of new approach Hill Road to Dolphin Hill. The winding hill road was designed with all features such as Hair Pin bends, retaining walls, Laybyes, View Points, etc.		
<b>Description of Actual Services Provided by your staff:</b> Desktop study Detail reconnaissance survey Feasibility Studies Preliminary strip survey Soil and material investigation. Detailed designs of alignment, pavement, cross drainage structures, hair-pin bends, retaining structures Technical Specifications, Rate Analysis, Cost Estimates and preparation of BOQ.		



<b>Assignment Name:</b> Rehabilitation and upgradation of existing 2-lane road to 4/6 lane divided carriageway configuration of Nellore to Chilkalurupet km 178 to km 355 of NH5 in Andhra Pradesh.		<b>Country :</b> India
<b>Location within Country:</b> Andhra Pradesh		<b>Professional Staff Provided by your firm:</b>
<b>Name of Client:</b> National Highways Authority of India, New Delhi		
<b>Address:</b> New Delhi – 110 045.		<b>No. of Staff</b> : 31
		<b>No. of Staff Months</b> : 302
		<b>Duration of Assignment</b> 15 months
<b>Start Date (Month/Year)</b> January 2000	<b>Completion Date (Month/Year)</b> April 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b> KM International, Sweden		
<b>No. of Months of Professional Staff provided by Associated Firm(s):</b> 24.6		
<b>Narrative Description of Project::</b> Rehabilitation, upgradation & improvement of existing 2-lane NH-5 to 4 lane highway. Project included topographical survey, pavement and material investigation, geotechnical investigation, collection of land information, EIA, EMP and RAP studies, proposal for relocation of utilities for the 180 km highway including 71 bridges (13 major, 3 ROB, 7 medium and 51 minor), 540m long flyover, 2 underpasses and over 200 culverts. Six (6) bypasses have been proposed at built-up areas in the project area.		
<b>Description of Actual Services Provided by your Staff:</b> Feasibility Studies Topographic survey Pavement and Subgrade investigation Geotechnical investigation Traffic Studies and Analysis Alignment planning and design Design of bridges, flyover, RoBs, underpasses and culverts Design of PIU, toll plazas, truck parking and rest areas. Preparation of bill of quantities, cost estimates and rate analysis. Preparation of detailed project report. Preparation of Technical Specifications and Bid Documents Prepared Utility Shifting Plan for relocation of existing utilities. Cadastral Survey Land Acquisition Plan / Schedule. Environmental Impact Assessment and Social studies Preparation of Environmental Management Plan and Resettlement Action Plan		



<b>Assignment Name :</b> Access Road and Internal roads to HPCL, LPG terminal		<b>Country :</b> India
<b>Location within Country :</b> Mangalore, Karnataka		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 6
<b>Name of Client :</b> Hindustan Petroleum Corpn. Ltd.		
<b>Address:</b> Mumbai 400 001.		<b>No. of Staff Months</b> : 60 <b>Duration of Assignment</b> : 12 months
<b>Start Date (Month/Year)</b> January 2000	<b>Completion Date (Month/Year)</b> January 2001	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b> Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b> Rehabilitation and improvement of road connecting the HPCL LPG terminal to Surathkal-Bajpe Road and the internal roads within the terminal, including the truck loading area. Scope involved topographical survey, pavement testing, drainage studies and assessment of the adequacy of the existing road drainage and CD works.		
<b>Description of Actual Services Provided by your Staff:</b> Topographical strip survey Geotech investigations, Geometric design, Pavement design and preparation of working drawings. Review of the existing pavement and design of overlay and rehabilitation. Design of Rigid pavement for the internal roads and truck loading area. Earthwork quantities and preparation of contract documents. Quality control and construction supervision.		



<b>Assignment Name :</b> Road to GSPCL Terminal from Surat-Hazira SH and 460 m long Bridge across Tena Creek		<b>Country :</b> India
<b>Location within Country :</b> Surat District, Gujarat		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 6
<b>Name of Client :</b> Gujarat State Petroleum Corpn. Ltd.		
<b>Address:</b> Gandhinagar – 382 011		<b>No. of Staff Months</b> : 30 <b>Duration of Assignment</b> : 9 months
<b>Start Date (Month/Year)</b> January 1999	<b>Completion Date (Month/Year)</b> Sept 1999	<b>Approximate Value of Services in USD :</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b> Preliminary and final design of 12 km long road connecting the GSPCL terminal to Surat-Hazira SH, including investigation and design for <b>460 m long bridge across Tena Creek.</b>		
<b>Description of Actual Services Provided by your staff:</b>  Study of various alternatives, including widening of existing road and planning of new alignments. Topographical strip survey, establishment of control points and staking out cardinal points. Geometric design, preparation of drawings, earthwork quantities and preparation of contract documents. Geotech investigations by deep boring for the 460 m long high level bridge across Tena Creek, including laboratory testing, preparation of report with recommendations. Review of hydraulic and geotechnical data and finalisation bridge design.		



<b>Assignment Name :</b> Consultancy Services for Quality Control / Concurrent evaluation / Quality Assurance in the works of Roads (350 kms) and Bridges (3 Nos) under Road Construction Department in the state of Jharkhand for the Government of Jharkhand.		<b>Country :</b> India
<b>Location within Country :</b> Ranchi, India		<b>Professional Staff Provided by your firm:</b>  <b>No. of Staff</b> : 4
<b>Name of Client :</b> Road Construction Department, Govt. of Jharkhand		
<b>Address:</b> Ranchi.		<b>No. of Staff Months</b> : 58 <b>Duration of Assignment</b> : 24 months
<b>Start Date (Month/Year)</b> Jan 2003	<b>Completion Date (Month/Year)</b> Jan 2005	<b>Approximate Value of Services (in current USD)</b>
<b>Name of Association Firm(s) if any:</b> Dakshayan Consultants, Ranchi		
<b>No. of Months of Professional Staff provided by Associated Firm(s) : 18</b>		
<b>Narrative Description of Project :</b> Quality assurance in the works of Roads and Bridges under Road Construction Deptt.in the state of Jharkhand		
<b>Description of Actual Services Provided by your staff:</b> Quality Assurance Concurrent Evaluation Technical Audit Testing and Certification of materials used by the contractor Verification of lines and levels Operation and maintenance manual Training of officials		



<b>Assignment Name :</b> Construction Supervision for 4 laning and strengthening of existing two lane stretches from Krishnagiri-Ranipet (Km 1.44 to Km 144.21) on NH-46 (Easterly Bypass 2.275 Km on Nh-7 and Walajahpet Bypass of 7.5 Km) on NH-46 and NH-7 in the State of Tamilnadu (Contract Package Nos. KR-1, KR-2 & KR-3).		<b>Country :</b> India
<b>Location within Country:</b> Krishnagiri, Tamilnadu		<b>Professional Staff Provided by your Firm/entity (profiles):</b>
<b>Name of Client :</b> National Highways Authority of India, New Delhi		
<b>Address:</b> New Delhi – 110 045.		<b>No. of Staff</b> : 18
		<b>No. of Staff Months; duration of assignment</b> : 378 27 months
<b>Start Date (Month/Year)</b> October 2002	<b>Completion Date (Month/Year)</b> Ongoing project	<b>Approximate Value of Services (in current USD) :</b>
<b>Name of Associated Consultants, if any:</b> RITES Ltd and Sir Owen Williams India Limited (SOWIL).		
		<b>No. of Months of Professional Staff provided by Associated Consultants :</b> 630
<b>Narrative Description of Project:</b> Consultancy services for construction supervision for four laning and strengthening of the existing two lane stretches from Krishnagiri-Ranipet (Km 1.44 to Km 144.21) on NH-46 (Easterly Bypass 2.275 Km on NH-7 and Walajahpet Bypass of 7.5 Km) on NH-46 and NH-7 in the State of Tamilnadu.		
<b>Description of Actual Services Provided by your Staff:</b> Construction supervision, project monitoring, quality control and verification of the following Survey Point Verification Existing topography Vertical and horizontal control Staking of Centerline Right of Way monument layout Existing ground cross-sections Drainage inlet and outlet detailing Roadway layout, longitudinal section and cross section Levels of subgrade, subbase and base course Thickness of pavement layers, especially of asphalt concrete pavement Camber, super elevation Construction Supervision of bridges, underpasses, Fly over and culverts. Material and workmanship of the entire project Verification of various works and establishment of quality		



<b>Assignment Name :</b> Construction Supervision for 4 laning and strengthening of existing two lane stretches from Nellore to Chilakalurupet (Km 178 to Km 358) on NH5 in the state of Andhra Pradesh.		<b>Country :</b> India
<b>Location within Country:</b> Andhra Pradesh		<b>Professional Staff Provided by your Firm/entity (profiles):</b>
<b>Name of Client :</b> National Highways Authority of India, New Delhi		<b>No. of Staff</b> : 51
<b>Address:</b> New Delhi – 110 045.		<b>No. of Staff Months; duration of assignment</b> : 1780 45 months
<b>Start Date (Month/Year)</b> May 2001	<b>Completion Date (Month/Year)</b> Ongoing project	<b>Approximate Value of Services (in current USD) :</b>
<b>Name of Associated Consultants, if any:</b> KM International, Sweden		<b>No. of Months of Professional Staff provided by Associated Consultants :</b> 180
<b>Narrative Description of Project:</b> Consultancy services for Construction Supervision for 4 laning and strengthening of the existing two lane stretches from Nellore to Chilakalurupet (Km 178 to Km 358) on NH-5 in the state of Andhra Pradesh (Contract Packages AP-11, AP-12 and AP-13).		
<b>Description of Actual Services Provided by your Staff:</b> Construction supervision, project monitoring, quality control and verification of the following <ul style="list-style-type: none"> <li>Survey Point Verification</li> <li>Existing topography</li> <li>Vertical and horizontal control</li> <li>Staking of Centerline</li> <li>Right of Way monument layout</li> <li>Existing ground cross-sections</li> <li>Drainage inlet and outlet detailing</li> <li>Roadway layout, longitudinal section and cross section</li> <li>Levels of subgrade, subbase and base course</li> <li>Thickness of pavement layers, especially of asphalt concrete pavement</li> <li>Camber, super elevation</li> <li>Construction Supervision of bridges, underpasses, Fly over and culverts.</li> <li>Material and workmanship of the entire project</li> <li>Verification of various works and establishment of quality</li> </ul>		



<b>Assignment Name :</b> Detailed Engineering, Procurement, Project Management, Construction Supervision of 100 crores BASF Chemical Plant		<b>Country :</b> India
<b>Location within Country :</b>  Mangalore, Karnataka		<b>Professional Staff Provided:</b>  <b>No. of Staff</b> : 10
<b>Name of Client :</b> BASF (India) Ltd., Mangalore		
<b>Address:</b> Mumbai – 400 025		<b>No. of Staff Months</b> : 250
<b>Start Date (Month/Year)</b> December, 1993	<b>Completion Date (Month/Year)</b> December, 1994	<b>Approximate Value of Services (in current USD)</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>Name of Senior Staff involved and functions performed :</b>		
R. Sundareswaran	Chief Project Consultant	
N. Ranganath	Project Manager- Design and Quantity Estimates	
Jyothi Raghuram	Sr. Design Engineer	
B.A. Mandanna	Site Manager	
Joy John	Site Engineer	
D.L. Vasanthkumar	Quality Control	
<b>Narrative Description of Project :</b>  Infrastructure development, construction supervision and quality control for major civil works.		
<b>Description of Actual Services Provided by staff:</b>  Supervision of site grading, layouts, design and supervision of compound wall, pump house, raw water and effluent disposal, preparation of BOQ and tender documents, evaluation of tender, construction supervision and quality control.		



<b>Assignment Name :</b> Widening of Sambalpur – Rourkela Road <b>(ADB Funded Project)</b>		<b>Country :</b> India
<b>Location within Country :</b> Orissa State		<b>Professional Staff Provided:</b>  <b>No. of Staff</b> : 7
<b>Name of Client :</b> Larsen and Tubro		
<b>Address:</b> Calcutta – 700 016		<b>No. of Staff Months</b> : 21
<b>Start Date (Month/Year)</b> September, 1993	<b>Completion Date (Month/Year)</b> September, 1994	<b>Approximate Value of Services (in current USD)</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b>  Alignment survey, longitudinal and cross sections, design of horizontal and vertical profile and setting out final alignment, strengthening and widening of 4-laning of 60 km road.		
<b>Description of Actual Services Provided by staff:</b>  Centre line survey and fixing, design and setting out of curves, cross section levelling, establishment of bench marks at 500 m interval, preparation of cross section drawings and quantity estimates.		



<b>Assignment Name :</b> Improvement of Gadag-Bellary-Andhra Border Road <b>ADB Funded</b>		<b>Country :</b> India
<b>Location within Country :</b> Gadag, Koppal and Bellary districts of Karnataka State		<b>Professional Staff Provided:</b>  <b>No. of Staff</b> : 25
<b>Name of Client :</b> RITES, Main Consultant to Karnataka Public Works Department		
<b>Address:</b> RITES New Delhi New Delhi 110 001.		<b>No. of Staff Months</b> : 150
<b>Start Date (Month/Year)</b> April, 1988	<b>Completion Date (Month/Year)</b> October, 1988	<b>Approximate Value of Services (in current USD) :</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b>  Survey and geometric design, longitudinal and cross sections. Preparation of project report for improving the carriageway to 2-lane of 182 km of road		
<b>Description of Actual Services Provided by staff:</b>  Topographical and profile survey along the road alignment. Optimisation of Road Centreline and Geometric design of the same. Alignment drawings including profile, scale 1:250 (V) and 1:2,500 (H), in A2 size as per IRC standards. Earthwork calculations and preparation of Mass Haul Diagrams. Design of structures including all drawings, estimates and report Junction designs and preparation of drawings. Staking the centre line designed.		

<b>Assignment Name :</b> Development of Outer Ring Road for Bangalore (World Bank Funded)		<b>Country :</b> India
<b>Location within Country :</b> Bangalore City in Karnataka State		<b>Professional Staff Provided:</b>  <b>No. of Staff</b> : 12
<b>Name of Client :</b> RITES, Main Consultant to Bangalore Development Authority		
<b>Address:</b> New Delhi 110 001.		<b>No. of Staff Months</b> : 48
<b>Start Date (Month/Year)</b> September, 1990	<b>Completion Date (Month/Year)</b> November, 1990	<b>Approximate Value of Services (in current USD) :</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>Narrative Description of Project :</b> Topographical survey and preparation of maps, longitudinal and cross-sections, alignment and report for 17 km road from Banashankari to Bellary Road.		<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable
<b>Description of Actual Services Provided by staff:</b>  Topographical survey and preparation of strip map, covering a width of 200 m, marking of centre line, profile and alignment survey along the road alignment. Geometric design of the road. Alignment drawings including profile scale 1:250 (V) and 1:2,500 (H), in A2 size as per IRC standards. Junction designs and preparation of drawings.		



<b>Assignment Name :</b> Approach Road to Kaiga Nuclear Plant		<b>Country :</b> India
<b>Location within Country :</b> Near Karwar in Uttara Kannada District of Karnataka State		<b>Professional Staff Provided:</b>  <b>No. of Staff</b> : 8
<b>Name of Client :</b> RITES and Nuclear Power Corporation		
<b>Address:</b> New Delhi 110 001.		<b>No. of Staff Months</b> : 12
<b>Start Date (Month/Year)</b> January, 1992	<b>Completion Date (Month/Year)</b> March, 1992	<b>Approximate Value of Services (in current USD)</b>
<b>Name of Association Firm(s) if any:</b>  Nil		
<b>No. of Months of Professional Staff provided by Associated Firm(s) :</b> Not Applicable		
<b>Narrative Description of Project :</b> Topographical survey and preparation of maps, longitudinal and cross sections, alignment and preparation of report for 3 km of road		
<b>Description of Actual Services Provided by staff:</b>  Optimisation of Road Centreline and Geometric design of the same. Alignment drawings including profile. Earthwork calculations and preparation of Mass Haul Diagrams. Design of minor bridges, culverts including preparation of drawings, estimates and report Junction designs and preparation of drawings. Staking the centre line designed.		