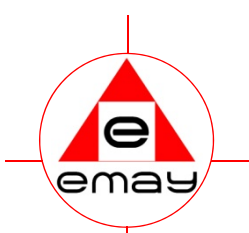




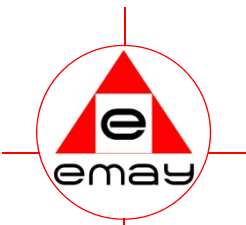
EMAY INTERNATIONAL
ENGINEERING and CONSULTANCY Inc.





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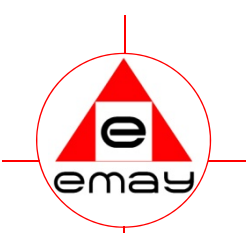
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EMAY INTERNATIONAL ENGINEERING and CONSULTANCY Inc.

COMPANY PROFILE

COMPANY PROFILE



COMPANY PROFILE

EMAY International Engineering and Consultancy Inc., established in 1980, is one of the leading engineering and technical consultancy companies in Turkey.

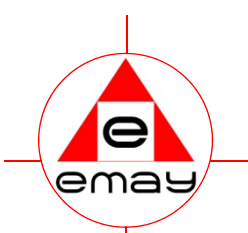
EMAY has earned a rightful name in the engineering and consultancy arena with its

- **Architectural and Engineering Services** (Architecture; Urban and Rural Planning; Civil Engineering; Mining Engineering; Geology and Geophysics Engineering; Geomatics Engineering; Environmental Engineering; Electrical and Mechanical Engineering; Independent Checking Engineer / Design Verification)
- **Project Planning and Preparation Services** (Master Plans and Feasibility Studies; Environmental Impact Assessment; Transportation and Traffic Planning and Design; Architectural and Engineering Design; Preparation of Technical Specifications and Tender Documents; Due Diligence, Inspection, Analysis and Evaluation; Financial and Economical Services)
- **Project Implementation Services** (Design and Interface Management; Programme / Project Management; Construction and Site Supervision and Management; Testing, Commissioning, Operation and Maintenance, Training Management and Support)

in

- ✓ **Transportation** (Highways; Rail Systems; Urban Public Transportation Systems; Bridges and Viaducts; Tunnels; Airports; Ports and Marine Structures)
- ✓ **Buildings** (Residential, Commerce, Sport / Leisure, Educational, Healthcare, Governmental, Industrial and Transportation)
- ✓ **Water & Environment** (Hydraulic Structures; Water Supply, Storage, Distribution and Treatment Systems; Wastewater Disposal and Treatment Systems; Environmental Protection and Restoration Systems; Waste Management Systems; Spatial Planning / Urban Development)
- ✓ **Energy** (Oil and Gas; Power and Heat; Renewable Energy)

fields of activity by developing respectful, reliable, ethical, deep-scaled and long-term relationships with its employers, partners, experienced and dynamic employees and sub-contractors.



EMAY, with reference to its signature in numerous important projects both in Turkey and international platform and with its extensive knowledge and expertise, has adopted the policy to give priority to the satisfaction of its employers and clients, to continuously search for the best with its progressive employees by closely following developments in technology, to constantly develop its intellectual capital and increase its competitiveness and to improve sustainably by providing

- ✓ economic / cost - effective,
- ✓ state-of-the-art,
- ✓ safe,
- ✓ aesthetic,
- ✓ environmentally-conscious,
- ✓ sustainable,
- ✓ innovative and effective (considering the end users)

solutions in performing services to the highest quality, on time and within budget in the undertaken projects.

EMAY employs over 1100 professional technical personnel having expertise and experience in various disciplines; namely,

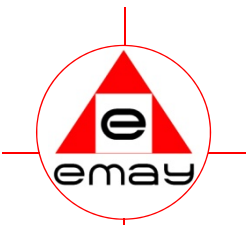
- ✓ Architects,
- ✓ Urban and Regional Planners,
- ✓ Landscape Architects,
- ✓ Civil Engineers (having expertise in Structural, Seismic, Geotechnical, Transportation / Traffic and Hydraulic Engineering),
- ✓ Geomatics Engineers,
- ✓ Geological Engineers,
- ✓ Geophysics Engineers,
- ✓ Mining Engineers,
- ✓ Environmental Engineers,
- ✓ Electrical / Electronics Engineers,
- ✓ Mechanical Engineers,
- ✓ Economists and
- ✓ Financial Analysts.



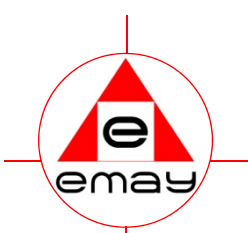
While possessing the world's leading engineering software, **EMAY** at the same time utilizes software of its own product. **EMAY** gains its power from the reliance placed by its employers and from its leader approach in redefining "Quality" in its services, and has documented this by receiving ISO 9001:2008 quality certificate.



EMAY, having completed all its undertaken projects successfully, on time and by earning the respect of its employers until today; aims to provide services in large and important projects, to continue its success by creating satisfaction and added value to the project stakeholders, to successfully represent its country abroad and to contribute to the development of Turkey, as it has done until today.



FIELDS OF ACTIVITY



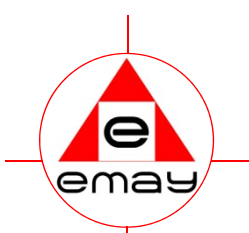
FIELDS of ACTIVITY

EMAY provides design, planning, architecture, engineering and consultancy services within different disciplines and in a wide spectrum. Our fields of activity cover the following sectors :

- ✓ **Transportation**
- ✓ **Buildings**
- ✓ **Water & Environment**
- ✓ **Energy**

Our comprehensive services cover all services required within the entire life-cycle of projects, starting from the first emergence of the project idea and feasibility study up to the commissioning.

EMAY's employers and clients are public and private sector organizations as well as financial institutions operating in different fields both at home and abroad. **EMAY**, as it has done until today, aims to provide services to its employers and clients in their large and important projects by developing deep-scaled and long-term relationships and to continue its success by creating satisfaction and added value to the project stakeholders.



EMAY provides services in the following sub-fields of activity of transportation projects, being the main expertise area of **EMAY** :

✓ **Highways**

- Urban Highway Systems
- Intercity Highway Systems (State and Provincial Road)
- Motorways
- Link Roads
- Junctions
- Service Areas (Toll Collection, Parking, Service and Maintenance Facilities)

✓ **Rail Systems**

- Tramline Systems
- Light Rail Systems
- Metros
- Commuter Lines
- Intercity and Regional (Conventional) Railways (for Passenger and Freight)
- High-Speed Railway Systems
- Terminal and Station Structures
- Depot and Operation / Maintenance Facilities

✓ **Urban Public Transportation Systems**

- Bus Rapid Transit (Dedicated Bus Lane Systems)
- Pedestrian and Bicycle Roads
- Intermodal (Multiple Use of Transportation Types)
- Station, Depot and Maintenance Facilities

✓ **Bridges & Viaducts**

- Highway Viaducts and Bridges (including Multi-story Interchanges, Under/Overpasses, Water Crossings)
- Rail System Viaducts and Bridges (including Under/Overpasses, Water Crossings)
- Urban Public Transportation System Bridges (including Pedestrian)

including different types of bridges and viaducts listed below:

- Reinforced Concrete
- Pre-stressed Concrete (Pre-tensioned or Post-tensioned)
- Steel
- Cable Supported
- Segmental



✓ Tunnels

- Highway Tunnels
- Rail System Tunnels (including Station Buildings)
- Urban Public Transportation System Tunnels
- Water and Waste Water Tunnels

including all kinds of soil conditions from the hard rock to weak (soft) soil conditions on different types of tunnels listed below :

- Cut and Cover Tunnels
- Cover-Cut Tunnels
- Drilling-Blasting Tunnels (NATM or TBM)
- Utility Tunnels
- Underground Structures
- Portal and Entrance Structures
- Shaft Structures (Temporary / Permanent Access, Emergency, Ventilation)

✓ Airports

- Runway, Taxi Way and Apron
- Passenger and Cargo Terminals
- Hangars
- Related Ground Support Facilities (Car Parks, etc.)

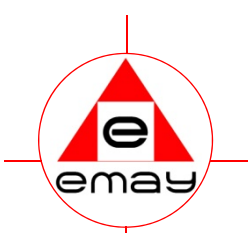
✓ Ports and Marine Structures

- Ports, Wharfs and Harbors
 - Marinas
 - Quays
 - Jetties
 - Breakwaters
- Marine Terminals
 - Passenger Terminals
 - Container and Cargo Terminals
 - Ro-Ro and Railway Ferry Terminals
 - Liquid Bulk Terminals
- Waterfront Structures
- Ship Collision Structures
- Special Marine Structures



EMAY provides all kinds of services required within the life-cycle of transportation projects with its employees having expertise in different disciplines and its consultants / partners / sub-contractors, listed but not limited to the following :

- ✓ Feasibility Studies
- ✓ Geodetic Studies
- ✓ Hydraulic and Hydro-geological Studies
- ✓ Bathymetric, Hydrographic, Topographic and Oceanographic Studies
- ✓ Soil Studies (Geological and Geotechnical)
- ✓ Environmental Impact Assessment
- ✓ Transportation / Traffic Planning and Design
- ✓ Architectural and Engineering Design
 - Alignment Optimization and Alignment / Road / Interchange Geometric Design
 - Geological, Geotechnical, Soil and Rock Mechanics and Foundation Engineering
 - Drainage Design
 - Infrastructure Design (Earth Works and Utility Relocations)
 - Superstructure / Pavement Design
 - Structural and Seismic Design (Under/Overpass, Bridge, Viaduct, Support/Retaining Wall, Tunnel Excavation-Support and Inner Lining, Culvert)
 - Seismic Retrofit / Rehabilitation
 - Settlement Analysis and Damage Assessment of Buildings Above Tunnel
 - Structure - Railway Interaction
 - Noise and Vibration Study
 - Traffic and Safety Design
 - Landscape Design
 - Service Areas, Terminal and Station Structures, Hangar and Ground Support Facilities, Depot and Operation/Maintenance Facilities Design
 - Electro-Mechanical Works Design
 - Electrical Installations (High Current, Low Current, Lighting, Outlet, Fire Warning/Alarm, etc.)
 - Mechanical Installations (Sanitary Water, Sewage, Fire Fighting, Heating, Ventilation / Air Conditioning, Compressed Air, etc.)
 - Electrification Systems (AC/DC, Power Supply, Transformer, Generator, UPS, Catenary, 3rd Rail, etc.)
 - Signalization and Safety Systems
 - Control and Communication Systems (Scada, Transmission, Radio, Telephone, Radio, GSM-R, Passenger Information, Public Announce, Central Clock, CCTV, Fare Collection, Entrance Security, Fiber Optic and Communication Cable Network, etc.)
 - Earthing / Cathodic Protection System
- ✓ Preparation of Technical Specifications and Tender Documents
- ✓ Due Diligence, Inspection, Analysis and Evaluation
- ✓ Financial and Economical Services
- ✓ Design and Interface Management
- ✓ Project Management
- ✓ Construction and Site Supervision and Management
- ✓ Testing, System Integration, Commissioning, Operation and Maintenance, Training Management and Support



EMAY has extensive knowledge and experience in planning, design and especially project implementation services of buildings. **EMAY** provides services in the following sub-fields of activity within the context of buildings :

- ✓ Residential
- ✓ Commercial
- ✓ Sport / Leisure
- ✓ Educational
- ✓ Healthcare / Science
- ✓ Civic / Governmental
- ✓ Industrial
- ✓ Transportation

EMAY provides all kinds of services required within the life-cycle of building projects with its employees having expertise in different disciplines and its consultants / partners / sub-contractors, listed but not limited to the following :

- ✓ Feasibility and Environmental Impact Assessment Studies
- ✓ Geodetic Studies
- ✓ Soil Studies
- ✓ Architectural and Engineering Design
 - Architectural Design
 - Geotechnical Services (Excavation and Support)
 - Static and Dynamic Design (Reinforced Concrete, Steel, Precast, etc.)
 - Utility Systems Design (Drainage, Water Supply, Waste Water, Electricity, Natural Gas, Telephone, Fiber Optic, etc.)
 - Landscape Design
 - Electrical Systems Design (Power Supply and Distribution, Generator, UPS, Lighting, Measurement, Earthing, Building Automation, Entrance Security, CCTV, Telephone, Announce, Fire Alarm, etc.)
 - Mechanical Systems Design (Clean / Waste / Hot / Cold Water, Heating, Ventilation, Air Conditioning, Fire Fighting, Elevator, escalator, Swimming Pool, etc.)
- ✓ Preparation of Technical Specifications and Tender Documents
- ✓ Due Diligence, Inspection, Analysis and Evaluation
- ✓ Financial and Economical Services
- ✓ Design and Interface Management
- ✓ Project Management
- ✓ Construction and Site Supervision and Management
- ✓ Testing, Commissioning, Operation and Maintenance, Training Management and Support



EMAY provides services in the following sub-fields of activity of water and environment projects :

✓ **Hydraulic Structures**

- Dams, Reservoirs, Levees
 - Embankment Dams - Earthfill, Rockfill, etc.
 - Concrete Gravity Dams
 - Arch Dams
 - Buttressed Dams
- Flood Protection Structures
- River Engineering
- Canals and Culverts

✓ **Water Supply, Storage, Distribution and Treatment Systems**

- Water Supply and Treatment Systems
- Water Distribution Systems
- Water Storage Systems
- Groundwater Management

✓ **Wastewater Disposal and Treatment Systems**

- Drainage Systems
- Wastewater Collection and Disposal Systems
- Wastewater Treatment Systems

✓ **Environmental Protection and Restoration Systems**

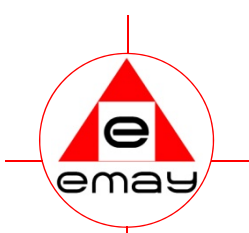
- Environmental Conservation / Protection
- Environmental Restoration
- Contaminated Soil and Groundwater

✓ **Waste Management Systems**

- Waste Management
- Waste Handling, Disposal and Treatment Systems
- Energy and Resource Recovery from Waste

✓ **Spatial Planning / Urban Development**

- Spatial and Land Use Planning
- Architecture and Urban Planning
- Landscape Planning



EMAY provides all kinds of services required within the life-cycle of water and environment projects with its employees having expertise in different disciplines and its consultants / partners / sub-contractors, listed but not limited to the following :

- ✓ Feasibility Studies
- ✓ Hydrological, Hydro-geological and Geodetic Studies
- ✓ Soil Studies (Geological and Geotechnical)
- ✓ Environmental Impact Assessment
- ✓ Waste Analyses, Surveys and Inventories
- ✓ Architectural and Engineering Design
- ✓ Preparation of Technical Specifications and Tender Documents
- ✓ Due Diligence, Inspection, Analysis and Evaluation
- ✓ Financial and Economical Services
- ✓ Design and Interface Management
- ✓ Project Management
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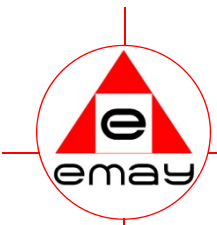
EMAY is also interested in energy sector projects and intends to put its signature to projects in this field of activity in the near future and to provide services in the sub-fields of activity listed below :

- ✓ Oil and Gas
 - Oil and Gas Storage Facilities
 - Oil and Gas Transmission and Distribution Systems (Pipelines, etc.)
 - On-Shore and Off-Shore Facilities

- ✓ Power and Heat
 - Municipal Power and Heat Supply
 - Industrial Power and Heat Supply
 - Nuclear Power
 - Power Transmission and Distribution Systems

- ✓ Renewable Energy
 - Wind Energy
 - Solar Energy
 - Geothermal Energy
 - Bio-Energy

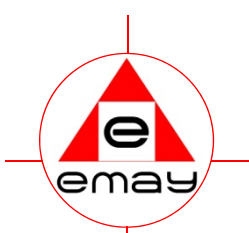
EMAY serves in all areas within the life-cycle of projects; from environmental studies to design; from tender period services to project management, construction and site supervision and management, and commissioning services; with its employees having expertise in different disciplines and its consultants / partners / sub-contractors.



EMAY INTERNATIONAL ENGINEERING and CONSULTANCY Inc.

SERVICES

SERVICES



EMAY provides design, planning, architectural, engineering and consultancy services covering different disciplines and a wide spectrum; in transportation, buildings, water and environment and energy fields of activity.

Our comprehensive services include all services required within the entire life-cycle of projects, starting from the first emergence of the project idea and feasibility study up to the commissioning. Thus, **EMAY** can be a single and comprehensive solution partner to its employers and clients without the need to look for another service provider.

Our service areas cover **Architectural and Engineering Services** performed within and during

✓ **Project Planning and Preparation (Pre-Construction Period)**

- Master Plans and Feasibility Studies
- Environmental Impact Assessment
- Transportation / Traffic Planning and Design
- Architectural and Engineering Design
- Preparation of Technical Specifications and Tender Documents
- Due Diligence, Inspection, Analysis and Evaluation
- Financial and Economical Services

✓ **Project Implementation (During- and Post-Construction Period)**

- Design and Interface Management
- Programme / Project Management
- Construction and Site Supervision and Management
- Testing, Commissioning, Operation and Maintenance, Training Management and Support

sub-service areas.

EMAY's employers and clients are public and private sector organizations as well as financial institutions operating in different fields both at home and abroad. **EMAY**, as it has done until today, aims to provide services to its employers and clients in their large and important projects by developing deep-scaled and long-term relationships and to continue its success by creating satisfaction and added value to the project stakeholders.



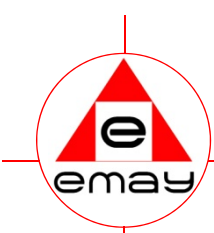
EMAY provides all kinds of services during both project planning and preparation and project implementation periods of transportation, buildings, water, environment and energy fields of activity; with its employees having expertise in different disciplines and its consultants / partners / sub-contractors; in the fields of architecture and engineering listed but not limited to the below :

- ✓ Architecture
- ✓ Urban and Rural Planning
- ✓ Civil Engineering
 - Structural Engineering
 - Seismic Engineering
 - Geotechnical Engineering
 - Transportation / Traffic Engineering
 - Hydraulic Engineering
- ✓ Mining Engineering
- ✓ Geology and Geophysics Engineering
- ✓ Geomatics Engineering
 - Surveying and Mapping
 - Geographic Information Systems
 - Computer Aided Visualization and Design
- ✓ Environmental Engineering
- ✓ Electrical and Mechanical Engineering
- ✓ Independent Checking Engineer / Design Verification

Our experts specialized in different disciplines listed above create a common working platform in order to provide integrated architectural / engineering services in large-scale projects and reflect their experience jointly.

Our detailed services in Geotechnical, Geological and Geophysical Engineering cover the following areas:

- ✓ Site Investigations and Surveying (Exploration - Evaluation)
 - Geological and Geophysical Investigations / Surveys
 - Geotechnical Investigations / Drilling - Trial Pit
 - Laboratory Testing
 - Deformation Measurement / Monitoring
 - Classification and Location of Construction Materials
 - Location of Borrow Areas and Quarries
- ✓ Analysis, Design and Testing of Pavements
- ✓ Soil and Rock Mechanics
- ✓ Shallow and Deep Foundation Engineering / Soil - Structure Interaction
- ✓ Ground Improvement and Treatment
- ✓ Reinforced Earth Applications
- ✓ Landslide and Short / Long-Term Stability Studies and Measures
- ✓ Excavation Support and Slope Stabilization
 - Shotcreting
 - Piling
 - Anchorage
 - Diaphragm Wall
 - Sheet Pile
 - Soil Nailing



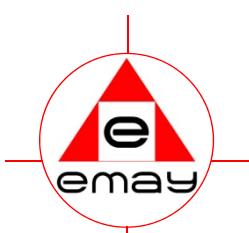
EMAY, during the planning stage of public or private investments of its employers and clients, establishes the optimal solutions where existing resources are used in the most efficient manner and which would form the basis for its employers and clients during the decision-taking process, by considering social, economical, financial, environmental and technical inputs in an integrated manner and analyzing the risks and opportunities.

Our master plan and feasibility study services includes the following sub-fields of services :

- ✓ Determination of Needs with Employers and Clients
- ✓ Market Survey and Analysis
- ✓ Capacity and Site Selection
- ✓ Resource Studies
- ✓ Land and Utility (road, water, electricity, etc.) Surveys
- ✓ Technology Selection
- ✓ Implementation Planning and Programme
- ✓ Technical Evaluation
- ✓ Demand Analysis
- ✓ Investment and Operation Period Revenue and Expenditure Analysis
- ✓ Socio-Economical Analysis and Evaluation
- ✓ Cost - Benefit Analysis
- ✓ Financial Planning, Analysis and Evaluation
- ✓ Sensitivity Analysis

Our experts together with our consultants / partners / sub-contractors performs master plan and feasibility study services, especially concentrated in transportation field of activity, by using state-of-the-art methods and latest / most advanced software.

Local or international specifications or methods specified in the guide to cost-benefit analysis of investment project of the European Union are used in our studies.



Construction projects embody environmental effects which lead to significant changes in the economical and social life, although undesirable. These effects, generally being adverse, are determined through environmental analyses performed within the scope of “Environmental Impact Assessment (EIA)” study. Environmental analyses, being similar and closely related to social, economical, financial and technical analyses, constitute an integral and important part of Project Planning and Preparation phase (feasibility study). Findings of EIA study are very effective especially during the selection of project area and technology as well as during the process design. Additionally, the benefits and losses (costs) caused by environmental effects are determined in monetary terms (economical prices) as far as possible and included in the cost - benefit analysis.

EMAY provides the below listed services within the context of environmental impact assessment services, with its expert employees, its consultants / partners / sub-contractors :

- ✓ Determination of existing environmental conditions, protected areas and sensitive ecosystems in the project area,
- ✓ Determination of methods and tools for identification of environmental impacts,
- ✓ Determination of potential environmental impacts (direct and indirect) with the help of field / laboratory surveys and studies,
- ✓ Determination of standards and legislation related to environmental impacts and necessary permits,
- ✓ Determination of periodic distribution (investment and operation periods) of effects,
- ✓ Determination of analysis criteria quantitatively and qualitatively,
- ✓ Comparison of alternative project, corridor, alignment, location, technology and designs in terms of environmental impacts, costs and other conditions,
- ✓ Determination of preventive or reductive measures against damage to the environment,
- ✓ Determination of environmental monitoring method,
- ✓ Preparation of programme for monitoring the measures, which are determined in the environmental management plan,
- ✓ Determination of alternative investment and operational costs related to preventive or reductive measures, employment and training of staff for environmental management, and monitoring activities,
- ✓ Determination of benefits and costs of environmental impacts and preventive measures in monetary terms (shadow prices) and integration of these to the cost-benefit analysis
- ✓ Informing the project stakeholders and the public about the project and its environmental impacts and receiving their opinions,
- ✓ Taking the necessary permits for the project related to environment in accordance with relevant legislation.

EMAY performs its services in accordance with the ISO14001 Environmental Management Systems standard and has initiated necessary actions in order to document this situation by receiving the related certificate.



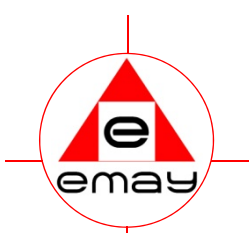
EMAY provides the below listed services to the public and private sectors with its expert employees, its consultants / partners / sub-contractors in order to find economical, safe, effective and long-term sustainable solutions to the current or future capacity, operation and safety problems of transportation systems :

- ✓ Transport and Traffic Data Collection (including traffic counts)
- ✓ Transport Modeling and Planning
- ✓ Traffic Flow (Operation) Simulation and Optimization
- ✓ Demand Forecasts and Traffic Analysis / Verification
- ✓ Multimodal Transport Studies
- ✓ Integrated Transport Master Plans and Feasibility Studies
- ✓ Corridor and Alignment Selection
- ✓ Design Services
- ✓ Capacity and Operation Analysis, Planning and Design of Facilities with High Traffic Generation / Attraction (Shopping Center, Stadium, Car Park, etc.)
- ✓ Traffic Management Planning and Design
- ✓ Traffic Safety Studies

The state-of-the-art software like

- ✓ transportation modeling and planning software : VISUM, TransCAD, TRANPLAN, Transport, EMME,
- ✓ traffic simulation software : VISSIM, CORSIM,
- ✓ traffic movements analysis software : HCS,
- ✓ highway technical and economical analysis software : HDM-4

are used during transportation and traffic planning and design services.



EMAY provides a wide range of design services with its architects and engineers having knowhow and expertise in different disciplines that meet the requirements of both its employers and clients as well as the public and the environment to the best quality. Our services cover different fields of activity :

- ✓ Transportation (Highways; Rail Systems; Urban Public Transportation Systems; Bridges and Viaducts; Tunnels; Airports; Ports and Marine Structures)
- ✓ Buildings (Residential; Commercial; Sport / Leisure; Educational; Healthcare; Civic / Public; Industrial; Transportation)
- ✓ Water and Environment (Hydraulic Structures; Water Supply, Storage, Distribution and Treatment Systems; Wastewater Disposal and Treatment Systems; Environmental Protection and Restoration Systems; Waste Management Systems; Spatial Planning / Urban Development)
- ✓ Energy (Oil and Gas; Power and Heat; Renewable Energy)

Our design services include all phases within the design life-cycle :

- ✓ Conceptual Design
- ✓ Preliminary Design
- ✓ Application / Final Design
- ✓ Detailed Design
- ✓ Preparation of Bill of Quantities and Cost Estimate
- ✓ As-Built Design
- ✓ Independent Checking Engineer / Design Verification (refer to Design and Interface Management)

Our architects and engineers have expertise in design with various materials, including but not limited to the following :

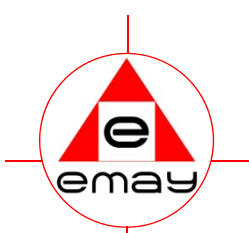
- ✓ Reinforced Concrete
- ✓ Pre-stressed Concrete (Pre-tensioned or Post-tensioned)
- ✓ Prefabricated Concrete
- ✓ Steel
- ✓ Composite

The engineering designs are carried out in accordance with current standards, specifications and regulations in Turkey as well as international standards such as EN, ACI, AASHTO, DIN, BS, ASTM, UIC, AREMA, IEC, IEEE, ISO, etc.

Our design services are performed in accordance with our ISO9001:2008 Quality Management procedures in order to ensure the quality of the final product.

Our experts use in-house developed software and state-of-the-art software in the market while carrying out architectural and engineering design services. Some of these include :

- ✓ CAD (AutoCAD, AutoCAD Civil 3D, 3DMax)
- ✓ Structural Design (SAP2000 Plus, Advanced, SAP2000 Nonlinear, Biaxial)
- ✓ Alignment / Interchange Geometric Design (Bentley InRoads, Bentley Rail-Track, Proyol, NetCAD)
- ✓ Geotechnical and Tunnel Software (Plaxis2D, Plaxis3D Tunnel, GeoSlope)

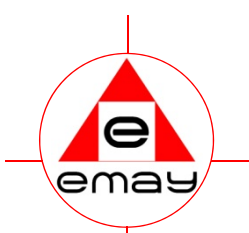


SERVICES - PREPARATION of TECHNICAL SPECIFICATIONS and TENDER DOCUMENTS

EMAY provides all services during tender and contract signing periods related to the selection of most appropriate suppliers and contractors, which its employers and clients need during realization of their investment projects within budget, on time and to the best quality. Our experts, being aware that these processes constitute a crucial and key phase for the success of projects, work on below listed topics by utilizing current local and/or international (FIDIC, etc.) standards and methods :

- ✓ Determination and Implementation of Procurement Strategy
- ✓ Determination of Work Packages
- ✓ Preparation of Budget and Work Schedule related to Work Packages and Monitoring Throughout Tender Period
- ✓ Determination and Monitoring of Tender Calendar
- ✓ Determination of Important Technical, Commercial and Legal Matters in accordance with Employer / Client Views
- ✓ Preparation of Pre-qualification / Tender Documents, Bill of Quantity / Cost Estimate and Technical Specifications for Work Packages
- ✓ Management of Pre-qualification / Tender Processes (Invitation, Question/Answer, Evaluation)
- ✓ Preparation of Contract Dossier for Signature
- ✓ Management of the Period from Selection of Supplier / Contractor up to Contract Coming Into Force

EMAY can provide Architectural and Engineering Design services, being pre-component of the above services, and Project Implementation Services, being post-component of the above services, as an integral package to its employers and clients without the need to look for another service provider.



SERVICES - DUE DILIGENCE, INSPECTION, ANALYSIS and EVALUATION

EMAY provides expert opinion related to proposed solutions for the situations / problems that are or can be encountered by its employers and clients within the life-cycle (project planning, preparation, implementation or operation phases) of their

- ✓ new,
- ✓ renovation,
- ✓ expansion,
- ✓ retrofitting,
- ✓ maintenance / repairing

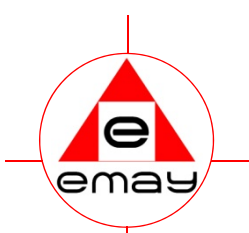
and similar projects by carrying out due diligence, inspection, analysis and evaluation services.

The services performed can partially or completely cover all technical disciplines of Architectural and Engineering Services and Environmental Impact Assessment, Financial and Economical Services and Project Implementation Services as well as resolution of administrative or legal disputes and conflicts (claims of the parties, etc.) encountered in the projects.

EMAY provides

- ✓ economic / cost - effective,
- ✓ state-of-the-art,
- ✓ safe,
- ✓ aesthetic,
- ✓ environmentally-conscious,
- ✓ sustainable,
- ✓ innovative and effective considering the end users

solutions for situations / problems that are / can be encountered.



EMAY, in addition to

- ✓ Investment and Operation Period Revenue and Expenditure Analysis
- ✓ Socio-Economical Analysis and Evaluation
- ✓ Cost - Benefit Analysis
- ✓ Financial Planning, Analysis and Evaluation
- ✓ Preparation of Bill of Quantities and Cost Estimate
- ✓ Preparation and Monitoring of Budget and Cash Flow Programme
- ✓ Cost Management / Cost Control

and similar financial and economical services that can be currently being performed and already covered under other services topics; is increasing its expertise in

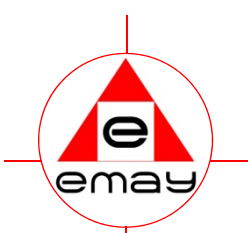
- ✓ evaluation of applicability of models to projects and selection of the most suitable model,
- ✓ development of financial models and provision of consultancy service for project finance,
- ✓ determination of relationships, authorities and responsibilities between the parties,
- ✓ determination of general outlines of procedures to be followed during actualization and life-cycle application of models,
- ✓ provision of consultancy services for risk determination, analysis, assessment, prevention and management,
- ✓ provision of expert opinion during development phase of contracts,
- ✓ provision of consultancy support during tender and contract negotiation stages

related to alternative procurement / financing models and especially public-private partnerships, which are finding more fields of application and rapidly wide-spreading; and can provide “turnkey” consultancy services to both public and private sectors as well as financing institutions by integrating its expertise in

- ✓ design, design review / verification and optimization,
- ✓ provision of technical support during construction and operation / maintenance stages

together with its expertise in other technical topics.

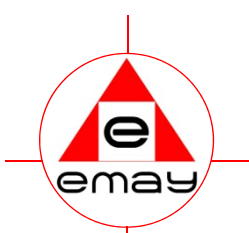
EMAY can carry out the above services as an integral package together with the services within the scope of Project Planning and Implementation Services, and thus can be a “turnkey” solution partner of its employers and clients.



EMAY, as mentioned under the heading Architectural and Engineering Design, in addition to directly performing design services of multi-disciplinary projects in various fields of activity for its employers and clients; also has extensive knowhow and experience in management of designs performed by different designers and coordination between the designers.

EMAY, being aware of the importance of design services and design integration in complex projects where participation of different disciplines are required, provides design and interface management services throughout the entire project life-cycle by performing the below listed sub-services :

- ✓ Determination and compilation or coordination of compilation of design inputs (including soil, etc. investigations and surveys at site),
- ✓ Preparation and checking of compliance of design outputs in accordance with national and/or international standards, specifications, regulations and legislation,
- ✓ Review of design outputs, determination and correction of deficiencies and mistakes, if any,
- ✓ Assessment and optimization of design with respect to economy, safety and feasibility; proposing / assisting during selection of alternative design methods and systems, ensuring that necessary corrections are made,
- ✓ Provision of coordination and organization between different design disciplines (alignment, architectural, structural, electrical, mechanical, utilities, landscaping, etc.) and between construction site - design, resolving any disputes,
- ✓ Checking of designs of different disciplines by superposing, determination and correction of deficiencies and mistakes, if any,
- ✓ Revision of design outputs (drawing, calculation report) if necessary or preparation of additional design outputs,
- ✓ Checking and notification of compliance / approval of final design before site application,
- ✓ Preparation of bill of quantities or checking of bill of quantities prepared by designers, determination and correction of deficiencies and mistakes, if any,
- ✓ Obtaining permits and approvals from related institutions and organizations or provision of necessary coordination and monitoring,
- ✓ Monitoring and checking design changes during construction stage,
- ✓ Preparation of as-built designs or monitoring and checking of preparation.



EMAY puts into practice all knowledge areas of Project Management throughout the Project Life-Cycle, being aware that projects of its employers and clients serving both in public and private sectors in different Fields of Activity would be successful in case the projects are completed

- ✓ within defined and approved Scope,
- ✓ within approved Work schedule,
- ✓ within approved Budget and
- ✓ with satisfaction of all project stakeholders

and that Quality of projects would be realized in case the above listed items are balanced.

EMAY has adopted the basic principles of Project Management; being

- ✓ implementation of project management techniques and tools within a standard methodology in an integrated manner,
- ✓ having project managers with leadership attitudes and possessing management knowledge, experience and necessary skills,
- ✓ ensuring continuation of management throughout life-cycle of project by covering all its dimensions and phases;

in undertaken projects as the company philosophy and structured its organization accordingly. Management activities of **EMAY** cover all the “Project Management Knowledge Areas” :

- ✓ Scope Management
- ✓ Time Management
- ✓ Quality Management
- ✓ Cost Management
- ✓ Procurement and Contract Management
- ✓ Human Resources Management
- ✓ Risk Management
- ✓ Integration Management
- ✓ Communication and Documentation Management

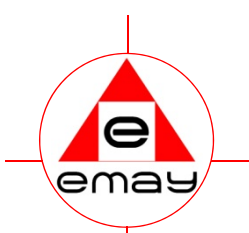
EMAY performs the above listed management activities in accordance with the legislation, rules, regulations, standards, specifications and internationally agreed techniques and applications in effect. Additionally, **EMAY** has developed procedures related to management activities to be used within the company and has included these procedures in its ISO9001:2008 Quality Management System.

EMAY implements the above described approach together with other services within the scope of Project Planning and Preparation Services, Design and Interface Management, Construction and Site Supervision and Management and Testing, Commissioning, Operation and Maintenance, Training Management and Support in an integrated approach and thus can be a “turnkey” solution partner to its employers and clients.



EMAY approaches investments, which are complex in nature consisting of multiple interrelated projects, in a programme management understanding and performs the below listed services :

- ✓ Determination of programme in accordance with the needs of the employer and client,
- ✓ Breaking the programme down into projects,
- ✓ Determination of programme management organization and provision of continuous communication and coordination between stakeholders,
- ✓ Preparation, monitoring and reporting of programme's work schedule and budget,
- ✓ Performing Project Planning and Preparation Services and Design and Interface Management Services on projects basis,
- ✓ Management of construction works' contracts on projects basis in accordance with the above described "Project Management" approach, performing construction and site supervision services and reporting,
- ✓ Performing Testing, Commissioning, Operation and Maintenance, Training Management and Support services.



SERVICES - CONSTRUCTION and SITE SUPERVISION and MANAGEMENT

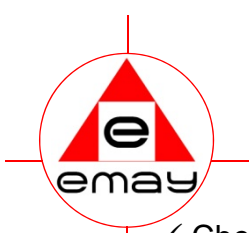
EMAY provides comprehensive management, supervision and inspection services, which are tailor-made for each project and which cover all dimensions and phases of construction and site applications of projects of its employers and clients serving both in public and private sectors in different Fields of Activity.

EMAY exercises the authority as the “Engineer” and “Employer’s Representative” given by and on behalf of its employers and clients in order to complete the construction and site activities

- ✓ in compliance with related conditions of contract,
- ✓ in compliance with legislation, rules, regulations, standards, specifications, technical works and field of art rules and
- ✓ in compliance with application / detailed design, and
- ✓ within specified budget and time

by keeping its project management organization full-time at the construction site and carries out the following sub-services :

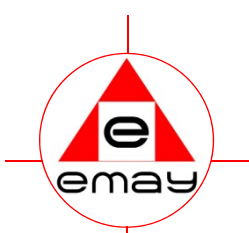
- ✓ Provide general project administration, prepare action plans
- ✓ Planning, coordination and control of construction and site activities in order to provide most optimum use of existing resources
- ✓ Carry out Design and Interface Management services
- ✓ Manage selection process of suppliers and contractors (refer to Preparation of Technical Specifications and Tender Documents), monitor order and procurement phases
- ✓ Prepare (or have it prepared), check, approve, continuously monitor the implementation and revise (or have it revised), if necessary, the detailed work schedule, material / equipment supply schedule, budget and financial plans
- ✓ Monitor the compliance of work progress with the approved work schedule, material / equipment supply schedule, budget and financial plans; determine critical construction / material supply / permission / approval activities, verify with updated data, establish and execute cost control system, carry out planned - actual analysis, determine the deviations, take necessary measures for speeding up the works and against deviations
- ✓ Prepare (or have it prepared), check, approve, revise (or have it revised) if necessary, continuously monitor and supervise the Quality Assurance / Quality Control Plans (procedures, method statements and inspection forms)
- ✓ Monitor, supervise, coordinate and manage daily construction and site activities
- ✓ Control the compliance of material, equipment, facility and workmanship provided by suppliers and contractors in terms of quantity and quality, to have related guarantee / warranty certificates provided by suppliers and contractors
- ✓ Make (or have it made), continuously monitor, control, evaluate and approve periodical and final inspections, measurements and tests done at site or in laboratory
- ✓ Determine physical progress and quantities of works completed / approved / accepted; prepare (or have it prepared), check, correct if necessary, approve monthly progress and final payment certificates
- ✓ Monitor and update list and status / qualifications of contractors’ machinery, equipment, vehicles / tools and technical personnel, and give instructions related to situations requiring correction in order to have them on-the-job at the required time and in proper condition



SERVICES - CONSTRUCTION and SITE SUPERVISION and MANAGEMENT (cont'd)

- ✓ Check and evaluate contractors' facilities, workshops, warehouses, etc. and give instructions related to situations requiring correction
- ✓ Ensure that insurance policies are submitted by suppliers and contractors on time and for required scope, monitor validity of the policies
- ✓ Determine and analyze risks related to construction and site activities, carry out evaluations according to progress, perform management activities to prevent or minimize the risks
- ✓ Carry out necessary investigations and evaluations related to variations and/or claims (time extensions, additional payment, determination of new price, etc.) in the event of occurrence, prepare variation orders, express opinion to employers and clients, and carry out necessary studies in order to finalize the issues
- ✓ Help, express opinion, prepare necessary technical documentation and provide coordination to employer / client for the resolution of any technical, administrative and legal problems, conflicts and disputes arising between employer / client and contractors / suppliers
- ✓ Provide communication and coordination between all project stakeholders (employer / client, contractors / suppliers, public institutions and organizations, financial institutions, non-governmental organizations, general public, etc.)
- ✓ Develop and execute documentation, record and archive system
- ✓ Ensure timely submission of documents to be submitted by suppliers and contractors; review, have them revised if necessary, approve the submitted documents
- ✓ Prepare, approve and archive all records (minutes, surveys, attachments, reports, site records, etc.) to document the construction and site activities progress and implementation
- ✓ Follow-up correspondence with suppliers and contractors; to check, evaluate and reply the incoming correspondence
- ✓ Report progress and forecasts of construction and site activities with all dimensions (scope, quality, time and financial status and future projections of supplier and contractor activities) to employers and clients in a comprehensive and regular (periodical) way
- ✓ Organize periodic coordination meetings, prepare minutes of meetings and monitor the executions of decisions taken
- ✓ Prepare (or have it prepared), check, approve, revise (or have it revised) if necessary, continuously monitor and supervise, ensure execution of necessary corrective and preventive actions related to Health / Safety Management Plans (procedures)
- ✓ Prepare (or have it prepared), check, approve, revise (or have it revised) if necessary, continuously monitor and supervise, ensure execution of necessary corrective and preventive actions related to Environmental Management Plans (procedures); ensure execution of pre-construction / construction / post-construction and site activities in accordance with the points specified in Environmental Impact Assessment study
- ✓ Perform Testing, Commissioning, Operation and Maintenance, Training Management and Support services

EMAY can provide Project Planning and Preparation Services, being pre-component of the above services, as an integral package to its employers and clients without the need to look for another service provider. **EMAY** has adopted total quality management approach in its construction and site supervision and management activities and has developed procedures / methods / forms related to construction and site supervision and management activities to be used within the company, which are included in its ISO9001:2008 Quality Management System.

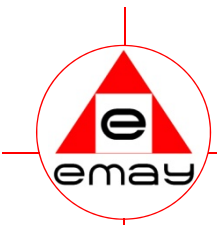


SERVICES - TESTING, COMMISSIONING, OPERATION and MAINTENANCE, TRAINING MANAGEMENT and SUPPORT

EMAY, being aware that sustainability and realization of long - term benefits of projects aimed throughout their life-cycles would be realized by planning and execution of appropriate and adequate testing, commissioning, training, operation and maintenance activities during pre-construction, construction and post-construction phases; performs the below listed sub-services with its employees having expertise in different disciplines and its consultants / partners / sub-contractors.

- ✓ Prepare (or have it prepared) and manage Testing, Commissioning, Operation and Maintenance plans (timing, roles and responsibilities, communication and reporting, approvals and coordination, etc.)
- ✓ Ensure provision of system, integration and site acceptance tests in accordance with approved plans; supervise, inspect, evaluate and approve the tests
- ✓ Manage and coordinate title deed, construction plan, occupancy, settlement, registration etc. procedures
- ✓ Ensure timely submission of operation and maintenance manuals by suppliers and contractors for materials, equipment, facilities and systems; review the manuals and have defects corrected and deficiencies completed if necessary
- ✓ Provide support services for the establishment, capacity building and modernization of employer's / client's operation and maintenance organization
- ✓ Organize, coordinate and document, execute and manage operation and maintenance training (training and site applications in administrative and technical topics)
- ✓ Inspect and coordinate activities related to determination, shipment, delivery and storage of spare parts necessary for operation and maintenance
- ✓ Supervise, control, evaluate and manage trial operation and commissioning periods
- ✓ Manage Taking Over (Provisional Acceptance) period and issue related certificate
- ✓ Monitor remedying of defects or completion of deficiencies determined during Taking Over, inspect / coordinate / document the progress
- ✓ Prepare (or have it prepared), review and approve Statement at Completion (Final Statement of Account)
- ✓ Monitor, supervise and inspect execution of commitments by suppliers and contractors for the defect notification (warranty) and liability period in accordance with the contracts
- ✓ Perform (or have them performed), supervise, inspect, evaluate and approve Final Acceptance tests
- ✓ Manage Performance (Final Acceptance) period and issue related certificate
- ✓ Archiving and submission to employer / client all information and documentation related to the project together with Work / Project Completion Report
- ✓ Provide support and inspection services to the employer and client during the operation and maintenance period

EMAY can provide above described services together with Project Planning and Preparation Services and other Project Implementation Services as an integral package to its employers and clients without the need to look for another service provider.



MEMBERSHIPS



MEMBERSHIPS

Some of the major organizations in which **EMAY** has a membership are listed below :



Uluslararası Müşavir Mühendisler Federasyonu
International Federation of Consulting Engineers (FIDIC)



Avrupa Müşavir Mühendislik Birlikleri Federasyonu
European Federation of Engineering Consultancy Associations (EFCA)



İslam Ülkeleri Müşavirler Federasyonu
Federation of Consultants from Islamic Countries (FCIC)



Uluslararası Köprü ve Yapı Mühendisliği Birliği
International Association for Bridge and Structural Engineering (IABSE)



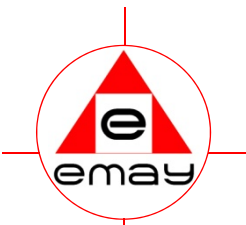
Türk Müşavir Mühendisler ve Mimarlar Birliği (TMMMB)
Association of Turkish Consulting Engineers and Architects



**Türk Mühendis ve Mimar Odaları Birliği -
İnşaat Mühendisleri Odası (TMMOB - IMO)**
*Union of Chambers of Turkish Engineers and Architects -
Chamber of Civil Engineers*



Yollar Türk Milli Komitesi
Turkish Road Association



LIST OF REFERENCES



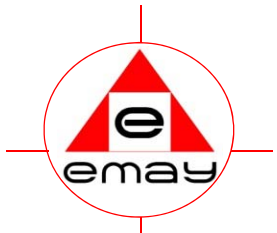
EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
1	1st Group Square and Coastal Arrangement Design Services Throughout Istanbul	Greater Municipality of İstanbul	İstanbul / Turkey	01.2014	Ongoing
2	Construction Supervision and Consultancy Services for Exploration, Quality Control, Design and Survey of Highway Construction Works in the 6th Division Directorate of Highways	General Directorate of Highways, 6th Division Directorate	Kayseri, Niğde, Nevşehir, Kırşehir, Yozgat / Turkey	01.2014	Ongoing
3	Construction Supervision and Consultancy Services for Civil and Electromechanical Works of Mecidiyekoy-Mahmutbey Metro	Greater Municipality of İstanbul	İstanbul / Turkey	12.2013	Ongoing
4	Consultancy Services for Intelligent Transportation Systems	General Directorate of Highways	Overall Turkey / Turkey	11.2013	Ongoing
5	Railway Vehicles Test Tracks Project	Anadolu University	Eskişehir / Turkey	11.2013	Ongoing
6	Construction Supervision and Consultancy Services for Construction Works at General Directorate of Highways 2nd Division Directorate	General Directorate of Highways, 2nd Division Directorate	İzmir, Aydın, Muğla, Uşak, Manisa, Denizli / Turkey	08.2013	Ongoing
7	Construction Supervision, Consultancy Services and Engineering Services for The Gebze-Orhangazi-İzmir Motorway (including İzmit Bay Crossing and Connection Roads) Project	General Directorate of Highways	Kocaeli, Bursa, İzmir / Turkey	05.2013	Ongoing
8	Survey, Design and Engineering Services for Yalova- İzmit Motorway (Including Connection Roads)	General Directorate of Highways	Yalova, Kocaeli / Turkey	04.2013	Ongoing
9	Survey, Design and Engineering Services for Torunlar REIC -Mall of İstanbul Project's Metro Connection Line	Greater Municipality of İstanbul / Torunlar REIC	İstanbul / Turkey	08.2013	11.2013
10	Survey And Design Services For Redesigning of Pedestrian Bridges Nearby Metrobus Stations in D100 Kadıköy (Söğütluçeşme) – Beylikdüzü (Tüyap) Metrobus System for Disabled Access	Greater Municipality of İstanbul	İstanbul / Turkey	07.2013	Ongoing
11	Construction Supervision, Consultancy Services and Engineering Services for Haliç Metro Crossing Bridge	Greater Municipality of İstanbul	İstanbul / Turkey	04.2013	Ongoing
12	Survey, Design and Engineering Services for (Keçiborlu-Sandıklı) Junction-Uluborlu-Yalvaç Road	General Directorate of Highways	Antalya / Turkey	04.2013	Ongoing
13	Survey, Design and Engineering Services for "Keban Junction-Arapgir-Border of 16th Regional Directorate" Road	General Directorate of Highways	Elazığ / Turkey	02.2013	Ongoing
14	Construction Supervision and Consultancy Services for Exploration, Quality Control, Design and Survey of Highway Construction Works in the 10th Division Directorate of Highways	General Directorate of Highways, 10th Division Directorate	Trabzon, Giresun, Rize, Artvin, Gümüşhane, Bayburt / Turkey	02.2013	Ongoing
15	Survey and Design Services for Various Elevated Interchange and Roads (1st Group) Throughout İstanbul	Greater Municipality of İstanbul	İstanbul / Turkey	02.2013	Ongoing
16	Construction Supervision, Design, Survey, Development, Expropriation Works of the Highways of Under the Area of Responsibility of the 14th Division Directorate of Highways	General Directorate of Highways, 14th Division Directorate	Bursa, Balıkesir, Bilecik, Çanakkale, Kütahya / Turkey	10.2012	Ongoing
17	Survey, Engineering and Consultancy Services of North Marmara (Including 3rd. Bosphorus Bridge) Motorway Project – Pasakoy (Including 3rd. Bosphorus Bridge) Section	General Directorate of Highways	İstanbul / Turkey	11.2012	Ongoing



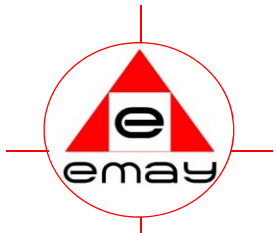
EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
18	Ikizdere -Ispir Road Ovit Tunnel and Connection Roads' Quality Control, Survey, Construction Supervision and Consultancy Services.	General Directorate of Highways, 10th Division Directorate	Trabzon / Turkey	10.2012	Ongoing
19	Survey, Design and Engineering Services for (Ordu-Ulubey) Junction Topcam (2nd Section) Tunnels	General Directorate of Highways, 7th Division Directorate	Ordu / Turkey	09.2012	12.2013
20	Consultancy Services During Construction and Post-Construction Stages of 556 Residences, 400 Bed Hospital, 200 Bed Hospital, 25 Bed Hospital, 20 Bed Hospital, 15 Bed Hospital, Commercial Center, High School, Mosque, Atelier Construction including General Infrastructure and Landscaping Works in Balıkesir, Bilecik, Bolu, Bursa, Kocaeli, Kütahya, Sakarya and Yalova Cities.	Housing Development Administration of Turkey	Balıkesir, Bilecik, Bolu, Bursa, Kocaeli, Kütahya, Sakarya, Yalova / Turkey	09.2012	Ongoing
21	Survey, Design and Engineering Services for Km:158+799.790- Km:177+664.477 Section of Erdemli - Silifke - Tasucu-13th Division Border Road	General Directorate of Highways, 5th Division Directorate	Mersin / Turkey	10.2012	Ongoing
22	Survey, Design and Engineering Services for Km:230+500.000-Km:248+826.464 Section of Erdemli - Silifke - Tasucu-G4Border Road (Between Anamur-Kaledran)	General Directorate of Highways, 5th Division Directorate	Mersin / Turkey	10.2012	Ongoing
23	Construction Supervision and Consultancy Services for Bartın-Amasra-Cakraz-Kurucasile (including Bartın-Amasra Connection) / Zonguldak-Eregli 2a-2b-2c / (Devrek-Caycuma) Junction-Zonguldak / (Caycuma-Zonguldak) Junction-Devrek-4. District Province Road	General Directorate of Highways, 15th Division Directorate	Zonguldak, Bartın / Turkey	08.2012	Ongoing
24	Construction Supervision and Consultancy Services for Civil and Electromechanical Works of Uskudar-Umraniye-Cekmekoy (Sancaktepe) Metro	Greater Municipality of İstanbul	İstanbul / Turkey	03.2012	Ongoing
25	Construction Supervision and Consultancy Services for Seismic Retrofit of Bridges, Viaducts and Tunnels Located on Motorways and Motorway Connection Roads	General Directorate of Highways, 17th Division Directorate	İstanbul, Kocaeli, Sakarya Düzce / Turkey	07.2012	12.2013
26	The Supply of Engineering and Construction Supervision Services for Dualization of 15 Km Long Sumel-Batel Road	Directorate of Roads and Bridges in Duhok Governorate	Sumel, Batel / Iraq	04.2012	Ongoing
27	Construction Supervision and Consultancy Services for Nissibi Bridge	General Directorate of Highways	Adiyaman, Sanliurfa / Turkey	05.2012	Ongoing
28	Construction Supervision and Consultancy Services for Trabzon-Aşkale (Dap) (Dokap) (Maçka Karahava) / (Köstere-G.hane) / (G.hane-Kale) / (Geçit-Bayburt) / (Kale-Bayburt-12th District Border) / G.hane-Bayburt Junction-Kelkit-Şiran (Kelkit including City Crossing) Pirahmet-Alıçlı (Pirahmet including Interchange (Ünlüpinar-Kelkit) Highways	General Directorate of Highways, 10th Division Directorate	Trabzon, Gumushane, Bayburt / Turkey	02.2012	Ongoing
29	Consultancy Services During Construction and Post-Construction Stages of 3416 Residences, Hospitals, Canteens, Social Facilities, Schools, Kindergardens and Buildings Construction including General Infrastructure and Landscaping Works in Amasya, Corum, Samsun ve Tokat Cities	Housing Development Administration of Turkey	Amasya, Corum, Samsun, Tokat / Turkey	10.2011	Ongoing
30	Consultancy Services During Pre-Construction, Construction and Post-Construction Stages of Trabzon Akyazı Sports and Cultural Facilities	Housing Development Administration of Turkey	Trabzon / Turkey	04.2011	Ongoing



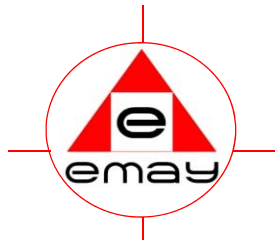
EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
31	Consultancy and Supervision Services for İstanbul Otogar - Bağcılar - Olimpiyat Köyü - Başak Konutları 4 Rail Mass Transportation System Construction and Electro-Mechanical Works and Supply of Vehicles	Greater Municipality of İstanbul	İstanbul / Turkey	12.2008	Ongoing
32	Survey, Design and Engineering Services for Hasdal Junction-Kemberburgaz-Yassören Highway Construction Works	General Directorate of Highways, 1st Division Directorate / Mak-Yol Construction Industry Tourism and Trading Co.	İstanbul / Turkey	06.2006	Ongoing
33	Bursa Peripheral Motorway (Yalova Junction - Turanköy Elevated Junction Section) Construction Supervision, Engineering and Consultancy Services	General Directorate of Highways	Bursa / Turkey	12.2000	Ongoing
34	Survey and Detailed Design Services for Ayamama River Rehabilitation	İsfalt Co.	İstanbul / Turkey	02.2012	12.2013
35	Preparation of Detailed Engineering Design, Supervision of Construction and Project Management Consulting Services for Rehabilitation and Extension of Water Supply and Sanitation System for Baku Area Project	Azersu Joint Stock Company, Republic of Azerbaijan	Baku / Azerbaijan	03.2011	09.2013
36	Survey, Design and Engineering Services for Transportation Planning of Vialand-Temapark	Greater Municipality of İstanbul / Bayraktar-Güryapı Construction	İstanbul / Turkey	03.2011	09.2013
37	Construction Supervision and Consultancy Services for Highway Construction Works in Balıkesir, Bilecik, Çanakkale, Kütahya Provinces under the responsibility of 14th Division of General Directorate of Highways	General Directorate of Highways, 14th Division Directorate	Bursa, Balıkesir, Bilecik, Çanakkale, Kütahya / Turkey	03.2011	09.2013
38	Exploration Services for Dursunbey Viaduct at Km: 41+679 on Balıkesir-Kütahya State Road (Foundation Exploration Drilling, Field and Laboratory Services) and Report Preparation (Geotechnical Project Report and Specific field Seismicity Report)	General Directorate of Highways, 14th Division Directorate	Balıkesir / Turkey	05.2013	08.2013
39	Survey And Design Services For New Return Locations For Metrobus Vehicles And Pedestrian Bridges For Passenger Access To Metrobus Stations İn D100 Kadıköy (Söğütlüçeşme) – Beylikdüzü (Tüyap) Metrobus (BRT) System	Greater Municipality of İstanbul	İstanbul / Turkey	02.2013	08.2013
40	Survey, Design, Construction Supervision and Consultancy Services for +G6 Throughout İstanbul	Greater Municipality of İstanbul	İstanbul / Turkey	09.2010	08.2013
41	Consultancy and Supervision Services for Construction Works of Ankara-İstanbul High Speed Railway Project Eskişehir Railway Station Crossing	Turkish State Railways	Eskişehir / Turkey	03.2008	07.2013
42	Survey and Design Services for Interchanges and Roads Throughout İstanbul (34th Stage)	Greater Municipality of İstanbul	İstanbul / Turkey	02.2012	06.2013
44	Construction Supervision and Consultancy Services for Pedestrian Underpasses and Zonal Roads of Mecidiyeköy Transfer Center	Greater Municipality of İstanbul / Ortadoğu Otomotiv Trade Co.	İstanbul / Turkey	02.2012	12.2012
45	Survey, Design and Engineering Services for Connection Road of Of-Caykara Anadolu Gurpinar Hospital	District Governorate of Of / Taş-Sar Construction Ltd. Şti.	Trabzon / Türkiye	07.2012	10.2012



EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
46	Consulting and Construction Supervision Services of Rehabilitation of Infrastructure between Halkalı-Cerkezköy Stations Km:25-74 and Km: 74-114	Turkish State Railways	Istanbul / Turkey	03.2012	07.2012
47	Survey and Design Services for Bridge, Elevated Interchange and Roads on European Side (1st Stage) (Aksaray Square)	Greater Municipality of İstanbul	Istanbul / Turkey	06.2011	12.2012
48	Survey, Design and Engineering Services for Transportation Planning of Varyap-Gap Joint Venture Doğu Ataşehir Project	Housing Development Administration of Turkey / Varyap-Gap Joint Venture	Istanbul / Turkey	04.2011	12.2012
49	Design & Engineering Services During Pre-Bid and Construction Stages of Sabuncubeli Tunnel on Izmir-Manisa State Highway	General Directorate of Highways / Sabuncubeli Tunnel Investment and Management Co.	Izmir- Manisa / Turkey	04.2011	12.2012
50	Survey, Design and Engineering Services for Sandikli and Kutahya Intersections on Afyon-Usak State Highway	General Directorate of Highways, 3rd Division Directorate / Metiş-Kas Ordinary Partnership	Afyon / Turkey	01.2011	12.2012
51	Survey, Design and Engineering Services for Traffic Survey and Planning of Torun Tower Project	Greater Municipality of İstanbul / Torunlar REIC	Istanbul / Turkey	01.2011	12.2012
52	Survey, Design and Engineering Services for Square Arrangement and Pedestrianisation of Buyukdere Street	Greater Municipality of İstanbul	Istanbul / Turkey	01.2010	12.2012
53	Project Management, Construction Supervision and Coordination Services for Akkoza Housing Project 2A, 2B and 2C Stages	Garanti Koza in Association with AKİŞ	Istanbul / Turkey	09.2010	12.2012
54	Survey, Design and Engineering Services for Transportation Planning of İstanbul Seaport	Greater Municipality of İstanbul / Ataport (Rönesans)	Istanbul / Turkey	10.2010	12.2012
55	Survey, Design and Engineering Services for Beyoğlu, Kasımpaşa Hasköy Street Road Rehabilitation Application Project and Kasımpaşa-Sütlüce Tunnel	General Directorate of Highways, 1st Division Directorate / Mak-Yol Construction Industry Tourism and Trading Co.	Istanbul / Turkey	10.2010	12.2012
56	Survey and Design Services for Pedestrian Underpasses and Zonal Roads of Mecidiyeköy Transfer Center	Greater Municipality of İstanbul / Ortadogu Automotive Trade Co.	Istanbul / Turkey	08.2010	12.2012
58	Construction Supervision and Consultancy Services for Seismic Retrofit of Bridges, Viaducts and Tunnels Located on Motorways and Motorway Connection Roads Between Kınalı - Sakarya	General Directorate of Highways, 17th Division Directorate	Istanbul, Kocaeli, Sakarya Duzce / Turkey	11.2006	07.2012



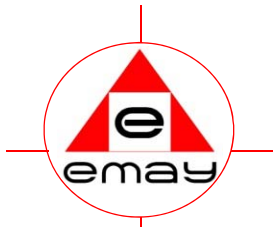
EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
59	Technical Consultancy Services for Privatization of Motorways and Bridges	General Directorate of Highways / Akfen-Makyol-Doğuş-Autostrade Joint Venture	Istanbul, Ankara, Bolu, Duzce, Izmir, Aydin, Edirne, Tekirdag, Kocaeli, Sakarya, Mersin, Adana, Nigde, Gaziantep, Sanliurfa, Iskenderun / Turkey	02.2012	06.2012
60	Design Services for Roads and Elevated Interchange Between Harmandere Elevated Interchange-Formula Road-Tepe Oren (No:34-25) Province Road	General Directorate of Highways, 1th Division Directorate / Küçükkel Construction Industry and Tourism Co. Ltd.	Istanbul / Turkey	11.2011	01.2012
61	Survey and Design Services of Torbalı -Tire Road Junction Belevi Road	General Directorate of Highways	Izmir / Turkey	07.2011	05.2012
62	Project Management, Construction Supervising and Coordination Services for Internal Roads, Infrastructure Construction Works and Festival Park Construction Works of Akbatı Residences and Shopping Mall	Akiş Real Estate Investment Co.	Istanbul / Turkey	06.2011	10.2011
63	Preparation of Feasibility study of Gaziantep-Halep High Speed Railway Project	Turkish State Railways	Gaziantep-Halep / Turkey	06.2011	05.2012
64	Survey, Design and Engineering Services for Transport Information System on Anatolian Side	Greater Municipality of İstanbul	Istanbul / Turkey	04.2011	08.2011
65	Survey, Design and Engineering Services for Construction of Haramidere Junction - Doğan Araslı Street Side Road Arrangement	Greater Municipality of İstanbul / Taşpolat Construction Machine Industry and Trd. Co. Ltd.	Istanbul / Turkey	03.2011	05.2011
66	Survey and Design Services for Devrekani-Çatalzeytin Highway	General Directorate of Highways	Kastamonu / Turkey	02.2011	05.2012
67	Track Design and Analysis Services for 2nd Phase of Harrain High Speed Railway Project	Turkish State Railways	Mecca-Medina / Saudi Arabia	04.2010	12.2011
68	Survey, Design and Engineering Services for Kurtköy Harmandere Interchange and Ring Roads on Connection Road between Kurtköy Motorway Interchange and D-100 State Highway Pendik Tersane Interchange	General Directorate of Highways, 17th Division Directorate / Küçükkel Construction Industry and Tourism Co. Ltd.	Istanbul / Turkey	11.2010	02.2011
69	Survey, Design and Engineering Services for Ünye Ring Road Km86+029-99+545 Saca Tunnel Exit Structure Slopes	General Directorate of Highways, 7th Division Directorate / STY Construction - Fermanoğlu Construction	Ordu / Turkey	12.2010	02.2011



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
70	Survey, Design and Engineering Services for Interchange with Underpass Bridge and Road Passing Under the Existing Railway	Greater Municipality of İstanbul / İstanbul Aquarium Tourism Trade Co. Ltd.	İstanbul / Turkey	12.2010	05.2011
71	Traffic Circulation and Geometrical Arrangements Application Project in Arnavutköy District	Greater Municipality of İstanbul	İstanbul / Turkey	11.2010	03.2011
72	Survey, Design and Engineering Services for Highway Construction between Mecidiyeköy-Çağlayan Intersection	General Directorate of Highways, 1st Division Directorate / Kalyon Construction Industry and Trade Co.	İstanbul / Turkey	10.2010	07.2011
73	Design and Consultancy Services for Additional Pedestrian and Highway Bridges between Eskişehir - İnönü	Turkish State Railways	Eskişehir / Turkey	08.2010	10.2010
74	Survey and Design Consultancy Services for Arac Group of Bridges (Sarpuncay, Arac) on Karabuk-Arac-Kastamonu Highway and Kurucay Group of Bridges (Araklar, Kornopa, Kıvrımcay) on Taskopru-Hanonu-Boyabat Highway	General Directorate of Highways, 15th Division Directorate	Kastamonu / Turkey	05.2010	10.2010
75	Survey and Design Services for Elevated Interchange to Enable Entrance-Exit from Şile State Highway to Işık University	General Directorate of Highways, 1st Division Directorate / FMV Işık University	İstanbul / Turkey	03.2010	12.2011
76	Survey, Design and Engineering Services for Highway between Refahiye-Erzincan Junction-Kelkit	General Directorate of Highways	Gumushane / Turkey	01.2010	11.2011
77	Survey, Design and Engineering Services for Highway between (Kestel-Yenişehir) Junction-(Gemlik-İzmit) Junction	General Directorate of Highways	İstanbul / Turkey	01.2010	05.2011
78	Survey, Design and Engineering Services for Kırkağaç-Gelenbe Highway	General Directorate of Highways	Manisa / Turkey	01.2010	11.2011
79	Supervision and Consultancy Services for Yerkoy-Sivas High Speed Railway Project Infrastructure Construction Works	Turkish State Railways	Sivas, Yerkoy / Turkey	07.2009	05.2010
80	Survey, Design and Engineering Services for Kurucasile-Cide Highway	General Directorate of Highways	Bartın, Kastamonu / Turkey	10.2009	12.2010
81	Preliminary and Application Design Services for Side Road Arrangement of Yenisahra D-100 State Highway	Greater Municipality of İstanbul / Ronasans Real Estate Investment Co.	İstanbul / Turkey	06.2008	08.2008
82	Survey and Design Services for Underpass and Overpass Bridges of Sultanbeyli Elevated Interchange	General Directorate of Highways, 17th Division Directorate / Eksen Project Construction Tourism & Trade Co.	İstanbul / Turkey	09.2009	03.2010



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
83	Survey and Design Services for Dual Highway between Thrace Motorway Junction-Kirklareli-Dereköy-Aziziye-Bulgaria Border	General Directorate of Highways, 1st Division Directorate / Dört Yol Construction Contracting Tourism Trade and Industry Co.	Kirklareli / Turkey	06.2009	02.2010
84	Survey, Design and Engineering Services for Ayrancılar and Şelale Regulators and Ayrancılar Charge Basin of Muradiye Hydroelectric Power Plant Project	General Directorate of State Hydraulic Works / Muradiye Electricity Production Co.	Van / Turkey	08.2009	12.2009
85	Survey, Design and Engineering Services for D-080 Kağızman-Iğdır Highway Relocation of Sefaköy Dam and Hydroelectric Power Plant Project	General Directorate of Highways / Gülsan Construction Co.	Kars / Turkey	04.2010	08.2010
86	Design and Construction Supervision Services for Flame Towers Project	Azinko Development MMC. / Dia Holding	Baku / Azerbaijan	01.2009	02.2010
87	Survey and Design Services for Bridges on the Roads to be Relocated within the scope of Deriner Dam Construction Works	State Hydraulic Works - General Directorate of Highways / Erg Construction Trade and Industry Co.	Artvin / Turkey	12.2008	01.2010
88	Survey, Design and Engineering Services for Transportation and Traffic Planning of Mega Center and Forum İstanbul Shopping Center	Greater Municipality of İstanbul, Municipality of Bayrampaşa / Multi Turkmall Trade Co.	İstanbul / Turkey	03.2009	11.2009
89	Survey and Design Services for Road, Bridge and Interchange Arrangement between Acemler Elevated Interchange and Mudanya Elevated Interchange (Carrefour - Karaman Overpass)	Greater Municipality of Bursa	Bursa / Turkey	09.2008	11.2008
90	Survey, Design and Engineering Services for Kavacık-Beykoz Highway Construction Works	General Directorate of Highways, 17th Division Directorate / Açık Construction Industry and Trade Co. Ltd.	İstanbul / Turkey	09.2008	05.2009
91	Survey, Design and Engineering Services for Avçılar Vatan Hospital Interchange	Greater Municipality of İstanbul / İSPA	İstanbul / Turkey	06.2009	12.2009
92	Survey, Design, Engineering and Construction Supervision Services for Construction Works of Avçılar Intersection - Esenyurt Connection Roads on O-3 Motorway	General Directorate of Highways, 17th Division Directorate and Municipality of Esenyurt	İstanbul / Turkey	06.2008	06.2011



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
93	Survey, Design and Engineering Services for Waste Material and Clean Water Dams in order to Solve Problems Caused by Mining Waste	Cengiz Holding Eti Copper Co. (Murgul Facilities)	Artvin / Turkey	05.2008	12.2008
94	Traffic Circulation and Geometrical Arrangements Application Project Throughout İstanbul (11th Stage)	Greater Municipality of İstanbul	İstanbul / Turkey	05.2008	05.2009
95	Consultancy Services during Construction and Post-Construction Stages for Sport Complex Consisting of 52.000 Spectator-Capacity, Multi-Purpose Use Stadium with a Retractable Roof and 4.500 Vehicle-Capacity Car Parking Lot (3.000 Closed, 1.500 Open) Located in İstanbul Şişli Ayazağa Section 4, Island 3, Parcel 29 (Seyrantepe Property)	Housing Development Administration of Turkey	İstanbul / Turkey	02.2008	01.2010
96	Consultancy (Supervision) Services for Concept Project Application and Building Maintenance Works of Customer Lounges in 5 (Five) Telekom Directorate Buildings; Nevşehir Directorate, Mersin Directorate, Mersin Akdeniz, Samsun Canik and Karabük Directorate Buildings	Türk Telekom	Nevşehir, Mersin Samsun, Karabük / Turkey	11.2007	01.2010
97	Survey, Design and Engineering Services for Zeytinburnu Merkezleri Interchange Construction Works	Greater Municipality of İstanbul / Kiptaş	İstanbul / Turkey	01.2008	06.2008
98	Survey and Design Services for Bridge, Elevated Interchange, Underpass and Roads on European Side (2nd Stage)	Greater Municipality of İstanbul	İstanbul / Turkey	10.2007	10.2009
99	Survey, Design and Engineering Services for Çarşamba-Terme-Ünye-Fatsa Railway	General Directorate of Construction of Railways, Harbors and Airports	Samsun, Ordu / Turkey	10.2007	12.2008
100	Survey, Design and Engineering Services for Road and Interchange of Beşiktaş Etiler Cengiz Topel Street - TEM Connection Road	Greater Municipality of İstanbul / Mak-Yol Construction Industry Tourism and Trading Co.	İstanbul / Turkey	07.2007	01.2010
101	Survey, Design and Engineering Services for Highway between Salihli Junction-Alaşehir- Buldan (Aydın-Denizli) Junction (Km 22+140 - 79+500)	General Directorate of Highways	Denizli, Manisa / Turkey	08.2007	12.2008
102	Traffic Circulation and Geometrical Arrangements Application Project Throughout İstanbul (9th Stage)	Greater Municipality of İstanbul	İstanbul / Turkey	08.2007	09.2010
103	Rail System Application Design and Transfer Centers (9th Stage): Çağlayan Transfer Center Architectural and Urban Design Concept Design	Greater Municipality of İstanbul	İstanbul / Turkey	07.2007	11.2007
104	Design Services for D-100 Yenidoğan Overpass Bridge and Connection Roads	Greater Municipality of Kocaeli	Kocaeli / Turkey	07.2007	08.2007
105	Construction Supervision and Consultancy Services for the Conversion of the Warehouse-Museum-Excavation Site Located in Orhun Valley into a Museum and Revitalization Activities in the Open Ground	Turkish International Cooperation Agency	Arkhangai / Mongolia	06.2007	10.2007
106	Survey, Design and Engineering Services for Interchange Arrangement to Connect D-100 State Highway between İstanbul-Kocaeli and Nuh Cement Factory	General Directorate of Highways, 1st Division Directorate / Nuh Çimento Industry Co.	Kocaeli / Turkey	01.2007	09.2007



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
107	Survey, Design, Engineering, Technical Consultancy and Construction Supervision Services for İstanbul İspartakule Elevated Interchange and Connection Roads Construction Works	General Directorate of Highways, 17th Division Directorate and Greater Municipality of İstanbul / Emlak Pazarlama-Fideltus-Öztaş Joint Venture	Istanbul / Turkey	05.2007	07.2009
108	Survey, Design and Engineering Services for Grade Separated Interchange Project to enable Entrance-Exit from Susurluk-Balıkesir State Highway to Varan Resting Facilities	General Directorate of Highways, 14th Division Directorate / Varan Co.	Balıkesir / Turkey	11.2006	02.2007
109	Construction Supervision and Consultancy Services for Khose Tsaydam - Khorhorin Bilge Kağan Highway	Turkish International Cooperation Agency	Arkhangai / Mongolia	05.2005	11.2010
110	Survey, Design and Engineering Services for İstanbul Halkalı Mass Housing Area No.1 Elevated Interchange and Connection Roads Construction and Relocation of Existing Utilities	Housing Development Administration of Turkey / Gökdelen Construction Industry and Trade Co. Ltd. - Sinan Construction Industry and Trade Co. Ltd. Joint Venture	Istanbul / Turkey	11.2006	03.2007
111	Tüpraş Design and Engineering Services	Tüpraş Co.	Kocaeli / Turkey	09.2006	11.2006
112	Survey, Design and Engineering Services for Seismic Retrofit of Large Scale Bridges in İstanbul	General Directorate of Highways, 17th Division Directorate / Ishikawajima-Harima Heavy Industries Co. Ltd. (IHI)	Istanbul / Turkey	10.2006	08.2010
113	Survey, Design and Engineering Services for Kağıthane Square Arrangement	Greater Municipality of İstanbul	Istanbul / Turkey	05.2008	12.2008
114	Survey, Design and Engineering Services for Interchange Arrangement at Intersection of Beyoğlu Piyalepaşa Boulevard and Baruthane Avenue	Greater Municipality of İstanbul / Makyol-Mensim-Asyol	Istanbul / Turkey	04.2006	01.2009
115	Technical Consultancy Services for Concrete Strength Evaluation of Krakow Light Rail System Project T1 Tunnel	Güriş Construction and Engineering Co.	Krakow / Poland	05.2006	08.2006
116	Survey, Design and Engineering Services for Dolmabahçe-Dolapdere-Piyalepaşa-Kağıthane Tunnels Construction Works	Greater Municipality of İstanbul / Kiska-Makyol Ordinary Partnership	Istanbul / Turkey	10.2006	08.2007



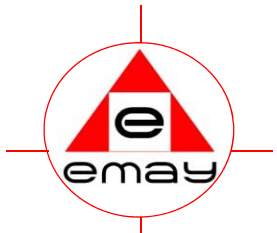
EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
117	Survey and Design Services for Bridge, Elevated Interchange, Underpass and Roads on European Side	Greater Municipality of İstanbul	Istanbul / Turkey	03.2006	03.2008
118	Survey and Design Services for Underpass at Gebze Okul Street - DDY Intersection of Kocaeli Greater Municipality	Greater Municipality of Kocaeli	Kocaeli / Turkey	10.2006	10.2007
119	Survey and Design Services for Underpass Connecting University Road Sümer Police Station D-100 Highway	Greater Municipality of Kocaeli	Kocaeli / Turkey	03.2006	04.2006
120	Survey and Design Services for Underpass Connecting Hastane-D-100 Highway	Greater Municipality of Kocaeli	Kocaeli / Turkey	03.2006	04.2006
121	Survey and Design Services for Underpass Connecting Seka Entrance D-100 Highway	Greater Municipality of Kocaeli	Kocaeli / Turkey	03.2006	04.2006
122	Survey, Design and Engineering Services for D-100 Highway Side Road between Sefaköy-Küçükçekmece and Ayamama Bridge Construction Project	Greater Municipality of İstanbul / Asca Construction Contracting Consultancy Services Co.Ltd.	Istanbul / Turkey	05.2006	08.2006
123	Survey and Design Services for Uçaksavar and Şehitlik Elevated Interchanges	Municipality of Şanlıurfa	Sanliurfa / Turkey	01.2006	02.2006
124	Survey, Design and Engineering Services for Ovaakça Interchange and Connction Roads of İstanbul - Bursa - Balıkesir - İzmir Motorway Bursa Ring Road Section Yalova Junction - Karacabey Elevated Interchange (Km 82+380 - 109.454 and 0+000 - 2+000) 1st Section Construction	General Directorate of Highways, 17th Division Directorate / Gülsan Construction Co.	Bursa / Turkey	01.2006	12.2009
125	Survey, Design and Engineering Services for D-100 Side Road Rehabilitation Project between Topkapı-Çobançeşme	Greater Municipality of İstanbul / Kalyon Construction Industry and Trade Co.	Istanbul / Turkey	05.2006	08.2006
126	Geotechnical Survey, Geometrical, Structural, Drainage, Traffic, Electrical and Retaining Walls Design Services for D-100 State Highway Tatlıkuyu Interchange Bridges and Interchange Legs	Greater Municipality of Kocaeli	Kocaeli / Turkey	08.2005	09.2005
127	Survey, Design and Engineering Services for Artvin-Erzurum Highway (Km 40 - 68)	General Directorate of State Hydraulic Works / Dolsar Engineering Ltd.	Artvin, Erzurum / Turkey	12.2005	07.2006
128	Survey and Design Services for Infrastructure of Azerbaijan Pilot Organized Industrial Estate	Turkish International Cooperation Agency	Baku / Azerbaijan	09.2005	07.2007
129	Structural Safety Inspection Services for Zonguldak Fevkani Bridge	Ereğli Iron and Steel Works Co.	Zonguldak / Turkey	10.2005	12.2005
130	Engineering Services for Derince D-100 Highway Underpass of Kocaeli Greater Municipality	Greater Municipality of Kocaeli	Kocaeli / Turkey	03.2006	08.2006
131	Geotechnical Survey and Design Services for Küsget Clover-Leaf Elevated Interchange	Greater City Municipality of Gaziantep	Gaziantep / Turkey	06.2005	10.2005



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
132	Geotechnical Survey and Design Services for Tugay Elevated Interchange on E-90 Highway	Greater City Municipality of Gaziantep	Gaziantep / Turkey	05.2005	06.2005
133	Survey, Design and Engineering Services for Underpass of Sabiha Gökçen Airport Connection Road with Kurtköy Harmandere Interchange and Ring Roads on Connection Road between Kurtköy Motorway Interchange and D-100 State Highway Pendik Tersane Interchange	General Directorate of Highways, 17th Division Directorate / Orhan Evin-Küçükkel Ordinary Partnership	Istanbul / Turkey	05.2005	06.2005
134	Design of Vehicle Inspection Centers to be Built By TÜV Vehicle Inspection Centers Construction and Operation Inc.	TUV Vehicle Inspection Centers Construction and Management Co.Ltd.	Overall Turkey / Turkey	06.2005	02.2009
135	Architectural, Structural, Electrical, Mechanical Design Services for Derince Municipality Underpass	Greater Municipality of Kocaeli	Kocaeli / Turkey	02.2005	03.2005
136	Survey and Design Services for New Roads on European Side (3rd Stage)	Greater Municipality of İstanbul	Istanbul / Turkey	01.2005	12.2005
137	Survey, Design and Engineering Services for Göcek Tunnel on Fethiye-Köyceğiz Highway	General Directorate of Highways, 13th Division Directorate / Göcek Tüneli Construction Contracting Co.	Mugla / Turkey	07.2004	06.2008
138	Survey, Design and Engineering Services for Various Highways within the Limits of 7th Division Directorate	General Directorate of Highways, 7th Division Directorate	Corum, Ordu, Sinop, / Turkey	10.2004	12.2005
139	Survey, Design and Engineering Services for Tepeüstü Overpass Bridge	Municipality of Ümraniye / Ehil Construction	Istanbul / Turkey	09.2004	10.2004
140	Survey, Design and Engineering Services for M-1 Motorway Bridge on Ishım River, Sol Coast Center - Abilay Han Street	Republic of Kazakhstan / Ceylan Limited	Astana / Kazakhstan	08.2004	06.2005
141	Survey and Design Services for Infrastructures and/or their Relocation and Elevated Interchange at 100nd Year Boulevard and Güllük Street Intersection	Greater Municipality of Antalya	Antalya / Turkey	07.2004	08.2004
142	Survey and Design Services for Infrastructures and/or their Relocation and Elevated Interchange on Adnan Menderes Boulevard (between Şarampol Street and F. Altay Street) and Mezarlık Street	Greater Municipality of Antalya	Antalya / Turkey	07.2004	08.2004
143	Survey and Design Services for Infrastructures and/or their Relocation and Elevated Interchange on Adnan Menderes Boulevard (between Şarampol Street and F. Altay Street) in front of Nokta Hotel	Greater Municipality of Antalya	Antalya / Turkey	07.2004	08.2004
144	Geotechnical Survey and Design Services for Maarif Elevated Interchange	Greater City Municipality of Gaziantep	Gaziantep / Turkey	08.2004	09.2004
145	Geotechnical Survey and Design Services for Doğumevi Elevated Interchange	Greater City Municipality of Gaziantep	Gaziantep / Turkey	08.2004	02.2005
146	Supervision and Consultancy Services for Repair and Strengthening Design of Bridges, Tunnels, Viaducts (Viaducts with Elevation h<50 m) and Special Structures (Viaducts with Elevation h>50m) Located on Motorway and Motorway Connection Roads of Anadolu Motorway Çamlıca-Gümüşova Section between (Km 6+120 - 182+585)	General Directorate of Highways, 17th Division Directorate	Istanbul, Kocaeli Sakarya Duzce / Turkey	12.2003	06.2007



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
147	Survey, Design and Engineering Services for İstanbul Tramline System Zeytinburnu-Bağcılar Section Construction Works and Supply, Installation and Commissioning Works of Electro-Mechanical Systems	Greater Municipality of İstanbul / Yapı Merkezi Construction and Industry Inc.	İstanbul / Turkey	09.2004	03.2005
148	Survey, Design and Engineering Services for Bozüyük-Mekece State Highway Improvement Project	General Directorate of Highways, 14th Division Directorate / Limak Construction Industry and Trade Co.	Bilecik / Turkey	01.2004	11.2007
149	Survey, Design and Engineering Services for Hereke Earthquake Houses Road	General Directorate of Highways, 1th Division Directorate / Eka Construction and Trade Co. Ltd.	İstanbul / Turkey	03.2003	12.2003
150	Preliminary Design and Feasibility Services for Trabzon Light Rail Transportation System	Greater Municipality of Trabzon / SNC-Lavalin	Trabzon / Turkey	03.2004	12.2004
151	Survey, Design and Engineering Services for 4 Grade Separated Interchanges on Sudan-Khartoum Ring Road	Republic of Sudan, Khartoum State Ministry of Physical Planning Public Utilities / Günay Construction Co. Ltd.	Khartoum / Sudan	01.2003	04.2003
152	Survey, Design and Engineering Services for Yayla-Carrefour Interchange	Municipality of Bahçelievler / RE-HA	İstanbul / Turkey	01.2003	04.2003
153	Survey, Design and Engineering Services for Güneşli Interchange Additional Bridge Construction Works	Greater Municipality of İstanbul / Limak Construction Industry and Trade Co.	İstanbul / Turkey	04.2003	10.2003
154	Survey, Design and Engineering Services for Lütfü Aykaç Boulevard Intersection, Gaziosmanpaşa Cebeci Road - TEM Motorway Underpass Construction Works	Greater Municipality of İstanbul / Mak-Yol Construction Industry Tourism and Trading Co.	İstanbul / Turkey	09.2002	03.2003
155	Survey, Design and Engineering Services for Repair and Seismic Retrofit of Viaducts and Bridges on Motorways	General Directorate of Highways, 17th Division Directorate / İlke Yapı Construction Industry and Trade Co. Ltd.	İstanbul / Turkey	12.2002	01.2005
156	Survey, Design and Engineering Services for Afyon - Emirdağ - 4th Division Border State Highway (between Km 85+056.375 - Km 85+110.975) Construction Works and State Railways Overpass Bridge	General Directorate of Highways, 3rd Division Directorate	Afyon / Turkey	03.2002	06.2002



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No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
157	Survey, Design and Engineering Services for Kavacık - Beykoz - Riva Highway, Km 0+000 - 15+711 Construction Works	General Directorate of Highways, 17th Division Directorate / Mak-Yol Construction Industry Tourism and Trading Co.	Istanbul / Turkey	09.2004	09.2005
158	Survey, Design and Engineering Services for Çorlu Elevated Interchange (TEM) - Çorlu Connection Road Km 0+000 - 7+500 (including Çorlu Ring Road Km 99+100-109+143) Construction Works	General Directorate of Highways, 17th Division Directorate / Mak-Yol Construction Industry Tourism and Trading Co.	Tekirdag / Turkey	04.1998	05.2008
159	Survey, Design and Engineering Services for Kavacık - Beykoz Highway Construction Works	General Directorate of Highways, 17th Division Directorate / Mak-Yol Construction Industry Tourism and Trading Co.	Istanbul / Turkey	01.1998	12.2007
160	Survey, Design and Engineering Services for Afyon - Uşak (Antalya Junction - 2nd Division Border) (2x2 Dual) Highway	General Directorate of Highways	Afyon / Turkey	03.2002	12.2005
161	Survey, Design and Engineering Services for Bursa - Eskişehir (between İnegöl - Bozüyük) State Highway (2x2 dual)	General Directorate of Highways, 14th Division Directorate	Bursa, Bilecik / Turkey	05.2001	02.2005
162	Survey, Design and Engineering Services for Repair Works of Large Engineering Structures (Bridges and Viaducts)	General Directorate of Highways, 17th Division Directorate / Mak-Yol Construction Industry Tourism and Trading Co.	Istanbul / Turkey	01.2002	12.2007
163	Survey, Design and Engineering Services for 2nd Phase Construction Works of Connection Road between Ulus - Zincirlikuyu	Greater Municipality of İstanbul / Kalyon Construction Industry and Trade Co.	Istanbul / Turkey	04.2002	01.2004
164	Survey, Design and Engineering Services for Düzce - Akçakoca - Karadeniz Ereğlisi (2x2 Dual) Highway Km 0+000-71+565 Section Construction Works	General Directorate of Highways, 4th Division Directorate / Limak Construction Industry and Trade Co.	Duzce / Turkey	01.2004	03.2006
165	Survey, Design and Engineering Services for Tuzla - Aydınli Village Road and İçmeler Interchange Arrangement	Greater Municipality of İstanbul / Haydar Sezen Construction	Istanbul / Turkey	07.2001	01.2002
166	Survey, Design and Engineering Services for South-West Collector, Konak Pass Arrangement Construction, İzmir Konak Square Pedestrian Overpass Bridge and Interchange Arrangement Works	Greater Municipality of İzmir / Sistem Yapı Construction and Trade Co.	Izmir / Turkey	07.2001	01.2002



EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
167	Survey, Design and Engineering Services for Bilecik City Crossing, Hamsu-II Bridge Project	General Directorate of Highways, 14th Division Directorate / Sedaş Construction Co.	Bilecik / Turkey	03.2001	09.2001
168	Survey, Design and Engineering Services for T.R. Diyarbakır Governorship Special Provincial Directorate of Administration Petroleum Bridge Construction Works	Diyarbakır Governorship	Diyarbakır / Turkey	03.2001	07.2001
169	Survey, Design and Engineering Services for Ataköy E-5 Interchange Additional Bridge Construction Works	Greater Municipality of İstanbul / Çelikler Construction Co.	İstanbul / Turkey	04.2001	10.2003
170	Survey, Design and Engineering Services for Çobançeşme Interchange Additional Bridge Construction Works	1st Division Directorate / Asca Construction Contracting Consultancy Services Co.Ltd.	Sakarya / Turkey	04.2003	12.2003
171	Survey, Design and Engineering Services for Lane Addition between Mahmutbey East Elevated Interchange (TEM) and East - West Interchanges	General Directorate of Highways, 17th Division Directorate / Murtezaoğlu-Kolin Ordinary Partnership	İstanbul / Turkey	03.1999	01.2003
172	Survey, Design and Engineering Services for Anatolian Motorway, Gümüşova - Gerede Section Construction Works, 2DPhase Asarsuyu Valley	General Directorate of Highways, 4th Division Directorate / ASTALDI S.p.A	Bolu, Duzce / Turkey	11.2000	12.2007
173	Survey, Design and Engineering Services for Dualisation of Existing State Highway and Construction of New Collector Roads on D-100 State Highway between Yarımca Tüpraş Interchange (Km 77+850) - İzmit West II Interchange (Km 87+350)	General Directorate of Highways, 17th Division Directorate / Gülsan Construction Co.	Kocaeli / Turkey	08.2000	07.2004
174	Survey, Design and Engineering Services for Various Interchanges, Roads and Similar Structures in the Province of Samsun	Greater Municipality of Samsun	Samsun / Turkey	09.2000	08.2001
175	Survey, Design and Engineering Services for Black Sea Coastal Highway Project, Çarşıbaşı - Trabzon - Araklı Section Construction Works	General Directorate of Highways, 10th Division Directorate / Polat Road Structure Industry and Trade Co.	Trabzon / Turkey	05.2001	12.2008
176	Survey, Design and Engineering Services for Black Sea Coastal Highway Project, İyidere - Çayeli Section (Km 107+135 - 140+150) Construction Works	General Directorate of Highways, 10th Division Directorate / Bayındır-Limak Ordinary Partnership	Trabzon, Rize / Turkey	06.2000	06.2005



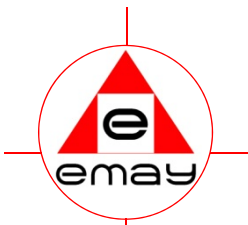
EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
177	Survey, Design and Engineering Services for Black Sea Coastal Highway Project, Çayeli - Ardeşen - Hopa Section (Km 140+150 - 217+545) Construction Works	General Directorate of Highways, 10th Division Directorate / Cengiz -Mapa-Makyol Ordinary Partnership	Rize, Artvin / Turkey	07.2000	06.2005
178	Survey, Design and Engineering Services for Kocaeli Cengiz Topel Airport Terminal Building Construction of DLHİ 4th Division Directorate	DLHİ 4th Division Directorate	Kocaeli / Turkey	02.2001	08.2001
179	Survey, Design and Engineering Services for Repair of Damages Caused by Earthquake on Viaducts, Overpasses and Underpasses (including Repair Design) along Anatolian Motorway between İzmit West Interchange (Km 80+680) - Gümüşova (Km 182+613) / Section 2: between İzmit East Interchange (Km 100+000) - Adapazarı Interchange (Km 130+000) (excluding Arifiye Bridge at Km 127+401)	General Directorate of Highways, 1st Division Directorate / Eka Construction and Trade Co. Ltd.	Kocaeli / Turkey	08.2000	01.2002
180	Survey, Design and Engineering Services for Repair of Damages Caused by Earthquake on Viaducts, Overpasses and Underpasses (including Repair Design) along Anatolian Motorway between İzmit West Interchange (Km 80+680) - Gümüşova (Km 182+613) / Section 1: between İzmit West Interchange (Km 80+680) - İzmit East Interchange (Km 100+000)	General Directorate of Highways, 1st Division Directorate / Mega Structure Construction and Trade Co. Ltd.	Kocaeli / Turkey	08.2000	01.2002
181	Construction Supervision and Consultancy Services for 8 Groups, 29 no. Bridges having a total length of 1428 m Located in 4 Cities (Kastamonu, Zonguldak, Bartın and Karabük) in Western Black Sea Region within the Scope of Turkey Emergency Flood and Earthquake Recovery (TEFER) Project, financed by International Bank for Reconstruction and Development (World Bank)	Rural Works 13rd Division Directorate (With World Bank Credit)	Kastamonu, Karabük, Zonguldak, Bartın / Turkey	06.2000	12.2001
182	Survey, Design and Engineering Services for Gaziosmanpaşa District Interchange and Bridge Project of İstanbul Greater Municipality	Greater Municipality of İstanbul / İsfalt Co.	İstanbul / Turkey	06.2000	12.2000
183	Survey and Design Services for Mihraplı Additional Bridge and Connection Roads of Bursa Greater Municipality	Greater Municipality of Bursa	Bursa / Turkey	06.2000	03.2001
184	Survey, Design and Engineering Services for Construction Works of İstanbul Light Rail Transportation System Extension from Yenibosna to Atatürk Airport	Greater Municipality of İstanbul / Gülermak-Yertaş Joint Venture	İstanbul / Turkey	01.2000	07.2001
185	Preparation of Repair and Strengthening Application Design for Tollgate Structures Damaged during August 17, 1999 Earthquake	General Directorate of Highways, 17th Division Directorate	İstanbul / Turkey	01.2000	04.2000
186	Survey, Design and Engineering Services for New Arifiye Overpass Bridge and Road Construction Works on Anatolian Motorway (Km 127+401.9)	General Directorate of Highways, 1st Division Directorate / Gülsan Construction Co.	Sakarya / Turkey	09.1999	05.2001
187	Survey, Design and Engineering Services for Interchange Arrangement in Sincan, Atatürk Street - Polatlı Street	Greater Municipality of Ankara / Metropol Reconstruction Co.	Ankara / Turkey	04.1999	10.1999

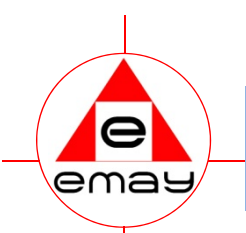


EMAY INTERNATIONAL ENGINEERING AND CONSULTANCY INC.

No.	Name of Work	Name of Client / Employer	Place of Work	Commencement Date of Work	Completion Date of Work
188	Survey, Design and Engineering Services for Sinop-Boyabat Highway, Gökırmak River Crossing, Gökırmak Bridge	General Directorate of Highways, 7th Division Directorate	Sinop / Turkey	01.1999	04.1999
189	Survey, Design, Engineering, Construction Supervision and Consultancy Services for Devrek-Eski Ereğli Road Bridge of Devrek Municipality	Municipality of Devrek, Zonguldak	Zonguldak / Turkey	10.1998	03.2000
190	Survey, Design and Engineering Services for Demirhan - Lefkoşe Junction - Girne Junction - Esentepe - Geçitkale Highway in Turkish Republic of Northern Cyprus	General Directorate of Highways	Cyprus / Turkish Republic of Northern Cyprus	06.1998	05.2000
191	Survey, Design and Engineering Services for Durağan - Saraydüzü Highway	General Directorate of Highways	Sinop / Turkey	03.1998	03.2002
192	Survey, Design and Engineering Services for İskilip Bridge at Obruk Dam Lake, Kızılırmak Crossing Km 0+833.35 - 2+080.65 on Çorum-İskilip Road	General Directorate of Highways, 7th Division Directorate / Limak Construction Industry and Trade Co.	Corum / Turkey	02.1998	12.1998
193	Survey, Design and Engineering Services for Büyükyalı Road and River Infrastructure Construction Works of İstanbul Greater Municipality	Greater Municipality of İstanbul	İstanbul / Turkey	02.1998	05.1998
194	Survey, Design and Engineering Services for Ayvalı River Improvement	Greater Municipality of İstanbul	İstanbul / Turkey	02.1998	05.1998
195	Survey, Engineering and Consultancy Services for Elazığ - Mazgirt Junction, Tunceli Pülümür Junction, Uzunçayır Dam Road	General Directorate of Highways, 8th Division Directorate	Tunceli / Turkey	01.1998	04.1998
196	Survey, Design and Engineering Services for Ümraniye - Altunizade Motorway	General Directorate of Highways, 17th Division Directorate	İstanbul / Turkey	01.1998	07.1998
197	Survey, Design and Engineering Services for Rahmanlar - E-5 Connection Road, Rahmanlar Viaduct Construction Works	Greater Municipality of İstanbul	İstanbul / Turkey	01.1998	04.1998
198	Survey, Design and Engineering Services for Yeşilköy - Florya Underpasses and Interchange Arrangement Works of İstanbul Greater Municipality	Greater Municipality of İstanbul	İstanbul / Turkey	01.1998	04.1998
199	Survey, Design and Engineering Services for Eyüp - Kazımkarabekir and Fevzi Çakmak Streets Road and Common Infrastructure Construction Works, Namık Kemal Bridge Project	Greater Municipality of İstanbul	İstanbul / Turkey	01.1998	04.1998
200	Survey, Design and Engineering Services for Various Main Road - Road - Square Arrangement - Rainwater and Missing Infrastructure Construction Works on Anatolian Side, Kemiklidere Bridge near Tuzla-Pendik Shipyard	Greater Municipality of İstanbul	İstanbul / Turkey	01.1998	04.1998
201	Design of Various Engineering Structures at Gaziosmanpaşa Interchange	General Directorate of Highways, 17th Division Directorate	İstanbul / Turkey	01.1998	04.1998



**DETAILED DESCRIPTION OF SELECTED
ARCHITECTURAL AND ENGINEERING
DESIGN (PROJECT PLANNING AND
PREPARATION SERVICES)
REFERENCES**



Survey, Engineering and Consultancy Services of North Marmara (Including 3rd. Bosphorus Bridge) Motorway Project – Pasakoy (Including 3rd. Bosphorus Bridge) Section

Description of The Work:

North Marmara Motorway (Including 3. Bosphorus Bridge) Project Odayeri - Paşaköy Section consists of 60 km motorway with 2x4 lanes, 55 km connection road with 2x3 and 2x4 lanes, 45 km service road, displacement of infrastructure along the alignment, interchanges, interchange legs, bridges, underpasses, overpasses, tunnels, viaducts, retaining walls and drainage systems including but not limited small and large structures and various service roads.

Client:

General Directorate of Highways

Duration of The Project:

November 2012 – November 2015 (36 months)



Within the project , the below services were provided by EMAY:

- Evaluation and Compilation of Information for the existing conditions,
- Corridor Survey,
- Preparation of Geological, Geotechnical Reports,
- Preparation of Superstructure's Report and Survey,
- Preparation of Motorway and Drainage Project of 60 km length (2x4 lanes),
- Preparation of connection roads and drainage project
- Preparation of 45 km link road final project
- Design of 116 Bridges (Total length 7038 m)
- Design of 37 viaducts (Total length 25495 m)
- Design of 16 Interchange on motorway (Istoc; Ikitelli; Basaksehir Center; Basaksehir; Fenertepe; Isiklar; Odayeri; Uskumrukoy; Riva-Kavacik; Pasamandira; Resadiye; Cavusbasi; Camlik; Alemdag; Pasakoy; Sancaktepe.
- Design of retaining walls,
- Design of culverts,
- Design of 2x4 lanes twin tube tunnels (total length 2065 m)
- Tunnel Electrical and Electromechanical Projects,
- Supply of Map,
- Preparation of expropriation plans,
- Preparation of Topographical maps,
- Traffic projects,
- Guardrail and fence projects,
- Landscape projects,
- Displacement of infrastructure projects.
- Toll area projects (3rd bosphorus bridge)
- Design of toll area at motorway exit and entrance.



Survey, Design and Engineering Services for Anatolian Motorway, Gümüşova - Gerede Section Construction Works, 2D Phase Asarsuyu Valley

Description of The Work:

Survey, design and engineering services for Anadolu Motorway, Gümüşova – Gerede Motorway Construction Project (section2C and 2D Asarsuyu valley) within the scope of Sakarya – Hendek - Bolu – Ankara Motorway, Bolu Dağı Crossing (Section II) located within Gümüşova – Gerede Section Construction Project, including the following items;

- Prior to earthquake (Part I) : Motorway and viaducts
- Following to earthquake (Part II) : Motorway, forest road, viaduct, concrete structures, stream improvement, hydraulic structures and various small engineering structures.



Within the project , the below services were provided by EMAY:

➤ Survey, Design and Engineering Services (Part I) for Anadolu Motorway, Gümüşova – Gerede Motorway Construction Project (section2C and 2D Asarsuyu valley) including the following items; Prior to earthquake;

- Design for 2x3 lanes motorway 6576 m. long
- Design for viaduct 2 of 2999 m. average length, the maximum pier height being 44,70 m. (104948 m²), 2x3 lanes



➤ Survey, Design and Engineering Services (Part II) for Anadolu Motorway, Gümüşova – Gerede Motorway Construction Project (section2C and 2D Asarsuyu valley) including the following items; Following to earthquake;

- Design for 2x3 lanes motorway 6576 m. long
- Final Design for viaduct 4 of 686 m. average length, the maximum pier height 22,80 m. (24010 m²), 2X3 lanes
- Design for reinforced concrete structures (BC1 and BC2) buried under 30m. fill, with 8X10 m. Section and length of 232 m. 491 m.
- Design for forest road 4 km. long
- Design for Asarsuyu Riverbed improvement and for hydraulic structures
- Design of various small Engineering Structures

Client:

General Directorate of Highways, 4th Division Directorate

Duration of The Project:

November 2000 – December 2007 (87 months)



Survey, Design and Engineering Services for Yalova- İzmit Motorway (Including Connection Roads)

Description of The Work:

Highways and railways passing through the city; this causes major traffic problems due to the geographical conditions of the region. Kocaeli will get rid of traffic load by the completion of the bridge of the İzmit Gulf and will prevent air pollution. Yalova - Karamürsel - İzmit - İzmit highway is too congested and high accident risk busy road. There are many industrial area in this region. Industrial areas should be connected to D100, Dilovası-İzmir Motorway and 3rd motorway. Existing İzmit-Yalova D130 highway is not capable to carry the existing traffic load. Thus, 64 km long Yalova- İzmit Motorway is planned.



Within the project , the below services were provided by EMAY:

- Feasibility Study,
- Environmental Impact Assessment Report
- Topographical Maps
- Geological – Geotechnical Studies,
- Geological – Geotechnical Reports,
- Superstructure Design Report,
- Alignment Alternative Studies,
- Large and Small Structures Engineering Studies,
- Tunnel Survey and Design Engineering Studies,
- Final Design Studies,

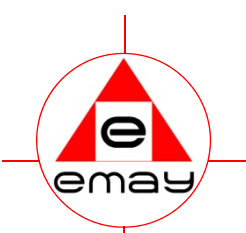
Client:

General Directorate of Highways

Duration of The Project:

April 2013 – March 2015 (23 months)





Survey, Design and Engineering Services for Km:158+799.790- Km:177+664.477 Section and (Anamur- Kaledran) Km:230+500.000-Km:248+826.464 of Erdemli - Silifke - Tasucu-13th Division Border Road

Description of The Work:

Rural Section:

The width of lane: 3.50 m; the width of shoulder: 2.50 m
The width of inner shoulder; 1.0 m
The width of median: variable, max. 14 m.

Urban Area:

The width of lane: 3.50 m; the width of shoulder: 2.50 m
The width of inner shoulder; 1.0 m
The width of median: 4.0 m.
Sidewalk width: 2.0 m.

Number of Tunnels: 13
Number of Viaduct: (South): 16
Number of Viaduct: (North): 16



Within the project , the below services were provided by EMAY:

- Soil Investigations & Drilling Studies and Laboratory Tests
- Hydraulics and Hydrological
- Preliminary Design of Highway, Interchanges, Interchange legs
- Final Design of Highway, Interchanges, Interchange legs.
- Preliminary and Final Design of Highway, Interchanges, Interchange legs.
- Preliminary and Final Design of Tunnels.
- Preliminary and Final Design of Overpass, Underpass, Culverts, Shoring / Retaining Walls.
- Geotechnical Design for Cut Areas.
- Preparation of BOQ

Client:

General Directorate of Highways

Duration of The Project:

October 2012 – December 2013 (14 months)

Description of The Work:

Privatization of the following works are in the scope of the project;

1. Edirne-İstanbul-Ankara Motorway: 836 km
2. Fatih Sultan Mehmet Bridge and Ring Motorway : 35 km
3. Bosphorous Bridge : 6 km
4. Pozantı – Tarsus – Mersin Motorway : 275 km
5. Tarsus – Adana - Gaziantep Motorway : 273 km
6. Toprakkale - Iskenderun Motorway : 96 km
7. Gaziantep - Şanlıurfa Motorway : 192 km
8. İzmir - Çeşme Motorway : 89 km
9. İzmir - Aydın Motorway : 173 km



Client:

General Directorate of Highways

Duration of The Project:

February 2012 – June 2012 (4 months)



Within the project , the below services were provided by EMAY:

- Review of the relevant aspects of the tender documents
- Documentation about physical, technical and operational conditions of motorways
- Existing pavement conditions
- MSA calculation for each homogeneous road/bridges stretch
- Residual life of pavement
- Proposal of pavement maintenance cycles structural and functional
- Major highway structures (viaducts and major bridges): assessed seismicity & seismic hazards, pavement condition and major structural problems / deficiencies
- Costs for immediate repairs and equipment requirements of tunnels. Long-term structural deficiencies
- Connecting roads and highways
- Central and regional operational and maintenance centers
- Motorways maintenance costs
 - ✓Bridges toll plazas
 - ✓Bridges toll collection systems
 - ✓Operating and maintenance centers
 - ✓Landscaping, park and rest areas
- Establish a rough inventory
- Preliminary maintenance plan
- Preliminary report including tender review, assets review and rough inventory
- Provide typical degradation curves
- Preparation of risk & opportunity register
- Preparation of heavy maintenance plan
- OPEX and CAPEX estimation
- Build a unit prices table / bill of quantities according to official KGM Unit Prices List
- Final report



Traffic Circulation and Geometrical Arrangements Application Project Throughout İstanbul

Description of The Work:

Metrobus Project which is planned to improve the public transport system in İstanbul. In scope of the project, the main arterial route D-100 are increased of lanes number, as transit road – side road route. Transit traffic is relieved at the intersection by diverting entrance – exit locations and passenger traffic points on the side way.

Project was completed in 4 stages, the first stage was opened between Topkapı - Avcılar route (18 km), second stage was added 10.5 km Topkapı - Zincirlikuyu route. Through Bosphorus Bridge Crossing of Zincirlikuyu - Söğütlüçeşme stage (10.5 km) will serve to all of the İstanbul. The system will carrying 600.000 pcs. passenger in a day.

Between Avcılar – Beylikdüzü (Tüyap) route (10 km) started to construction and planned to operating as soon as possible.

49 km Metrobus system (Wheel Mass Transportation System)

- 49 km D-100 and side road arrangement
- 70 pcs., 39.890 m² bridge
- 7 pcs., 10.079 m² pedestrian underpass/overpass
- 44 pcs. metrobus station
- 30 pcs. junction arrangement (Hadımköy, Bizimkent, Beylikdüzü, Yakuplu, Haramidere, Kuruçeşme (Reşitpaşa Street), Vatan Hastanesi, Küçükçekmece, Florya, Sefaköy, Çobançeşme, Yenibosna, Ataköy, İncirli, Adliye, Merter-2, Merter-1, Ambarlar, Bayrampaşa, Edirnekapı, Ayvansaray, Halıcıoğlu, Okmeydanı, Çağlayan, Mecidiyeköy, Zincirlikuyu, Beylerbeyi, Altunizade, Uzunçayır, Söğütlüçeşme)



Within the project , the below services were provided by EMAY:



- Preparation of 30,44 km topographical map
- Preparation of 30,44 km expropriation corridor and expropriation plans
- Preparation of 49,00 km wheel mass transportation system projects
- Preparation of 49,16 km road application projects
- Preparation of 49,16 km drainage projects
- Preparation of 60.048,00 m² bridge projects
 - ✓ 1 pcs bridge (L=193,5 m, 9 spans)
 - ✓ 1 pcs bridge (L=201 m, 9 spans)
 - ✓ 1 pcs bridge (L=443,5 m, 27 spans)
 - ✓ Underpass and overpass projects in various size
- Preparation of 62.010 m² retaining wall projects
- Preparation of 30,44 km soil investigations



Client:

Greater Municipality of İstanbul

Duration of The Project:

August 2007 – September 2010 (38 months)



Survey, Design, Construction Supervision and Consultancy Services for Metrobus (BRT) System Throughout İstanbul

Description of The Work:

Metrobus Project which is planned to improve the public transport system in İstanbul. In scope of the project, the main arterial route D-100 are increased of lanes number, as transit road – side road route. Transit traffic is relieved at the intersection by diverting entrance – exit locations and passenger traffic points on the side way.

First step, 42 km Metrobus route has opened between Avcılar – Söğütlüçeşme. Subsequently the project is extension of Beylikdüzü (TÜYAP) side. Present Avcılar – Söğütlüçeşme route is carrying 600,000 pcs. passenger in a day. Through Beylikdüzü route will carrying 800,000 pcs. passenger in a day.

It is made of 15000m² square at the area of Beylikduzu Municipality which is separating Beylikdüzü – Esenyurt municipalities by underlaying D-100 Highway.

In this Project, our company also provide consulting services with supervision team of eight people.

In this project, Taksim Square transportation projects has prepared by our company. With this project Taksim Square have been 100.000 m² pedestrian zone. It will be provided the continous access for pedestrian at Taksim Monument, Gezi Park and Hotels Area by underlaying the vehicles by means of underpasses at Taksim Square.

10,2 km Metrobus system (Wheel Mass Transportation System)

- 10,2 km D-100 and side road arrangement
- 20 pcs., 22.187 m² bridge
- 12 pcs., 3.079 m² pedestrian overpass
- 12 pcs. Metrobus station
- 5 pcs. Junction arrangement (Hadımköy, Bizimkent, Beylikdüzü, Yakuplu, Haramidere)



Within the project , the below services were provided by EMAY:

- Preparation of 10,2 km topographical map
- Preparation of 10,2 km expropriation corridor and expropriation plans
- Preparation of 10,2 km wheel mass transportation system projects
- Preparation of 10,2 km road application projects
- Preparation of 10,2 km drainage projects
- Preparation of 22.187 m² bridge projects
- Preparation of 25.666 m² retaining wall projects
- Preparation of 10,2 km soil investigations
- Control and consultancy services of 10,2 km route

Client:

Greater Municipality of İstanbul

Duration of The Project:

September 2010 – August 2013 (35 months)



Description of The Work:

North and south junction roads of Çağlayan Bridge Intechange is being built as part of Construction between Mecidiyeköy-Çağlayan Intersection.

The following works are in the scope of the project;

- 8.2 km road,
- Public square and landscaping arrangement,
- 7 pcs. bridge ,
- Retaining wall.



Within the project , the below services were provided by EMAY:



- Preparation of 8.2 km road application projects
- Preparation of 42.000 m² public square and landscaping arrangement application projects
- Preparation of all types of field surveys (including map and ground surveys)
- Preparation of traffic counts and surveys
- Preparation of traffic simulation according to traffic counts
- Preparation of route plan and profile projects relating to traffic and pedestrian way
- Preparation of bridge application projects (7 pcs. total area 27.814m²)
- Preparation of 11.738,14 m² retaining wall application projects
- Preparation of Electro-Mechanical projects (not limited to lighting, ventilation, fire, escalators, etc.)
- Preparation of application projects for drainage system
- Preparation of traffic circulation projects for roads which is displaced, during the construction works
- Preparation of expropriation and modification of zoning plan projects



Client:

General Directorate of Highways, 1st Division Directorate

Duration of The Project:

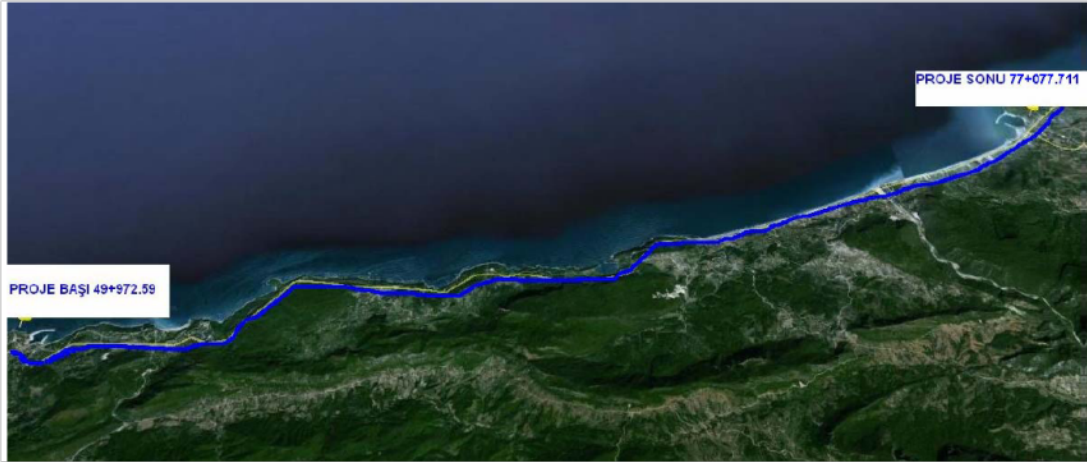
October 2010 – July 2011 (10 months)

Description of The Work:

Horizontal and vertical geometry standard is not sufficient between Kurucaşile – Cide which is connecting Zonguldak – Bartın - Sinop provinces and which is part of Black Sea Coast road. Community has spent more time on the road which is poor standard condition. The road will be faster and safer after improving the geometric standards of road. Amasra, Kurucasile, Cide residential areas are touristic places, after improving the geometric standards of road, tourism will develop. The economic and social development of the region will be provided.

Under scope of 27.11 km length Kurucaşile – Cide Road project;

- 1 pcs. Bridge
- 7 pcs. Interchanges
- 35 pcs. shoring systems or 4 pcs. R.C. retaining wall, 3 pcs. Reinforced geogrid wall and 62 pcs. small structures



Within the project , the below services were provided by EMAY:

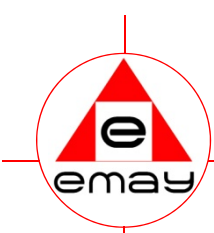
- Preparation of 27.1 km length State Road (Class 1)
- Preparation of 450 m² bridge project
- Preparation of 7 pcs. Grade Crossing Interchange projects
- Preparation of Geological-Geotechnical Investigation Survey and Design Report
- Preparation of Geotechnical Investigation Report
- Preparation of Superstructure Report
- Preparation of 27.1 km Highway Alignment Traffic Project
- Preparation of 3198 m length shoring system or retaining wall, 282 m length 4 pcs. Reinforced Concrete walls, 210 m length reinforced geogrid wall and various types small structures projects
- Preparation of Quantities

Client:

General Directorate of Highways

Duration of The Project:

October 2009 – December 2010 (15 months)



Survey, Design and Engineering Services for Highway between Refahiye- Erzincan Junction-Kelkit

Description of The Work:

(Refahiye-Erzincan) Junction-Kelkit Road connects Black Sea coastal road to the Anatolia. Traffic safety and high transport speed will be provided by converting to the divided highway which is connecting Trabzon - Gümüşhane - Erzincan provinces in the shortest path.

Under scope of 27,4 km length Refahiye – Erzincan Junction – Kelkit Road project;

- 6 pcs. Bridges
- 13 pcs. Interchanges
- 29 pcs. shoring systems or R.C. retaining wall, Reinforced geogrid wall and 111 pcs. small structures



Within the project , the below services were provided by EMAY:

- Preparation of 27.4 km length of dual carriageway
- Preparation of total 1100 m² bridge projects
- Preparation of 1 pcs. Steel Pedestrian Overpass project
- Preparation of 13 pcs. Grade Crossing Interchange projects
- Preparation of Geological-Geotechnical Investigation Survey and Design Report
- Preparation of Geotechnical Investigation Report
- Preparation of Superstructure Report
- Preparation of 27.4 km Highway Alignment Traffic Project
- Preparation of 4334 length shoring system or retaining wall, 150 m reinforced concrete wall, 110 m length reinforced geogrid wall, various types small structure projects
- Preparation of Quantities

Client:

General Directorate of Highways

Duration of The Project:

January 2010 – November 2011 (22 months)

Description of The Work:

Kırkağaç – Gelenbe Provincial road is the shortest road which is connecting Bergama – Kınık – Soma – Kırkağaç residential districts to Balıkesir – Bursa – İstanbul – İzmit Provinces.

The existing road has inadequate geometric and physical standards. Community has spent more time on the road which is poor standard condition. The road will be faster and safer after improving the geometric standards of road.

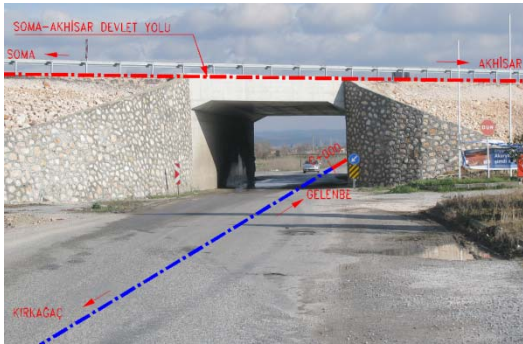
Under scope of 19 km length Kırkağaç – Gelenbe road.

- 3 pcs. Bridges
- 2 pcs. Interchanges
- 5 pcs. shoring systems or retaining wall and 35 pcs. small structures



Within the project , the below services were provided by EMAY:

- Preparation of 18,6 km province road project
- Preparation of total 921 m² bridge projects
- Preparation of 2 pcs. Grade Crossing Interchange projects
- Preparation of Geological-Geotechnical Investigation Survey and Design Report
- Preparation of Geotechnical Investigation Report
- Preparation of Superstructure Report
- Preparation of 18,6 km Highway Alignment Traffic Project
- Preparation of 710 m length retaining wall projects
- Preparation of 710 m length shoring system or retaining wall and various types small structure projects
- Preparation of Quantities

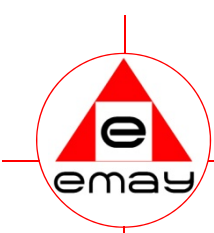


Client:

General Directorate of Highways

Duration of The Project:

January 2010 – November 2011 (23 months)



Survey, Design and Engineering Services for Highway between (Kestel-Yenişehir) Junction-(Gemlik-İzник) Junction

Description of The Work:

(Kestel - Yenişehir) Junction - (Gemlik - İzник) Junction provincial road is an alternative road which can be used between Bursa, Bilecik and Yalova provinces; is an road that will be Access road for local traffic to the provinces

The existing road has inadequate geometric and physical standards. Community has spent more time on the road which is poor standard condition. The road will be faster and safer after improving the geometric standards of road. İzник and Gemlik regions are both tourism and olive trees areas. After construction of this highway, it will be easier to reach residential districts.

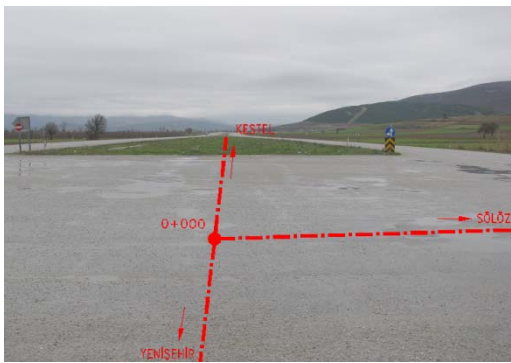
Under scope of 20 km length (Kestel – Yenişehir) Sep. – (Gemlik – İzник) Junction Provincial road.

- 10 pcs. bridges
- 2 pcs. interchanges
- 29 pcs. shoring systems or retaining wall (Gabion wall), Reinforced geogrid wall and 53 pcs. small structures



Within the project , the below services were provided by EMAY:

- Preparation 19,8 km province road project
- Preparation of total 2686 m² bridge.
- Preparation of 2 pcs. Grade Crossing Interchanges
- Preparation of Geological-Geotechnical Investigation Survey and Design Report
- Preparation of Geotechnical Investigation Report
- Preparation of Superstructure Report
- Preparation of 19,8 km Highway Alignment Traffic Project
- Preparation of 19,8 km soil investigation services
- Preparation of 19,8 km drainage project
- Preparation of 3014 m retaining wall projects
- Preparation of 1644 m length shoring system or retaining wall (gabion), 370 m length reinforced geogrid wall, various types small structure projects
- Preparation of Quantities



Client:

General Directorate of Highways

Duration of The Project:

January 2010 – May 2011 (17 months)



Survey, Design and Engineering Services for Hasdal Junction-Kemberburgaz-Yassıören Highway Construction Works

Description of The Work:

Hasdal Junction-Kemberburgaz-Yassıören Highway Construction Work including the following works:

- 33,83 km Road and interchange
- Bridge & viaduct , underpass / overpass bridges
- Hasdal Junction TEM Crossing Tunnel
- Hydraulic Structures

Hasdal Junction TEM Crossing Tunnel was built in scope of the project. With the tunnel aimed to eliminate the traffic problem. Hasdal Junction TEM Crossing Tunnel is constructed by the principles of the New Austrian Tunneling Method. The tunnel have been large span and shallow tunnel. The Project has include 14 junctions in all 5 roundabouts with 3 legs, 4 roundabouts with 4 exits, 4 diamond type of interchanges and 1 trumpet type of intersection.

Client:

General Directorate of Highways, 1st Division Directorate

Duration of The Project:

June 2006 – December 2012 (80 months)



Within the project , the below services were provided by EMAY:

- Preparation of 33.830,94 km 2x2 lanes road and drainage application projects
- Preparation of 10.674,00 km 2x1 road application projects
- Preparation of 15.656,64 m intersection branch application projects
- Preparation of 17 pcs. bridge application projects (total 16.978,38 m²)
 - ✓K4 Branch Overpass Bridge (8 spans, L=250m, width 13,0m, pier height: 25m)
 - ✓Y3 Road Overpass Bridge (2 spans, L=61,20 m, width 13,0m)
 - ✓K17 Branch TEM Motorway Overpass Bridge (4 spans, L=129,35 m, width 13,0m, pier height: 14,70m))
 - ✓K17 Branch Underpass Bridge (one span, L=24,70 m, width 25,17m)
 - ✓K1 Branch Overpass Bridge (2 spans, L=42 m)
 - ✓K19 Branch TEM Motorway Underpass Bridge (2 spans, L=29,02 m, width 44,52m)
 - ✓Y4 Road Underpass Bridge (one span, L=14,60 m, width 40,96m)
 - ✓A Branch Viaduct (Seyrantepe) (18 spans, L=564,60 m, width 16,50m, pier height: 32,0m)
 - ✓K18 Underpass Bridge (Hasdal) (one span, L=15,85 m, width 33,10m)
 - ✓A Branch Underpass Bridge (Seyrantepe) (one span, L=37,50 m, width 10,70m)
 - ✓İstaç Interchange Underpass Bridge Km:30+055 (one span, L=13,80 m, width 25,0m)
 - ✓Akpınar Junction Underpass Bridge (one span, L=15,30 m, width 25,20m)
 - ✓Göktürk Junction Overpass Bridge (2 spans, L=36,78 m, width 18,0m)
 - ✓Germe Interchange Underpass Bridge (one span, L=13,80 m, width 25,87m)
 - ✓Arnavutköy Overpass Bridge (2 spans, L=60,7 m, width 11,0m)
 - ✓Kemberburgaz Junction Interchange Underpass Bridge (one span, L=19,80m, width 32,20m)
 - ✓Göktürk Bridge (4 spans, L= 101,0m, width 22,0m, pier height: 20,0m)
- Preparation of Seyrantepe Pedestrian Overpass Bridge (steel structure, L=115,4m) application projects
- Preparation of 14 pcs. interchange application projects (İstaç Interchange, Ağaçlı Interchange, Akpınar Interchange, Göktürk Interchange, Germe Interchange, Soğuksu Interchange, Arnavutköy Interchange, İmrahor Interchange, Arabacıkonağı Interchange, İski Interchange, K1 Yassıören Junction Interchange, K2 Durusu Interchange, K3 Balaban Interchange, K4 Boyalık Interchange)
- Preparation of retaining walls projects (total 52.586,70 m²)
- Preparation of culvert projects (total 7546,84 m²)
- Preparation of Hasdal Junction TEM Crossing Tunnel application projects



Survey, Design and Engineering Services for Beyciler - Çerkezköy Connection Road Construction Works

Description of The Work:

Beyciler - Çerkezköy Connection Road provided Çerkezköy District connection with TEM. "Survey, Design and Engineering Services for Beyciler - Çerkezköy Connection Road Construction Works" includes 2x2 lanes motorway and bridges.



Within the project , the below services were provided by EMAY:

- Preparation of 21,3 km 2x2 motorway application projects
- Preparation of Total 14.473 m² bridge application projects
 - ✓DDY Overpass Bridge (15 span, L=372 m, width 27.0m)
 - ✓Km: 2+682.502 River Bridge (L=18 m, width 27.0m)
 - ✓Km: 4+797 Underpass Bridge (Single span, L=16 m, width 28.2m)
 - ✓Km: 4+747.50 River Bridge (L=22 m, width 28.2m)
 - ✓Km: 3+361.244 Overpass Bridge (L=35 m, width 24.0m)
 - ✓Km: 0+632.200 River Bridge (L=22 m, width 23.6m)
 - ✓Organized Industrial Interchange Km: 2+930.865 Overpass Bridge (L=78 m, width 19.2m)

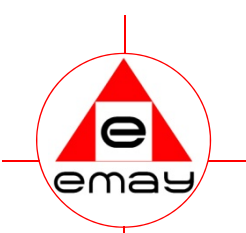


Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

March 1995 – December 2003 (107 months)



Survey, Design and Engineering Services for Çorlu Elevated Interchange (TEM) - Çorlu Connection Road Km 0+000 - 7+500 (including Çorlu Ring Road Km 99+100-109+143) Construction Works

Description of The Work:

Çorlu Elevated Interchange (TEM) - Çorlu Connection Road Km 0+000 - 7+500 (including Çorlu Ring Road Km 99+100-109+143) Construction Works includes the following works;

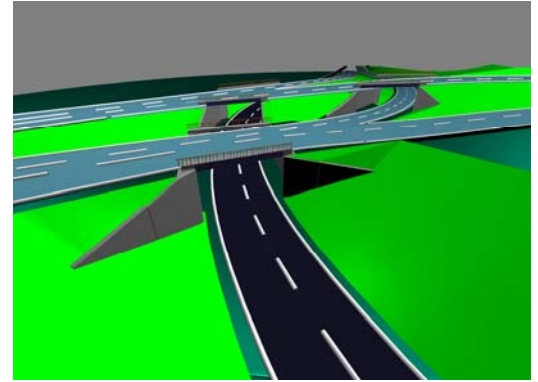
- 2x2 motorway
- Side road
- Underpass/Overpass Bridges
- River Bridges
- Elevated Bridges
- Junctions
- Retaining Walls

Client:

General Directorate of Highways, 17th Division Directorate

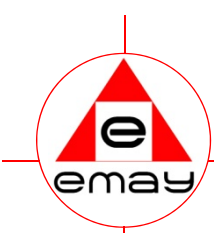
Duration of The Project:

April 1998 – May 2008 (124 months)



Within the project , the below services were provided by EMAY:

- Preparation of 42,1 km 2x2 motorway application projects
- Preparation of 7,4 km side road application projects
- Preparation of 6 km junction branch projects
- Preparation of total 32.703,52 m² bridge application projects
 - ✓ Km:100+195.000 Overpass Bridge (L=69 m, width 10.0m)
 - ✓ Km:100+858.308 Overpass Bridge (L=69 m, width 10.0m)
 - ✓ Km:102+894.919 Overpass Bridge (L=74 m, width 16.5m)
 - ✓ Km:107+670.000 Overpass Bridge (L=69 m, width 10.0m)
 - ✓ Çorlu River Bridge (L=139.15 m, width 23.8m)
 - ✓ DDY- Overpass Bridge (L=49 m, width 24.2m)
 - ✓ Km:102+029.183 Underpass Bridge (L=17.35 m, width 24.0m)
 - ✓ Km:104+839.580 Underpass Bridge (L=18 m, width 24.0m)
 - ✓ Km:103+704.415 Elevated Interchange (L=73.2 m, width 34.0m)
 - ✓ Km:103+631.599 River Crossing and Improvement (L=24.25 m, width 42.7m)
 - ✓ G Branch Crossing of Km:103+631.599 River Crossing and Improvement (L=26 m, width 118.2m)
 - ✓ E Branch Crossing of Km:103+631.599 River Crossing and Improvement (L=22.5 m, width 16.0m)
 - ✓ F-H Branch Crossing of Km:103+631.599 River Crossing and Improvement (L=25 m, width 39.4m)
 - ✓ Km:0+735.651 Overpass Bridge (L=121.531 m, width 35.0m)
 - ✓ Km:101+335.660 Overpass Bridge (L=78.3 m, width 12.0m)
 - ✓ Km:106+594.056 Underpass Bridge (L=15.3 m, width 25.0m)
 - ✓ A-B Bridge of Km.99+502.117 Junction (L=77 m, width 22.0m)
 - ✓ Marmaracık River Bridge (L=62.6 m, width 25.0m)
 - ✓ A-B Branch Km:0+158.332 Underpass Bridge (L=17.34 m, width 20.0m)
 - ✓ I-J Branch Km:0+289.429 Underpass Bridge (L=25.32 m, width 24.5m)
 - ✓ G-H Branch Km:0+199.741 Overpass Bridge (L=21 m, width 21.2m)
 - ✓ Connection Road Km:0+235.548 Underpass Bridge (L=21 m, width 29.0m)
 - ✓ Connection Road Km:0+442.895 Underpass Bridge (L=20.95 m, width 29.0m)
 - ✓ Km:0+503.961 Marmaracık Junction Bridge (L=70.6 m, width 29.0m)
 - ✓ Km:98+095.200 Pedestrian Overpass Bridge (L=41.24 m, width 3.4m)
 - ✓ 4 pcs. Derivation Bridge
- Preparation of 6 pcs. junction application projects



Survey, Design and Engineering Services for Kavacık - Beykoz Highway Construction Works

Description of The Work:

Kavacık-Beykoz Highway Construction Works includes 2x2 lanes motorway, 2x1 junction roads, retaining walls, viaduct & bridge works and defined the following repair and seismic retrofit works of four viaducts in Istanbul.

- Aydemir Canefe Viaduct (V1)
- Necmettin Özer Viaduct (V2)
- Fehmi Akbostancı Viaduct (V3)
- Ziya Çakmak Viaduct (V4)



Within the project , the below services were provided by EMAY:

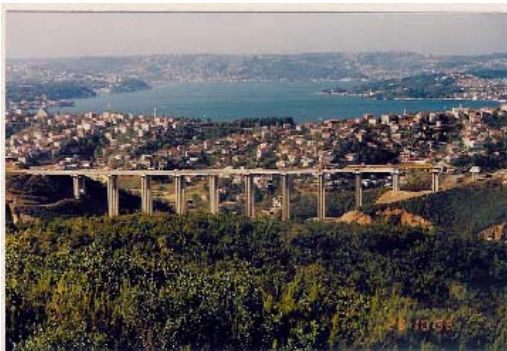
- Preparation of 7,1 km 2x2 motorway application projects
- Preparation of bridge application projects
 - ✓KM. 3+293.905 Overpass Bridge Project (single span, L=30.7m, width 12m)
 - ✓Between KM. 5+430.000 – 6+072.000 V4 Viaduct Project
 - ✓Rüzgarlıbahçe Interchange and Bridge Project (single span, L=25m,width 15.3m)
 - ✓ ϕ 80 cm and ϕ 120 cm piled walls near the P10 pier of the V4 Viaduct
 - ✓Kavacık Interchange Bridge Expansion
 - ✓E-F Road Pedestrian Overpass Bridge (single span,90 cm slab, width 17.5m, L=13.5m)
 - ✓Rüzgarlıbahçe Pedestrian Bridge (single span,L=30.69m,width 3.5m)
 - ✓KM. 6+766.618 Overpass Bridge Project (6 spans, L=115m, width 12m)
 - ✓KM. 1+719.859 Overpass Bridge Preliminary Design (4 spans, L=86m, width 11.5m)
- Preparation of ϕ 100 cm and ϕ 120 cm 2560,5 m² piled walls projects
- Preparation of 2051,5 m² Conventional retaining walls projects
- Preparation of repair and seismic retrofit projects

Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

January1998 – December 2007 (122 months)





Survey, Design and Engineering Services for Bursa - Eskişehir (between İnegöl - Bozüyük) State Highway (2x2 dual)

Description of The Work:

E-90 (D-200) Highway is one of the important highways in Turkey that connects South Marmara Region to North Eagean Region. E-90 Highway also connects big cities like Bursa Eskişehir, Ankara and moreover it is a crucial point that ties historical and tourist areas to Eskişehir, Ankara and other Eastern cities. E-90 highway and İstanbul – Antalya Highway crosses at Bozüyük location, which is the reason of high traffic jam at Bozüyük.

The current road passes İnegöl Plateau and enters to Mezit valley. Mezit Valley is a steep and narrow valley, which has a average length of 27 km. The width of the valley, on the other hand, is usually wide enough for the river and the highway.

During design phases, the important points taken into consideration are economy, the protection of environment and the easiness of the construction. In the preliminary studies, different kind of river rehabilitation, bridges and tunnel works alternatives are presented. However, doubling the current road is found as the most economic solution among the three alternatives. The route enters to Mezit Valley (Km. 13+000) after passing through İnegöl Valley and after moves ahead 27 km long to the valley cease at Bozuyük peripheral highway (Km. 53+665).



Within the project , the below services were provided by EMAY:

- Preparation of 53,40 km. topographical survey of scale 1/1000
- Preparation of 49,20 km. Expropriation Engineering Services
- Preparation of 77,75 km. road projects
- Preparation of 6758 m² bridge projects
- Preparation of 52,80 km. hydraulic and hydrological projects
- Preparation of 52,80 km. soil exploration engineering services

Client:

General Directorate of Highways, 14th Division Directorate

Duration of The Project:

May 2001 – February 2005 (45 months)





Survey, Design and Engineering Services for Afyon - Uşak (Antalya Junction - 2nd Division Border) (2x2 Dual) Highway

Description of The Work:

Afyon - Uşak (Antalya Junction - 2nd Division Border) State Road includes two sections;

1. Section is beginning Km 12+050.00 and ending the direction of Afyon lead in the Düzağaç. The project is not include Düzağaç crossing, because this crossing constructed before dual carriageway.
2. Section is beginning KM:19+325.00 and through the direction of Afyon and ending KM:38+200.00 in Antalya intersection.

Afyon - Uşak (Antalya Junction - 2nd Division Border) State Road is located Middle Aegean Region. On the country road network is characterized by D-300.

D-300 Highway is between Afyon-İzmir section of Ankara-Afyon-Uşak-İzmir Highway. This highway is connected Anatolia Region to Aegean region. İzmir is the largest city in the Aegean region. This road provided transportation İzmir and around the İzmir to cities in the northern Aegean, southern Marmara and western Mediterranean regions. This road connected historic and tourist sites to Afyon, Konya and Ankara cities in West Aegean region.



Within the project , the below services were provided by EMAY:

- Preparation of 25 km. topographical survey of scale 1/1000
- Preparation of 38km. expropriation engineering services
- Preparation of 37,7 km. road projects
- Preparation of 24,8 km. hydraulic and hydrological projects
- Preparation of 25 km. soil exploration engineering services

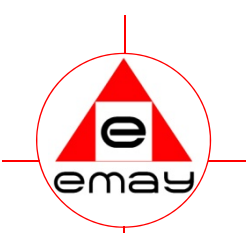
Client:

General Directorate of Highways

Duration of The Project:

March 2002 – December 2005 (46 months)





Survey, Design and Engineering Services for Dualisation of Existing State Highway and Construction of New Collector Roads on D-100 State Highway between Yarımca Tüpraş Interchange (Km 77+850) - İzmit West II Interchange (Km 87+350)

Description of The Work:

The purpose of this work is to improve the highest Standard D-100 State Highway to express road. D-100 State Highway is 2 by 3 lanes, and North - South Collection Roads is 2 by 2 lanes 10.300 m. The Project D-100 consists of five at grade intersections, Collection Roads and 2 pcs. interchanges. It is used 100 km/h as a design speed. The design speed is 50 km/h at collection roads and 30km/h at interchanges. The start of Project is Km: 77+200. Existing Diamond type of Tupras interchange is not enough for traffic. This intersection is rehabilitated by a new elliptical interchanges. It is constructed a new interchange at Döküm Anatolia by combining Residential districts and Industrial zones. There is also an interchange under the Ağaderesi Viaduct and is 1000 m far away from Anatolia Döküm interchange. The three bridges will be re-constructed due to insufficient vertical clearances and span for bilateral passing at 95 houses interchange (Km: 80+800) and Derince Port Interchange. Drainage projects are re-designed due to insufficiency of water system structures in this section. There are three main interchanges in this section. Military Hospital Interchange is constructed in 2 phases due to the need of both transportation and military hospital. It will be constructed an interchange with traffic light firstly, then elevated interchange secondly. Derince port interchange will be clover type interchange. The continuity of collection roads is provided at South. The continuity of the North collection road is not enabled because of the residential district. The widening of State Road between Derince Port Interchange (Km: 84 + 500) and İzmit West II Interchange (Km: 80 + 500) by conserving existing structures. An interchange is constructed near the Kocaeli Stadium. This intersection is 1100 m far away to Derince Port Interchange. Collection roads are connected to Express Roads by the links of slip – entrance and slip – exit types.

Within the project , the below services were provided by EMAY:



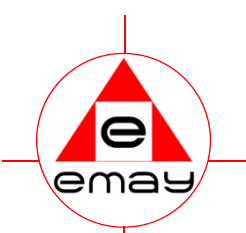
- Preparation of 10 km. 2x3 motorway and 30 km 2x1 side road application projects
- Preparation of 5 pcs elevated interchange application projects
 - ✓Tüpraş Elevated Interchange, West Overpass Bridge Project (two spans, L=17.20m)
 - ✓Tüpraş Elevated Interchange, East Overpass Bridge Project (two spans, L=17.2m)
 - ✓Tüpraş Elevated Interchange, km. 0+835.924 Underpass Bridge Project of South Connection Road
 - ✓Tüpraş Elevated Interchange, Underpass Bridge Project (One span, L=18.17m, width= 38.88m)
 - ✓95 Evler Elevated Interchange, Interchange Bridge Project (two spans, L=19.5+18.3m, width = 15.475m)
- Preparation of Tüpraş Elevated Interchange, Retaining Wall projects (Main road, South Connection Road and West Connection Road)
- Preparation of 95 Evler Elevated Interchange, Retaining Wall projects
- Preparation of Anadolu Döküm Underpass Bridge application project
- Preparation of Ağaderesi Viaduct application project

Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

August 2000 – July 2004 (47 months)



Survey, Design and Engineering Services for Highway between Salihli Junction-Alaşehir- Buldan (Aydın-Denizli) Junction (Km 22+140 - 79+500)

Description of The Work:

Highway between Salihli Junction-Alaşehir- Buldan (Aydın-Denizli) Junction which is one of the main roads connection with Mediterranean, Aegean and Marmara Regions. Traffic has increased therefore single road in present double direction will not be enough. Present road converted dual highway thereby increased traffic safety. The following works are in the scope of the project;

- 58,20 km dual carriageway
- Totally 25 pcs junction project (including 2 pcs. bridge junction and 23 pcs. grade crossing junction)
- 6 pcs. bridges for the second lane



Within the project , the below services were provided by EMAY:



- Preparation of 58,20 km final projects
- Preparation of 58,20 km traffic projects
- Preparation of 58,20 km road lighting projects
- Preparation of 58,20 km landscape projects
- Preparation of 58,20 km soil exploration engineering services
- Preparation of 4.586 m² bridge application projects

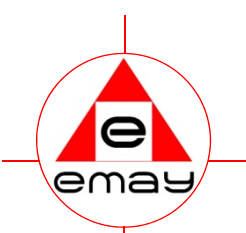
Client:

General Directorate of Highways

Duration of The Project:

August 2007 – December 2008 (17 months)





Survey, Design, Engineering, Technical Consultancy and Construction Supervision Services for İstanbul İspartakule Elevated Interchange and Connection Roads Construction Works

Description of The Work:

The scope of work for İstanbul Bahçeşehir İspartakule 1st Region 1st Part of Housing Revenue Sharing Provision Work for Survey, Design and Engineering Services; Technical Consultancy and Construction Supervision Services is given below

- 15,633 km long motorway
- Drainage System
- 6 pcs. Bridges
- 5 pcs. Underpass bridges
- Retaining Walls



Within the project , the below services were provided by EMAY:



- Preparation of preliminary and final design of 15,633 km. long motorway
- Preparation of Every kind of Soil Investigation Services
- Preparation of drainage projects of 18,933 km. long
- Preparation of 6 pcs. Bridge projects with total surface area 10.315m²
- Preparation of 5 pcs. Underpass bridge projects with total surface area 1750 m²
- Preparation of retaining wall projects with total surface area 6840 m²
- Preparation of Tender documents, Bill of Quantity and Cost Estimate and Technical Specifications for Construction

Works with

- Construction Supervision and Technical Consultancy Services

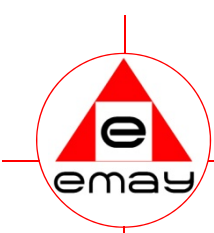
Client:

General Directorate of Highways, 17th Division Directorate and Greater Municipality of İstanbul

Duration of The Project:

May 2007 – July 2009 (26 months)





Survey, Design and Engineering Services for Black Sea Coastal Highway Project, Çarşıbaşı - Trabzon - Araklı Section Construction Works

Description of The Work:

The following works are in the scope of the project;

- 7129 m road
- Konakönü Tunnel
- Yoroz Tunnel
- Araklı Viaduct
- Konakönü Bridge
- Yomra Bridge
- Arsin Organize Sanayi Bridge
- Kalecik Junction Underpass Bridge



Within the project , the below services were provided by EMAY:

- Preparation of 7129 m road and drainage projects
 - Preparation of 2 pcs. tunnel application projects
 - ✓Konakönü Tunnel project including 2 tunnels of length 1858 m and 1843 m, the total length of double tube, 2 lane tunnels being 3701 m with 12 m excavation width. 2 pcs. connection tunnels of length 23 m.
 - ✓Yoroz Tunnel project including 1 tunnel of length 277,4 m, 2 lanes tunnel with 12 m excavation
 - Preparation of 5 pcs. bridge application projects
 - ✓Araklı Viaduct consist of the following viaducts and are total area 23.408,54 m².
(South main road viaduct of length 570,78 m
North main road viaduct of length 673,80 m
South side road viaduct of length 193 m
North side road viaduct of length 258,70 m)
 - ✓Konakönü Bridge is 3190 m² and height 24,16 m
 - ✓Yomra Bridge is 2433,6 m²
 - ✓Arsin Organize Sanayi Bridge is 319 m²
 - ✓Kalecik Kavşağı Altgeçit Bridge is 425,7 m²
- Bridge area of total project: 29.776,84 m²

Client:

General Directorate of Highways, 10th Division Directorate

Duration of The Project:

May 2001 – December 2008 (93 months)

Description of The Work:

Sarayköy Tunnel is constructed by the principles of the New Austrian Tunneling Method and excavated by drill and blast method in the scope of "Black Sea Coastal Highway Project, İyidere - Çayeli Section Construction Works".

The following works are in the scope of the project;

- 26,79 km road
- Junction projects
- Sarayköy Tunnel
- Composite and concrete bridge projects



Within the project , the below services were provided by EMAY:

- Preparation of 26,79 km road and drainage projects
- Preparation of 5 pcs. junction projects
- Sarayköy Tunnel project including 2 tunnels of length 1701 m and 1709 m, the total length of double tube, 2 lane tunnels being 3410 m with 12 m excavation width, 8,0 m width and 5,0 m height
- Preparation of 8 pcs. tunnel portal projects
- Preparation of cut and cover tunnel projects (including 2 tunnels of length 78 m and 137 m, the total length 215 m)
- Preparation of steel composite bridge project which is the length 167 m and total area 2588,50 m² with 50m+67m+50m spans
- Preparation of 9 pcs. concrete bridge projects (total length=1482,65 m and total area= 32146,24 m²)

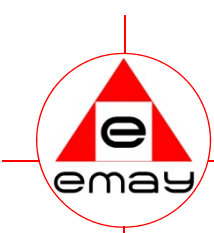
Client:

General Directorate of Highways, 10th Division Directorate

Duration of The Project:

June 2000 – June 2005 (60 months)





Construction Supervision Services for Construction Works of Avcılar Intersection - Esenyurt Connection Roads on O-3 Motorway

Description of The Work:

Construction Supervision Services for Construction Works of Avcılar Intersection - Esenyurt Connection Roads on O-3 Motorway are provided following works;

- 12,755 km length motorway, (2x3),
- 5 pcs. bridge,
- Retaining walls,
- Toll plazas,
- Administration buildings.



Within the project , the below services were provided by EMAY:

- 12,755 km length motorway, (2x3), (including infrastructure, superstructure, drainage system traffic marking, safety rail, lighting and electrical systems)
- 5 pcs. Bridges, total 2.450 m² areas
- 640 m² retaining walls
- Toll plazas, (including infrastructure entry-exit tolls of motorway, including electronically and automation systems, connection of all infrastructures and superstructures) 3 pcs. automation transition system and 3 pcs. transition system in entry, 3 pcs. automation transition system and 2 pcs. transition system in exit
- 2 pcs. 68 m² single-storey administrative buildings

Related to

- Preparation of construction works technical specifications, tender documents with quantities and estimate and Construction supervision and technical consultancy services

Client:

General Directorate of Highways, 17th Division Directorate and Municipality of Esenyurt

Duration of The Project:

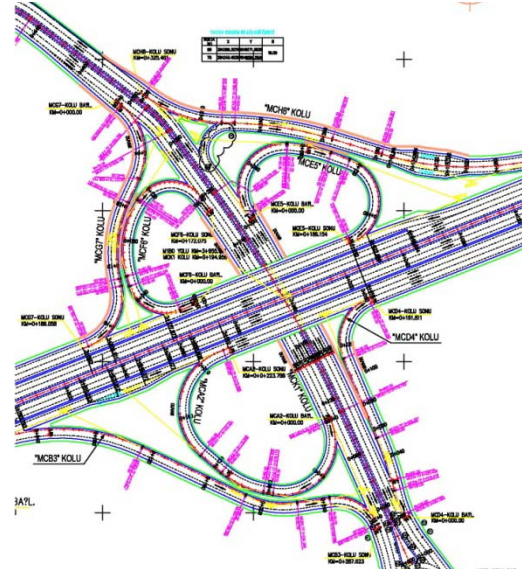
June 2008 – June 2011 (36 months)



Description of The Work:

Design works concerning 59 pcs. highway transportation projects throughout Istanbul have been prepared by the project companies to the Directorate of Transportation Planning. This project is providing design supervision and consulting service of the below listed projects to the Client.

- 312 km highway
- 85 pcs. junction
- Site and office geodesy services in 320 ha. area
- Soil investigations of site, laboratory and office ; 2470 soil boring tests and 63 pcs. geotechnical report
- 135 pcs. bridges and overpass/underpass structures with a total area of 154.876 m²
- 130.822 m² retaining walls



Within the project , the below services were provided by EMAY:

- Inspection and control of survey, design and engineering services for 59 Highway Transportation Projects performed by designers so as to ensure a satisfactory standard of engineering and a required degree of quality
- Checking with respect to conditions of contract, specifications, regulations and standards
- To advance the level of the design work to that required for the Employer's approval
- Engineering and Consultancy services for providing technical support concerning design to the Employer

Client:

Greater Municipality of Istanbul

Duration of The Project:

October 2007 – October 2009 (24 months)

Description of The Work:

The project includes inspection of existing bridges in various locations and repair and strengthening works or reconstruction work of demolished bridges. The following works are in the scope of the project;

- Kadıköy, Haydarpaşa Garı Overpass Bridge
- Üsküdar, Haydarpaşa Overpass Bridge
- Fatih, Ulubatlı Hasan Interchange Bridge
- Beşiktaş, Barbaros Boulevard Yıldız Technical University Overpass Bridge
- Beyoğlu, Şişhane Underpass Bridge
- Beyoğlu, Azapkapı Underpass Bridge
- Fatih, Eminönü Underpass Bridge
- Fatih, Unkapanı Underpass Bridge
- Fatih, Saraçhane (Haşim İşcan) Underpass Bridge
- Zeytinburnu, Kennedy Connection Road Overpass Bridge
- Bakırköy, Adnan Kahveci Boulevard Overpass Bridge
- Bakırköy, Ataköy Galeria Interchange Bridge
- Bakırköy, Yeşilköy - Demiryolu Street Overpass Bridge
- Bakırköy, Yeşilköy - Bakırköy Coastal Road, Stream Crossing Bridge
- Bakırköy, Yeşilköy - Fener Street Overpass Bridge (Railway Bridge)
- Beşiktaş, Arnavutköy Piled Road



Within the project , the below services were provided by EMAY:

- Preparation of repair and strengthening application projects of existing bridge
- Preparation of application projects of reconstruction bridges

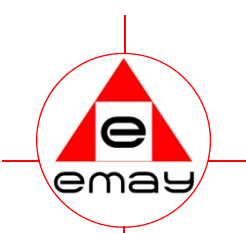
Client:

Greater Municipality of İstanbul

Duration of The Project:

February 2012 – February 2013 (12 months)





Survey, Design and Engineering Services for Seismic Retrofit of Large Scale Bridges in İstanbul

Description of The Work:

The following bridges are to be seismically retrofitted within the scope of the project:

- Fatih Sultan Mehmet Bridge (L=1090 m, suspension steel bridge)
- Bosphorus Bridge (L=1074 m, suspension steel bridge)
- Bosphorus Bridge approach structure (Beylerbeyi and Ortaköy) (L=255 m, L=231 m, steel box beam)
- Old Golden Horn Bridge (L=822 m, orthotropic deck continuous steel beam)
- Old Golden Horn Bridge approach structure (L=152 m, concrete box girder) Prekast Kutu Döşemeli)
- New Golden Horn Bridges (A and B) (L=822 m, steel box beam)
- New Golden Horn Bridge approach structures (A, B, C Viaducts) (L=152 m, 152 m, 91 m, Prekast I beam) Prekast I Kirişli)
- Ortaköy (V408, V409 and V411 Viaducts) (L=414m, 360 m, 270 m, post tension prestressed concrete precast T beam)
- Mecidiyeköy Viaducts (L=861 m, prestressed concrete box)



Within the project , the below services were provided by EMAY:

Under this project EMAY will provide following services:

a)Design Works

Inspection and Seismic Reinforcement Design:

- Design Calculation
- Calculation and analysis for temporary works
- Preparation of final approval drawings
- Revision of drawings
- Preparation of "as built drawings"
- Preparation of work schedule
- Technical Consultancy to IHI during the meetings and approvals with the Client and Engineer

b)Supervision Services

Project control service at the construction sites based on the working drawings including supervision of site works

- Supervision of seismic reinforcement works at the construction sites
- Inspection of the site works
- Quality measurement
- Quality control
- Safety measurements
- Work schedule control
- Discussion with the Client, the Engineer and sub-contractors to be required for execution of the above services.

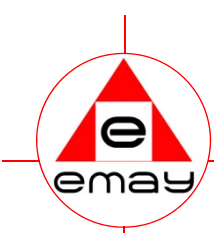
Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

October 2006 – August 2010 (47 months)





Survey, Design and Engineering Services for Seismic Retrofit of Large Scale Bridges in İstanbul

Description of The Work:

The project entitled "Repair and Seismic Retrofit of Viaducts and Bridges on Motorways" was let out to tender in sections by Turkish Highways 17. Division as the Employer with the purpose of retrofitting the large engineering structures after the earthquake of 17 August 1999.

Repair and Seismic Retrofit of Viaducts and Bridges on Motorways includes following the structures.

- Osmaniye Overpass Bridge
- Yenibosna Overpass Bridge
- Sağmalcılar Viaduct
- Mahmutbey Viaduct
- B3B Underway Bridge
- K3 Underway Bridge
- K4A Overpass Bridge
- M5U1 Underway Bridge
- NMO1 Overpass Bridge
- RMO1 Over Bridge
- Sefaköy Overpass Bridge
- Mecidiyeköy Viaduct
- Gaziosmanpaşa Viaduct
- Zincirlikuyu Overpass Bridge
- Çamlıca Viaduct
- Sadabat 2 Viaduct
- Gedikahmetpaşa Viaduct
- Nurtepe Viaduct
- Okmeydanı Viaduct
- KMO1 Overpass Bridge
- Levent Viaduct



Within the project , the below services were provided by EMAY:



- Inspection of the bridges/viaducts and preparation of bridge technical test reports.
- Preparation of repair and strengthening preliminary assessment report for total 11 pcs. bridges and viaducts
- Detail inspection studies and preparation of repair and strengthening design and calculations and preparation of main quantities with concerned applications

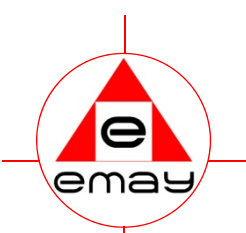
Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

December 2002 – January 2005 (25 months)



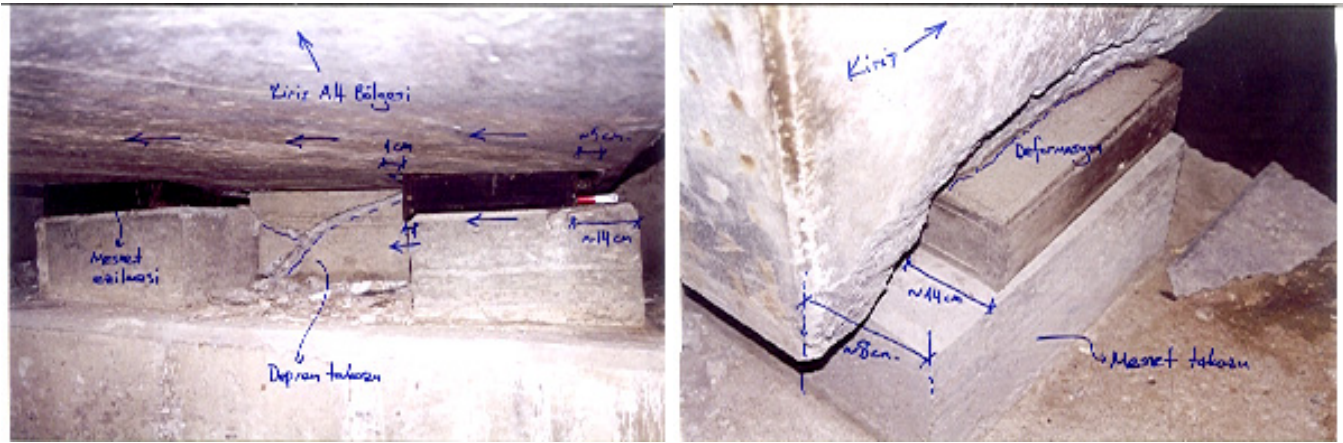


Survey, Design and Engineering Services for Repair of Damages Caused by Earthquake on Viaducts, Overpasses and Underpasses (including Repair Design) along Anatolian Motorway between İzmit West Interchange (Km 80+680) - Gümüşova (Km 182+613) / Section 2: between İzmit East Interchange (Km 100+000) - Adapazarı Interchange (Km 130+000) (excluding Arifiye Bridge at Km 127+401)

Description of The Work:

The project entitled "Anatolian Motorway Repair of Damages Caused by Earthquake on Viaducts, Over Bridges and Under Bridges within the Section İzmit West Junction (Ch. 80+680) – Gümüşova (Ch. 182+613) (Design for Repair Work Included)" was let out to tender in 3 separate sections by Turkish Highways 1. Division as the Employer with the purpose of repairing the damages caused by the earthquake of 17 August 1999 on the large engineering structures within a 100 km. Section of Anatolian Motorway (which connects Ankara and İstanbul) between İzmit West Junction and Gümüşova. The project consists of 3 separate sections.

There are 43 pcs. engineering structures between İzmit East Junction (Ch. 100+000) – Adapazarı Junction (Ch. 130+000) (Arifiye Bridge at Ch. 127+401 excluded). This Project including overpass bridges, underpass bridges and river bridges.



Within the project , the below services were provided by EMAY:

- 14 pcs. overpass bridges with precast simply supported beams (prestressed concrete U section beams)
- 3 pcs. bridges on rivers/streams with precast simply supported beams (prestressed concrete U section beams)
- 5 pcs. underpass bridges with precast simply supported beams (prestressed concrete U section beams)
- 21 pcs. cast in place reinforced concrete box and/or frame type of bridge structures

The above works are in the scope of the project. The design work consisted of two stages, which can be stated as follows:

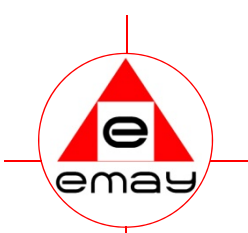
- ✓Preparation of a technical report for each section comprising the nature and type of damages occurred in large engineering structures and the proposed approach and methodology relating to the repair work to be carried out.
- ✓The preparation of detail design (final design) including calculation reports and drawings including relevant details relating to execution of repair work, for each structure.

Client:

General Directorate of Highways, 1st Division Directorate

Duration of The Project:

August 2000 – January 2002 (18 months)



Structural Safety Inspection Services for Zonguldak Fevkani Bridge

Description of The Work:

The existing Fevkani Bridge which is located right at the centre of Zonguldak was built during 1954-1959 and as an overpass connects various parts of the city. Furthermore, it carries heavy traffic due to the fact that Zonguldak is an important port on the Black Sea and thus is an important bridge. Shops occupy the volumes in between the pier columns for most of the bridge, except for the spans over the Acılık River and the railway line.

The bridge as a whole consists of a central main bridge made up of 3 spans crossing over the Acılık River and Turkish Coal Corporation (TTK) railway line and 5 separate branches connected to the main bridge each with 4, 5, 6 and 23 spans. One of these branches includes a steel truss bridge with a single span of 40 m. The overall length of the bridge amounts to 552 m. The bridge has 5 abutments in all.

As no inspection, maintenance or any repair has been carried out on the bridge since it was built, Zonguldak Municipality, being the owner, asked Ereğli Iron and Steel Works Inc. (ERDEMİR) to conduct a thorough inspection of the bridge, determine the structural safety and prepare the preliminary repair/retrofit design drawings.



Within the project , the below services were provided by EMAY:



- A thorough detailed inspection of the bridge structure,
- Carrying out bridge member material (steel/concrete) strength tests,
- Preparation of bridge site maps, in situ bridge survey and the consequent
- Preparation of measured structural drawings, carrying out geotechnical (soil boring) tests,
- Conducting structural fatigue tests on the bridge,
- Preparation of preliminary design calculation and drawings for the repair and retrofit of the bridge,
- Preparation of cost analysis and determination of the cost of bridge repair and retrofit work

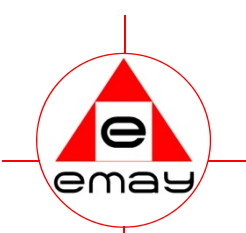
Client:

Ereğli Iron and Steel Works Co.

Duration of The Project:

October 2005 – December 2005 (3 months)





Survey, Design and Engineering Services for Repair of Damages Caused by Earthquake on Viaducts, Overpasses and Underpasses (including Repair Design) along Anatolian Motorway between İzmit West Interchange (Km 80+680) - Gümüşova (Km 182+613) / Section 1: between İzmit West Interchange (Km 80+680) - İzmit East Interchange (Km 100+000)

Description of The Work:

The project entitled "Anatolian Motorway Repair of Damages Caused by Earthquake on Viaducts, Over Bridges and Under Bridges within the Section İzmit West Junction (Ch. 80+680) – Gümüşova (Ch. 182+613) (Design for Repair Work Included)" was let out to tender in 3 separate sections by Turkish Highways 1. Division as the Employer with the purpose of repairing the damages caused by the earthquake of 17 August 1999 on the large engineering structures within a 100 km. Section of Anatolian Motorway (which connects Ankara and İstanbul) between İzmit West Junction and Gümüşova. The project consists of 3 separate sections.

There are 26 pcs. engineering structures between İzmit West Junction (Km 80+680) and İzmit East Junction (Km 100+000). This Project including viaducts, tunnels, overpass bridges, underpass bridges and river bridges.



Within the project , the below services were provided by EMAY:

- 6 pcs. viaducts with precast simply supported beams (prestressed concrete U section beams)
- 2 pcs. tunnels
- 2 pcs. overpass bridges with precast simply supported beams (prestressed concrete U section beams)
- 2 pcs. bridges on rivers and streams with precast simply supported beams (prestressed concrete U section beams)
- 7 pcs. underpass bridges with precast simply supported beams (prestressed concrete U section beams)
- 7 pcs. cast in place reinforced concrete box and/or frame type of bridge structures

The above works are in the scope of the project. The design work consisted of two stages, which can be stated as follows:

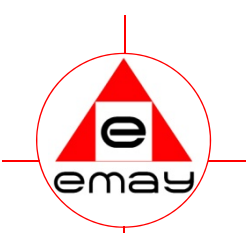
- ✓Preparation of a technical report for each section comprising the nature and type of damages occurred in large engineering structures and the proposed approach and methodology relating to the repair work to be carried out.
- ✓The preparation of detail design (final design) including calculation reports and drawings including relevant details relating to execution of repair work, for each structure.

Client:

General Directorate of Highways, 1st Division Directorate

Duration of The Project:

August 2000 – January 2002 (18 months)



Supervision and Consultancy Services for Repair and Strengthening Design of Bridges, Tunnels, Viaducts (Viaducts with Elevation $h < 50$ m) and Special Structures (Viaducts with Elevation $h > 50$ m) Located on Motorway and Motorway Connection Roads of Anadolu Motorway Çamlıca-Gümüşova Section between (Km 6+120 - 182+585)

Description of The Work:

After the major earthquake at Marmara Zone at 1999, the existing viaducts and bridges are decided to be evaluated. The work no:1 involves 131 large engineering structures (3 viaducts, 119 bridges and 9 pedestrian bridge) and the work no:2 involves 29 large engineering structures (24 viaducts and 5 tunnels). This project involves the following states in accordance with the special Technical Specification provided by the client.

- Bridge inspection work carried out at each structural site
- Soil investigation studies
- Preliminary screening of the engineering structures
- Determination of seismic retrofiting strategy for each structure
- Performing the final and detailed seismic retrofit calculations and preparation of final/detailed design drawings



Within the project , the below services were provided by EMAY:

- Supervision and consultancy services for repair and strengthening design of 125 pcs. bridges and 27 pcs. viaducts totaly 152 pcs. engineering structures (Total; 187 229,54 m2)
- Supervision and consultancy services for repair and strengthening design of tunnels (total $2 \times 5 = 10$ pcs.)
- Preparation of tender documents for repair and strengthening construction works of bridges and viaducts and tunnels

Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

December 2003 – June 2007 (42 months)





Survey, Design and Engineering Services for (Ordu-Ulubey) Junction Topcam (2nd Section) Tunnels

Description of The Work:

Survey, Design Consultancy Services for (Ordu-Ulubey Separation) – Topçam (2nd Stage) Tunnels:
Length of Alignment: 3866 m
Length of T1 Tunnel: 970 m
Length of T2 Tunnel: 1560 m
The width of carriageway: 12.00 m
The width of lane: 3.50 m ; the width of shoulder: 2.50 m (along the alignment)
The width of lane: 3.50 m ; the width of shoulder: 1.00 m (inside tunnel)



Within the project , the below services were provided by EMAY:

Survey, Design Consultancy Services for (Ordu-Ulubey Separation) – Topçam (2nd Stage) Tunnels comprises of:

- Survey Studies
- Highway Design
- Tunnel Design Studies
- Geological Survey and Report; Hydrogeological Survey and Report; Geological-Geotechnical Survey and Design Report; Geotechnical Design Report; Structural Survey Report.
- Traffic Analysis Report
- Environmental Assesment Report / Project Presentation Document
- Final Project Report.

Client:

General Directorate of Highways, 7th Division Directorate

Duration of The Project:

September 2012 – December 2013 (15 months)



Design & Engineering Services During Pre-Bid and Construction Stages of Sabuncubeli Tunnel on Izmir-Manisa State Highway

Description of The Work:

Sabuncubeli Tunnel which is constructed by Build-Operate-Transfer model is being built in the scope of "Consultancy Services for the Construction Tender Preparation of the Sabuncubeli Tunnel and Izmir-Manisa State Highway & Project and Engineering Services of Sabuncubeli Tunnel". With the Sabuncubeli Tunnel project is aimed to increase the safety and the standard of the road. Sabuncubeli Tunnel is constructed by the principles of the New Austrian Tunneling Method. This tunnel and highway as-built projects include;

- 9,977 km highway and junction projects
- Bridge and underpass projects
- Sabuncubeli Tunnel project
- Portal and cross-passages projects
- Culvert projects



Within the project , the below services were provided by EMAY:

- Preparation of the 9977 m long highway project (Izmir direction: 5854 m, Manisa direction: 4123 m). The planning of the fee collection stations at the entrance of the tunnel and the preparation of the junction projects,
- In the scope of the highway project, planning of the cut and fill slopes that includes support systems such as wall, soil nail, etc. and the realization of the geotechnical works and landslip rehabilitation projects,
- Preparation of the 90 m long bridge project,
- Preparation of the 40 m long underpass project,
- Preparation of the preliminary and final projects of the double tube, 2-lane, 8,0 m width and 5,0 m height highway tunnel whose total length is 7939 m (3973 m + 3966 m),
- Preparation of the 15 cross-passages,
- Preparation of the ventilation and electrical-electromechanical projects of the tunnel,
- Preparation of the tunnel portal projects (Izmir direction: 85 m, Manisa direction: 40 m),
- Preparation of the culvert projects (5,0 x 4,0 m size 100 m long culvert and 2,0 x 2,0 m size 96 m long culvert),
- Preparation of the fee collection stations and maintenance-operating unit buildings projects and planning the geometrical layout and transportation projects of the shopping mall at the Izmir side of the tunnel.

Client:

General Directorate of Highways

Duration of The Project:

January 2012 – December 2012 (12 months)

Description of The Work:

Kağıthane-Piyalepaşa and Bomonti-Dolmabahçe Tunnels which are constructed in the scope of “Dolmabahçe-Dolapdere-Piyalepaşa-Kağıthane Tunnels Construction Work”. With the tunnel projects is aimed to improve transportation. The tunnels are constructed according to the New Austrian Tunneling Method principles by hydraulic excavators or drill and blast methods. Both of the highway tunnels are urban tunnels and in some cases, the construction can only be continued by taken special precautions in Trakya formation.

This tunnel projects include;

- Kağıthane-Piyalepaşa ve Bomonti-Dolmabahçe Tunnels and 2 pcs. cut-cover tunnel projects
- Pilot tunnel and cross-passages projects
- Drainage, portal, lining and retaining wall projects



Within the project , the below services were provided by EMAY:



- Preparation of 2 pcs. Tunnel application projects
 - ✓Kağıthane-Piyalepaşa highway tunnel design including 2 tunnels each of which is 1710 m length, the total length of double tube, 2 lane tunnels being 3420 m with 13 m excavation width
 - ✓Bomonti-Dolmabahçe highway tunnel design including 2 tunnels of length 2470 m and 2438 m, the total length of double tube, 2 lane tunnels being 4908 m with 13 m excavation width. Total tunnel length is 8328 m.
- Preparation of 2 pcs pilot tunnel projects each of which is 158 m and 367 m length, totaling 525 m)
- Preparation of cross-passages (9 pcs. 40 m length ve 6 pcs. 12 m length)
- Preparation of drainage projects (L=8773 m)
- Preparation of 2 pcs. cut and cover tunnel projects which is 80 m and 90 m length, totaling 170 m)
- Preparation of 10 pcs. tunnel portal projects
- Preparation of 3480,15 m² lining and retaining wall projects

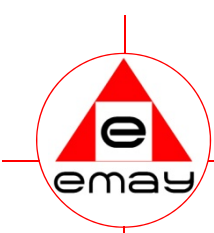


Client:

Greater Municipality of İstanbul

Duration of The Project:

October 2006 – August 2007 (12 months)



Survey, Design and Engineering Services for Göcek Tunnel on Fethiye-Köyceğiz Highway

Description of The Work:

Göcek Tunnel which is constructed by Build-Operate-Transfer model is being built in between about km:52+000 with km:53+000 of Fethiye-Köyceğiz Road. Gocek Tunnel Project is provided to improvement highway transportation with increased of the traffic speed. Tunnels are constructed by constructed by the principles of the Umbrella Arch Method. This tunnel projects includes the following works;

- 2 pcs. 950 m. tunnel (including north and south tubes) and connection roads
- Toll collection and maintenance-operating buildings and lighting, ventilation, alarm and signalization systems of buildings,
- Engineering structures on connection roads



Within the project , the below services were provided by EMAY:

- Preparation of 2 pcs. Tunnel and connection road application projects
- Preparation of Gocek Tunnel application project
 - ✓Single tube tunnel (1x2 lane, L:950 m)
 - ✓Height: 8.00 m (4.00x2), Width: 5.00 m
 - ✓Maximum tunnel depth 135 m, average depth: 75 m
- Preparation of Gocek Tunnel (South Tube) as-built project
- Preparation of Gocek Tunnel (North Tube) as-built project
 - ✓Single tube tunnel (1x2 lane, L:950 m)
 - ✓Height: 8.00 m (4.00x2), Width: 5.00 m
 - ✓Maximum tunnel depth 135 m, average depth: 75 m
- Toll collection and maintenance-operating buildings and lighting, ventilation, alarm and signalization systems of buildings,
- Preparation of underpass bridge application project on connection road

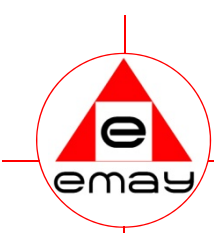
Client:

General Directorate of Highways, 13th Division Directorate

Duration of The Project:

July 2004 – June 2008 (48 months)





Survey, Design and Engineering Services for Beyoğlu, Kasımpaşa Hasköy Street Road Rehabilitation Application Project and Kasımpaşa-Sütlüce Tunnel

Description of The Work:

Kasımpaşa-Sütlüce Tunnel (Taşkızak Tunnel) is being built in the scope of "Road Rehabilitation As-Built Project of the Beyoğlu, Kasımpaşa Hasköy Street Kasımpaşa-Sütlüce Tunnel". The Kasımpaşa-Sütlüce Tunnel project's aim is to solve the traffic jam problem in insufficient capacity of motorways which happened because of the increasing number of vehicles. Kasımpaşa-Sütlüce Tunnel is constructed by the principles of the New Austrian Tunneling Method. This tunnel and highway as-built projects include;

- 2,974 km highway and junction projects
- Bridge and pilot tunnels projects
- Kasımpaşa-Sütlüce Tunnel project
- Portal and cross-passages projects



Within the project , the below services were provided by EMAY:

- Preparation of the 2974 m long highway and junction project (Kasımpaşa direction: 1313 m, Sütlüce direction: 1661 m)
- Preparation of the 150 m long bridge project
- Preparation of the 4x25 m long pilot tunnels project
- Preparation of the preliminary and final projects of the double tube, 2-lane, 9,0 m width and 5,0 m height highway tunnel whose total length is 2590 m (1317 m + 1273 m)
- Preparation of the 5 cross-passages projects
- Preparation of the tunnel portal projects (Kasımpaşa direction: 110m, Sütlüce direction: 90 m)
- Preparation of the ventilation and electrical-electromechanical projects of the tunnel

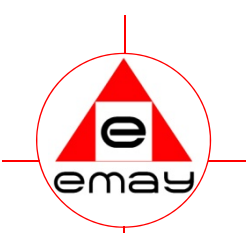
Client:

General Directorate of Highways, 1st Division Directorate

Duration of The Project:

October 2010 – December 2012 (27 months)





Survey, Design and Engineering Services for Black Sea Coastal Highway Project, Çayeli - Ardeşen - Hopa Section (Km 140+150 - 217+545) Construction Works

Description of The Work:

Çayeli, Arhavi and Pazar Tunnels which are constructed in the scope of "Black Sea Coastal Highway Project, Çayeli - Ardeşen - Hopa Section Construction Work". The tunnels serve east-west connection between Rize, Trabzon etc. cities that commercially and culturally of East Black Sea Region. Tunnels are constructed by the principles of the New Austrian Tunneling Method and excavated by drill and blast method. The following tunnels are in the scope of the project;

- Çayeli Tunnel
- Arhavi Tunnel
- Pazar Giriş Tunnel



Within the project , the below services were provided by EMAY:

Preparation of 3 pcs. Tunnel application projects



- Çayeli Tunnel project including 2 tunnels of length 1112 m and 1395 m, the total length of double tube, 2 lane tunnels being 2507 m with 8,0 m width and 5,0 m height
- Arhavi Tunnel project including 2 tunnels of length 1000 m and 955 m the total length of double tube, 2 lane tunnels being 1955 m with 8,0 m width and 5,0 m height. Right tube west portal 10 m, left tube west portal 20 m and east portals 25 m.
- Pazar Giriş Tunnel Project which is constructed with cut-cover technique (This project including 2 tunnels of length 98 m and 144 m the total length of double tube, 2 lane tunnels being 242 m with 8,0 m width and 5,0 m height)

Client:

General Directorate of Highways, 10th Division Directorate

Duration of The Project:

July 2000 – June 2005 (60 months)

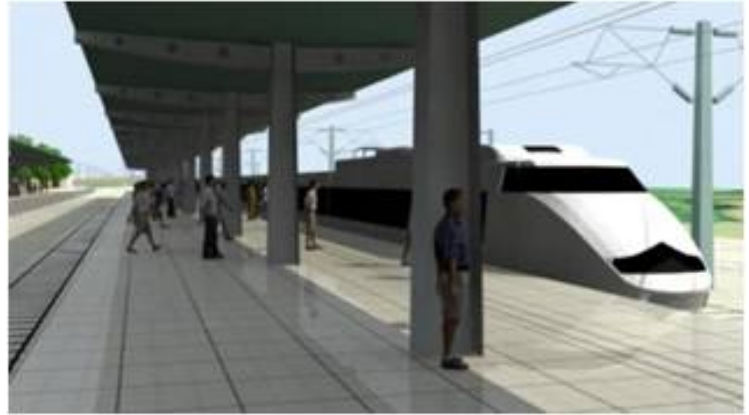
Description of The Work:

Samsun connect to the Turkish Railway system via Samsun-Sivas Railway. Samsun-Çarşamba Railway already exist but it has not worked. There is a railway system in harbor and Samsun Free Zone. The length of railway constructed in Samsun is 169 km. the railways in Samsun have been mostly used for transportation of freight.

The aim of the railway route thought Samsun-Çarşamba-Terme-Ünye-Fatsa is improvement of Samsun-Çarşamba railway and extended to railway route to Fatsa. Thus, this route provide transferred to railway a portion of the passenger and freight transport.

Project Standards as follows;

- Design Speed (V_p): 240 km/h
- Minimum horizontal curve radius: 2.000 meter
- Minimum alignment length ($0,5xV_p$): 125 meter
- Maximum Longitudinal Slope : % 0.16
- Minimum vertical curve radius : 20.000 meter



Within the project , the below services were provided by EMAY:

- Preparation the feasibility study report and environmental impact assessment report of 102.6 km double track railway line
- Preparation of photogrammetric maps of scale 1/2000
- Execution of soil/ground surveys of all types for the 102,6 km. railway line (including 5 tunnels)
- Within the scope of final design: preparation of alignment plan and profiles, hydraulic and hydrological surveys, drainage design, platform design, design for connection roads and cross section drawings, calculation of earthwork quantities
- Within the scope of large and small engineering structures design; preparation of final design for 5 tunnels, 2 cut and cover tunnels, 33 bridges, 111 underpasses and overpasses, 117 box culverts.
- Preparation of superstructure and fence design for the 102,6 km. railway line
- Preparation of design for 4 station facilities
- Preparation of signalization, electrification and telecommunication design for the 102,6 km. railway line
- Preparation of expropriation plans for the 102,6 km. railway line
- Within the scope of railway construction bidding documents; preparation of bill of quantities, cost estimates, tender specifications and contract documents

Client:

General Directorate of Construction of Railways, Harbors and Airports

Duration of The Project:

October 2007 – December 2008 (14 months)

Description of The Work:

Construction Works of İstanbul Light Rail Transportation System Extension from Yenibosna to Ataturk Airport consist of civil works, drilling tunnels, cut and cover tunnels, viaducts and at-grade. Through the railway route have been two stations located one of the viaduct and the other in the tunnel. Light Rail Transit System provided between Aksaray-Yenibosna rail system extended of Ataturk International Airport. Thus Ataturk International Airport connected to Aksaray with railway system.



Within the project , the below services were provided by EMAY:

- Preparation of 969,64 m long LRTS Viaduct application projects
 - ✓449,64 m length section contains L= 28,80, 38,80, 39,10 m simple span, steel – composite superstructure
 - ✓100 m length Viaduct Overpass station section contains L=23,80 m simple span , precast prestressed I beam superstructure
 - ✓420 m length section contains L=23,80 m simple span, precast prestressed I beam superstructure
- Preparation of 105 m length grade crossing structure projects
- Preparation of 97,3 m length U section retaining walls projects
- Preparation of 70 m length Cut-and-Cover Tunnel I projects
- Preparation of 300 m length TBM Tunnel projects
- Preparation of 90 m length Cut-and-Cover Tunnel II projects
- Preparation of 2 Anchored Retaining Wall projects (total 100 m length) for the Cut-and-Cover Tunnels.
- Preparation of 2 floor transformer station projects with 17,50 x 12,50 m plan area
- Preparation of 120 m, Ø 1200 displacement of rain water projects

Client:

Greater Municipality of İstanbul

Duration of The Project:

January 2000 – July 2001 (19 months)



Design of Vehicle Inspection Centers to be Built By TÜV Vehicle Inspection Centers Construction and Operation Inc.

Description of The Work:

The project consists of the design of 189 vehicle inspection centers that will be built in 81 cities across Turkey. The buildings are designed in 9 standard types consisting of reinforced concrete substructures and steel superstructures. The project requires the construction of a total of 130.000 m² of buildings countrywide



Within the project , the below services were provided by EMAY:

- Preparation of architectural, static, reinforced concrete, steel, electrical and mechanical application projects of administration and service buildings
- Soil assessment investigations and technical consultancy service for each inspection center during construction
- Preparation of design works also include drainage, landscape arrangement and electromechanical systems.

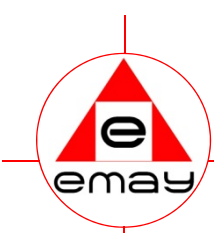
Client:

TUV Vehicle Inspection Centers Construction and Management Co.Ltd.

Duration of The Project:

June 2005 – February 2009 (45 months)



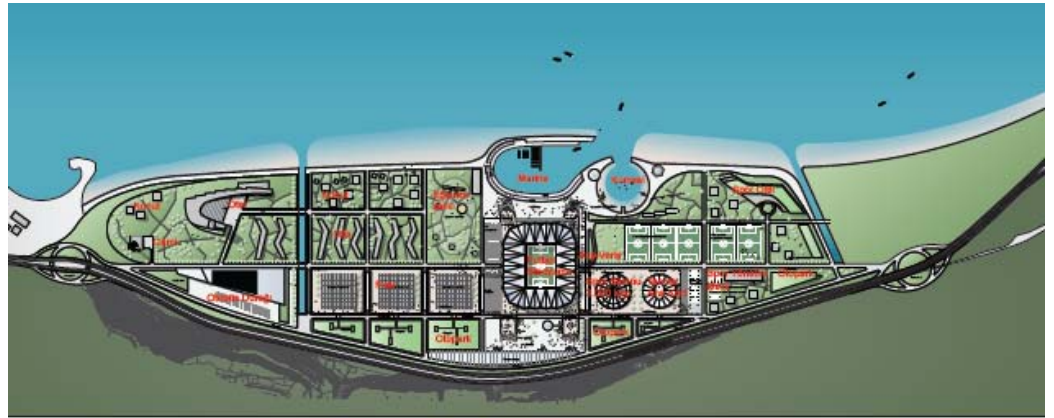


Consultancy Services During Pre-Construction, Construction and Post-Construction Stages of Trabzon Akyazı Sports and Cultural Facilities

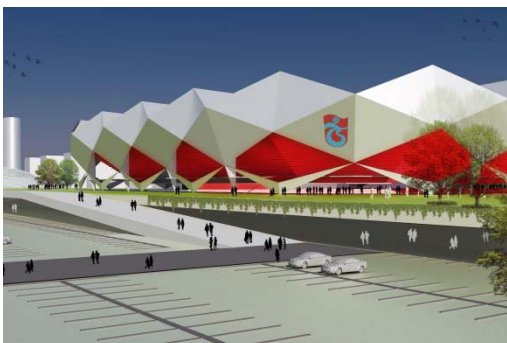
Description of The Work:

Akyazi Sport and Culture Facilities are constructed on sea filled and land-reclaimed area in Trabzon and consisted of total 196.000 m² construction area, which is given in detail below. The Sport facilities are designed according to UEFA and FIFA criteria.

- 40.000 Spectators Capacity Stadium (170.000 m²)
- 3000 Spectators Capacity Indoor Sports Facility (14.500 m²)
- 3000 Spectators Capacity Center Court (4.500 m²)
- Camp Sports Training Center (5.000 m²)
- Provincial Directorate Building (General Directorate of Youth and Sports (2.000 m²))



Within the project , the below services were provided by EMAY:



1. Consultancy Services During Pre-Construction Stage (Design Phase):
 - Soil investigations for buildings and open-ground facilities,
 - Preparation of Geotechnical Reports and Soil Improvement Projects
 - Architectural Design
 - Static and Dynamic Design
 - Mechanical Installation Design
 - Electrical Installation Design
 - Infrastructure System Projects
 - Landscaping Designs
 - Preparation of Technical Specifications ands Tender Documents,
 - Preparation of models
2. Consultancy Services During Construction and After Construction Phase
 - Consultancy Services for Sea Filling and Land Reclamation Construction
 - Consultancy Services for construction of all the facilities on Sea Filling and Land Reclamation

Client:

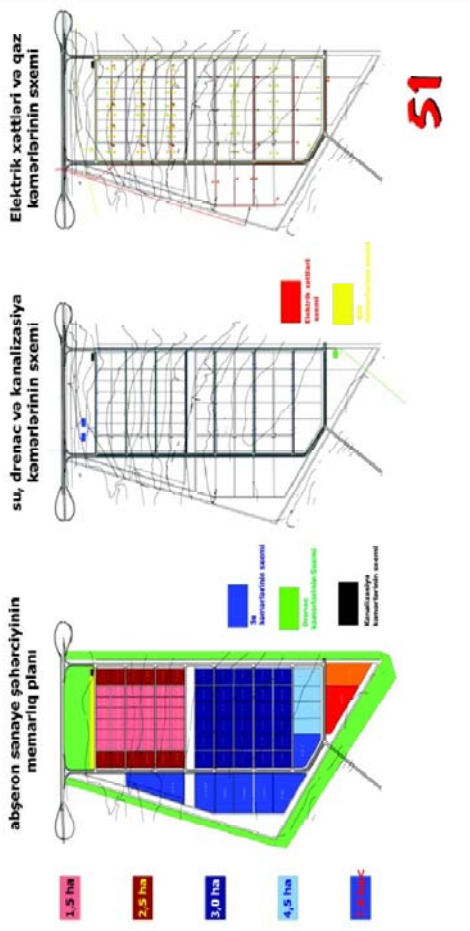
Housing Development Administration of Turkey

Duration of The Project:

April 2011 – June 2015 (50 months)

Description of The Work:

The Project is design services of master plan and infrastructure final project in connection with Azerbaijan Organized Industrial Zone. In scope of the work all of the infrastructure projects which are consist of transmission line, network and plants of soil investigation, topographical survey, zoning and construction plan, road, water supply, sewerage, rain water, electrical, lighting, telephone-communication and gas networks.



Within the project , the below services were provided by EMAY:

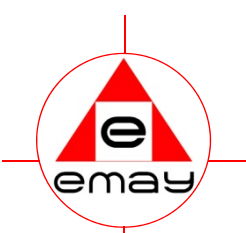
- Preparation of 267,34 Ha topographical survey of scale 1/5000
- Preparation of 267,34 Ha application survey of scale 1/1000
- Preparation of 267,34 Ha master plan of scale 1/5000
- Preparation of 267,34 Ha application zoning and construction plan of scale 1/1000
- Preparation of 267,34 Ha master plan soil investigations
- Preparation of soil investigation reports
- In scope of infrastructure application projects;
 - Preparation of 17 km. road projects
 - Preparation of 17 km. potable water projects
 - Preparation of 17 km. sewage projects
 - Preparation of 17 km. storm water projects
 - Preparation of 17 km. electrical projects
 - Preparation of 17 km. lighting projects
 - Preparation of 17 km. telephone and communication projects
 - Preparation of 17 km. gas projects

Client:

Turkish International Cooperation Agency

Duration of The Project:

September 2005 – July 2007 (22 months)



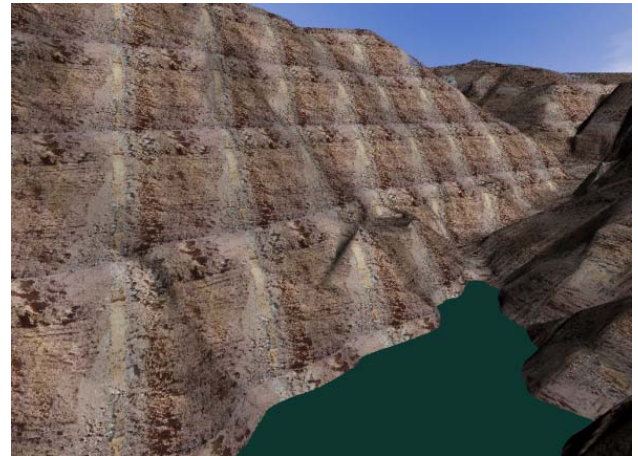
Survey, Design and Engineering Services for Waste Material and Clean Water Dams in order to Solve Problems Caused by Mining Waste

Description of The Work:

It is provided to meet the demand of waste storage of Etibakır Murgul Plant by constructing the dam, wastewater dam, water intake structures, cofferdams and flood detention dams which are under the scope of design, survey and engineering services of dam and wastewater dam in order to solve the problem resulting from mining waste. The region is planned to be used as a recreation area at the end of this period.

This project includes the following works;

- Wastewater Dam Project
- Cofferdam and Water Intake Structure Projects
- Flood prevention and Dam Projects



Within the project , the below services were provided by EMAY:

- Preparation of Wastewater Dam Project (Max. Width 300m)
 - ✓Wastewater dam will be constructed by complying with construction stage 1, 30 m height; stage 2, 60 m height; stage 3, 100m height.
 - ✓Preparation of Shaft Project of 68 m length, dimensions of 3,6mx4,0m .
 - ✓Preparation of diversion tunnel Project of 1550 m length.
- Preparation of 7m height, 35m width cofferdam.
 - ✓Preparation of spillway Project of 2m width, 250m length & 3m width, 14m length.
 - ✓Preparation of Water Intake Structure Project of 5,5 m height
- Preparation of Flood prevention and Rockfill Dam of 30 m height
 - ✓Preparation of Spillway project of 135m length & dimensions of 2,0x3,0 m.
 - ✓Preparation of water intake structure Project of 14,5m height, dimensions of 2,0x2,0 m
 - ✓Preparation of Flood detention dam project of 7.0 m height, 34.0m width & 6.0m height, 17.0m width.



Client:

Cengiz Holding Eti Copper Co. (Murgul Facilities)

Duration of The Project:

May 2008 – December 2008 (7 months)

Description of The Work:

Design of Water Intake Structures and Powerhouse of Muradiye - Ayrancilar Hydroelectric Power Plants HPP has been re-designed. Structures have been re-designed and integrated like a rock structure due to the high cost of concrete structures to be done at powerhouse and water intake structures locations.

This project includes the following works;

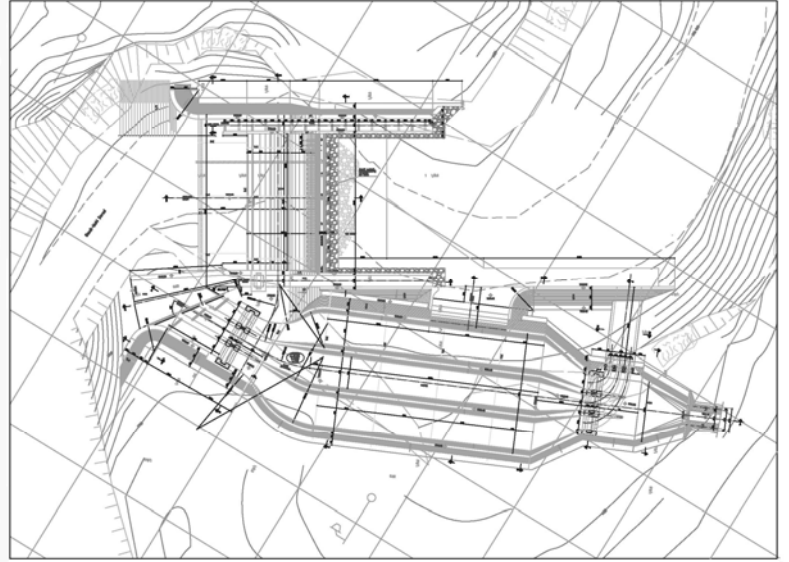
- Ayrancilar and Şelale Regulators
- Installation Pools for Ayrancilar

Client:

General Directorate of State Hydraulic Works

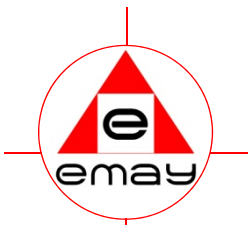
Duration of The Project:

August 2009 – December 2009 (4 months)

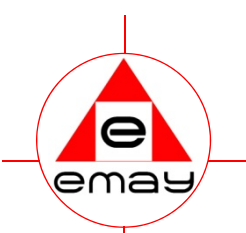


Within the project , the below services were provided by EMAY:

- Preparation of Sedimentation Downstream, HPP Regulator and Ayrancilar Regulator project
 - ✓Preparation of 22 m length , 40 m width and 6,5 m height regulator project
 - ✓Preparation of 56 m length, 19 m width and 5.4 m height sedimentation downstream; 22.5 m length, 9.5 m width and 4 m height Penstock project
 - ✓Preparation of 15 m length, 15,5 m width and 4 m height spillway project
 - ✓Preparation of 1.5 m & 1 m height and 40 m & 50 m length channel project
 - ✓Preparation of 35 m length, 2 m width, 7 m height gravel waterway project
- Preparation of HPP Powerhouse and Ayrancilar Regulator project
 - ✓Preparation of 60 m length, 25 m width and 14 m height powerhouse project
 - ✓Preparation of 8,5 m length, 3,5 m width and 14 m height powerhouse project
 - ✓Preparation of 4,5 m width and 2,9 m height Penstock project
 - ✓Preparation of 20 m width and 5 m height Powerhouse project
- Preparation of Sedimentation Downstream, HPP Regulator and sedimentation downstream projects
 - ✓Preparation of 30 m length, 30 m width and 13 m height regulator project
 - ✓Preparation of 72.5 m length, 25 m width and 7 m height sedimentation downstream project
 - ✓Preparation of 8.5 m length, 16 m width ve 10.5 m height spillway channel project
 - ✓Preparation of 40 m length, 2,5 m width, 6,5 m height gravel waterway. project
 - ✓Preparation of 4 m diameter and 6,5 m length water tunnel project



**DETAILED DESCRIPTION OF SELECTED
CONSULTANCY, MANAGEMENT AND
SUPERVISION (PROJECT
IMPLEMENTATION SERVICES)
REFERENCES**



Bursa Peripheral Motorway (Yalova Junction - Turanköy Elevated Junction Section) Construction Supervision, Engineering and Consultancy Services

Description of The Work:

Bursa Ring Motorway (Yalova Junction – Turanköy Bridge Interchange) that Turkey's most important motorways planned construction of İstanbul – Bursa – Ankara, İzmir and Bursa – Eskisehir is a part of and is located at the intersection. This motorway will serve overland transit traffic and Bursa city traffic with connection roads. In this way vehicles will pass transit from Bursa while travelling fast and comfortable. Also transport will provide without affecting the city traffic of surrounding counties and other cities (Yalova, İstanbul, Balıkesir, İzmir, Eskişehir, Ankara) from Bursa. Scope of the project;

- 32 Km, 2x3 lanes of motorway and 9,5 km, 2x2 lanes link road,
- 6 pcs. different level junction
- 2,5 million m³ cut, borrow and weak soil excavation works
- 1 pcs. 2x3 lanes (Right Tube=473,5 m. Left Tube=514,5 m) double-tube tunnel
- Double lanes, 3 pcs. viaduct and 16 pcs. bridge (total= 97.407 m²)
- 29 pcs. total L = 2.490 m underpasses
- 120 pcs. total L = 7.200 m box culvert
- Open and closed drainage systems in various sizes
- 1.900.000 m² pavement (869.000 ton bituminous hot mix, 1.371.000 ton cold mix)
- 6 pcs junction and tunnels lighting and fire safety systems
- 6 pcs. junction and 40 km motorway traffic safety works (Horizontal and vertical marking, safety rail, fence)
- 6 pcs junction and 40 km motorway landscape works
- Soil improvement, study against to landslide and slope stability (rock fill, retaining wall, riprap, soil nailing, shotcrete, geomat, gabion wall etc.) works in various sectors



Within the project , the below services were provided by EMAY:

EMAY will provide Project Design and Control with Construction Supervision and Technical Consultancy Services which is defined below;

- Infrastructure Works
- Earth Works
- Pavement Works
- Structure Works (bridge, viaduct, culvert, retaining wall etc.)
- Tunnel Works
- Electromechanical Works (fire safety, lighting, signalization etc.)
- Traffic Safety Works (horizontal and vertical markings, safety rail etc.)
- Landscape Works
- Soil improvement, study against to landslide and slope stability (rock fill, retaining wall, riprap, soil nailing, shotcrete, geomat, gabion wall etc.) works

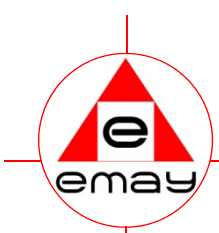
Client:

General Directorate of Highways

Duration of The Project:

December 2000 – December 2014 (171 months)





Construction Supervision, Consultancy Services and Engineering Services for The Gebze-Orhangazi-İzmir Motorway (including İzmit Bay Crossing and Connection Roads) Project

Description of The Work:

The most significant project that the Company is currently involved in is the BOT concession for the Gebze-İzmir Motorway and İzmit Bay Crossing in Turkey, a contract with the General Directorate of Highways ("TCK") worth approximately US\$6.8 billion.

The Company, together with a consortium of international and local construction and infrastructure companies, namely; Astaldi, Nuro İnşaat, Özaltın İnşaat, Makyol İnşaat and Göçay İnşaat, were awarded a 22 year and 4 month BOT concession for the Gebze-İzmir Motorway which will stretch for 427 kilometres between İzmir and Gebze, just east of İstanbul.

The project will include the construction of the 3 kilometer İzmit Bay Crossing Bridge, which will link the two sides of the Gulf of İzmit. The İzmit Bay Crossing is expected to be the second longest suspension bridge in the world and is expected to be completed and to start generating revenue in 2016. The total project has an estimated value of US\$6.8 billion and overall construction is expected to be completed in 2019.

The project has been divided into two phases. The first phase of the project involves the construction of highway section from Gebze to İznik Southern Interchange, including the İzmit Bay Crossing Bridge, as well as an additional 9 km of highway part up to İznik Southern Interchange and the target to put this phase to operation by the beginning of 2016. Second Phase will be from İznik Southern Interchange to İzmir.



Within the project , the below services were provided by EMAY:

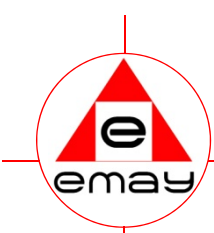
- Design Review,
- Suspended Bridge's Tower Construction Supervision
- Suspended Bridge's Cable Installation and Anchorages Works' Supervision
- Suspended Bridge's Superstructure's Works Supervision
- Expropriation Works Studies,
- Earthworks' Supervision
- Large Structures' Supervision (Overpasses, Underpasses, Viaducts)
- Tunnel Works' Supervision
- Electro-Mechanical Works' Supervision,
- Quality Control Works,
- Taking Over Stage
- Final Acceptance Stage

Client:

General Directorate of Highways,

Duration of The Project:

May 2013 – June 2020 (87months)



Construction Supervision and Consultancy Services for Khose Tsaydam - Khorhorin Bilge Kağan Highway

Description of The Work:

Bilge Kağan Highway project is including for the construction of 46 km Highway in Mongolia connecting Khorhorin and Bilge Kağan Monuments, with a platform width of 9 m involving a pavement thickness of 40 cm with 5 cm asphalt cover and 46 culverts and drainage structures. by Turkish International Cooperation Agency realized with the intension of helpful transportation to Orhun Monument and contribute to the ongoing road construction activities in Mongolia



Within the project , the below services were provided by EMAY:

Construction supervision and consultancy services for the following works;

- 46 pcs. culvert and drainage system
- 46 km length asphalt cover road construction

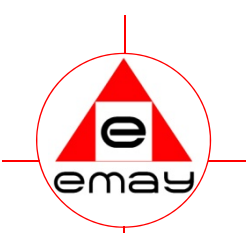
Client:

Turkish International Cooperation Agency

Duration of The Project:

May 2005 – November 2010 (67 months)





Construction Supervision and Consultancy Services for Trabzon - Aşkale (Dap) (Dokap) (Maçka Karahava) / (Köstere - G.hane) / (G.hane - Kale) / (Geçit-Bayburt) / (Kale- Bayburt - 12th District Border) / G.hane - Bayburt Junction –Kelkit - Şiran (Kelkit including City Crossing) Pirahmet - Alıçlı (Pirahmet including Interchange (Ünlüpinar- Kelkit) Highways

Description of The Work:

Construction works for “Trabzon - Aşkale (Dap) (Dokap) (Maçka Karahava) / (Köstere - G.hane) / (G.hane - Kale) / (Geçit-Bayburt) / (Kale- Bayburt - 12th District Border) / G.hane - Bayburt Junction – Kelkit - Şiran (Kelkit including City Crossing) Pirahmet - Alıçlı (Pirahmet including Interchange (Ünlüpinar- Kelkit) Highways” includes the following works;

- Number of Tunnels : 11 pcs.
- Number of Bridges : 36 pcs.
- Total cut volume : 8.541.882 m³
- Total fill volume : 1.813.282 m³
- Retaining Wall (Reinforced) : 536.870 m³
- Total Stone Wall : 192.672 m³
- Sub-base layer : 654.264 m³
- Plant Mix Layer : 1.342.041 ton
- Bituminous layer : 575.851,55 ton
- Binder Layer : 598.299,10 ton
- Wearing Course : 452.806,56 ton



Within the project , the below services were provided by EMAY:

- Construction Supervision for all activities under the scope
- Checking of materials on Site with respect to manufacturer certificates
- Preparation of Monthly Reports and Work Program
- Preparation of income and expenditure and submit to Client
- To get Quality Control, test results and Material Certificates
- To make deficiencies complete between taking over and final statement stages

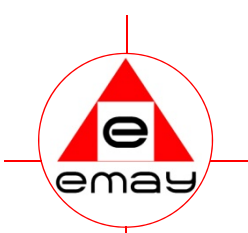
Client:

General Directorate of Highways, 10th Division Directorate

Duration of The Project:

February 2012 – December 2014 (35 months)





Construction Supervision and Consultancy Services for Highway Construction Works in Balıkesir, Bilecik, Çanakkale, Kütahya Provinces under the responsibility of 14th Division of General Directorate of Highways

Description of The Work:

Highway Construction Works in Balıkesir, Bilecik, Çanakkale, Kütahya Provinces under the responsibility of 14th Division of General Directorate of Highways, including the following works;

- (Bursa-İnegöl) Junction-Yenişehir-(Bilecik-Osmaneli) Junction Road; 51,5 km
- Earthwork, Structure and Superstructure Works of (Kütahya-Afyon) Junction-Gediz-Simav-Balıkesir State Road, Sındırgı Junction between Balıkesir (between Km: 232+000-240+600); 4,6 km
- Earthwork, Structure and Superstructure Works of Tavşanlı-Emet-Simav State Road between Km: 0+000-51+750; 51,8 km
- Earthwork, Structure and Superstructure Works of Balıkesir-Akhisar State Road between Km:0+000-40+850; 19,2 km
- Kütahya-Simav-Demirci Junction (Section 1) Road; 67,8 km
- Kütahya-Simav-Demirci Junction (Section 2) Road; 33,3 km
- Balıkesir-Havran Road; 73,4 km
- Çanakkale-Ezine-Ayvacık Road; 63,7 km
- Earthwork, Structure and Superstructure Works of (Bandırma-Gönen) Junction-Çardak Road between Km: 57+000-85+500; 28,5 km
- Earthwork, Structure and Superstructure Works for remaining missing section of (Balıkesir-Edremit) Junction-(Balıkesir-Akhisar) Junction Road between Km: 0+000-13+000; 13,0 km
- Çan-Biga State Road; 27,5 km
- Earth Grading Structure and Superstructure Works of (Kütahya-Afyon) Junction-Gediz-Simav-Balıkesir State Road, Sındırgı Junction between Balıkesir (Between Km: 227+000-232+000); 5,0 km
- Earthwork, Structure and Superstructure Works of İnegöl-Domaniç Junction-Oylat Province Road between Km: 0+000-9+275.95; 9,28 km
- Road Construction Work of (Bursa-İnegöl) Junction-Yenişehir-(Bilecik-Osmaneli) Junction Road between Km: 25+530-65+314,50; 51,50 km
- Earthwork, Structure and Superstructure (Bituminous Hot Mix) Works of Küplü-Bilecik-Vezirhan Road between Km:0+000-21+400; 21,40 km
- Earthwork, Structure and Superstructure Works of İznik-Yenişehir State Road between Km: 6+583-24+827; 18,20 km
- Earthwork, Structure and Superstructure Works of İznik-Mekece State Road between Km: 0+000-28+315; 28,30 km
- Earthwork, Structure and Superstructure Works for remaining missing section of Bursa-İnegöl-Bozüyük Road between Km: 73+920-79+700; 5,78 km

Within the project , the below services were provided by EMAY:

- Construction Supervision for all activities under the scope
- Checking of materials on Site with respect to manufacturer certificates
- Preparation of Monthly Reports and Work Program
- Preparation of income and expenditure and submit to Client
- To get Quality Control, test results and Material Certificates
- To make deficiencies complete between taking over and final statement stages

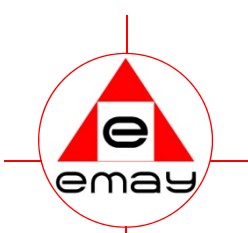
Client:

General Directorate of Highways, 14th Division Directorate

Duration of The Project:

March 2011 – September 2013 (30 months)





Survey, Design, Engineering, Technical Consultancy and Construction Supervision Services for İstanbul İspartakule Elevated Interchange and Connection Roads Construction Works

Description of The Work:

The scope of work for İstanbul Bahçeşehir İspartakule 1st Region 1st Part of Housing Revenue Sharing Provision Work for Survey, Design and Engineering Services; Technical Consultancy and Construction Supervision Services is given below

- 15,633 km long motorway
- Drainage System
- 6 pcs. Bridges
- 5 pcs. Underpass bridges
- Retaining Walls



Within the project , the below services were provided by EMAY:



- Preparation of preliminary and final design of 15,633 km. long motorway
- Preparation of Every kind of Soil Investigation Services
- Preparation of drainage projects of 18,933 km. long
- Preparation of 6 pcs. Bridge projects with total surface area 10.315m²
- Preparation of 5 pcs. Underpass bridge projects with total surface area 1750 m²
- Preparation of retaining wall projects with total surface area 6840 m²
- Preparation of Tender documents, Bill of Quantity and Cost Estimate and Technical Specifications for Construction

Works with

- Construction Supervision and Technical Consultancy Services

Client:

General Directorate of Highways, 17th Division Directorate and Greater Municipality of İstanbul

Duration of The Project:

May 2007 – July 2009 (26 months)





Construction Supervision Services for Construction Works of Avcılar Intersection - Esenyurt Connection Roads on O-3 Motorway

Description of The Work:

Construction Supervision Services for Construction Works of Avcılar Intersection - Esenyurt Connection Roads on O-3 Motorway are provided following works;

- 12,755 km length motorway, (2x3),
- 5 pcs. bridge,
- Retaining walls,
- Toll plazas,
- Administration buildings.



Within the project , the below services were provided by EMAY:

- 12,755 km length motorway, (2x3), (including infrastructure, superstructure, drainage system traffic marking, safety rail, lighting and electrical systems)
- 5 pcs. Bridges, total 2.450 m² areas
- 640 m² retaining walls
- Toll plazas, (including infrastructure entry-exit tolls of motorway, including electronically and automation systems, connection of all infrastructures and superstructures) 3 pcs. automation transition system and 3 pcs. transition system in entry, 3 pcs. automation transition system and 2 pcs. transition system in exit,
- 2 pcs. 68 m² single-storey administrative buildings

Related to

- Preparation of construction works technical specifications, tender documents with quantities and estimate and Construction supervision and technical consultancy services

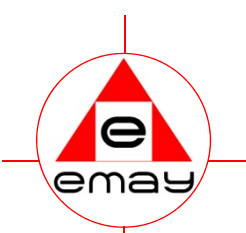
Client:

General Directorate of Highways, 17th Division Directorate and Municipality of Esenyurt

Duration of The Project:

June 2008 – June 2011 (36 months)





Construction Supervision and Consultancy Services for Seismic Retrofit of Bridges, Viaducts and Tunnels Located on Motorways and Motorway Connection Roads Between Kınalı - Sakarya

Description of The Work:

The Project has started at about 1 km side of İzmit of Anatolian Motorway Bridge Junction (Km.6+120) and ended Gümüşova Section (Km: 182+585).

Also this project including structures on the connection roads that is specified the below;

- Samandıra – Kartal
- Kurtköy – Pendik
- Şekerpınarı – Çayırova
- Adapazarı – Hanlı

In scope of the Project has structural retrofitting and seismic reinforced works of 157 pcs. engineering structures.

Aim of the project;

This project provides safety for earthquake in the great part of the Ankara - Istanbul motorway with Istanbul surrounding roads.

During the earthquake this project provides transportation to disaster areas and disaster centers .



Within the project , the below services were provided by EMAY:



In scope of the Project has realized structural retrofitting and seismic reinforced works of existing engineering structures for listed works below ;

- Existing bridges, viaducts and tunnels on the İstanbul (Çamlıca) – Gümüşova Otoyol Section (Km:6+182 – 182+585) with motorway connection roads
- Project length is including connection roads total 184 km
- Engineering structures
 - ✓126 pcs. Bridge (overpass, underpass, junction and river bridges)
 - ✓26 pcs. viaducts
 - ✓5 pcs. tunnels



Client:

General Directorate of Highways, 17th Division Directorate

Duration of The Project:

November 2006 – July 2012 (69 months)

Description of The Work:

Nissibi Cable Stayed Bridge is between the cities of Diyarbakir and Adiyaman on the Fırat River. Nissibi Bridge will provide comfortable and safety of transportation in the region. transportation to the ferry is not healthy. Most of the time the ferry is movement late, so the people of the region stays a difficult position. This bridge provides to nonstop proceed of transportation.

This bridge has side span 105 m, interior span 400 m and the total length 610. In the bridge is 2 pcs. tower which is inverse-Y type and 96,8 m height. The superstructure width is 22,90 m and height is 2,70 m. Bridge side spans are post tension precast concrete slab and bridge main span orthotropic steel slab. The main span consist of 2x28 m end part, 9 double part (18m.) and spanner part (20m). The superstructure is supported by means of 10 double cables to the pylon. Existing soil conditions is limestone formation. Thus foundations designs as shall of foundation. "a modified fan known as" cable routing is used in the Nissibi Bridge. Bridge has been designed according to the earthquake level which has predicted safety performance level of 2% (repetition time 2475 years) of General Directorate of Highways. Cable Stayed Bridge



Within the project , the below services were provided by EMAY:

- To take precautions for dangerous situation at the site of construction
- Supervision services
- Together with client, checking of processes of foundations, cast, reinforcing steel, cables, anchoring materials and systems, laboratory studies, installation etc.
- Checking of material, tools and equipment of contractor at the construction site
- Monitoring of technical staff and the other personnel of contractor
- Checking of laboratory studies and quality control, design, support, installation, and management systems
- During the supervision services; preparation of daily site report, the survey, attachments, Green books attachment to monthly payment, transcripts, etc. together with the client and submit to client for approval
- Preparation of monthly payment
- To monitor and provide the annual payment and physical realizations
- To submit the following report and documents
- Monthly progress report quarterly progress reports until completion of project field books, records and all other documents together with final projects prepared by the contractor
- The project completion report
- Service completion report
- Final account and final payment report
- Preparation of as-built projects after the construction

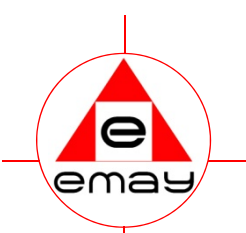
Client:

General Directorate of Highways

Duration of The Project:

May 2012 – May 2015 (36 months)





Construction Supervision, Consultancy Services and Engineering Services for Haliç Metro Crossing Bridge

Description of The Work:

The Taksim-Şişhane-Unkapanı-Şehzadebaşı-Yenikapı metro line will emerge from underground in Azapkapı before crossing the new bridge over the Golden Horn. The metro will then head back underground when the line reaches the Süleymaniye hills. The total length of the bridge over water will be 460 meters. If the Unkapanı and Azapkapı viaducts are included, the bridge will be 936 meters long.

Special cranes were brought in to lift into place the enormous 380 to 450-ton piers, which were built in Yalova. The 800-ton capacity crane will be removed from the site after the bridge deck is in place.

Construction projects linked to the Haliç metro bridge were approved on July 6, 2005, by the Protection Council, though the approval started still-ongoing debates over how the bridge will affect the historical silhouette of the area.



Within the project , the below services were provided by EMAY:

- Services consultant will provide during mobilization of the contractor
- Construction Supervision services
- Together with client, checking of processes of foundations, cast, reinforcing steel, cables, anchoring materials and systems, laboratory studies, installation etc.
- Checking of material, tools and equipment of contractor at the construction site
- Monitoring of technical staff and the other personnel of contractor
- Checking of laboratory studies and quality control, design, support, installation, and management systems
- During the supervision services; preparation of daily site report, the survey, attachments, Green books attachment to monthly payment, transcripts, etc. together with the client and submit to client for approval
- Preparation of monthly payment
- To monitor and provide the annual payment and physical realizations
- To submit the following report and documents
- Monthly progress report quarterly progress reports until completion of project field books, records and all other documents together with final projects prepared by the contractor
- The project completion report
- Service completion report
- Final account and final payment report
- Preparation of as-built projects after the construction

Client:

Greater Municipality of İstanbul

Duration of The Project:

April 2013 – August 2014 (16 months)



Ikizdere -Ispir Road Ovit Tunnel and Connection Roads' Quality Control, Survey, Construction Supervision and Consultancy Services.

Description of The Work:

The construction cost of the project is approximately 260 million USD, and upon completion with its 14.7 km length, it will be the longest tunnel in Turkey.

The Ovit Tunnel constitutes the most critical passage of the highway route that will link Rize and all the Black Sea , the Northern Caucasus to the eastern and southeastern regions and then to Central Asia and Iran.

The tunnel will enable transport all year round between Rize and Erzurum. The current passage over the mountains is mostly closed during winters due to risk of avalanches and heavy snow. The travel time between Rize and Erzurum will be reduced from 5 to 2 hours from, and the highway will be shortened by 30 kilometers between İspir and Erzurum.



Within the project , the below services were provided by EMAY:



- Project Management and Construction Supervision Services
- Checking of materials on Site with respect to manufacturer certificates
- Preparation of Monthly Reports and Work Program.
- Preparation of income and expenditure and submit to Client
- Providing and Executing Quality Control, test results and Material Certificates.
- To make deficiencies complete between taking over and final statement stages

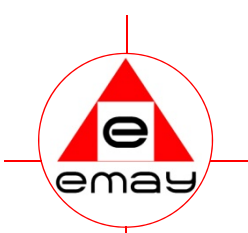


Client:

General Directorate of Highways, 10th Division Directorate

Duration of The Project:

October 2012 – May 2016 (44 months)



Consultancy and Supervision Services for İstanbul Otogar - Bağcılar - Olimpiyat Köyü - Başak Konutları 4 Rail Mass Transportation System Construction and Electro-Mechanical Works and Supply of Vehicles

Description of The Work:

1. Esenler-Kirazlı 1 LRT Line (1. Line) is total length of 5.8 km. This line is including the following works:
 - 4 pcs. cut and cover station and 1 pcs. grade crossing station
 - About 3,9 km length TBM tunnel and 800 m length cut-cover tunnel
 - 500 m length viaduct
 - 600 m length grade crossing and cutting section
2. Kirazlı 1- Başak Konutları 4 Subway Line (2. Line) is total length of 11.8 km. This line is including the following works:
 - 9 pcs. cut and cover station
 - About 8,9 km length TBM tunnel and 2,7 km length cut-cover tunnel
3. İkitelli Güney Sanayi-Olimpiyat Parkı Subway Line (3. Line) is total length of 4.1 km. This line is including the following works:
 - 1 pcs. cut and cover station and 1 pcs. NATM station
 - About 1,7 km length cut and cover and 1.9 km length NATM
 - 500 m length viaduct
4. Depot Area: Subway service depot and depot area that is 12,000 m² closed area and built on area 75 acres. Railway transportation system including three section and depot area. It has about length of 21,7 km and 16 pcs. stations. Construction cost is 1,35 billion USD.
 - Total Line Length: 21.672,83 m (left line), 21.259,84 m (right line)
 - Total Station Length: 2.600 m
 - Total Cut&Cover Tunnel Length: 2.862,14 m (left line), 2.956,51 m (right line)
 - Total length of cut supported by retaining walls: 435,13 m (left line), 408,91 m (right line)
 - Total TBM Tunnel Length: 12.723,62 m (left line), 12.761,67 m (right line)
 - Total NATM Tunnel Length: 1.945,31 m. (left line), 1.875,23 m (right line)
 - Total Grade Crossing Length: 197,00 m (left line), 180,50 m. (right line)
 - Total Viaduct Length: 871,9 m (left line), 477,02 m (right line)
 - Total rail length: 53,8 km.
 - Total closed station areas: 450.000 m²

Within the project , the below services were provided by EMAY:

Emay has executed design review, project management and construction supervision services with all of the controlling and consulting services during the maintenance period of the following works;

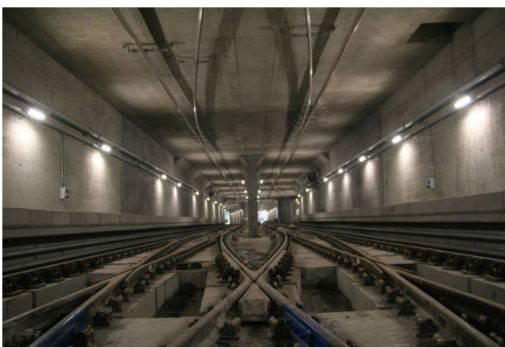
- Civil works (Earthworks, Tunnels, Viaducts, Stations, Depot and Workshop Building)
- Architectural and Finishing works
- Track works
- Power Supply and Rigid Catenary Systems
- Signalling and Safety Systems
- Control and Communication Systems (Scada, Radio, Phone, Passenger Information, Public Announce, Central Clock, CCTV, Fare Collection, Entrance Security, etc.)
- Earthing and Cathodic Protection
- Electrical Installations (Low Voltage, Lighting, Fire Alarm, etc.)
- Ventilation (Tunnels and Stations) / Air Conditioning Systems
- Escalators and Elevators
- Mechanical Installations (Water, Sewage, Pumps, Fire Fighting, etc.)
- Workshop Equipment
- Rolling Stock
- Testing, System Integration, Commissioning, Operation and Maintenance Organisation

Client:

Greater Municipality of İstanbul

Duration of The Project:

December 2008 – November 2014 (72 months)



Description of The Work:

Total length of Line:

17 km long double tube +2.7 km long single tube, depot area / Link to Maintenance and Control Center.

Number of Station: 16

Station Names:

Uskudar, Fistikagaci, Baglarbasi, Altunizade, Kisikli, Bulgurlu, Umraniye, Çarşı, Yamanevler, Çakmak, Ihlamurkuyu, Altınşehir, Imam Hatip Lisesi, Dudullu, Necip Fazil, Çekmekoy-Sancaktepe.

Number of Vehicles: 21 Nos of 6 rolling stock

Capacity of Passenger: 64.800 passengers / hour / direction

Maximum Speed: 80 km / hour

Average travel time: 27 Minutes



Within the project , the below services were provided by EMAY:

Design review, project management and construction supervision services covering,

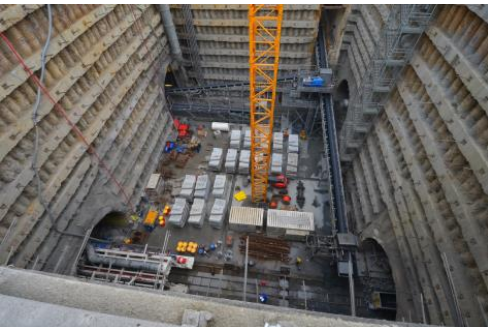
- Civil works (Earthworks, Tunnels, Viaducts, Stations, Depot and Workshop Building)
- Architectural and Finishing works
- Track works
- Power Supply and Rigid Catenary Systems
- Signalling and Safety Systems
- Control and Communication Systems (Scada, Radio, Phone, Passenger Information, Public Announce, Central Clock, CCTV, Fare Collection, Entrance Security, etc.)
- Earthing and Cathodic Protection
- Electrical Installations (Low Voltage, Lighting, Fire Alarm, etc.)
- Ventilation / Air Conditioning Systems
- Escalators and Elevators
- Mechanical Installations (Water, Sewage, Fire Fighting, etc.)
- Workshop Equipment
- Rolling Stock
- Testing, System Integration, Commissioning, Operation and Maintenance Organisation

Client:

Greater Municipality of İstanbul

Duration of The Project:

March 2012 – December 2015 (44 months)



Description of The Work:

Works include;

- 17.3 km Metro line, fully-automated driverless system with capacity of 70,000 pphpd,
- 11.9 km TBM tunnel, 2.4 km NATM tunnel, 1.7 km cut-cover tunnel, 1.0 km viaduct, 300 m at grade,
- 15 stations; 8 being deep tunnel, 5 being cut-cover, 2 being viaduct,
- Depot area with workshop building,
- Rolling Stock (138 #).



Within the project , the below services were provided by EMAY:

Design review, project management and construction supervision services covering,

- Civil works (Earthworks, Tunnels, Viaducts, Stations, Depot and Workshop Building)
- Architectural and Finishing works
- Track works
- Power Supply and Rigid Catenary Systems
- Signalling and Safety Systems
- Control and Communication Systems (Scada, Radio, Phone, Passenger Information, Public Announce, Central Clock, CCTV, Fare Collection, Entrance Security, etc.)
- Earthing and Cathodic Protection
- Electrical Installations (Low Voltage, Lighting, Fire Alarm, etc.)
- Ventilation / Air Conditioning Systems
- Escalators and Elevators
- Mechanical Installations (Water, Sewage, Fire Fighting, etc.)
- Workshop Equipment
- Rolling Stock
- Testing, System Integration, Commissioning, Operation and Maintenance Organisation

Client:

Greater Municipality of Istanbul

Duration of The Project:

December 2013 – May 2018 (54 months)



Consultancy and Supervision Services for Construction Works of Ankara-İstanbul High Speed Railway Project Eskişehir Railway Station Crossing

Description of The Work:

At the current status, Eskişehir city center is interrupted by the existing railway lines at different points. The aim of the Eskişehir Station Passage Project is finding a solution to the level crossing problems.

Eskişehir Station Passage Project is consists of construction of 2240m tunnel and 1151 m U-cleavage (total 3,4 km in length) for underground passage of railway and construction of underground station and railway station platform.

In the tunnel there will be in 5 lines in total. These lines are respectively:

- 2 pcs. high speed lines
- 2 pcs. conventional lines
- 1 pcs. freight line

The interior of U-cleavage has been designed as triple line. These are 2 high speed railways and 1 conventional line railway.



Within the project , the below services were provided by EMAY:

EMAY will provide construction supervision services which is defined below;

- Infrastructure works
- Civil works (road, tunnel, bridge, cut, fill, station, route etc.)
- Architectural Works
- Superstructure Works for railway
- Electromechanical Works (cer, catenary, signaling, safety systems, Communications, electrotechnics, Mechanical, air ventilation)
- Maintenance and Triage Area Business
- Rail Public Transportation
- Operation/maintenance

Client:

Turkish State Railways

Duration of The Project:

March 2008 – April 2014 (74 months)





Supervision and Consultancy Services for Yerköy-Sivas High Speed Railway Project Infrastructure Construction Works

Description of The Work:

After the completion of this project, 602 km long Ankara-Sivas route will be contracted to 461 km with a 141 km subtraction. The estimated travel time between the two cities will go down to 2 hours and 51 minutes from 12 hours. The course of the line follows Yerköy-Yozgat-Sorgun-Saraykent-Yıldızeli respectively and ends in Sivas. The projected railway is double-lined with a platform width of 15 meters. Within the scope of the project 10.092 meters of tunnel, 2.830 meters of viaducts, 2.631 meters of river pass bridge and 1.140 meters of overpass bridge is going to be constructed.



Within the project , the below services were provided by EMAY:

Yerköy-Sivas High-Speed Train Project Infrastructure Works Supervising and Consultancy Engineering Services;

Consisting of supervising and consultancy services of

- 288 km-long Railway
- 7 Viaduct (3.400 m)
- Total 38 pcs, 1.140 m. overpasses
- Total 146 pcs, 4.410 m. overpasses
- Total 408 , 12. 976 m box culvert
- 6 Railway Tunnel (total : 10,720 m)
- Total 33 pcs 2.631 m River Passage Bridges

Client:

Turkish State Railways

Duration of The Project:

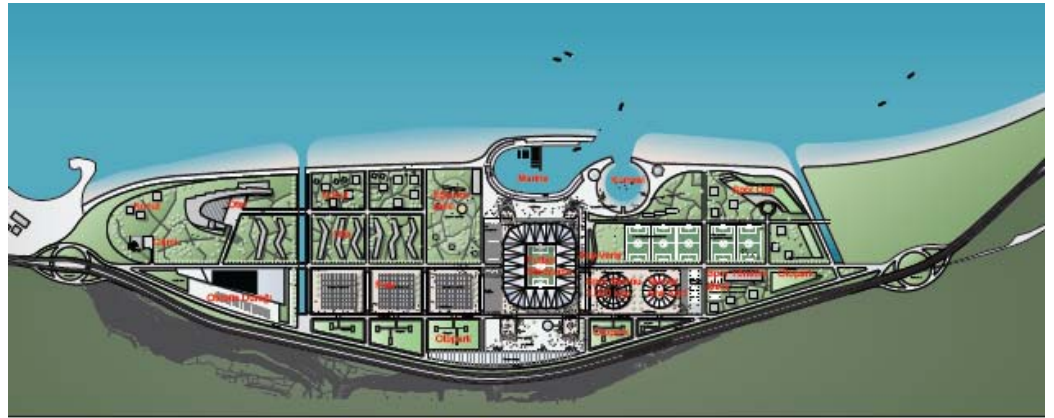
July 2009 – May 2010 (10 months)



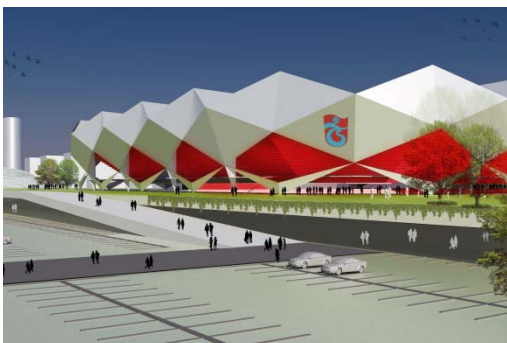
Description of The Work:

Akyazi Sport and Culture Facilities are constructed on sea filled and land-reclamated area in Trabzon and consisted of total 196.000 m² construction area, which is given in detail below. The Sport facilities are designed according to UEFA and FIFA criteria.

- 40.000 Spectators Capacity Stadium (170.000 m²)
- 3000 Spectators Capacity Indoor Sports Facility (14.500 m²)
- 3000 Spectators Capacity Center Court (4.500 m²)
- Camp Sports Training Center (5.000 m²)
- Provincial Directorate Building (General Directorate of Youth and Sports (2.000 m²))



Within the project , the below services were provided by EMAY:



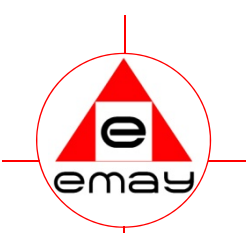
1. Consultancy Services During Pre-Construction Stage (Design Phase):
 - Soil investigations for buildings and open-ground facilities
 - Preparation of Geotechnical Reports and Soil Improvement Projects
 - Architectural Design
 - Static and Dynamic Design
 - Mechanical Installation Design
 - Electrical Installation Design
 - Infrastructure System Projects
 - Landscaping Designs
 - Preparation of Technical Specifications ands Tender Documents
 - Preparation of models
2. Consultancy Services During Construction and After Construction Phase
 - Consultancy Services for Sea Filling and Land Reclamation Construction
 - Consultancy Services for construction of all the facilities on Sea Filling and Land Reclamation

Client:

Housing Development Administration of Turkey

Duration of The Project:

April 2011 – June 2015 (50 months)



Consultancy Services during Construction and Post-Construction Stages for Sport Complex Consisting of 52.000 Spectator-Capacity, Multi-Purpose Use Stadium with a Retractable Roof and 4.500 Vehicle-Capacity Car Parking Lot (3.000 Closed, 1.500 Open) Located in İstanbul Şişli Ayazağa Section 4, Island3, Parcel 29 (Seyrantepe Property)

Description of The Work:

Seyrantepe Sports Complex, which is to be one of the largest in Turkey with a spectator capacity of 52,647, is being constructed on an 82,000 square meter site. The seating capacity of the stadium breaks down into 46,000 seats for regular spectators, 4,710 VIP seats and 176 seats for the disabled and their carers and 157 lodges consisting of 1,760 seats. Six escalators, ten elevators and a car park with a capacity of 3,019 vehicles, including an indoor section taking 2,913 vehicles, are included in the project. If the total parking space provided with the Metro is taken into account, the full capacity increases to 4,500 vehicles. This stadium, intended as a multi-purpose lifestyle center together with social and recreational areas such as a museum, restaurant and kiosk, also contain two gymnasiums.



Within the project , the below services were provided by EMAY:

- Services for after construction tender
 - ✓Design management services
 - ✓Project monitoring and coordination services
- Consultancy services during construction phase
- Consultancy services after construction phase

Client:

Housing Development Administration of Turkey

Duration of The Project:

February 2008 – January 2010 (24 months)





Design and Construction Supervision Services for Flame Towers Project

Description of The Work:

Flame Towers Project is located in the city's most prestigious hill in Azerbaijan capital city of Baku. The project consist of a podium and a shopping center, hotel, residential and office blocks in a total construction area of 248.532 m².

- Hotel Block (37 storey; 163,41 m high; 82.073 m² closed area)
- Residence Block (38 storey; 181.18 m high; 67.521 m² closed area)
- Office Block (31 storey; 150,55 m high; 51.646 m² closed area)
- Carpark, Podium and Shopping Mall (7 storey; 47.292 m² closed area)



Within the project , the below services were provided by EMAY:

- Control and approval of application design and bill of quantities
- Providing of multi-disciplinary project (architectural, structural, electrical, mechanical) and field- project coordination and organization
- If necessary, preparation of project / account revisions or additional application / detailed projects
- Preparation of as-built project
- Approval of project and the accounts by local approval authorities
- Supervise, control and accept construction and installation works in order to provide full conformance of site construction works with design, standards, specifications and work schedule
- Determination and management of Construction methodology
- Implementation of quality control / quality assurance system
- Ddetermination of suitable system and solution methods in connection with negativity in field application
- Construction and site supervision and management



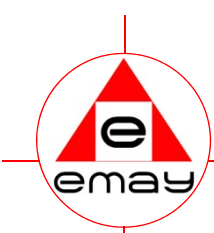
Emay has executed management, supervision, control consultancy and engineering services related to design and construction (site) works.

Client:

Azinko Development MMC.

Duration of The Project:

January 2009 – February 2010 (13 months)



Project Management, Construction Supervision and Coordination Services for Akkoza Housing Project 2A, 2B and 2C Stages

Description of The Work:

Akkoza Project is participate in Kapadık Side, Island 383, Parcel 3 which is constructed by Garanti Koza in Association with AKİŞ. This project include applications consist of construction areas of 2B section (24.475 m² areas) and 2C section (14.016 m² areas). 2B and 2C sections are composed of total 144.000 m² area with inclusion of approximately 96.000 m² residential area, 7.000 m² shopping mall and 41.000 m² parking area.

Client:

Garanti Koza in Association with AKİŞ

Duration of The Project:

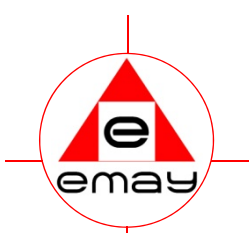
September 2010 – December 2012 (27 months)



Within the project , the below services were provided by EMAY:

1. Pre-Construction Period
 - 1.1. Commencement/ General Studies
 - Quality Assurance / Quality Control, Occupational Health and Safety and Environmental management plans which is constitute the fundamental basis for contractors.
 - Preparation of the archive and documentation management system
 - Arrangement of weekly progress meetings
 - 1.2. Project management services will be provided for subjects above;
 - Architecture and Static
 - Electrical Systems and Mechanical Systems
 - Decoration
 - Infrastructure Systems
 - Ground Improvement and Ground Landscaping
2. During Construction Period
 - Piling Works
 - Civil Works (precast/steel/ reinforced concrete etc. systems)
 - Architectural works (floor/wall/ceiling coverings, door, window, stairs and common areas, wet areas, expansion joints)
 - Electrical systems (power supply and distribution, power generator, UPS, lighting, metering, ground connection, building automation, home security, parking access control, CCTV, telephone, paging, fire alarm systems)
 - Mechanical systems (clean water, waste water, hot water, cold water, heating, ventilation, air conditioning, fire fighting, elevator, escalator)
 - Infrastructure systems (drainage, clean water, waste water, electric, gas, telephone)
 - Board panel (including board panel cleaning systems)
 - Decoration (if necessary)
 - Landscaping (including lobbies and roads) and garden irrigation systems

Project management services consist of contract management, time management, cost management, supply management, quality management, safety & health management and environmental management, commissioning and assumptions, documentation.



Consultancy Services During Construction and Post-Construction Stages of 3416 Residences, Hospitals, Canteens, Social Facilities, Schools, Kindergartens and Buildings Construction including General Infrastructure and Landscaping Works in Amasya, Corum, Samsun ve Tokat Cities

Description of The Work:

The following works are in the scope of the project;

- Construction of 268 pcs. residences, 1 pcs. social facility and 1 pcs. canteen with infrastructure and landscaping works in Fındıklı Location of Amasya Merkez ; Construction area: 19.641,77 m²
- Construction works of infrastructure and landscaping with 1 pcs. 24 classrooms Primary School in Kuzuluk Location of Çorum Province Sungurlu District and 1 pcs. 24 Classrooms High School in Yozgat Province Kadışehri District ; Construction area: 12.649,81 m²
- Construction works of infrastructure and landscaping with Social Security Provincial Directorate Building in Corum; Construction area: 6.104,91 m²
- Construction works of infrastructure and landscaping with 100 bed State Hospital of İskilip District and 100 bed State Hospital of Osmancık District in Çorum Province; Construction area: 34.606,41 m²
- Construction works of infrastructure and landscaping with 96 pcs. residences construction in Samsun Ladik; Construction area: 9.800,00 m²
- Construction works of infrastructure and landscaping with Girls Vocational High School with 24 classrooms and Girls Vocational High School with 75 students in Samsun Bafra Büyükcami Neighborhood; Construction area: 8.292,03 m²
- Construction works of infrastructure and landscaping with 1344 pcs. residences construction in Yeşilova and Gazi Neighborhoods of Samsun Province Canik District ; Construction area: 193.041,98 m²
- Samsun İli Ladik İlçesi 30 Yataklı Entegre Hastanesi İnşaatı İle Altyapı ve Çevre Düzenlemesi İnşaatı İşi; Construction area: 4.065,47 m²
- Infrastructure and landscaping works with the prison at 11474 island, 1 parcel in Çatkaya Village of Samsun Province, İlkadım District ; Construction area: 16.000,00 m²
- Construction works of infrastructure and landscaping with 1276 pcs. residences and 2 pcs. canteens construction in Samsun/Ulugazi; Construction area: 189.140,66 m²
- 200 bed State Hospital in Samsun /Çarşamba; Construction area: 33.586,52 m²
- Construction works of infrastructure and landscaping with 100 bed State Hospital in Niksar District of Tokat Province ; Construction area: 22.354,82 m²
- Construction works of infrastructure and landscaping with Community Education Center construction in Erikli Dere Location of Tokat Province Yeşilyurt District ; Construction area: 4.890,90 m²
- Construction works of infrastructure and landscaping with 320 pcs. residences in Zile District of Tokat Province; Construction area: 32.942,14 m²
- 50 bed State Hospital in Tokat/Reşadiye ; Construction area: 11.848,07 m²
- 100 bed State Hospital in Tokat/Zile ; Construction area: 17.644,00 m²



Within the project , the below services were provided by EMAY:

➤ Consultancy Services During Construction Phase

- To make construction site delivery behalf of the employer for contractors
- Preparation of cash flow programs and submission to the employer
- Checking of work program and preparation of actual situation reports of construction and budget levels
- To provide necessary coordination according to solve problems and inform to the employer
- Checking of transfer to the relevant institutions of all kinds of infrastructure facilities
- To coordinate the work force at construction site
- To accept the program interested in work safety at construction site
- During critical phases of construction to be provided employer staff on the site
- To make final controls of application projects before submission to the employer
- Checking of as-built projects which will be prepared by contractors
- Checking of construction quality, construction speed and contractor efficiency
- Checking of incoming and leaving materials at the construction site
- To monitor occupational safety measures of contractors
- To coordinate for temporary admission and final acceptance works
- To conclude final invoices
- To provide construction of Sample Apartment constructions by contractor

➤ Consultancy Services After Construction Phase

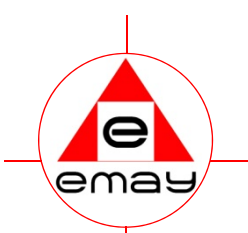
- To provide taking of settlement permission after temporary admission works
- To arrange of comparative estimate, final account, final invoices and submission to the employer
- To take proprietorship certificates and establishment of Easement and / or Floor Ownership
- To make of Type Rectification
- Residence delivery
- Preparation of Maintenance / Operation Manual Books
- Consultancy services after temporary admission works
- To solve technical and administrative problems that may arise after settlement

Client:

Housing Development
Administration of Turkey

Duration of The Project:

October 2011 – November 2015
(50 months)



Consultancy Services During Construction and Post-Construction Stages of 556 Residences, 400 Bed Hospital, 200 Bed Hospital, 25 Bed Hospital, 20 Bed Hospital, 15 Bed Hospital, Commercial Center, High School, Mosque, Atelier Construction including General Infrastructure and Landscaping Works in Balıkesir, Bilecik, Bolu, Bursa, Kocaeli, Kütahya, Sakarya and Yalova Cities.

Description of The Work:

- Construction of 128 pcs. Residences, 1 pcs. social facility with infrastructure and landscaping works in Bandırma Location of Balıkesir ; construction area: 11.854,61 m²
- Construction of 316 pcs. Residences, 1 pcs. social facility, Mosque with infrastructure and landscaping works in Bandırma - Edincik Location of Balıkesir ; construction area: 37.460,93 m²
- Construction of high school-16 classrooms, Atelier with infrastructure and landscaping works in Hendek Location of Sakarya ; construction area: 7.994,59,93 m²
- Construction of 112 Nos residences, Commercial Center with infrastructure and landscaping works in Pazarlar Location of Kütahya ; Construction of completion of mosque in Pazaryeri location of Bilecik. construction area: 13.031,66 m²
- Construction of primary school-24 classrooms, Mosque with infrastructure and landscaping works in Hacımehmet Location of Yalova and construction of rainwater and Repair & Maintenance of Residence in Elmalikoyu location of Yalova; construction area: 6.730,59 m²
- Construction of Gebze public temporary prefabricated polyclinic, Monitoring Center with infrastructure works in Gebze Location of Kocaeli ; construction area: 5.627,43 m²
- Construction of Public Hospital-15 bed with infrastructure and landscaping works in Goynuk Location of Bolu ; construction area:3.864,36 m²
- Construction of Public Hospital-20 bed with infrastructure and landscaping works in Sapanca Location of Sakarya ; construction area:3.774,33 m²
- Construction of Public Hospital-25 bed with infrastructure and landscaping works in Keles Location of Bursa ; construction area:4.594,97 m²
- Construction of Public Hospital-200 bed with infrastructure and landscaping works in Mustafa Kemalpaşa Location of Bursa ; construction area:35.748,14 m²
- Construction of Public Hospital-400 bed with infrastructure and landscaping works in Gebze Location of Kocaeli; construction area:56.579,63 m²



Within the project , the below services were provided by EMAY:

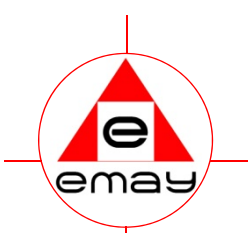
- Consultancy Services During Construction Phase
 - To make construction site delivery behalf of the employer for contractors
 - Preparation of cash flow programs and submission to the employer
 - Checking of work program and preparation of actual situation reports of construction and budget levels
 - To provide necessary coordination according to solve problems and inform to the employer
 - Checking of transfer to the relevant institutions of all kinds of infrastructure facilities
 - To coordinate the work force at construction site
 - To accept the program interested in work safety at construction site
 - During critical phases of construction to be provided employer staff on the site
 - To make final controls of application projects before submission to the employer
 - Checking of as-built projects which will be prepared by contractors
 - Checking of construction quality, construction speed and contractor efficiency
 - Checking of incoming and leaving materials at the construction site
 - To monitor occupational safety measures of contractors
 - To coordinate for temporary admission and final acceptance works
 - To conclude final invoices
 - To provide construction of Sample Apartment constructions by contractor
- Consultancy Services After Construction Phase
 - To provide taking of settlement permission after temporary admission works
 - To arrange of comparative estimate, final account, final invoices and submission to the employer
 - To take proprietorship certificates and establishment of Easement and / or Floor Ownership
 - To make of Type Rectification
 - Residence delivery
 - Preparation of Maintenance / Operation Manual Books
 - Consultancy services after temporary admission works
 - To solve technical and administrative problems that may arise after settlement

Client:

Housing Development
Administration of Turkey

Duration of The Project:

September 2012 – July 2016 (47 months)



Construction Supervision and Consultancy Services for the Conversion of the Warehouse-Museum-Excavation Site Located in Orhun Valley into a Museum and Re-Vitalization Activities in the Open Ground

Description of The Work:

The project include "Conversion of the warehouse-Museum-Excavation Site located in Orhun Valley into a Museum". In this Project, fine construction materials peculiar to that region are used partly in the interior and outer part of the steel- concrete museum building. In this museum complex, Bilge Khan and Kul-Tigin excavation areas are also exist together with the Museum that 1080 m2 closed construction area. In the scope of the project, the jobs like landscaping, ambient lightning, electric line, water well hole, construction of surrounding wall are done.



Within the project , the below services were provided by EMAY:

Construction supervision and consulting services for the following works;

- Conversion of the warehouse-Museum- Excavation Site located in Orhun Valley into a Museum.
- Construction of the surrounding walls of excavation and monument areas
- Re-Vitalization activities in the open ground
- Connection of electric line
- Drilling of water well hole



Client:

Turkish International Cooperation Agency

Duration of The Project:

June2007 – October 2007 (4 months)



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