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Vignette®

A Newsletter of Engineering Consultants, Pakistan

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EDITORIAL

It can now be said without hesitation that "Vignette" has matured. We can say so beacuse we find that our readers keep a look out for the next issue. On our part we try to be punctual but you know...! Doubtlessly there is always room for improvement and therefore it will remain our endeavour to keep on improving EC's Newsletter, in all possible manners. Any suggestions in this regard, would be most welcome from all our readers.

The last quarter has seen EC humming with activity all around. Reason, high pressure of work. While some important and big projects were heading for completion, still bigger ones were in the offing. The most prestigious being Islamabad Peshawar Motorway. There are others too, which demand urgent and serious attention. Engineers can be seen glued to their seats for long hours sweating and shifting in their seats, to solve

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INNOVATION & TECHNOLOGY

MOSSmerising Highway Design

Another First in Pakistan. Readers and well wishers of Engineering Consultants (EC) would be pleased to know that EC has acquired a State-of-the-Art software in Highway Design. It is known as MOSS, acronym for Modelling of Surface Systems, produced by MOSS Systems Limited of UK. EC is proud to be the first, yet again not only in Pakistan, but in the entire Indo-Pak sub-continent, to have acquired the system. It is a great facility to expedite the design work on the prestigious Pakistan Motorway Project, Islamabad- Peshawar Section. It is indeed an honour, not only for EC but for Pakistan, to have the title of using this sophisticated software for obtaining better and quicker solutions to design problems. This article introduces MOSS to our valued readers.

Engineering Consultants (EC) is proud to be the first, yet again, not only in Pakistan, but in the entire Sub-Continent, to procure highly acclaimed MOSS Software for Highway Design

MOSS was initially conceived in the early 70's by a group of Engineers working in Local Government in the UK. Before that, highway design was based on manual interpretations and adjustments of the longitudinal and cross sections of a proposed alignment. The system worked but was time consuming and laborious. This was based on a method of linking cross sections to form a representation of the proposed alignment. There were, and still are, a number of computer programs available in the market but they simply automated the manual procedures because that was obviously the most natural thing to do. But still, the engineers were hard put to resolve problems related to complex features such as split level diverging carriageway, junctions and interchanges. And no computer could solve problems related to non-highway works such as open cast mining and general surface recording and manipulation. A package programme was therefore needed to tackle all problems related to representing ground surfaces, irrespective of whether they pertained to highways, railways, mines or land reclamation jobs, in the form of digital terrain models.

The MOSS approach is to represent the road and ground features by means of a series of 3 dimensional points joined together to form "Strings". This enables the engineers to model river bends, ditches, edges of carriageway, etc by using a compu-

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The Managing Partner, Engr Zaheer Mirza, making a presentation on Islamabad Peshawer Motorway Project to the Prime Minister of Pakistan Mian Mohumman Nawaz Sharif and the Chief Minister of NWFP, Mir Afzal Khan. Prominent among others present on the occassion are, Minister of Communication, Mr Azam Khan Hoti, Secretary Communication, Mr Salman Farooqi, and the Chairman NHA, Major General (R) Hidayatullah Khan Niazi.

MOSS: (Contd from Page 1)

ter in exactly the same way as they are seen in true life; as independent lines.

MOSS was launched in public in 1975. Since its inception the programme has been widely used throughout the world and is accepted as the "State-of-the-Art" and "Ultimate" in Highway Design. In addition to its application in Highway design, it can also be used very effectively in other fields such a railways, mining, waste management and hydrology. This is supported by the fact that at present, MOSS is being used in 38 countries, including Pakistan, around the world in 662 organizations on 982 locations, under 2172 licenses.

When first developed MOSS worked on a non-graphical line input mode. With the release of version 7.0 in 1987, fully interactive graphics were introduced which enabled the designer to view the model on the screen as changes were being made. This gave the enabled engineers a better control of the design process. Subsequent releases, continued the development towards fully interactive design and allowed horizontal and vertical alignments to be accomplished "on-screen". The latest release, version 9.1, now permits the interfacing of the road and ground models to be performed interactively as well.

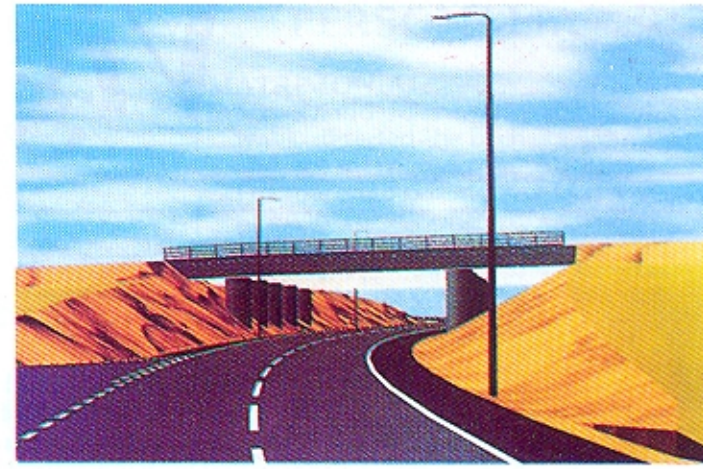
The general outline of the MOSS project sequence can be divided into five major steps as follows.

- Survey
- Visualization
- Design
- Analysis
- Project drawings.

Ground models, that represent the existing ground surface, can be input directly from a total station using a data logging device or by digitizing topographic sheets or processing aerial photographs through stereo plotters. This will enable the design to work with a ground model or a digital terrain model.

A digital terrain model depicts not only the lay of the ground surface but the coordinates as well. The foremost benefits of MOSS are as follows:-

- Instantaneous and interactive graphical input and output. The input for this purpose is made through a mouse instead of a keyboard.
- Speed
- Flexibility
- Repeatability
- Design errors can be detected and corrected on the spot.
- Displays are not confined to plan views. Three dimensional Panoramic effect can also be created to assess environmental impact of a scheme.
- National, local and company standards can be incorporated for quick application to any design.
- Existing ground surface can be superimposed with the proposed surface to create realism in screen display of the site.
- Trial designs can be worked through in hours rather than days.



MOSS Has Been Used In 38 Countries Around The World In 662 Organizations On 982 Locations Having 2172 Licenses.

MOSS performs these and numerous other functions through its own command language which has two tier options i.e., major and minor options. In all there are 50 major options and 300 minor options. The major options set up the generating process while the minor options perform specific tasks within the range of work encompassed by the major options. The package has three modes of operating, the graphics mode, line mode and batch mode.

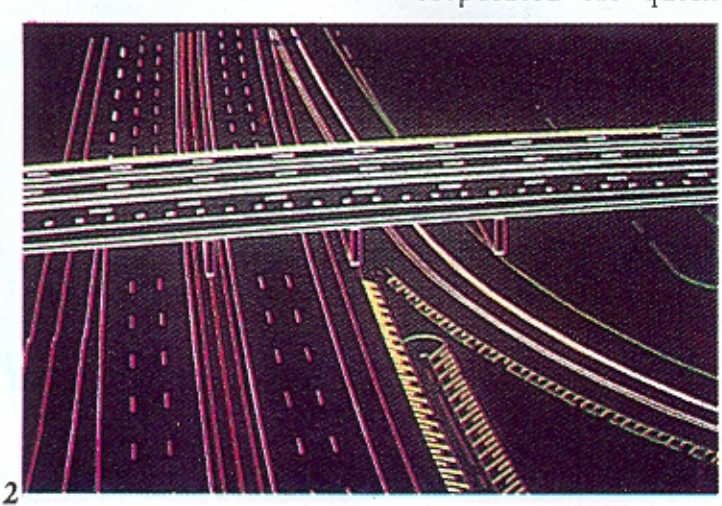
MOSS also includes a number of other options:

- *DRAW* - this allows the designer to draw plans; long sections or cross-sections.
- *VIEW* - this option permits 3-D perspective views of the model to be created. These can be superimposed over photographs to give accurate impressions of the proposed design. The limit is that one can actually assess the riding quality of the designed surface of a highway, not yet built.
- *VOLUME* - earthworks and pavement quantities can be obtained.
- *DRAINAGE* - the design of a surface water run-off system utilizing pipes and manholes can be prepared.
- *EPIC* - this enables a series of perspective drawings to be viewed giving the impression of a drive along the proposed highway. These drawings can also be shaded with colors to produce a very realistic "film".

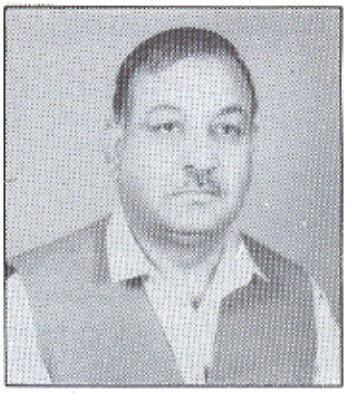
It would be easy to imagine the details that MOSS would be capable of working through, to develop a plan incorporating all the major and minor requirements of a project and producing final contract drawings.

Last but not the least, it is of vital importance to inform our readers that MOSS software does not work on ordinary personal computer terminals. It requires a workstation like DEC station from Digital; the machine which has been chosen by EC as platform for MOSS to run on.

With these new technological improvements, EC will provide a rare opportunity for Highway Engineers working in EC to master this incredible tool to enhance their design techniques as well as their productivity. Thus EC is operating at the cutting edge of technology, to achieve the best results possible, anywhere in the world.



The Industrious Mr. Hidayatullah



One of the basic requirements of any engineering project is the survey of the area where a project is to be executed, irrespective of its size or the nature of work. More so in a consultancy organization, where all kinds of jobs are planned and designed for execution, to meet the clients needs. EC being the largest consultancy organization in private sector, has a vast requirement of survey work all over the country. This responsibility is being shouldered in this company by Mr Hidayatullah, the Regional Manager and Chief of Engineering surveys, with his Headquarters at Peshawar.

Hidayatullah, Is A Kind Of Person Who Willfully Accepts The Challenging Jobs And Motivates His Team Of Surveyors To Work With Devotion.

"Dont worry, it will be done and completed on time!". This is what he always says when a new assignment is entrusted to him. Mr Hidayatullah, is a kind of person who willfully accepts the challenging jobs. Dynamism is what he believes in. This issue of Vignette highlights his career as an accomplished Surveyor and a disciplined organiser.

Mr Hidayatullah hails from a place known as Zaida, in district Swabi of NWFP. He was born on the New Years day 1945, the year the world war two had ended. He passed his matriculation from the Government high school Zaida, securing first division. In 1961 he entered the famous Islamia College Peshawar and graduated with science and mathematics as major subjects.

It was now 1968 and young Hidayatullah was ready to face the challenges of life. Being young, energetic and technically minded, he joined the Survey of Pakistan as a young survey officer. This was quite an achievement. He was selected through a competitive examination, held on all Pakistan basis. Only eight candidates were selected, that is, four each from East and West wings of Pakistan. Here, the officers selected were required to undergo a two year course in surveying at the Survey Institute, Risalpur. This was followed by advanced training in "GEODESY", dealing with astronomy and precise surveys.

Trained to bear professional responsibility, Mr Hidayatullah was assigned the task of carrying out the First Order Triangulation along Pak - Iran border, in 1970. Here he proved himself to be an efficient surveyor and made quick strides in the department, taking him finally to perform the most delicate task of determining the correct alignment of a tunnel proposed to be constructed at Lowari Pass, apart from the traverse survey and levelling of the surrounding area located at an elevation of 7000 Ft above mean sea level. Working under hazardous conditions Hidayatullah accomplished the mission successfully.

The year 1977 brought tangible change for Mr Hidayatullah. He resigned his post in Survey of Pakistan, in search of better prospects in the Middle East where he joined a British firm as a senior surveyor. However this proved to be a short term affair as he was spotted for his efficiency and picked up by Engineering Consultants, to work on their projects in Libya as senior surveyor incharge of all survey works. Eversince, he has proved himself to be a dependable and loyal worker, ready to take on and handle the most difficult of situations. At one time he also assisted a Resident Engineer in the supervision of the construction work of Al Weigh Airport in Libya. He was promoted as Project Chief Surveyor in 1980, in which capacity he supervised survey work in progress on various prestigious projects in Libya.

Returning to Pakistan in 1984, he continued to work zealously on projects spread all over the country and never failed to achieve the assigned targets. Quite naturally, his unflinching loyalty and efficiency won him the confidence of the company's management and consequently he was promoted as Regional Manager and Chief of Engineering surveys in May 1991. He is presently responsible not only for survey works all over Pakistan but also carries the responsibility for coordinating all the company's works in progress in NWFP region. In addition, he also deals with the business promotion activity in NWFP including assisting Business Promotion Division in its activities. Mr Hidayatullah is right now busy surveying the alignment of Islamabad-Peshawar Motorway, which passes almost next door to his native town of Zaida...a signal honour...!!!

Engineering Consultants can rightly be proud of such dedicated workers, who blaze exemplary trails for others to emulate. Surely Mr Hidayatullah deserves many a pat on his back for singular achievements in his professional career. Recently, EC organised a training program for Hidayatullah & his selected band of surveyors on effecient and proper use of electronic total station. A system with special hardware and field PCs for recording ground terrain, which can later be used to transfer data directly into the MOSS system for which EC is now the only licenced firm in Pakistan. MOSS is the worlds industrial standard for design of civil engineering projects including motorway and railway systems. This surely is a great advantage, not only to EC, but to Hidayat's hardy surveyors.

Shelter For Low Income Communities

A STUDY & ITS PRINCIPAL ISSUES

By: Engr. Akhlaq Ahmed, Director

Shelter or housing is one of the vital necessities of life for human beings. It is as important as air to breath, water to drink, food to eat, clothes to wear for protection and health. With the passage of time and particularly in the modern age, these aspects, of human life have assumed complexity and have become dependent on some internal and external factors, beyond the control of individuals and thus become the responsibility of the community or society to which people belong.

The housing requirements of high income elites pose no problems because of their reach to all amenities of life. It is the middle and low income groups that face problems in which the low income suffers acutely on account of dearth of finances and other resources. It is phenomena faced by all developing countries in their rural and urban areas and is also the topic of this presentation.

The term "Low Income Households" defines the dwellings of the people falling in the lower half of the income distribution group, among the country's population. These households have incomes of less than Rs. 40,000 per annum, which is the income tax exemption limit in Pakistan.

The question of finding ways and means of improving the lot of the people falling in the low income group has been receiving the attention of the Government of Pakistan for quite some time past. Finally it was decided to seek help from the international agencies and a request was therefore made to World Bank to identify the major deficiencies in the provision of shelter for low income communities and the opportunities for improving the quality of the shelter for a better living.

Pakistan Government subsequently requested the Swiss Development Corporation (SDC) and the World Bank to assist the Federal and the Provincial Governments in conjunction with United States Agency for International Development (USAID) and the Asian Development Bank (ADB) in undertaking a detailed preparation of an investment programme suitable for international assistance.

A World Bank administered consultancy assignment, funded with SDC and Japanese grant was awarded to a consortium of international and local consultants in May 1990. The consortium comprised the following:

- TPO'Sullivan & Partners, UK.
- PADCO International, UK.
- AUT Associates Inc., UK.
- Engineering Consultants, Pakistan.
- Ferguson Associates, Pakistan.
- PEPAC Ltd., Pakistan.

The Consultants mobilised in July 1990, to assist the Government of Pakistan and the Provincial Governments, in the preparation of National and Provincial Shelter Investment Plans, suitable for international financing. The cost of the final project may reach US$ 500 million with the possibility of mobilising US$ 300-400 million in international aid. For this purpose, the Consultants were to undertake a series of studies covering following issues:

> ***"Low Income Households" Define the Dwellings of the People Falling in the Lower Half of the Income Distribution Group, Among the Country's Population***

- Housing needs and demands
- Land tenure
- Community participation
- Resource mobilisation and institutional capacity
- Housing credit
- Appropriate technology
- Private sector activities, and the informal sector

The consultants were required to prepare final investment plans consisting of policy recommendations and physical investment programmes.

PRINCIPAL ISSUES

A number of issues were identified by the Consultants in their reports during the discussions with the Federal and Provincial Governments. These are:

- **Statistical:** There are approximately 16.1 million households in Pakistan. Out of these about 70% are located in rural areas - the majority living under overcrowded conditions in low quality houses, lacking both tenure and public services A deeper study was needed to develop a clearer statistical picture of life in these dwellings, for investment planning.
- **Land Availability:** An estimated 2.5 million plots presently lie vacant in the urban and rural areas, and are not available to alleviate the shortage of housing, because the land market does not function effectively. Land which would be expected to be utilised for shelter purposes, is used for business speculation and savings, thus worsening the situation and resulting in high cost of living and deprivation. The economic impact of this situation was required to be fully assessed.
- **Government and its role:** In Pakistan, the Governments have been playing a limited role in providing shelter to their people. A detailed analysis of the most appropriate future role of Government, looking in particular at facilitation strategies, was to be undertaken.
- **Urban & Rural Priorities:** The demand for shelter had to be analyzed on the basis of rural/urban migration trends for a better understanding and planning.
- **Community & Non-Government Organisation's (NGO) Involvement:** The scope and possibilities for involvement of community based organisation and NGOs in the shelter sector were to be examined and appropriate remedies suggested.
- **The Private Sector:** The private sector, both formal and informal has remained by far the main source of generating shelter facility. Particular effort was therefore to be made to establish how the private sector could best be made more effective and how shelter formation can be facilitated by Government.

(Contd on Page 5)

SHELTER (Contd from Page 4)

- **Housing Finance:** To determine the demand for housing finance and the most appropriate mechanisms for making it available to both urban and rural low income households.
- Financial intermediaries play a greater role in housing finances. The need for alternate intermediaries was to be investigated.
- **Resource Availability:** Improvements to shelter and the related services require Annual Development Plan (ADP) allocations and provision for recurrent expenditures, at a time when there is increasing demands from all sectors and a serious shortage of government finance in Pakistan.
- **Project & Investment Programme Management:** The ability of government is to be assessed to manage and implement an investment programme, and the most effective role for each, which will be different in each province.
- **Technology:** Significant improvements could be made to the quality standardisation manufacture, marketing and distribution of building materials. These should be based on indigenous building materials, paying particular attention to local skills, training requirements, cultural factors, affordability, environmental factors and the feasibility of change.
- **Project Components:** Possible components for the project include the following:
  - Vacant land charges;
  - Land registration regularisation, including full title Katchi Abadi land;
  - Plot pricing and allocation policies;
  - Local level resources mobilisation through Property taxes and services charges; and
  - Institutional and procedural changes to facilitate and support private sector and community contributions to shelter development.

The Consultants mobilised quickly at Islamabad and in Provinces and proceeded as per work plan. At peak work load, the Provincial teams comprised 8/9 professional and 5/6 support level staff, requiring about 3 offices per province, and access to equipment, communications and counterpart staff.

The National Housing Authority and Government extended their full support to the consultants, who regularly submitted progress reports outlining their findings and plan of action which was discussed with the respective Governments.

To conclude the project, appropriate reports have been prepared and submitted to all concerned for implementation at Federal and Provincial levels. All issues were dealt with comprehensively and have been appropriately incorporated in the Consultant's submissions to the Federal and the Provincial Governments, besides World Bank and other concerned Agencies. It can now be hoped that in times to come, it will be easier for the low income group of our population, to manage a cosy shelter for their families.

(**EDITORIAL**: Contd from Page 1)

problems which keep cropping up every hour. Then there is the unending chain of meetings which must be attended, to find solutions to intricate puzzles and riddles related to technical or administrative matters. Things must be matched somehow and progress achieved.

To top it all, well trained and experienced manpower is to be found to fit the various slots and moved to their respective job sites at appropriate timings. This appears to be a grim scenario but it is not for the first time. EC's management is used to facing such situations and providence is always at hand to help. Remember the good old saying "God helps those who help themselves"...!!!

Food for Thought

- Nothing ever built arose to touch the skies unless some one dreamed that it should, some one believed that it could and some one willed that it MUST...!!!
- Don't let perfection paralyse you. Many People fail to act because they're afraid they may not perform perfectly.
- Stop suffering over things you cannot do anything about, can't change. Concentrate instead, on the things you can do, can change, right here in your own little corner.
- A man's mind is like garden, which may be intelligently cultivated or allowed to run wild.
- One great cause of failure is lack of concentration.
- It is a great thing to do a little thing well.
- Skill to do comes by doing.
- Conference is the gathering of important people who singly can do nothing, but together decide that nothing can be done!
- If one advances confidently in the direction of his dreams, and endeavors to live the life which he has imagined, he will meet with .... success.

NEWS AND COMMENTS

Introduction of Entrance Exam: EC has introduced an entrance test as a prerequisite for all the fresh engineer graduates desirous of joining this organisation. The test has been formulated on the lines of Graduate Record Examination, GRE. However, there is no time limit! An engineer can take as much time as one requires. However, a weighage factor is assigned to time factor which is based upon historic average time to complete the test. It has been appreciated by most of the engineers who have undertaken the test and at the same time got a feeling of fair play in EC's employment policy.

Welcome MMIL Team of Engineers: MMIL team of highway engineers and MOSS experts arrived in July / August,to join hands on Islamabad Peshawar Mtorway Project. We were all strangers but it took only a few days to become frank and friendly. It is a pleasure working with them and we accord them a hearty welcome.

Applied Engineering Research Cell: EC's team leader in geotechnical engineering, Mr. B.A. Abro, a Graduate from Asian Institute of Technology, on EC's staff since 1976, has matured as one of the best Geotechnical Engineers in the country. He is conducting a research on soils for highway projects in the province of Sindh. The aim is to reduce the cost of pavement in treacherous soils, where pavement material is not available locally and is to be transported over a distance of 100-250 KM from North Sindh or central Punjab. EC intends to disseminate results of the research work for the benefit of other consultants, executing agencies and engineers in general. The results of this research will be published in the forthcoming issues of Vignette. It has been a very encouraging effort resulting in economic design, saving construction costs of long lasting roads. This is a national service which EC is going to undertake for a better and self reliant Pakistan.

Holiday On March 25 1992: On the eve of World Cup final, EC declared a holiday to enable staff in general and cricket enthusiasts in particular, to watch the Final of the World Cup Cricket Tournament in Melbourne, Australia between Pakistan and England. Everyone enjoyed the historic match in which Pakistan emerged victorious. Congratulations to Pakistani Nation on the great achievement of the Players and the BCCP. EC is proud to be associated with the Development of cricket in Pakistan. EC were engaged for the expansion of National Cricket Stadium in 1978, and are currently working on a project aimed at its commercial development for BCCP.

Total Stations for Surveying: With the advent of Islamabad Peshawar motorway project, EC have acquired the most modern survey equipment generally known as TOTAL STATION. It is a special hardware which records every detail a surveyor may want digitally into a data logger which can be transferred to a computer at the end of the day. It provides a total solution, integrating data processing from Survey and engineering design and analysis to production of contract design, the setting out and measurement of construction projects on site. Special arrangements were made for training of Mr Hidayatullah's team of senior surveyors for professional use of electronic total station system with special hardware and field PCs. The recorded ground terrain can be transferred directly to the MOSS system for which EC is now the only licenced firm in the entire sub continent.

Rain Hits The Basement! The torrential rains that fell over Karachi on 12 of August last, overwhelmed the entire population of the metroplois. EC was no exception. The Head Office functioned normally till 3 pm when it was observed that a sheet of water was advancing to enter the basement through the ventilators located at ground level. Everyone therefore braced himself to meet the situation and all computer equipment, office records, drawings and important materials were removed to safety of the upper storeys. Water actually entered the basement at 5 pm, not only through the ventilators but also from the floor, due to high subsoil water pressure. The area had to be abandoned temporarily and the management ordered closure of the office on 13 August, to reorganize the seating arrangements for those who had to migrate from the basement. This was done quickly and in a manner that allowed the resumption of normal working from Saturday the 15 August,92. Repair work is in hand, the computer room has already been reclaimed and the bureau is functioning there since 12 September,92. It is hoped that the basement will again be humming with activity before long.

Participants of MOSS Training programme with Instructor: From Left to Right, Imtiaz Rahman, Yusuf Ahmed, Ed Stephens, Naseeruddin, and Mohd Ali.

Training On MOSS: In order to make Highway Engineers familiar with the system, a 10 day training course was conducted by MOSS representative Mr Edward J Stephens, between August 22 and September 2, 1992. Five engineers participated in the training programme. The trainees includes Engr Khalid Mirza, Engr Naseeruddin Siddiqui, Engr Yusuf Ahmed, Engr Mohammad Ali, and Engr Imtiaz Rahman. All participants of the training benefitted a lot. The Instructor Mr Stephens has promised to award *GRADES* achieved by the engineers and intimate all concerned very soon!

HYDERABAD WATER SUPPLY & SEWERAGE PROJECT

By: Anthony N Dean, Regional Director, Balfours International

This project marked the first association between Balfours of the U.K. and Engineering Consultants of Pakistan. After many years, mixed with hard work, frustration and patience, the work in Hyderabad is drawing to a close.

Under a Technical Assistance agreement between the Government of Islamic Republic of Pakistan, the Province of Sindh and the Asian Development Bank, a study was carried out in 1975 by Nielsen and Rauschenberger in collaboration with Cowiconsult, both Consulting Engineering Firms of Denmark, to formulate a development plan for the improvement, rehabilitation and extension of the water supply, sewerage and drainage system for Greater Hyderabad for the following 25 years. The NR-C study identified a priority programme and made recommendations for the first stage of the long term development programme.

The priority programme included a sewerage system being implementated by the Public Health Engineering Department of the Province of Sindh. Balfours were appointed in 1978 as Consulting Engineers for the implementation of the first stage project of the long term development.

SEWAGE TREATMENT WORKS

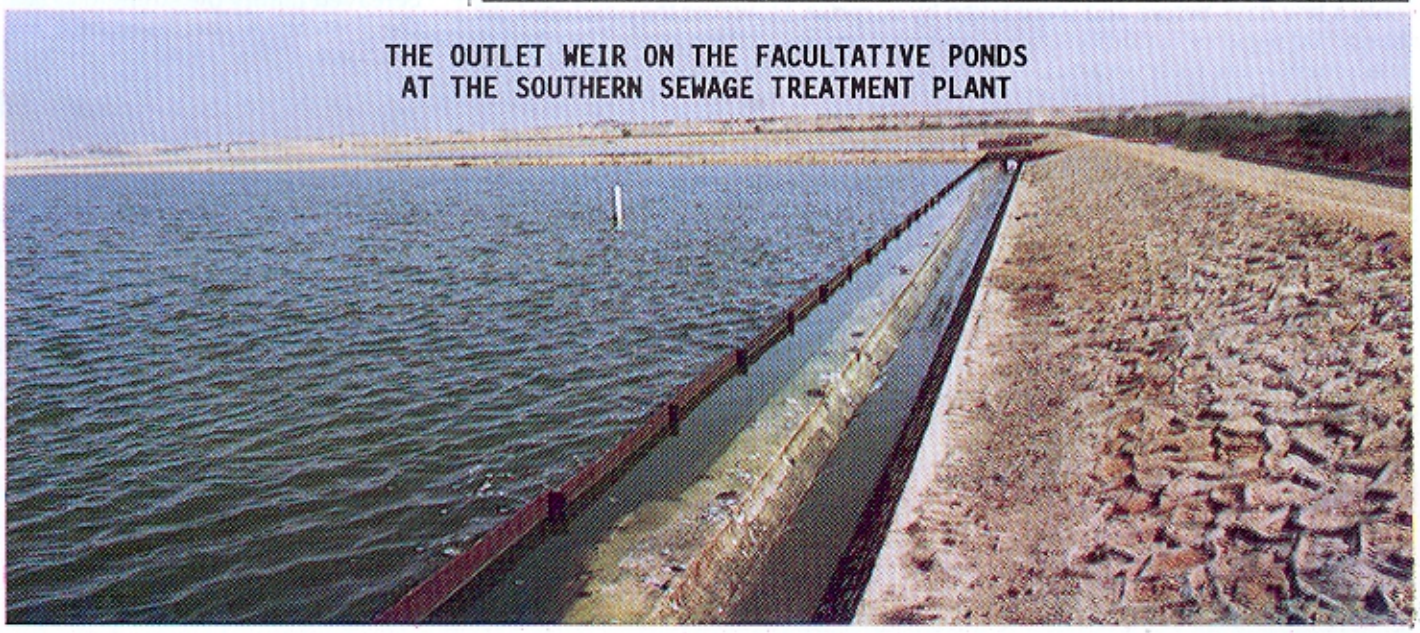
Two sewage treatment works have been constructed in the Project. The Northern Treatment Works is to initially serve the Hirabad and Liaquat Colony districts to the North of Hyderabad. The Southern Treatment Works serve initially Latifabad and West Katcha. Both Works feature facultative oxidation ponds followed by maturation ponds, to have effluent standards of 5 day BOD less than 25 mg/l and faecal coliform count of less than 1,000 FC/100 ml.

China Geoexploration and Waterwell Engineering Corporation of Beijing, China, submitted the successful tenders for both treatment works. The Contract for the Southern Sewage Treatment Works began on 30 July 1986, and was completed on 30 December 1988, at a final cost of Rs. 49,333,172.00. Work on the Northern Sewage Treatment Works began on 1 September 1986, and was completed on 30 November 1988, at a final cost of Rs. 28,200,444.00.

The Southern Sewage Treatment Works have been in use for 3-1/2 years, producing an effluent within the design standards and without causing nuisance from smell or flies. It has not been possible to commission the Northern STW at present as an encroachment has blocked the route of the pumping main being laid to the works under the PHED Project.

Initially the effluent from the works may be discharged to the River Indus, but at present the local farmers are using the effluent as irrigation water. Discharge to the river may only be necessary during the monsoon season.

DESCRIPTION	NORTHERN STW	SOUTHERN STW
Design Population	90,000	240,000
Annual Average Flow	10,980 m3/d	29,280 m3/d
Maximum Summer Flow	13,320 m3/d	35,520 m3/d
Design BOD Load in Sewage	4,050 Kg/d	10,800 Kg/d
Number of Treatment Streams	2	3
Number of Facultative Ponds	1	1
Number of Maturation Ponds	3	3
Facultative Ponds Capacity	12.6 Ha: 238,870 m3	36.1 Ha: 628,683 m3
Retention Time, Winter	27.4 days	27 days
Retention Time, Summer	17.9 days	17.7 days
Maturation Ponds Capacity	96,227 m3	285,205 m3
Retention Time, Winter	11 days	12.25 days
Retention Time, Summer	7.2 days	8 days



THE OUTLET WEIR ON THE FACULTATIVE PONDS AT THE SOUTHERN SEWAGE TREATMENT PLANT

ACHIEVEMENTS & HONORS

Unmatched Performance: EC recently carried out a Route Alignment Study for the prestigious Islamabad Peshawar Motorway Project (IPMP) for National Highway Authority (NHA). A comprehensive study was carried out. Five different routes varying in length from 146 to 165 km were considered. The company organised aerial and ground reconnaissance survey, inventoried structures, identified soils and materials and defined land uses enroute. Suitable sites were selected for crossing Indus and Kabul rivers. Cost estimates were prepared and a comparative study was undertaken. A dynamic team of EC's professional engineers and surveyors completed the gigantic task in nine days time. This could not have been possible without the valuable cooperation extended by the Chairman NHA, GM NWFP and GM Planning, NHA. The Chairman appreciated the excellent management and organisation of work by EC under the constraints of shortage of time aggravated by poor weather conditions.

Congratulations Yusuf: Engr. Yusuf Ahmed, who had proceed to Asian Institute of Technology Bangkok in August 1990, has returned to Pakistan in May 1992 and has rejoined EC. He has completed his Master's degree in Transportation Engineering with flying colours and honours.

MOSS System, First in Pakistan: It is a matter of some pride for EC to be the first to acquire the use of the most modern technology for designing the highways and motorways. It has come in the shape of a specially designed software known as MOSS, with special computers and monitors, obtained under licence. This degree of its sophistication can be gauged from the fact that the suppliers in UK had to get a clearance from the Government of United States of America. Then again, EC happens to be the only one organisation in the whole of Indo-Pakistan Sub Continent, to possess the equipment. The situation highlights one of the numerous advantages that are going to accrue because of the Pakistan Motorway project, initiated by the Government of Pakistan. It would appear that this a step in the right direction to enter the Twenty First Century.

Back to Normal Just in A Day: As already mentioned, the basement in of the Head Office building had to be vacated on an emergency basis due to flooding caused by the deluge on 12 August. Vacating the area was an easier task than accommodating the migrant staff on whatever space was available on the ground and the first floors. The task was accomplished in one day. Mr M Shakir Khan leading, the team comprising Mr Ahsan Saeed, Mr Merajul Huq, Mr Mohammad Kashif, Mr Mohammad Azam made spirited effort and on saturday the 15th August, the office worked as if nothing had happened. Active support was provided by HO messengers M/S Rafiuddin, Shakil Ahmad, M. Ramzan, Faiz Ahmad, M. Israr. The struggle made by the above named was accorded due appreciation by the company's management. The event demonstrated amply, the team spirit that exists in the company's workers and indicates their sense of loyalty that prevails at all levels, without any distinction of rank or status. No wonder EC is becoming popular by the day ! A word must also be said about the staff from MMIL, working in EC head Office. They had arrived in Karachi only a few days before and were taken by surprise. However they endured the abnormal weather conditions, wearing broad smiles on their faces. They had to ultimately wade their way out, on way to their respective abodes. The Management also appreciated the pluck they all displayed, in a way they appeared to enjoy the show put up by Mother Nature...!!

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VIGNETTE MAILBOX

APPRECIATION FROM USA

Yesterday, while reviewing some mail, I discovered your very well done newsletter from your firm. I wanted to congratulate you and tell you it is very nicely accomplished and printed.

Frank E Lyon,
President,
STV/Lyon Associates Inc.,
Hawaii, USA.

PERSONALIA

MATRIMONIAL:

☞ Mr. Khalid Mirza, Director Highways, deserted the bachelor's ranks and got married during April 1992. His marriage ceremony was solemnised in Turkey on April 18, Valima was held on May 14, at Baradari, Karachi. We offer our hearty felicitations to Mr. & Mr. Khalid Mirza and wish them a long and happy married life. A large number of guests attended the Valima function and were introduced to the guests from the brotherly Islamic country, Turkey. This bond will further strengthen the ties between our two countries. On this auspicious occasion we take the opportunity to also congratulate the proud parents and fully share their delight and pleasure.

GENESIS:

☞ A daughter was born to Engr. and Mrs. Yusuf Ahmed of the Highway division, on 1st August 1992. We offer our sincere greeting to the proud parents and wish a long and health life to the newborn and continued happiness to the family. The baby is already being called by the name Nawal.

☞ Mr. and Mrs. Sohail Akhtar of the Computer Bureau had an addition to their family in April last. The new born is a baby girl and is growing fast into a charming doll. The baby has been named Syeda Batool Rizvi. We felicitate the happy couple and wish a long and health life to the new born.

OBITUARY:

☞ The management and the staff offer their sincere condolences to Mr. Ahmad Riazuddin on the sad demise of his mother. May the departed soul rest in peace and may Allah give the bereaved family the strength to bear the loss with fortitude and forbearance.

☞ Mr. Merajul Haq's father expired on 28 June 1992. He was 86 years of age. We offer our heartfelt condolences to Mr. Merajul Haq and his family and pray that the departed soul may rest in peace.

☞ Professor Mumtaz Husain, a noted educationist and father of Architect Shabnam Nigar, expired on 15 August 1992. We pray for the departed soul and that the family bear the loss with courage and fortitude.