



e-Newsletter, Issue 10, February 2012

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ASCE - India Section is happy to let its members know that the field trip organized by ASCE-IS Eastern Section on November 26, 2011 to Palta Water Treatment Plant in Kolkata (jointly with Institution of Civil Engineers – Eastern Region, UK) has been published in the February e-Newsletter of ICE. The link can be reached at

<http://www.ice.org.uk/News-Public-Affairs/ICE-News/144-years-old-and-still-going-strong-British-built>

The plant has been in service since 1868 and it is the First Water Treatment Plant of Asia to treat raw water from surface water source. Indeed, it is a Civil Engineering Marvel.

Members are encouraged to visit our website to check on periodic updates

1.0 ASCE-IS Eastern Region's Mini-Seminar

ASCE-IS (Eastern Region) in association with Institution of Civil Engineers (UK), India Section – Eastern Region hosted its first technical event of year 2012 on January 20 at Dr. Triguna Sen Auditorium of Jadavpur University Alumni Association at 6:30 pm. The topic of the seminar was “Earthquakes: Cause and Mitigation” where three very distinguished speakers shared their knowledge and experience on the subject.

The speakers for the evening were Dr. Anil K Kar, F.ASCE, Dr. S K Acharyya, FNA, and Mr. Pratip Bhattacharya. The event was open to all and the session was attended by professors and students (undergraduate, graduate, and doctoral) from Jadavpur University, Bengal Engineering and Science University (BESU), and professional and practicing engineers.

Dr. Kar is the current President of ASCE – India Section. Dr Kar is also the Chairman and Managing Director, Engineering Services International Private Limited, and well known in India and abroad for his contribution to state-of-art techniques in many areas of Engineering. Dr. S K Acharyya is Emeritus Scientist in the Department of Geological Sciences, Jadavpur University, and Ex-Director General of Geological Survey of India. Mr. Bhattacharya is a Technical Director in M N Dastur & Co. Pvt. Ltd, Kolkata.

The proceedings got started at 6:30 pm with Dr. Debabrata Kar, Country Representative, Institution of Civil Engineers (UK), India Section – Eastern Region welcoming all to the talk. Having gone over the preliminaries, he requested ASCE-IS President Dr. A K Kar and other two distinguished speakers to the stage.

Dr. D Kar introduced Dr. A K Kar to the audience and requested him to present the first technical talk. Dr. A K Kar's topics of presentation were “Why earthquakes occur?” and “A likely earthquake scenario in Kolkata”. These constituted two separate talks, one at the beginning and the other at the end after the two other presentations.

Panel of Speakers: Left to Right, Mr. Bhattacharya, Dr. Acharyya, Dr. Anil K Kar, and Dr. D Kar



Dr. S K Acharyya talked about “Management of earthquake hazards in India: Seismicity in Sikkim Himalaya and microzonation of Kolkata”. He chalked out an overview of the findings of the recent earthquake in Sikkim and presented the seismic microzonation of Kolkata.

Mr. Pratip Bhattacharya spoke about “Design for earthquake resistant structures with special reference to Indian Codes of Practice”.

After these talks, floor was opened for an interactive discussion for the audience. Mr. Sitanshu S Sinha, an ASCE member from USA, expressed his unease and reservations about the possibility of any unprecedented destruction and loss of lives in Kolkata. Due to shortage of time, he could not back it up with supportive data.

Before closing the session Dr. Debabrata Kar, Moderator for the evening, conveyed his sincere gratitude to the audience to have come over. Lastly, Er. S Mitra, Secretary, ASCE-IS (Eastern Region) thanked the speakers for their time and effort. The speakers were presented with gifts as a token of appreciation on behalf of ASCE-IS ER. Refreshment was served to all after the event. The PDF copy of the program has been posted in ASCE-IS website for interested members to get in touch with the speakers. Feedback from the audience about the event had been mostly positive.

2.0 ASCE-IS Southern Region’s Lecture, Bengaluru

Dr. Bindu Madhava of Aurecon (Transport Division), Queensland, Australia delivered a lecture on “Slope Stabilization using Grid Beam Systems” during his visit to Bengaluru. This was organized by ASCE-IS SR on January 6, 2012 at Indian Institute of Science, Bangalore.

Slope stabilisation using soil nail is a common technique to stabilise natural and manmade slopes. Generally shotcreting over the slope surface is provided to prevent surface erosion and to provide anchor effect to the soil nails. In recent past, grid beam system to protect the slope surface and to anchor the soil nails has been successfully used in Japan to stabilise natural slope, which is environmental friendly and sustainable. In the case study explained, a reservoir is located on a 15 m high embankment to supply drinking water to a local town. The reservoir is located in a residential colony.

Due to prolong heavy rainfall embankment slopes failed posing stability and safety concern to the reservoir. A geotechnical team studied the slope failure and arrived at few mitigation options to minimise the risk of the failure of the reservoir. Feasibility study of possible options viz, RCC retaining wall, reinforced soil wall, crib wall and soil nails were carried out with respect to sustainability, environmental aspects in addition to construction time, cost and residual risk. The study indicated that the soil nail with grid beam system fulfils the above requirements and has less environmental impact considering the location of the reservoir. The construction involved in installation of reinforced concrete beams perpendicular to the slope in a grid spacing of 1.5–2 m. Soil nail heads are anchored in nodes of the grid which is termed as grid beam system. The beam has calculated quantity of reinforcing bar and shotcrete. The beam size generally ranges from 0.15 m x 0.15 m to 0.3 m x 0.5 m. The grid beam system is supported on concrete pedestal at toe of the slope. A step by step design and construction procedure was used to reinstate the slope. The audience present participated in the discussions.

3.0 ASCE-IS Southern Region’s Lecture, Hyderabad

Prof. G L Sivakumar Babu, Regional Director, ASCE-IS SR (on January 27) delivered a lecture on “Stress deformation response of Municipal Solid Waste” at Jawaharlal Nehru Technological University, Hyderabad. Dr. Babu talked about the issues of dump slope stability, deformation aspects of waste dumps, stressed on the necessity of designing, and managing municipal solid waste generated particularly in major cities like Delhi, Bangalore, Hyderabad, Chennai, Kolkata, etc. His lecture brought out the significance of the engineered design of the landfills. Dr. Babu explained the constitutive behaviour of MSW, helpful in estimation of expected landfill capacities using settlements and design of safe MSW dumps. The lecture was concluded with an interaction session moderated by Dr. Sireesh Siride, Jt. Secretary and Assistant professor, Indian Institute of Technology, Hyderabad. The lecture attracted several graduate, undergraduate engineering students and faculty members from different engineering colleges.