



# SREE DATTHA INSTITUTE OF ENGINEERING AND SCIENCE, HYDERABAD

DEPARTMENT OF CIVIL ENGINEERING



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## DEPARTMENT OF CIVIL ENGINEERING PROFILE

The department of **Civil Engineering** is one of the most important departments of **Sree Dattha Institute of Engineering and Science (SDES)**. This department was established in the year 2001 and is presently offering Bachelor's Degree in Civil Engineering. The present intake for the Bachelor's program is 120 students. The department carries out a periodic review of its curricula to ensure concurrency and keep abreast with latest technologies and developments in science and technology.

## SEMINAR ON BUILDING INFORMATION MODELS (BIM)

A Seminar on "Building Information Models" was organized by Civil Engineering Department, SDES, Hyderabad from 12/02/18 to 13/02/18. Mr. V Neeraj garu from CBIT Hyderabad. He addressed our students at SDES and shared his knowledge. He made the students to know about the Building Information Models in 4D to support construction planning using a power point presentation and there was an excellent response from the students.



**STUDENTS ATTENDING THE SEMINAR ON BUILDING INFORMATION MODELS**

## SEMINAR ON ZERO ENERGY BUILDING (ZEB)

This seminar was organized by Civil Engineering Department from 21/03/18 to 22/03/18 by Dr. P Prabhakar Rao, Associate professor at CMR College, Hyderabad. Dr. P Prabhakar Rao addressed our students at SDES and shared his knowledge highlighting the advancement and importance of "Zero Energy Buildings" with a Power point presentation. The students of SDES have gained a practical knowledge regarding the topic.



**DR. P PRABHAKAR RAO GARU DELIVERING THE LECTURE**

## WORKSHOP ON OPTIMIZATION ON WATER RESOURCE SYSTEMS

This workshop was organized by Civil Engineering Department on 15/04/18 by Mr. G Hemanth Reddy, Assistant professor at TKR College of Engineering, Hyderabad. Mr. G Hemanth Reddy addressed our students at SDES and shared his knowledge with our students. He made the students know the "Optimization on Water Resource Systems" with a detailed power point presentation and real time examples.



**STUDENTS OF SDES DURING THE SEMINAR**

## SEMINAR ON NOISE CONTROL OF BUILDINGS

This event was organized by Civil Engineering Department on 03/04/18 by Dr. S Srinivas Kumar, Senior Site Engineer, Hyderabad. Dr. S Srinivas Kumar addressed our students at SDES and shared his knowledge. He made the students know the Importance of "Noise Control of Buildings" with a power point presentation that made students understand the topic very well.



**THE IMPORTANT POINTS OF THE TOPIC GIVEN TO THE STUDENTS**

## SEMINAR ON STRUCTURED IRRIGATION NETWORK

This lecture was organized by Civil Engineering Department on 28/04/18 by Mr. Ravindra Sahu, Associate Professor, CVR College of Engineering, Hyderabad. Mr. Ravindra Sahu addressed our students at SDES and shared his knowledge with our students. He made the students understand the "Structured Irrigation Network" with a detailed power point presentation and original pictures.



**THE STUDENTS OF SDES ATTENDING THE SEMINAR**

## FACULTY CORNER

Article by:

T Sujatha, Assistant Professor, Department of Civil Engineering, SDES.

Title: [Uses, Installation and Color for Raised Pavement Markers](#)

### Introduction:

Based on the simple principle of the law of reflection these simple road safety gadgets are known worldwide. The cat's eye falls in the category of raised pavement markers and is a retro reflective safety device used in road marking. It originated back in the 19th century and is used all over the world today. Through a small facet, the cat's eye road signs work wonders in guiding the drivers way ahead especially at night. The Cat's eye Studs should be bright enough to illuminate the road at night and should be tough enough to withstand all weathers and vehicles driving over the top of it. Raised pavement marker's installation rules out the impractical availability of traffic lights, thus, helping in the conservation of energy as well. Cat's eyes Safety markings are used to control traffic and encourage safe driving conditions. They are also known as traffic delineators, raised pavement markers, road markers, road reflectors, cat eyes or road studs. Though most of them have a reflective lens that reflects the light from vehicle headlights, some do not have reflective lenses on them and thus serve only to regulate the speed.

### Purpose and Advantages of raised pavement markers (Cat Eyes):

Raised pavement markers are used for a variety of purposes, and are especially important for making traffic lanes visible to drivers at night, making dangerous curves visible and guiding the drivers of the alignment of the road. Cat's eyes are used to control traffic and encourage safe driving conditions. Cat's Eyes Road lights can be installed in specific patterns to create various traffic control solutions. When ceramic road reflectors are placed close together in rows, spanning the width of a road, they can form a traffic calming rumble strip which helps in reducing speed. Pedestrian crossing zones are also sometimes created with reflectors to facilitate the pedestrians and the drivers both. The purpose of installing cat's eye in the area is to separate out vehicular lanes, avoid frequent changing of lanes and more importantly, prevent swerving which is the most common cause of accidents. The presence of the cat's eye would ensure that the vehicles stay within their designated lanes, and would therefore limit their speed to 40 kilometers per hour, which is the maximum limit according to international rules. The Cats Eyes are originally white in color and are installed above the pavement marking that separates lanes or separates the middle of the road. However they are available in other colors and each color specifies a different function.

### Color Usage in Cat's Eye Road Reflectors:

Red studs are used to warn drivers that they are nearing the edge of the road. Amber studs are installed along a dual carriageway. Green colored studs signify the edge of the main carriageway. Green/Yellow studs warn drivers that there are temporary adjustments to lane layouts e.g., near under construction zones. In Pakistan however, only white, yellow or red cat eyes are observed bearing a four sided or circular figure. They are usually made from ceramic, plastic or metal. In efforts to make the roads safer and at the same time address traffic problems, metal road studs individually called "cat's eye" are installed on the lane dividers along many corridors and major arterials in Karachi City. The installation of the cat's eye is in response to the increasing number of vehicular accidents in the city. But sadly most of the cat's eyes are either stolen; drug addicts are mostly involved in the theft of these road safety gadgets or have weathered prior to their expected life cycle due to poor quality or lack of maintenance. For areas where traffic movement is high or for a more permanent placement of the cat's eyes, epoxy or bituminous adhesive should be applied which is a better way to adhere the reflector to the asphalt.



**CAT EYES HIGHWAY ROAD MARKING STUD**

## STUDENT CORNER

Article by:

B Sai Charan, IV - A , Department of Civil Engineering, SDES.

Title: [Cross Sectional Design of Typical Side Channel Spillways](#)

### Introduction:

A side channel spillway is one whose control weir is placed alongside and approximately parallel to the upper portion of the spillway discharge channel. Flow over the crest falls into a narrow trough opposite the weir, turns approximately 90 degree and then continues into the main discharge channel. The side channel design is concerned only with the hydraulic action in the upstream reach of the discharge channel and is more or less independent of the details selected for the other spillway components. Flows from the side channel can be directed into an open discharge channel or into a closed conduit or inclined tunnel.

### Flow Characteristics in Side Channel Spillways:

Flow into the side channel might enter the trough on only one side in the case of a steep hillside location, or on both sides and over the end of the trough if it is located on a knoll or gently sloping abutment. Discharge characteristics of a side channel spillway are similar to those of an ordinary overflow spillway and are dependent on the selected profile of the weir crest. However, for maximum discharges the side channel flow may differ from that of the overflow spillway in that the flow in the trough may be restricted and may partly submerge the flow over the crest. In this case the flow characteristics are controlled by a constriction in the channel downstream from the trough. The constriction may be a point of critical flow in the channel, an orifice control, or a conduit or tunnel flowing full. Although the side channel is neither hydraulically efficient nor inexpensive, it has advantages that make it desirable for certain spillway layouts. Where a long overflow crest is needed to limit the surcharge head and the abutments are steep and precipitous, or where the control must be connected to a narrow discharge channel or tunnel, the side channel spillway is often the best choice. In side channel spillways both the incoming velocities and the channel velocities will be relatively slow, a fairly complete intermingling of the flows will occur, thereby producing a comparatively smooth flow in the side channel. Where the channel flow is at the super-critical stage, the channel velocities will be high, and the intermixing of the high-energy transverse flow with the channel stream will be rough and turbulent. The transverse flows will tend to sweep the channel flow to the far side of the channel, producing violent wave action with attendant vibrations. Therefore, it is evident that flows should be performance. This can be achieved by establishing a control section downstream from the side channel trough. The cross-sectional shape of the side channel trough will be influenced by the overflow crest on the one side and by the bank conditions on the opposite side. Because of turbulence and vibrations inherent in side channel flow, a side channel design is ordinarily not considered except where a competent foundation such as rock exists. The channel sides will, therefore, usually be a concrete lining placed on a slope and anchored directly to the rock. A trapezoidal cross section is the one most often used for a side channel trough. The width of such a channel in relation to the depth should be considered. If the width to depth ratio is large, the depth of flow in the channel will be shallow, similar A control section downstream from the side channel trough is achieved by constricting (Fluming) the channel sides or elevating (Raising) the channel bottom to produce a point of critical flow. Flows upstream from the control will be at the sub-critical stage and will provide a maximum of depth in the side channel trough. The side channel bottom and control dimensions are then selected so that flow in the trough opposite the crest will be at the greatest depth possible without submerging the flow over the crest. Flow in the discharge channel downstream from the control will be the same as that in an ordinary channel or chute spillway.



**SIDE CHANNEL SPILLWAY DI  
BENDUNGAN HOPE, SCOTLAND**