

K.S. School of Engineering and Management
No. 15, Mallasandra, off Kanakapura Road, Bengaluru-560109



KSSEM

Department of Civil Engineering

Certificate

This is to certify that the project work entitled "Pedestrian Management at KSIT junction by Signal design" is a bonafide work carried out by

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In partial fulfillment for the award of "Bachelor of Technology in Civil Engineering" of Vishvesvaraya Technological University, Belgaum, during the year 2018-19. It is certified that all the suggestions indicated during internal assessment have been incorporated in the report and this thesis satisfies the academic requirement in respect of project work prescribed for the degree.

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Abstract

Traffic congestion and lack of public pedestrian space are some problems faced by most urban metropolises. Conventionally walking has been a mode of transportation in Indian cities. The percentage of pedestrians may vary from 16 to 57 depending upon the city. Encounters between vehicular traffic and pedestrian traffic are at its rise currently. Rapid industrialization and urbanization in India has resulted in neglecting of pedestrian facilities. Consequently, pedestrian is at greater risk for their safety more especially in the commercial zones of large cities. Safety and comfort are the two pans of a balance while considering the pedestrian traffic. Considering these aspects, this study deals a study in improving pedestrian facilities by analyzing the existing skeleton of the selected locations at Kanakapura road, Bangalore, India have been carried out. The adequacy of facility is checked and based on IRC latest guidelines a traffic signal of cycle length 120 S and a footpath of 3.5 m with guard rails and Zebra crossings at junctions have been proposed.

Keywords: Pedestrian facilities, Traffic congestion, Footpath, Level of service and Cross walk.

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No. 15, Mallasandra, off Kanakapura Road, Bengaluru-560109



Department of Civil Engineering

Certificate

This is to certify that the Project work entitled "Suitable Site selection for Solid waste disposal using Remote Sensing and GIS technique in Kanakapura Municipality, Karnataka" is a bonafide work carried out by

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In partial fulfilment of award degree of Bachelor of Engineering in Civil Engineering of Visveswaraya technological university, Belagavi during the year, 2018-2019. It is certified that all the corrections/suggestions indicated for internal assessment have been incorporated.

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MAITHILI K-L
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Abstract

Solid waste management is a global environmental problem in today's world. Solid Waste management is considered as one of the most serious environmental problems which becomes more complex in developing countries in terms of logistic fuel and labour cost air pollutants emission.

The increasing rate of waste generation stress on all infrastructural, natural and budgetary resources with adverse impacts on human health and environment due to improper and unscientific solid waste dumping. Landfill siting is a critical and rather overlooked method of sustainable management of solid waste in Kanakapura. The siting process was guided by principle of ecofriendliness, socially acceptable and economically feasible. This project deals with determination of suitable site for the disposal of solid waste generated from Kanakapura Municipality and surrounding areas using remote sensing and GIS Techniques.

Kanakapura city is about 55 km from Bangalore situated to the south of Bangalore is on the right bank of river Arkavathi. Kanakapura is urbanizing at a very fast rate and as it does the problems of solid waste management are escalating. Therefore, the need for the good management of solid waste comes into the act. By using the applications of GIS and Remote sensing capabilities would be unique advantages over other conventional study methods in determining suitable location for landfill in the study area. The different physical criteria considered are slope, drainage, water bodies and residential area with sub criteria like population distance from road, water bodies and residential area are examined in relation to land fill site selection. Each criterion was identified and mapped using Remote sensing and GIS technique and suitable map is prepared by overlay analysis. The result indicates that 19.22 % area is highly suitable and 30.65% area moderately acceptable.

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Certificate

*This is to certify that the project work entitled **Reduction in Embodied Energy and Carbon Footprint of Building by Using Alternative Building Materials** is a bonafide work carried out by*

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Abstract

Selection of materials and technologies for the building construction should satisfy the felt needs of the user as well as the development needs of the society without causing any adverse impact on environment.

Manufacturing processes of building materials contribute greenhouse gases like CO₂ to the atmosphere. There is a greater concern and emphasis in reducing the greenhouse gas emission into the atmosphere in order to control adverse environmental impacts.

From the literature, energies of various conventional building materials are Brick 4.5 MJ/unit, Sand 175 MJ/cu.m, Coarse aggregate 108 MJ/cu.m, Steel 42050 MJ/tonne, Cement 6100 MJ/tonne, Glass 25.8 MJ/kg.

In this project an attempt has been made to evaluate embodied energy and carbon footprint consumed in different building materials. The estimation of embodied energy is based on the energy consumed in the production of material and its transportation. The estimation of carbon footprint is also done in the similar manner and the amount of carbon released into the environment is calculated.

It has been shown that embodied energy can be reduced by 22-29% and carbon emission can be reduced by 21-48%, by replacing walling materials like fire clay bricks with fly ash blocks, mud concrete blocks (MCB), aerated autoclaved concrete blocks (AAC), by replacing 30% of cement by fly ash in RCC, PCC and lime pozzolana mortar for secondary applications and replacing glass by float glass.

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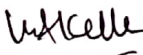
Department of Civil Engineering


Certificate

*This is to certify that the project work entitled **COMPREHENSIVE PLAN FOR THE DEVELOPMENT OF CHIKKAMALLURU VILLAGE AND TO EVALUATE THE BENEFICIARY SCHEMES IMPLEMENTED** is a bonafide work carried out by*

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VARSHA S GOWDA	1KG14CV055

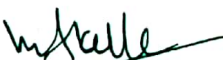
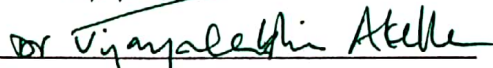
In partial fulfilment for the award of Bachelor of Engineering in Civil Engineering of Visvesvaraya Technological University, Belgaum, during the year 2017-18. It is certified that all the suggestions indicated during internal assessment have been incorporated in the report and this thesis satisfies the academic requirement in respect of project work prescribed for the degree



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University Examiners:



Name and Signature of Examiner-1


Name and Signature of Examiner-2 13.6.18

Abstract

The aim of the project is to enhance the comprehensive development of chikkamalluru village sustainable development is done to improve quality of life for residence by ensuring that land use requirement of the community for housing, employment, retail, leisure, community facilities and transport are met in a sustainable way and also to conserve and enhance the best features of the natural and built environment.

Sustainable development of chikkamalluru village is done by using QGIS. The project is started by collecting the spatial data like survey map, population and other required data. Then the survey map collected is geo-referenced in QGIS. Then the parcels are created and plots are developed in AutoCAD. The plots are implemented to QGIS and developed.

The sustainable development of chikkamalluru village is developed by keeping the population to future growth by providing the required facilities such as sanitation, employment opportunities, primary help centre, women welfare centre, etc., as per the cultural behaviour of the people residing in the village.



Department of Civil Engineering

Certificate

*This is to certify that the project work titled **Experimental Study on Compressed Earth Blocks** is a bonafide work carried out by*

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Abstract

Soil is used as a building material for several centuries. In developing countries, earth or soil is used as most efficient means of construction material with the least demand of resource. The traditional earth construction techniques such as adobe brick suffer from water attack and crack thus they need continuously maintenance in order to keep them in good condition. Different methods are used to produce earth blocks depending upon the local climate and environment as well as local traditions and custom. Although there are many ancient buildings constructed with earth as building blocks, stabilized bricks and concrete blocks have overtaken this material in the recent history. With the sustainable concepts being actively promoted in the construction industry, stabilized earth blocks are becoming popular in many parts of the world. Some recent advances in manually and hydraulically operated machines have allowed the manufacturing of compressed stabilized earth blocks, which could easily compete with burnt bricks. The rising cost of construction materials and the need to adhere to sustainability, alternative construction technique and material are being sought.

In this work, an attempt is being made to find out the blocks with maximum strength for different mix proportions. To achieve this objective, compressed earth blocks were manufactured and compressive strength of all the manufactured blocks were found.

An experimental study was conducted to assess the performance of stabilized earth blocks with interlocks. Similar tests were conducted on conventional burnt brick walls. From the experimental results it was concluded that the performance of the stabilized earth blocks with interlocks was better than the conventional burnt bricks.

The average compressive strength of CEB was found to be 5.26 MPa which is satisfying the IS: 2185 PART 1, IS:1723. The embodied energy involved for the production of per block is 4 MJ/kg which was lesser when compare to concrete block which is 12.3 MJ/kg per block.

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Certificate

*This is to certify that the project work entitled **Design and modelling of Sewage treatment plant at K.S.S.E.M** is a Bonafide Work carried out by*

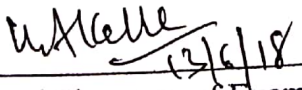
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LAKSHMI PRIYA KC	1KG14CV023
SAHANA S	1KG14CV038

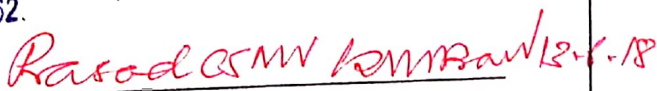
*in partial fulfilment for the award of **Bachelor of Engineering in Civil Engineering** of Visvesvaraya Technological University, Belgaum, during the year 2017-18. It is certified that all the suggestions indicated during internal assessment have been incorporated in the report and this thesis satisfies the academic requirement in respect of project work prescribed for the degree.*


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Name and Signature of Examiner-1


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Abstract

A Sewage Treatment Plant is quite necessary to receive and remove the domestic, commercial waste materials which pose harm to the general public. In the present study a Sewage Treatment Plant has been designed for the K.S. School of Engineering and Management.

K.S. School of Engineering and Management is an educational institute located in South Bengaluru. The Institute has Main Building with strength of 1000, Sir. M.V Building with strength of 740, Architecture Building with strength of 420 and a Hostel Building with strength of 220. For the design of wastewater treatment plant, the population considered from the four buildings is 2380. The per capita demand for Main building, Sir. M.V building and Architecture building for 8 hours is taken as 90 L/day and for hostel building for 24 hours is taken as 135 L/day.

The present study involves the analysis of pH value, total suspended solids, bio-chemical oxygen demand, total suspended solids and chemical oxygen demand for the influent and effluent samples. From the analysis it is observed that the effluent test results are applicable for non-potable uses.

A sewage treatment plant has been designed to Eight treatment units namely collection tank, bar screens, skimming tank, primary sedimentation tank, aeration tank, secondary sedimentation tank and disinfection tank. The results obtained from the design is practically adaptable and the working model has been made to a scale of 1m = 3cm.

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Department of Civil Engineering

Certificate

*This is to certify that the project work entitled **Environmental Impact Assessment for Metro construction in Kanakapura road Phase-II** is a bonafide work carried out by*

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P. S. RAMESH
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Abstract

Construction is considered as one of the main sources of environmental pollution in the world, the level of knowledge and awareness of project participants, especially project managers, with regards to environmental impacts of construction processes needs to be enhanced. This reports a survey on negative impacts of metro construction in Kanakapura road Phase-2 and presents a set of related subjects that should be considered in civil engineering curriculum. Typical negative impacts include noise and dust production, traffic increase, shortage of parking space, visual impacts, etc.

The basic concept is to ascertain the existing baseline conditions and assess the impacts as a result of construction and operation of the project during various phases of project cycle. The changes likely to occur in different components of the environment viz. physical, environmental and socio-economic etc. have been studied, analysed and quantified, wherever possible. The identification of param for data generation and impact assessment are important. The accurate analysis of assessment depends upon the reliable data generated available on environmental attributed.

Experiments were conducted to identify the frequency and severity of environmental impacts caused by construction process in the study area. Environmental attributes and frequency of Bengaluru Survey is presented and scoping matrix has been formulated to identify the attributes likely to be affected due to the proposed project and summarized the positive and negative impact. The results of this study are useful for construction managers and other participants in construction sites to become aware of construction processes impacts on the environment.

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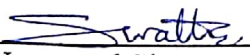
Certificate


*This is to certify that the project work entitled **Implementation of advance traffic management system at silk board junction Bangalore** is a bonafide work carried out by*


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Abstract

ITS (Intelligent Transportation System) requires collaboration in time, funding, and institutional arrangements. ITS components that are integrated can result in synergistic effects when considered as an entire system. It is shown that in some cases it is possible to build upon national level statistics describing ITS benefits by using data collected from the systems themselves. Thus far, the quantification of ITS benefits has not been statistically sophisticated. Often, benefits are expressed as being certain, when this is far from the truth. For example, the measurement of any reduction in mean travel time as a result of an ITS deployment involves bias, thus any benefit should be expressed along with its associated variance.

Advanced traffic management system (ATMS) simulator developed at Georgia Tech and being used as a research tool to help answer various questions that arise as intelligent vehicle-highway system (IVHS) technology makes its way into tomorrow's advanced traffic management systems. The architecture, capabilities, technical challenges and implementation decisions associated with the development of this simulator are summarized. Brief descriptions of the traffic model, database, displays and associated simulated traffic video coverage are provided.

Traffic congestion is a major urban transport problem .Due to traffic congestion, there is possibility of accidents because of poor traffic management. To eliminate road accidents and to save precious human life it is essential to find proper solution for traffic congestion. In this traffic congestion problem it is identified, studied the causes and proposed solution for it. Using ATM's technique i.e., real time traffic monitoring technique solution is been proposed for silk board junction related to traffic congestion.

Identification, Analysis & Remedial measures of Black Spots - A Case Study from Madiwala to Electronic city, Bangalore

A Project Work submitted to



*Visvesvaraya Technological University
in partial fulfilment of the requirements
for the award of degree of*

**Bachelor of Engineering
in
Civil Engineering**

Submitted by

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Amit Kumar	1KG13CV004
Harish Kumar	1KG13CV015
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Abstract

The rapid and extensive increase in the number of motor vehicles since the 1950's caused certain negative results world-wide. One major problem is traffic accidents. It is possible to categorize the factors that cause traffic accidents as related to humans, road and vehicles. At the design stage of a highway, it is important from the highway safety point of view to establish a harmony between the human factor and the other two. It seems that the human factor, comprising driver, pedestrian and passenger, is more dominant than road or vehicle factors in the happening of accidents. However, the control of the road factor is much easier than the human factor. Moreover, by making a geometrically good design, it is even possible to compensate for the other factors and thus decrease the number of traffic accidents.

This paper presents the results of the study on Identification and Analysis of Black Spots at NH-7 Bangalore, India. Studies were carried out in the selected stretch of Madiwala – electronic city and 4 black spots were identified. The identified black spots are analysed for the causes of accidents in the study area and were compared with IRC specifications. The remedial measures were suggested for improvement of geometric conditions of roads as per IRC to reduce the number of collisions. The before and after studies were carried out at all the four Black spots which shows the reduction in number of collision points after studies. Simulation of before and after studies are carried out by a simulating software called VISSIM.

Abstract

In this project, we analyse the current situation of the city with various fields covering on economic, social and development related processes, increasingly spreading of population, conjunction etc. will be discussed and a retrofitting concept will be introduced to make the current city has Smart city by analysing its strength and weakness with remedies. This will be made with the liberalization of telecommunications, technology, infrastructure development and e-services.

The smart cities are the concept to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens. These cities uses digital technologies or information and communication technologies (ICT) to enhance quality and performance of urban services, to reduce costs and resource consumption, and to engage more effectively and actively with its citizens. Sectors that have been developing smart city technology include government services, transport and traffic management, energy, health care, water and waste. Smart city applications are developed with the goal of improving the management of urban flows and allowing for real time responses to challenges. A smart city may therefore be more prepared to respond to challenges more than one with a simple 'transactional' relationship with its citizens. Other terms that have been used for similar concepts include cyberville, digital city, electronic communities, flexicity, information city, intelligent city, knowledge-based city, mesh city, telecity, teletopia, Ubiquitous city, wired city.

Smart cities proposal is crucial as long as it is supported by relevant targets in different sectors bringing together goals of a wide variety of stakeholders. Indeed, the plan would be as follows: Increasing the Smartness of a city enables the Smartness of the citizens by boosting connectivity, morale, cooperation, knowledge sharing and as a result of this, generating efficiency and effectiveness by the optimal use of technologies. Citizens, not only consumers, should be involved in political as well as business processes through technology.