ICES 2024

TITLE OF PROJECT:

DESIGN OF SUPERSTRUCTURE OF RCC GIRDER BRIDGE USING CSi BRIDGE SOFTWARE

NAME OF ALL AUTHORS: *GAYATHRI SURESH L.*
RAHUL R. R.
SANGEETHA S.
SURABHI S.

NAME OF YOUR MENTOR: *Dr. GIRIJA K.*
Professor, Department of Civil Engineering, GEC Barton Hill

NAME OF YOUR COLLEGE: GOVERNMENT ENGINEERING COLLEGE, BARTON HILL, THIRUVANANTHAPURAM

ABSTRACT (150-300 words):
Refer Website for Guidelines

Girders are crucial to a bridge's longevity, serving as primary supports, anchoring one end and accommodating controlled movement for temperature changes. Without girders, bridges face structural instability, reduced weight-bearing capacity, weather vulnerability, safety risks, and maintenance challenges, impacting functionality and durability.

Superstructures play a vital role in stabilizing bridges by properly distributing weight, and shielding against external forces. This project focuses on designing the key superstructure for girder bridges, involving calculations for bridge weight, live loads (e.g., vehicles), earthquake, wind, and water forces. CSi Bridge software is essential for precise weight distribution calculations, ensuring accurate design and potentially saving time and costs.

Tailored for modeling, analyzing, and designing bridges, CSi Bridge's advanced tools enhance efficiency and accuracy. The software facilitates seamless simulation of bridge behavior and detailed analysis, emphasizing accuracy and efficiency. This approach underscores the importance of a well-designed superstructure. In this project work, a specific design is mentioned, featuring a 26.5m bridge with three girders spaced 3m apart, each with a 1.65m depth, where girder depth influences the bridge's spanning capability.

KEYWORDS: RCC Girder Bridge, Superstructure of RCC Girder Bridge, CSi Bridge Software, Depth of the Girder

CATEGORY: STRUCTURAL ENGINEERING