

Project Design Phase
Proposed Solution Template

Date	11 February 2026
Team ID	LTVIP2026TMIDS66241
Project Name	Civil Engineering Insight studio
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Many civil engineering students, site engineers, and project managers face difficulties in performing quick structural analysis, cost estimation, and technical documentation. Manual calculations and report preparation are time-consuming, prone to errors, and require advanced expertise. There is a need for an automated system that provides accurate analysis, structured reports, and intelligent insights efficiently.
2.	Idea / Solution description	Civil Engineering Insight Studio is an AI-powered web application that assists users in structural analysis, material estimation, and project documentation. Users enter project details such as dimensions, material type, and site data, and the system processes the information using predefined logic and a generative AI model to produce structured technical reports and recommendations.
3.	Novelty / Uniqueness	Unlike traditional engineering tools that focus only on calculations, this platform integrates Generative AI to provide explanations, design suggestions, and detailed report generation. It combines engineering computation with intelligent insights in a single user-friendly interface.
4.	Social Impact / Customer Satisfaction	The solution supports students, engineers, and construction professionals by saving time and improving productivity. It reduces manual errors, enhances understanding through AI-generated explanations, and provides accessible engineering assistance even for beginners.
5.	Business Model (Revenue Model)	The application can follow a freemium model where basic structural analysis is free, and advanced features such as detailed AI reports, downloadable documentation, and premium project templates are available through subscription. Revenue can also be generated through institutional licenses and enterprise solutions.
6.	Scalability of the Solution	The application is cloud-deployable and designed with scalable architecture. It can handle multiple users simultaneously and can be expanded to include additional modules such as 3D visualization, BIM integration.