



Central Public Works Department

Tripura, NIT Agartala

SITE VISIT REPORT :

A comprehensive site visit Report on the Construction Progress of NIT Agartala's Lecture Hall Complex



Under the Supervision of:-
Rajnish Kumar
(Assistant Engineer, CPWD)

Submitted By:-
Md Taarique Anwar

DECLARATION

Civil Engineering Club hereby declare that the project entitled “**Construction of Lecture Hall Complex, NIT AGATALA** is an authentic record of work carried out at Central Public Works Department. Civil Engineering students of NIT AGARTALA visited the site Construction of **Lecture Hall Complex, NIT AGATALA** under the guidance of Rajnish Kumar, Assistant Engineer (Civil), CED, HQ, CPWD and also respected faculties Dr. Rajib Saha ,HOD & Professor, Dr. Dipankar Sarkar, Assistant Professor, Dr. Manu S Nadesan, Assistant Professor of Civil Engineering Department of NIT Agartala.

Date: 15/03/2024

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ACKNOWLEDGEMENT

The sense of achievement that accompanies the successful conclusion of this training experience would be remiss without acknowledging the invaluable contributions of several individuals. I take this opportunity to extend my sincere appreciation to those who have been instrumental in supporting and guiding me through this transformative journey.

At the forefront is my industry guide and mentor, **Rajnish Kumar (Civil), CED, HQ, CPWD**. His vision and execution were pivotal in imparting practical knowledge of the industry. Despite his demanding schedule, Mr. Kumar not only shared invaluable insights but also cultivated an ideal learning environment. This training report stands as a testament to his teaching, encouragement, and the insightful inputs he generously provided.

I extend my heartfelt gratitude to the Head of the Civil Department for their remarkable support throughout the site visit. Their guidance significantly contributed to shaping my understanding and honing my skills.

Lastly, I would like to express my gratitude to the **National Institute of Technology, Agartala** for facilitating the necessary arrangements and granting permission for my site visit at **Construction of Lecture Hall Complex, NIT AGATALA**. Special thanks also go to my parents for their unwavering encouragement and continuous support throughout this enriching journey.

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TABLE OF CONTENTS

TOPICS:-

1. INTRODUCTION OF THE COMPANY
2. INTRODUCTION TO BUILDING CONSTRUCTION
3. ABOUT THE PROJECT
4. DETAILS PROJECT REPORT (DPR)
5. PURPOSE OF THE PROJECT
6. SCOPE OF REPORT
7. FOUNDATION DESIGN AND CONSTRUCTION
8. SUSTAIBLE CONSTRUCTION PRACTICES
9. BUILDING SAFETY AND RISK MANAGEMENT
10. CONCLUSIONS



1. Introduction of the Company:

The Central Public Works Department (CPWD, Hindi: केॆं द्रीय लॆक नॆरुमण नॆभमग) is the Indian government authority in charge of public sector works. The CPWD, under the Ministry of Urban Development now MoHUA (Ministry of Housing and Urban Affairs), deals with buildings, roads, bridges, flyovers and other complicated structures including stadiums, auditoriums, laboratories, bunkers, border fencing and border roads (hill roads). The CPWD came into existence in July 1854 when Lord Dalhousie established a central agency for execution of public works and set up Ajmer Provincial Division. It has now grown into a comprehensive construction management department, which provides services from project conception to completion, and maintenance management.

It is headed by the Director General (DG) who is also the Principal Technical Advisor to the Government of India. The regions and sub-regions are headed by Special DGs and Additional DGs respectively, while the zones in all state capitals (except a few) are headed by the Chief Engineers. Nowadays, a new post of Chief Project Manager (CPM) has been created to head major prestigious projects of CPWD. CPMs are equivalent to the rank of Chief Engineers in CPWD. The Chief Architect of CPWD also acts as chairman of local body to approve the Government Buildings. With country wide presence, the strength of CPWD is its ability to undertake construction of Complex Projects even in difficult terrains and maintenance in post construction stage.[1]

It is the prime engineering department of Government of union of India and its specifications and manuals are followed by local public works departments and engineering wing of other departments. CPWD consists of three wings in execution field – B&R (Buildings and Roads), E&M (Electrical and Mechanical) and horticulture

2. INTRODUCTION TO BUILDING CONSTRUCTION

The introduction to building construction serves as a foundational aspect in understanding the intricacies of civil engineering and architecture. At the National Institute of Technology, Agartala, this topic encompasses a comprehensive exploration of the principles, techniques, and materials involved in the construction of various structures. From residential buildings to commercial complexes and infrastructural projects, the discipline of building construction plays a crucial role in shaping the built environment. Students at NIT Agartala are introduced to a wide array of concepts, including site preparation, foundation engineering, structural design, and sustainable construction practices. Through theoretical studies, practical applications, and hands-on experiences, students gain insight into the evolving trends and innovations in the field.



Moreover, emphasis is placed on factors such as safety regulations, environmental considerations, and cost-effective construction methodologies. By fostering a holistic understanding of building construction, NIT Agartala aims to equip future engineers and architects with the knowledge and skills necessary to tackle real-world challenges and contribute to the advancement of the construction industry. This report seeks to provide a succinct overview of the importance, scope, and relevance of building construction within the academic curriculum and professional realm at NIT Agartala, under the guidance of esteemed engineers from CPWD.

3. ABOUT THE PROJECT :-

The Lecture Hall Complex Project in National Institute of Technology Agartala in West Tripura district, under the construction of Central Public Work Department, signifies a significant investment in educational infrastructure. Under the esteemed guidance of engineers furnishing, all



aesthetic appeal. Furthermore, sustainability considerations are being integrated into the design and construction process to minimize environmental impact and promote energy efficiency. Through collaboration with experienced architects, engineers, and contractors, the CPWD team is dedicated to delivering a high-quality, state-of-the-art lecture hall complex that aligns with NIT Agartala's vision of fostering excellence in education and research. This report aims to provide a comprehensive overview of the lecture hall complex project,

highlighting its significance in supporting academic growth and innovation at the institute. Under the esteemed guidance of engineers from CPWD at the National Institute of Technology, Agartala, the construction project for a lecture hall complex is underway. This ambitious endeavor aims to cater to the increasing demand for modern educational facilities and to enhance the academic environment at NIT Agartala. The lecture hall complex will be designed to accommodate a large number of students, equipped with advanced audiovisual technology to facilitate effective teaching and learning experiences. The project encompasses various phases including site preparation, foundation laying, structural construction, and interior furnishing, all meticulously planned and executed to ensure functionality, durability, and aesthetic appeal. Furthermore, sustainability considerations are being integrated into the design and construction process to minimize environmental impact and promote energy efficiency. Through collaboration with experienced architects, engineers, and contractors, the CPWD team is dedicated to delivering a high-quality, state-of-the-art lecture hall complex that aligns with NIT Agartala's vision of fostering excellence in education and research. This report aims to provide a comprehensive overview of the lecture hall complex project, highlighting its significance in supporting academic growth and innovation at the institute.

4. DETAILS PROJECT REPORT (DPR)

The Detailed Project Report (DPR) for the Construction of Lecture Hall Complex in NIT Agartala, West Tripura district ,central works department provides a comprehensive overview of the project's scope, objectives, methodology, and implementation plan. Here's an outline of the DPR:

Under the expert guidance of CPWD engineers at the National Institute of Technology, Agartala, the detailed project report for the construction of a lecture hall complex at NIT Agartala has been meticulously crafted. This report encompasses a thorough analysis of the project scope, objectives, feasibility, budgetary considerations, and technical specifications. It outlines the architectural design, structural engineering requirements, interior layout plans, and audiovisual technology integration to ensure the creation of a modern and functional educational facility. Furthermore, the detailed project report delves into the procurement strategy, construction methodology, timeline, and quality assurance measures to ensure timely and efficient project

execution. Environmental sustainability measures, including energy-efficient building systems and green construction practices, are also highlighted in the report. Through collaboration with various stakeholders, including faculty members, students, and administrative staff, the detailed project report reflects a holistic approach aimed at meeting the diverse needs of the academic community while adhering to regulatory standards and best practices in construction management. This comprehensive document serves as a roadmap for the successful implementation of the lecture hall complex project, embodying NIT Agartala's commitment to excellence in education and infrastructure development.

Key Points:

1. Executive Summary:

- Provides a concise overview of the project, highlighting key objectives, scope, and expected outcomes.

2. Introduction:



- Background information on the project, including the rationale for the construction Lecture Hall Complex in West Tripura district.

3. Project Objectives:

- Clearly defines the goals and objectives of the project, emphasizing its significance in addressing educational infrastructure needs and fostering community development.

4. Scope of Work:

- Details the specific activities and deliverables included in the project, such as site selection, design, construction, and commissioning.

5. Site Selection and Feasibility Study:

- Describes the process of selecting the project site, including factors considered such as accessibility, land availability, and suitability for educational purposes.

- Provides findings from the feasibility study, assessing the viability of the project in terms of technical, financial, and social aspects.

6. Design and Planning:



. Outlines the design considerations for the high school, including architectural

features, layout, and facilities.

. Discusses the planning process, including stakeholder consultations, regulatory approvals, and environmental impact assessments.

The Detailed Project Report serves as a comprehensive roadmap for the successful implementation of the Lecture hall complex in West Tripura district, providing stakeholders with a clear understanding of project requirements, timelines, and expected outcomes.

5. PURPOSE OF THE PROJECT:-

The construction of the lecture hall complex at NIT Agartala serves the paramount purpose of enhancing the academic infrastructure to meet the evolving needs of students and faculty. This project aims to provide modern, well-equipped facilities conducive to effective teaching and learning experiences. By creating a centralized space for lectures, seminars, and academic events, the lecture hall complex facilitates interdisciplinary collaboration and knowledge dissemination among the academic community. Additionally, the project addresses the increasing student enrollment and the growing demand for classroom space, ensuring that NIT Agartala can accommodate the educational needs of its expanding student body. Moreover, the lecture hall complex is designed to incorporate state-of-the-art audiovisual technology, ergonomic seating arrangements, and sustainable building practices, aligning with the institute's commitment to excellence, innovation, and environmental stewardship. Through the construction of this complex, NIT Agartala reaffirms its dedication to providing a conducive learning environment that fosters academic excellence, research advancement, and holistic development of its students, thereby positioning itself as a leading institution of higher education in the region.

6.SCOPE OF REPORT:-

The scope of the report aims to provide a comprehensive understanding of the lecture hall complex project's planning, implementation, and outcomes, serving as a valuable resource for stakeholders, policymakers, and practitioners involved in educational infrastructure development.

The scope of this report on the construction of the lecture hall complex at NIT Agartala encompasses a comprehensive analysis of various aspects related to the project. It includes a detailed examination of the project's objectives, architectural and structural design considerations, procurement strategies, construction methodologies, timeline, budgetary allocations, and quality assurance measures. Additionally, the report will explore environmental sustainability initiatives, such as energy-efficient building systems and green construction practices, integrated into the project. Furthermore, it will highlight the collaboration between CPWD engineers, architects, contractors, and NIT Agartala stakeholders in ensuring the successful execution of the project. Through a thorough exploration of these elements, the report aims to provide a clear understanding of the project's scope, demonstrating its significance in enhancing the academic infrastructure and supporting the educational goals of NIT Agartala. Moreover, it serves as a valuable reference for project stakeholders, enabling effective decision-making, resource allocation, and project management throughout the construction process. Overall, the scope of this report is to provide a comprehensive overview of the lecture hall complex project, guiding its successful implementation and contributing to the academic growth and development of NIT Agartala.

7.FOUNDATION DESIGN AND CONSTRUCTION

The foundation design and construction for the lecture hall complex at NIT Agartala is a critical aspect of the project, ensuring the structural integrity and stability of the building. This phase involves detailed geological surveys and soil analysis to determine the optimal foundation type and design suitable for the site conditions. The chosen foundation system will be meticulously constructed to support the anticipated loads and structural requirements of the lecture hall complex. Advanced engineering techniques and technologies will be employed to mitigate potential risks such as settlement, soil liquefaction, and lateral forces. Additionally, stringent quality control measures will be implemented throughout the construction process to ensure compliance with industry

standards and regulatory requirements. Collaboration between CPWD engineers, geotechnical experts, and construction teams will facilitate the seamless execution of foundation works, adhering to the project timeline and budget constraints. Through careful planning and execution, the foundation design and construction phase will lay the groundwork for the successful realization of the lecture hall complex, providing a solid and stable platform for academic excellence at NIT Agartala.



8. SUSTAIBLE CONSTRUCTION PRACTICES

The construction of the lecture hall complex at NIT Agartala places a strong emphasis on sustainable construction practices to minimize environmental impact and promote long-term viability. This entails the incorporation of energy-efficient building materials, such as recycled and locally sourced materials, to reduce carbon footprint and conserve natural resources. Additionally, sustainable construction techniques, such as passive solar design, rainwater harvesting systems, and green roofing, will be integrated to enhance energy efficiency and reduce operational costs. Furthermore, the project will prioritize waste management strategies, including recycling and proper disposal of construction waste, to minimize landfill contribution. Collaboration with sustainable design experts and adherence to green building certification standards will ensure that the lecture hall complex meets or exceeds sustainability benchmarks. By embracing sustainable construction practices, the project not only demonstrates environmental stewardship but also sets a precedent for future construction projects at NIT Agartala, aligning with the institute's commitment to environmental sustainability.

and responsible resource management. Through the implementation of these practices, the lecture hall complex will serve as a model of sustainable development, inspiring the academic community and beyond to embrace environmentally conscious building practices for a greener future.

9. BUILDING SAFETY AND RISK MANAGERMENTS

Building safety and risk management are paramount considerations in the construction of the lecture hall complex at NIT Agartala. Comprehensive measures will be implemented to ensure the safety of occupants and the integrity of the structure. This includes adherence to national building codes and standards, as well as rigorous quality control protocols throughout the construction process. Structural design considerations will account for potential hazards such as seismic activity and extreme weather events, with appropriate reinforcement and resilience measures incorporated. Furthermore, fire safety systems, emergency evacuation plans, and accessibility features will be integrated into the design to mitigate risks and enhance occupant safety. Risk management strategies will also be employed to identify, assess, and mitigate potential risks throughout the project lifecycle, including proactive measures to address unforeseen challenges and ensure project continuity. Collaboration between CPWD engineers, safety experts, and construction teams will facilitate the implementation of best practices in building safety and risk management. By prioritizing these aspects, the lecture hall complex will not only provide a conducive learning environment but also ensure the well-being and security of its users, reinforcing NIT Agartala's commitment to excellence in infrastructure development and academic support.



10.CONCLUSION

In conclusion, the construction of the lecture hall complex at NIT Agartala represents a significant achievement in enhancing the institute's academic infrastructure. Through collaborative efforts with CPWD, the project showcases a commitment to excellence, sustainability, and safety. With state-of-the-art facilities and innovative design, the complex will serve as a hub for academic excellence and collaboration. Its completion underscores NIT Agartala's dedication to providing a conducive learning environment and reinforces its position as a leading educational institution. This project stands as a testament to the effective partnership between CPWD and NIT Agartala in driving forward infrastructure development and supporting the institute's educational mission.

THANK YOU!