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Date: Nov. 18, 2022

Industrial Visit Report

BE-Civil

A VISIT REPORT ON AIRPORT AND BRIDGE ENGINEERING

Department of Civil Engineering in association with CESA

Late G. N. Sapkal College of Engineering, Nashik.

Venue: D. B. Patil International Airport, Navi Mumbai

Date: Nov. 13, 2022

Class: BE

Number of Students: 52

No. of Teachers: 02

Mode of Transportation: Bus

Travelling Distance: 220 km (One Side)

Figure 1: While departing from Nashik New CBS towards D. B. Patil Airport

Introduction

The Civil Engineering Students Association with the Department of Civil Engineering of the late G. N. Sapkal College of Engineering, Nashik, organized a one-day visit to D. B. Patil International Airport in Navi Mumbai on November 13, 2022, for the students of final year Civil Engineering (BE) course. This visit was conducted with the prior approval and guidance of the eminent Principal Dr. S. B. Bagal and the Head of the Department of Civil Engineering Prof. R. M. Jadhav. Faculty members Dr. D. P. Joshi and Prof. Kiran Deore accompanied 50 students of the BE Civil Program on the industrial visit. D. B. Patil International Airport covers an area of approximately 1162 hectares and is located in the western part of the city. The total cost of this project is approximately 16,700 crore.

Objectives of the Airport Site Visit

1. Understand the basics of airports.

2. Understand and design runways, taxiways, and drainage systems.

3. Introducing aspects of the airport system.

4. Review plans and specifications for airport planning and design.

5. Participate in the planning and design of new runways and terminal buildings.

6. Understand BIM, AR, and VR in airport planning and road design.

7. Plan lighting and signage for airports and helipads.

8. When inspecting the airport site, the engineers involved initially provided safety information.

9. Students were informed about the ongoing work at the airport site.

10. Students were informed about the ongoing work on the runway.

11. The students explained in detail about the materials needed for work at the airport, such as blasting equipment and geopolit.

12. We received information that a mountain airstrip was blown up.

Permission for the Visit

The college wrote a permission letter to Hemant Godse, MP from Nashik Loksabha constituency. The honorable member sought permission from the Director General of, the Airports Authority of India. This process took approximately 7-8 days.

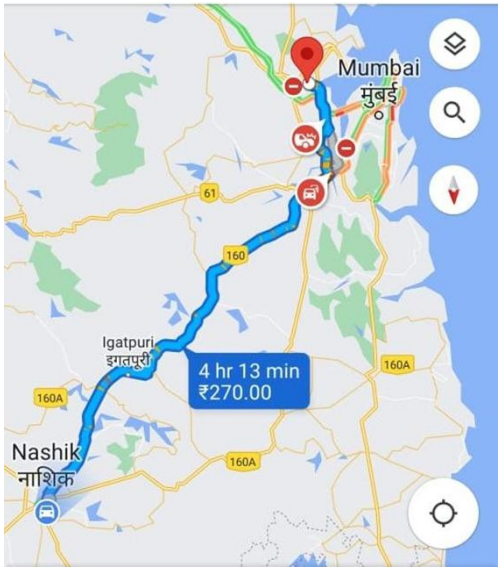

Figure 2: College to Route Airport Site Bus

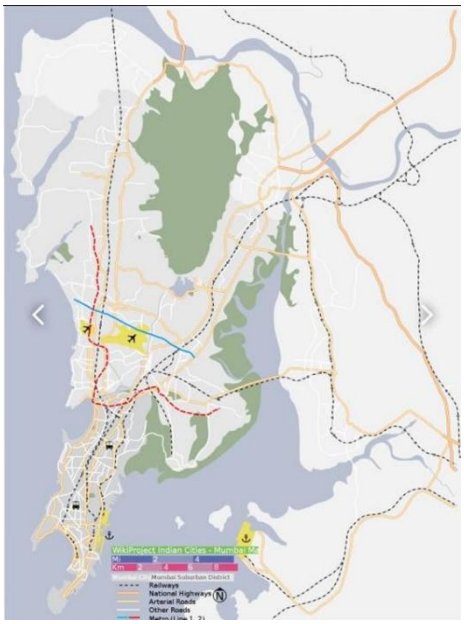

Figure 3: Satellite View of D. B. Patil Airport Site

Figure 4: Students are learning about safety and precautions at the Airport Site

1. Acknowledged students about the secure positions of power transmission towers and hangers on the taxiway.
2. The actual area of the airport site is approximately 1162 hectares.
3. Two runways and four taxiways will be constructed on this airport site.
4. According to the central government, the goal is that one runway and two taxiways could be built by 2025.
5. As it is an international airport, the actual length of the runway is 3.9km, which may allow large aircraft and cargo planes to land in the future.
6. A drainage system is installed in the scolder throughout the runway and taxiway.
7. The fixation of rock asphalt and all other materials used in the construction of the runway is carried out using the geopolisin method.
8. The runway has an inner layer approximately 10-12 meters deep for strong support and can support the weight of the aircraft.
9. D. B. Patil Airport runway width is approximately 75m.
10. There is a terminal building and control tower near the runway, which are currently under construction.
11. The rock file on the runway is about 500mm.
12. The runway consists of three levels.
    i. Runway type A less than 300mm
    ii. 900mm Type B material Bottom 125mm
    iii. Flexible pavement
13. Runway RL is 9.5 m whereas, thickness is 925 mm

Figure 5: Students are taking information on materials used for the construction of the Runway

Figure 6: Students are studying the different layers of the runway

Figure 7: Runway Site before clearing the ground

Figure 8: Runway site after clearing the ground

Figure 9: Students are learning and studying the construction process of the Runway

Figure 10: Local material used in the construction of the runway

Figure 11: Students are felicitating to the Engineers at Site

What did students learn?

1. Students received information about how work is done at the airport
2. The objective was to obtain information about which devices are used for ongoing operations at the airport.
3. According to the engineer's plan, students should receive detailed information about the location of slide towers and parking lots.
4. The purpose of this visit was to obtain as much information as possible about the construction phase of the airport and the major parts of the airport (runway, taxiway, control tower in the terminal building area, etc.).
5. During this visit, they learned about the safety measures to be taken when setting up an airport construction site.

Figure 12: Students are felicitating to the Chairman of the Construction Company

Conclusion of the visit

1. The purpose of this excursion was to obtain as much information as possible about the structure of the airport and its main types and parts such as runways, taxiways, and control towers.
2. By successfully conducting this inspection, we will be able to know and get closer to the problems that arise in airport construction.
3. You will also receive information and knowledge regarding the materials and transportation requirements needed for airport construction.
4. Safety and precautions during construction learned during this visit
5. Overall, this trip will not only give us the most important information about the aspects of airport construction but also give us the opportunity to see construction and civil engineering projects from a different perspective.

Figure 13: Along with the educational trip, the students also spent some time at the seashore and enjoyed some moments at Uran Beach