

PROJECT 1: CONSTRUCTION OF RIGID PAVEMENT

Description of projects works, project site, project nature, etc

The rigid pavement project involves the construction of new road using reinforced concrete as the pavement material. The purpose of the project is to enhance the transportation infrastructure by providing a durable and long lasting road surface capable of withstanding heavy traffic loads. The project also aims to improve the overall safety and efficiency of the road network. This project was constructed in Thapa gaun, naikap .



Fig : location plan of road

Detail about project :



Reinforcement size :

10 mm main bar

8mm distribution bar

Spacing between reinforcement : 10 inch* 10 inch

Concrete thickness : 6 inches

Concrete ratio used : M20 (1:1.5:3

2. Description of Assigned Tasks/Scope of Works:

1.Site Preparation, Clearing and leveling the project site, removing any existing pavement or obstacles, and ensuring a suitable foundation for the rigid pavement

2.Sub-base Construction: Excavating the subgrade and compacting it to the required specifications. Installing a granular subbase layer composed of crushed stone or gravel which serves as a stable foundation for the concrete slab.

3.Concrete Pavement Construction: Pouring and placing reinforced concrete to form the rigid pavement. This involves the preparation of the concrete mix, installation of formwork to shape the pavement, placement of dowel bars or tie bars at joints, and proper curing of the concrete.

4.Joint Construction: Creating transverse and longitudinal joints in the concrete pavement to allow for expansion and contraction. This includes saw-cutting or forming joints and sealing them to prevent water infiltration and joint deterioration.

3. Finishing and Surface Texture: Providing a suitable surface texture for the pavement. depending on the road's functional requirements. This may involve techniques like brooming, tinning, or grooving to improve traction and skid resistance.

6.Quality Control and Testing: Conducting various tests and inspections to ensure the quality and performance of the rigid pavement. This includes testing the concrete mix. compaction testing, thickness measurement and other relevant tests as per project specifications.

Skills/Knowledge gained after project completion:

After the completion of the project, the team members involved have gained several skills and knowledge, including:

- . Proficiency in pavement design and construction techniques.
- . Knowledge of concrete mix design and quality control measures.
- . Understanding of joint design and construction practices
- . Experience in project planning, scheduling, and coordination
- . Familiarity with relevant industry standards and specifications.

Photographs during project execution and after execution:



Fig : preparation of concrete mix



Fig : levelling surface



Fig : compaction by using vibrator



Figure : contraction joint/ traverse joint

PROJECT 2: CONSTRUCTION OF SIDE DRAIN/U-DRAIN

Description of project works, project site, project nature :

A side drain project involves the construction of a new drain using reinforced concrete in order to provide proper drainage of water from road pavement. In case of this project u drain was constructed. The drain was constructed on Thankot, Chandragiri -4.

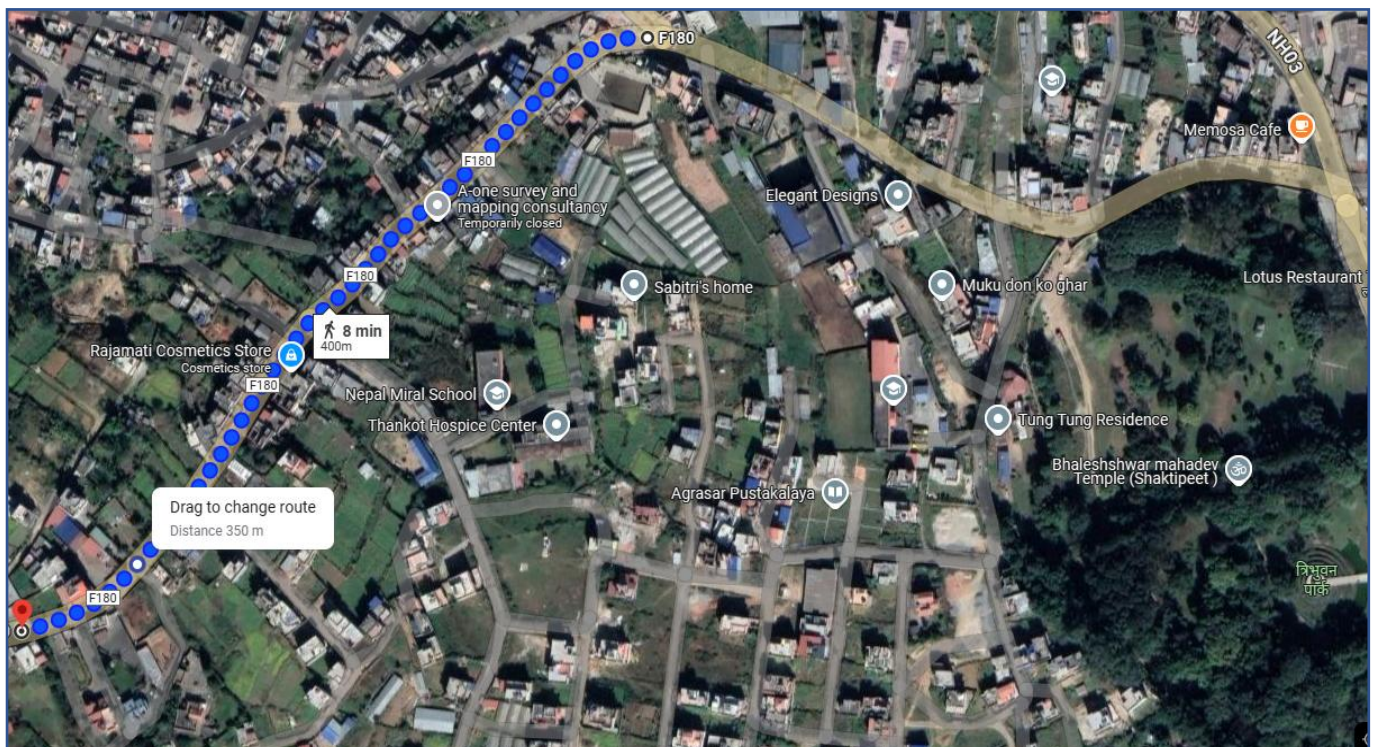


Fig : location plan of drain

Details:

Breadth: 0.8m

Height: 0.5m

Specification:

M20 for concrete (1:1.5:3)

: M10 for P.C.C (1:3:6)

Slab cover

thickness: 0.15 (6") .

Slab reinforcement:

spacing of main bar 0.15c/c

spacing of distribution bar 0.15 c/c

Main bar: dia 12mm

Distribution bar: dia 10mm



Description of assigned task/ scope of works :

1. Excavation

Marking: Outline the drain location on the ground using stakes and string.

Excavation: Dig a trench according to the dimensions specified in your design. Ensure the trench has a consistent slope (typically 1-2%) to promote proper drainage.

3. Base Preparation : layer of gravel or crushed stone is placed at the bottom of the trench to provide drainage and stability. Compact this layer to create a solid foundation.

4. PCC (Plain cement concrete) placement : Plain cement concrete is placed after base preparation

5. RCC (Reinforced cement concrete) placement : re bars are placed and then concrete is placed

6. setting form work and concreting : formwork is fixed along both sides of reinforcement and concreting work is done.

2.2.6. Skills Learned after the Project Completion

Upon completion of this project, the following skills may be acquired:

- Construction planning and scheduling.
- Excavation and earthwork techniques.
- Reinforced concrete construction.

Photographs during project execution and after execution:



Fig : P.C.C work



Fig : formwork placement



Fig : placement of re bars after PCC



Fig: excavation works

Problem faced during OJT work:

Concrete mixing machine was damaged during mix of concrete

Electricity problem during vibration

Social conflict was occurred

Misunderstanding between workers

Conclusion:

Conclusion is that OJT program was beneficial for us

- We learn about concrete mix like M20, M25, M15, etc...
- We learn about pavement construction.

Refrence used:

Class notes

Text books