

**INTERNSHIP REPORT
ON**

**“FLEXIBLE PAVEMENT AND ROAD COUNSTRUCTION
WORK AT KATORA TAAL ROAD”**

Submitted to-

**MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE GWALIOR
(A govt. Aided Autonomous Institute under RGPV, Bhopal (M.P) Established in 1957)**

**IN PARTIAL FULFILLMENT FOR REQUIREMENT FOR THE AWARD OF THE DEGREE
OF**

**BACHELOR of TECHNOLOGY
In
CIVIL ENGINEERING**



May – 2022

Submitted By-

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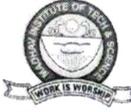
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CERTIFICATE



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CERTIFICATE

This is to certify that **Ms. Kajal Godia**, Enroll. No. 0901CM181026 Student of (M.I.T.S Gwalior), B.Tech Civil Engineering 8th Sem, Gwalior M.P., has successfully completed his Internship Program starting from 17th Jan 2022 to 16th May 2022 at Gwalior Smart City Development Corporation Limited Gwalior.

During the period of her Internship, She was involved in the project in ABD region of Gwalior Smart City- "Smart Road, (Mahal Gate to Mandre Ki Mata) Project Gwalior & Phoolbagh Junction to Kila Gate to Hazira Chouraha" She was involved in support to Assistant in Preparation of Drawing, feasibility report & presentation.

We wish her success for her bright future.

Thanking you,


सुबोध खरे
अधीक्षक यंत्री
गुवाोर स्मार्ट सिटी

Superintendent Engineer
Gwalior Smart City Development Corporation Limited.

INTERNSHIP
6266809990

RECOMMENDATION

It is hereby recommended that the internship report entitled — **FLEXIBLE PAVEMENT AND ROAD CONSTRUCTION WORK AT KATORA TAAL UNDER GWALIOR SMART CITY** which is being submitted by Kajal Godia completed under the mentorship of Asst. Prof. Aditya Agarwal may be accepted in the partial fulfillment of the award of the degree of Bachelor of Engineering in Civil Engineering.

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ACKNOWLEDGEMENT

When it comes to properly acknowledging someone's support and assistance, it may be a challenging undertaking, chiefly when the support offered is so wholehearted and unwavering.

I am eternally grateful to my renowned guide, Prof. Aditya Agrawal, Assistant Professor of Civil Engineering Department, MITS Gwalior.

Also, I would like to thank Head of Civil Engineering Department, MITS Gwalior, and all other academics and staff members of MITS Gwalior's Civil Engineering Department for their unwavering support throughout the project.

I am really grateful to **Dr. R.K. Pandit**, Director of MITS Gwalior, for establishing an outstanding institutional environment and for giving all facilities and assistance in the preparation of my dissertation. I also acknowledge with gratitude to our supporting **Mr. VIKRAM** for providing the facilities needed for the accomplishment of this project.

I take great pleasure for my institute **MADHAV INSTITUTE OF TECHNOLOGY AND SCIENCE, Gwalior (M.P.)** for providing the opportunities.

The environment of company has been valuable experience for me. It has provided an opportunity to learn at our own pace in discipline of interest. I would like to thank all those who helped me during different stages of completion of this project.

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ABSTRACT

In this time is very bad time of every country all country suffers from covid 19 virus all economic and all life cycle are affected and all works are close and but construction work not close because the life of every people depend on each other basically the construction is a part of life.

In this report we show our knowledge in the form of words because words says all things ,in every country needs of import and export but how u can export or import goods and materials by the help of water transport so they take much time so be decided to make highways and roads for transportation materials from one city to another city in easy way or in short time period and u can easily go one place to another place.

So we construct the road and highway by the help of workers and machines but which material is good and what is the life of materials we can not decide easily so we perform the test by the help of machines and how many layer provide so give better result in future and not make harmful for people .

Generally we provide two type of pavement in roads like rigid pavement and flexible pavement and we are use flexible pavement in project and in flexible pavement we learn type of materials used in layer and what is the strength and what is density ,how much required for construction and whats benefit we want after use

ABSTRACT IN HINDI

इस समय में हर देश का बहुत बुरा समय है, सभी देश कोविड 19 वायरस से पीड़ित हैं, सभी आर्थिक और सभी जीवन चक्र प्रभावित हैं और सभी कार्य करीब हैं लेकिन निर्माण कार्य बंद नहीं है क्योंकि हर व्यक्ति का जीवन एक दूसरे पर निर्भर है. मूल रूप से निर्माण है जीवन का एक हिस्सा।

इस रिपोर्ट में हम अपने ज्ञान को शब्दों के रूप में दिखाते हैं क्योंकि शब्द सब कुछ कहते हैं, हर देश में आयात और निर्यात की जरूरत होती है लेकिन आप जल परिवहन की मदद से माल और सामग्री का निर्यात या आयात कैसे कर सकते हैं, इसलिए उन्हें अधिक समय लगता है इसलिए निर्णय लिया जाता है। एक शहर से दूसरे शहर तक परिवहन सामग्री के लिए राजमार्ग और सड़कें आसान तरीके से या कम समय में बनाने के लिए और आप आसानी से एक स्थान से दूसरेस्थान पर जा सकते हैं।

तो हम श्रमिकों और मशीनों की मदद से सड़क और राजमार्ग का निर्माण करते हैं लेकिन कौन सी सामग्री अच्छी है और सामग्री का जीवन क्या है हम आसानी से तय नहीं कर सकते हैं इसलिए हम मशीनों की मदद से परीक्षण करते हैं और कितनी परत प्रदान करते हैं इसलिए बेहतर परिणाम देते हैं भविष्य में और लोगों के लिए हानिकारक नहीं बनाते।

आम तौर पर हम सड़कों में दो प्रकार के फुटपाथ प्रदान करते हैं जैसे कठोर फुटपाथ और लचीला फुटपाथ और हम परियोजना में लचीले फुटपाथ का उपयोग करते हैं और लचीले फुटपाथ में हम परत में प्रयुक्त सामग्री के प्रकार सीखते हैं और ताकत क्या है और घनत्व क्या है, निर्माण के लिए कितना आवश्यक है और उपयोग के बाद हमें क्यालाभ चाहिए

Table of content

S.NO.	TOPIC	PG NO.
1.	Introduction	11
1.1	Weekly schedule of internship	13
2.	Objective	14
3.	Road construction	15
3.1	Flexible Pavement	15
3.2	Rigid Pavement	17
4.	Layers of flexible pavement	18
4.1	Granular sub base	19
4.2	Wet mix macadam	20
4.3	Dense bituminous macadam	21
4.4	Bituminous concrete	23
4.5	Prime coat	25
4.6	Tack coat	26

5.	Test applied on site	29
5.1	Sieve analysis	29
5.2	Sand replacement	32
5.3	Bitumen extraction	35
5.4	Field density by core cutter	36
6.	Footpath work	37
7.	Stone fixing	40
8.	Granite fixing	40
9.	Selfie point	41
10.	Place making area	42
11.	Land scape area	43
12.	conclusion	44
13.	Appendix - Fortnightly progress report - Plagiarism check certificate - Plagiarism report	45- 48

List of figures

S.NO.	Title	Page no
3.1	Layers of Flexible pavement	16
3.1.1	Flexible pavement	16
3.2	Layers of Rigid pavement	17
3.2.1	Rigid pavement	18
4.1	GSB	19
4.1.1	GSB At sevanagar	20
4.2	WMM at katora taal	21
4.3	Dense bituminous macadam	22
4.4	Bituminous concrete	23
4.4.1	Procedure of Bituminous concrete	24
4.5	Prime coat	25
4.6	Tack coat	27
5.1	Sieve analysis	30
5.1.1	Retain weight of aggregate sample	31
5.2	Sand replacement	33
5.2.1	Procedure of sand replacement	34
5.3	Bitumen extraction	35

5.4	Field density test by core cutter	37
6.	Foothpath work	38
6.1	Fixing cobble block of foothpath	39
7.	Stone fixing	40
8.	Granite fixing	40
9.	Selfie point	41
10.	Place making area	42
11.	Land scape area	43

CHAPTER 1

INTRODUCTION

General

During internship we learn many basic knowledge of road construction and how to use machinery and other object related to construction, generally in India we are using different type of roads and all roads are made of bitumen and of concrete, we are call flexible pavement and rigid pavement.

And in construction site we are using flexible payment. flexible pavements are use in India ab-roads .it is possible to construct thin layer over to another layer after compaction, two stages give better strength to a road.

In road construction firstly design the road as required traffic capacity a structure engineer design the road on the basis of soil strength and load bearing capacity of soil ,in a road construction a wide range of materials required as a needed during the work like aggregate and water and crushing stone and bituminous and other needed materials, during the construction all materials checked by site engineer and other engineer like checked the size of aggregate and quality of aggregate or grade of aggregate on the basis of test.

In flexible pavement firstly provide sub-base of (GSB) and (WMM), both layer are same and same materials used only water is mixed in WMM and the size of layer design by engineer and both the layer laying in twosteps or materials used in layer is crushing stone, river sand crushing brick etc.

After WMM we use the prime coat in the form of thin layer, prime coat is used as binding materials in between sub-base or in sub-grade means between WMM OR DBM, the spray of prime coat is spray by worker as a MORTH.

After 24 hours we laying the layer of DBM (DENSILE BITUMINOUS MACADAM) as a sub -grade and DBM making process complete in hot mix plant at certain temperature, in the site engineer check the temperature of bituminous concrete.

And before the BC (BITUMINOUS CONCRETE) we applying the tack coat layer on the surface of DBM before 7 hour with requirement of spray ,because tack coat make proper binding between DBM AND BC ,BC is thin and last layer of flexible pavement.

1.1 Weekly schedule of internship

s.no.	Week no.	content
1.	Week – 1	Overview of road construction at katora taal
2.	Week – 2	Understanding concepts of road layers
3.	Week – 3	Design details , plans of road layers
4.	Week – 4	Testing of material of road layers
5.	Week – 5	Quantity calculation of material of different road layers
6.	Week – 6	Reading and understand plans
7.	Week – 7	Inspection of road material quality
8.	Week – 8	Overview of road layers at phoolbagh
9.	Week – 9	Site inspection before GSB
10.	Week – 10	Understand Different types of test for granular sub base
11.	Week – 11	Site inspection before WMM
12.	Week – 12	Understand test for wet mix macadam
13.	Week – 13	Understand different test for road pavement
14.	Week – 14	Understand how to fix cobbler block of footpath
15.	Week – 15	Learn how to fix stone in land scape area
16.	Week – 16	Learn how to fix granite at selfie point

OBJECTIVE OF PAVEMENT

- To provide easy drive and safety
- To provide smooth surface and high durable
- In flexible the pavement good in climatic condition
- To keep safe lower surface for damage in flexible pavement
- To keep load sustain in road to avoid free from damage

ROAD CONSTRUCTION

Roads have an important role in financial events and development, and they provide important benefits to society. They are essential for the development and improvement of the country. Furthermore, the street network is crucial in the fight against poverty since it allows access to businesses, social services, health care, and education. Streets provide access to a variety of regions while also advancing monetary and social developments. As a result, street architecture is the most important of all public works.

Pavements can generally be classified as:

1. Flexible Pavement

2. Rigid Pavement

1. Flexible Pavement

Tire loads are transported to the ground via contact foci in the granular architecture of Flexible Pavement. The tension in the asphalt is distributed across a large area when a wheel load is applied to it, and it decreases with depth. There are numerous levels in this section of the distribution of the heaps of adaptive asphalts. As a result, a flexible asphalt plan framework employs a consistent framework concept. As a result, the adaptable street should be of the highest quality to withstand tremendous stress, as well as maturing and suffering. Lower layers are unrestricted in their ability to feel the magnitude of the pressure, and lower levels can be exploited. Bituminous materials are frequently employed in the construction of flexible streets. If a solution for the bottom layer exists, botches in the adaptive road should be obvious on a surface level. The flexible methodology is designed with the overall street execution in mind, and the developed tensions for each street layer should be saved beneath the passable tensions.

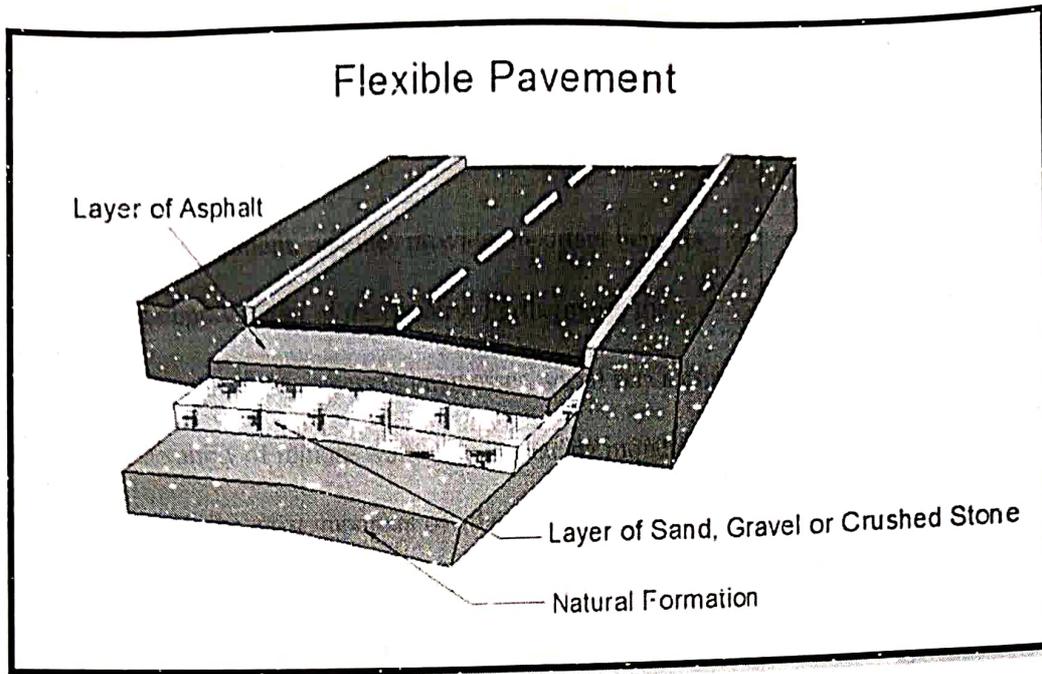


Fig 3.1 layers of flexible pavement

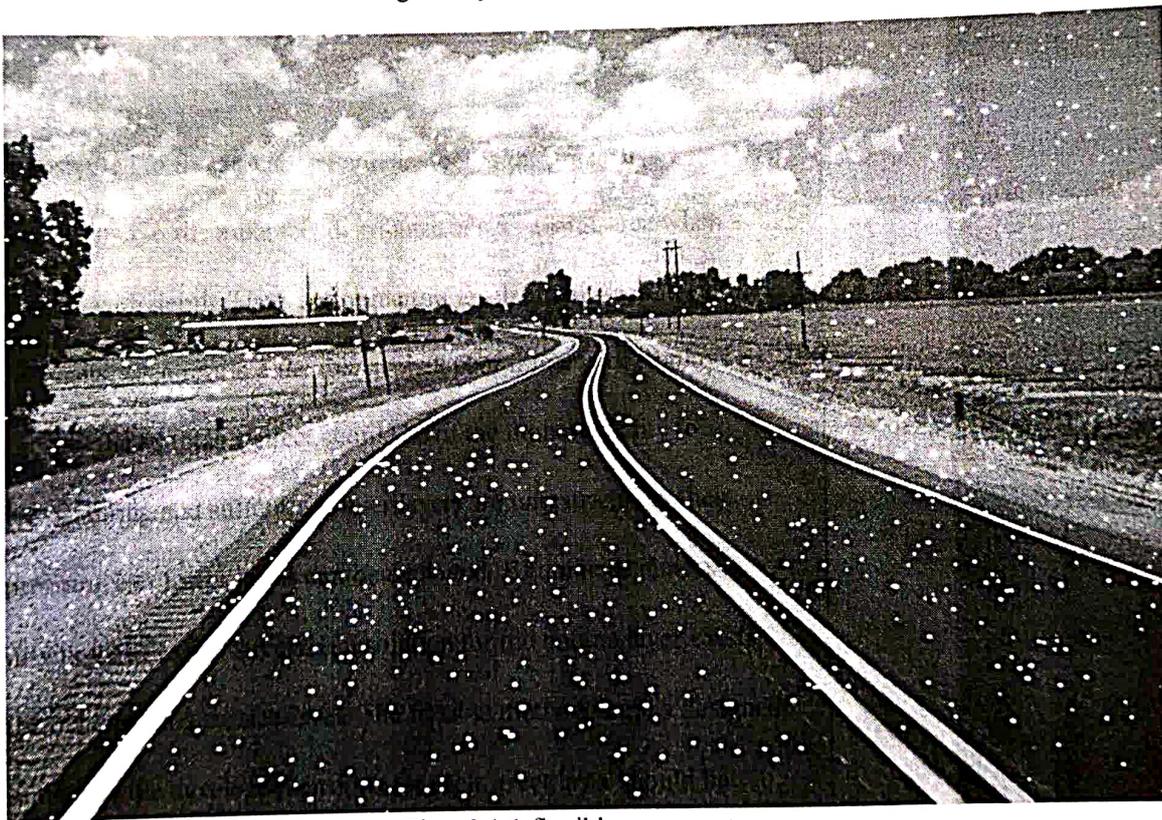


Fig - 3.1.1 flexible pavement

Rigid Pavement

- The construction of rigid pavement is very costly in initially and cheap after construct because the maintenance cost is very cheap in rigid pavement generally we used (concrete pavement),
- We get bituminous by the help of petroleum crude, but in present time the rate of fossil fuel is high and available in low quantity so bituminous is not easy available but cement have in much quantity in India so we easy get and construct rigid pavement.
- cement easy available so we use rigid pavement because this is maintenance free
- Rigid pavement save fuel during drive so help in savings and save 14 to 20 %fuel
- Rigid pavement economic in nature or easy for construct
- Rigid pavement easily or varies in nature not get more effect of climate

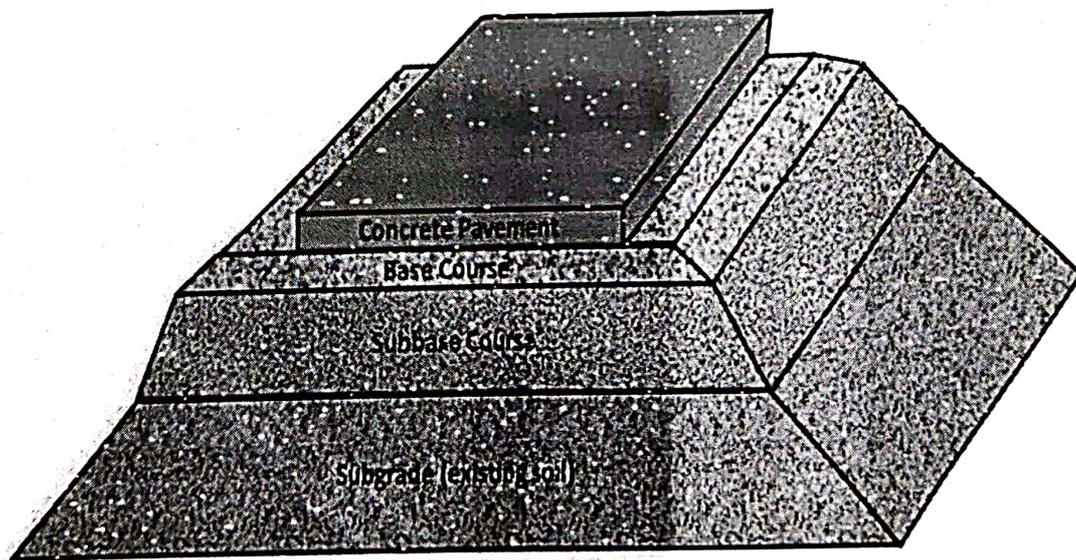


Fig – 3.2 layers of rigid pavement

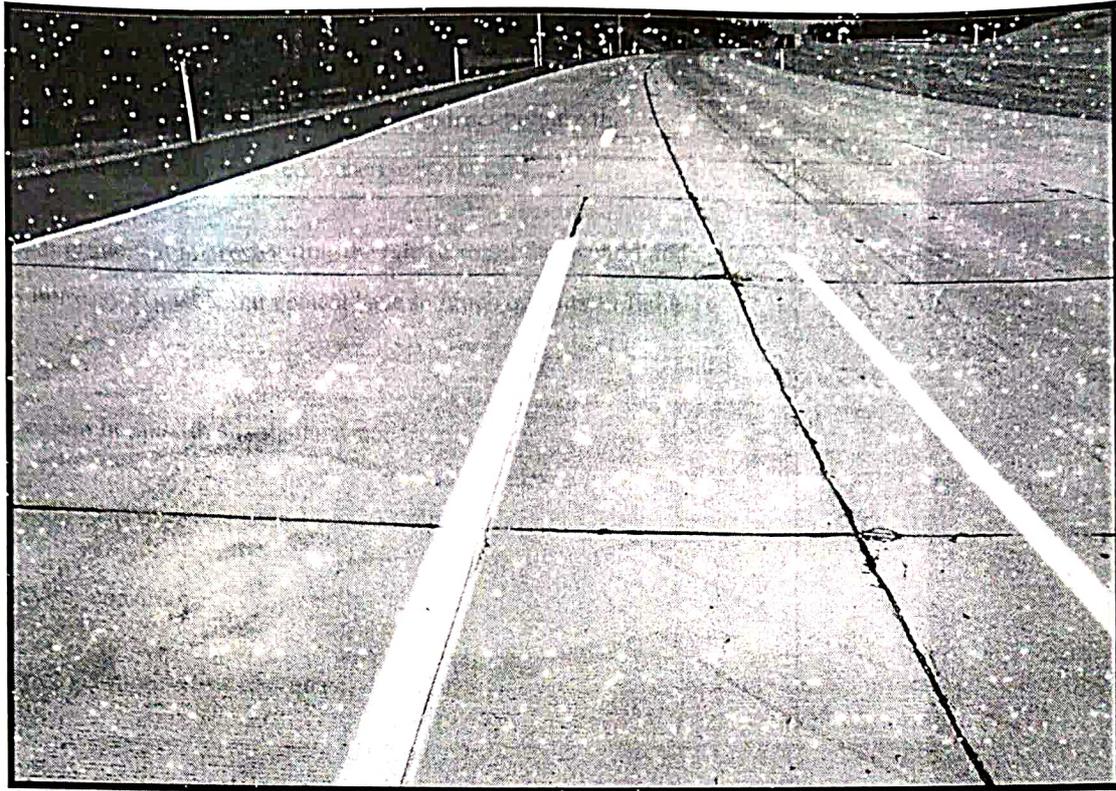


Fig 3.2.1 rigid pavement

Layers of flexible pavements

- a. Granular sub base
- b. WMM
- c. DBM
- d. BC
- e. Prime Coat
- f. Tack Coat

a. GRANULAR SUB BASE (200MM)

The work of GSB collection of laying and compacting materials as a grade on prepared of sub grade according to requirement of the specification. The materials should be laid down in one or more layers as given drawing and a line as given order , grades of materials or the weight or cross-section decided as a drawing or as directed by engineers.

MATERIALS :

The materials used in GSB for work is 1 sand, crushed gravel, crushed materials , slag, or other materials as requirement

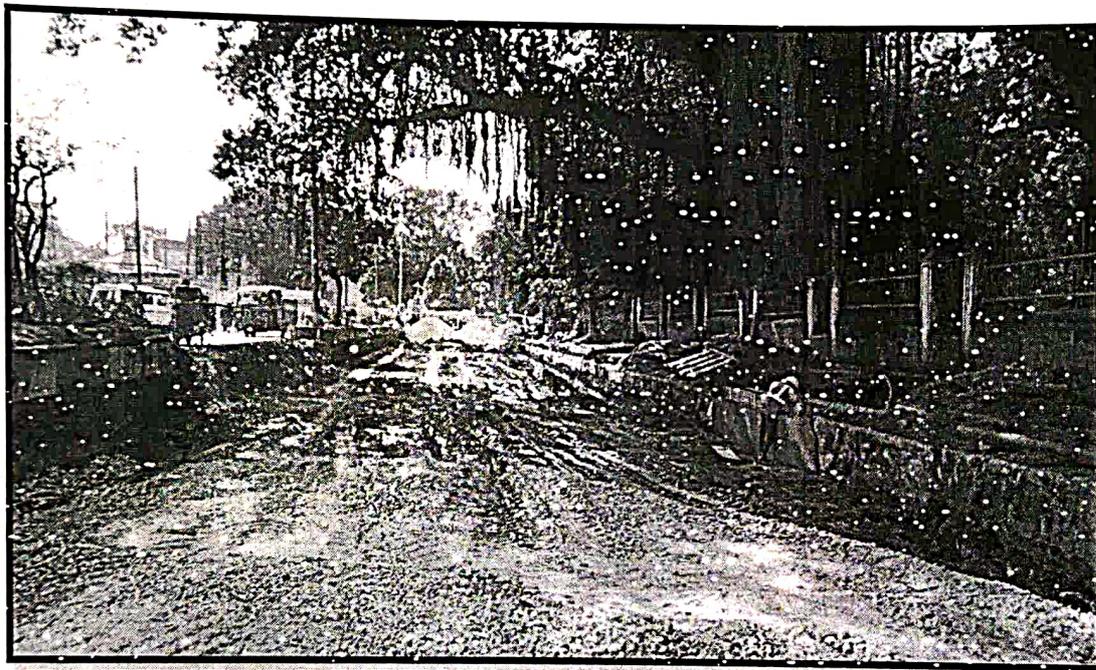


Fig – 4.1 GSB

Construction :

The layer of GSB should be laid down in one or more layer as a requirement or as a drawing given by engineer.

The materials provide in during construction should not be more than 150 mm and the compacting layer should not more than 100 mm.

After laid down layer quickly compact the layer by the help of 80 to 100 kn vibrator roller .



Fig 4.1.1 GSB AT SEVANAGAR ROAD , PHOOLBAGH

b. WET MIX MACADAM (250MM) -

AFTER the GSB Sub-Base layer has been laid, the line and level must be completed before the WMM layer, commonly known as WMM Base, may be started. Stakes should be placed at regular loosens and around the edge of the grader, so that the stake is not irritated when the base materials are being mixed. A significant level of Base layer is separated by paint or marker at the corners of each stake, bhurji, or kerbstone. To avoid break and mischief of the those seat marks, the chainage sheet and operating seat engraving must be kept outside of the range of advancement. This work will entai laying and compacting a thick mass of faultless, crushed, assess all out and granules, premixed with water, on a set up mono of existing black-top, as the case may be, according to the requirements of these details. The material will be applied in one layer on extra layers that are crucial to the lines, grades, and cross-regions shown on the supporting designs or as compose by the fashioner. A single compact WMM layer will not be less than 75 mm thick. With the underwriting of the fashioner, the compressed significant of a layer of the sub bases course could actually rely on

200mm when vibrating or other welcomed types of compacting equipment is applied.



Fig 4.2 (WMM AT KATORA TAAL)

WMM MATERIAL –

Totals that are too coarse will be crushed stone. If smashed rock is used, at least 90% of the rock fragments held on the 4.75mm sieve will have at least two fractured faces. The totals will be adjusted according to the actual requirements listed in table 400-12.

If the coarse total's water retention value is greater than 2%, an IS:2386 sufficient test will be performed on the material delivered to the job site (part- 5)

C. DENESE BITUMINOUS MACADAM (DBM) (115MM) –

DBM is fastener course utilized for street with more number of weighty business vehicles and a nearby reviewed premixes material having a void content of 5-10%

- This material has expanded in prominence because of strong surface which performs practically well as in all circumstances
- Appropriate for all asphalt layers and for all traffic conditions.

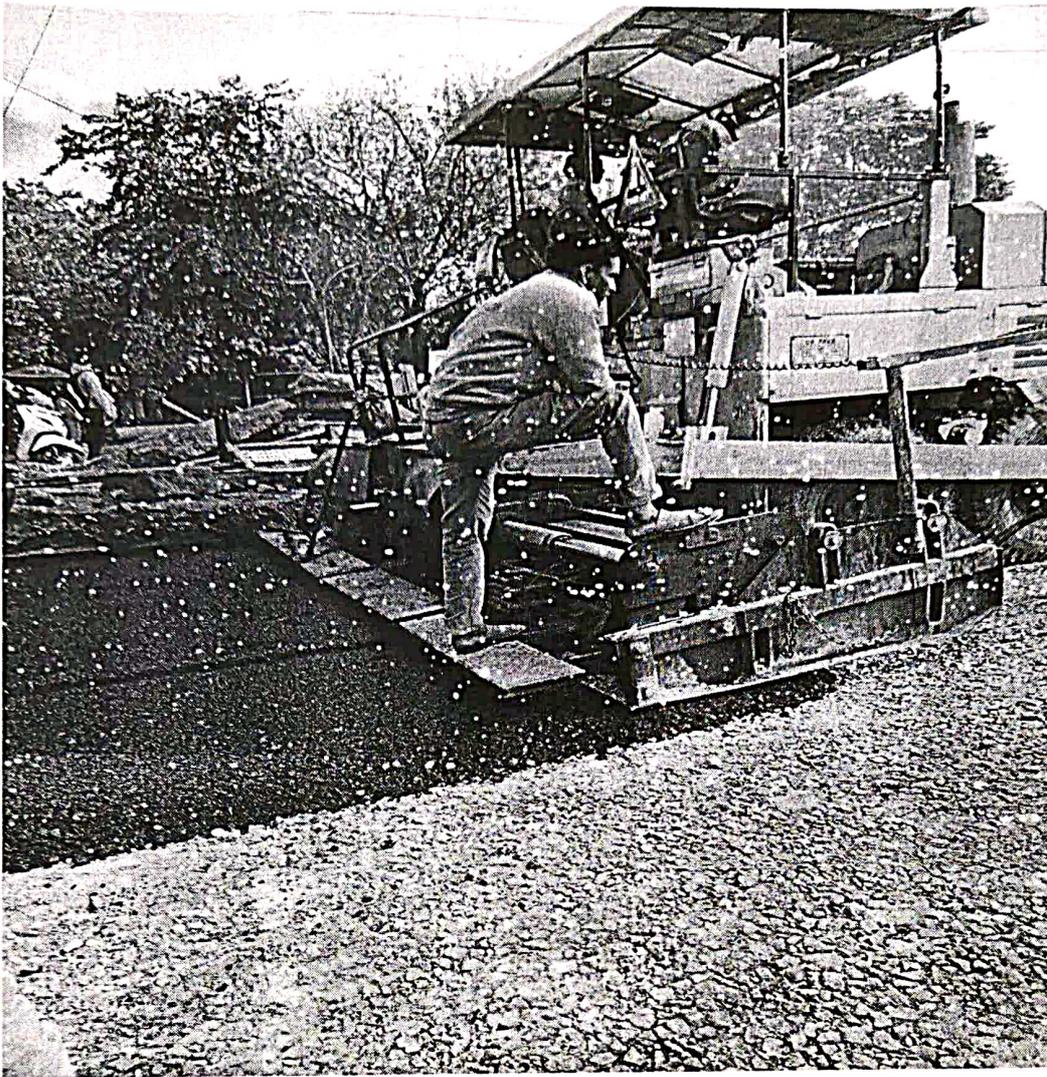


Fig 4.3 DBM AT KATORA TAAL

C. DBM CONSTRUCTION –

DBM is second last layer of adaptable asphalt, DBM is combination of hot bituminous cement furthermore, DBM materials are ready in hot blend plant by various cycles, generally speaking.

After pre-arranged materials of DBM is moved by truck and different vehicles as a necessity in site or as a request.

The temperature of DBM in plant is approx. 145°C to 160°C and in site the temperature of DBM ought to be above than 90° c.

The DBM constitution in street is finished in one to two layer as a necessity, the layer of DBM is laying in over WMM with legitimate arrangement.

After one layer, layer ought to be compacted by high tension roller rapidly subsequent to laying and one more layer of DBM is laying in over a first layer

d. BITUMENOUS CONCRETE (BC) (40MM) –

Bituminous concrete using for wearing course and material use is small compare to dbm materials and work of these layer complete in one layer of bituminous concrete atop of dense bituminous concrete.

Material:

Bitumen, coarse, aggregate, fine aggregate, filter

CONSTRUCTION

- the layer of bituminous concrete should be laying over DBM when surface free from water and dust free and check climate condition,
- Before bituminous concrete the surface completely spray with prime coat in required quantity .
- Or provide asphalt layer in another asphaltic layer provide tack coat in uniformly with rule in dense bituminous concrete
- And before laying bituminous concrete check the temperature and proper compaction with suitable roller

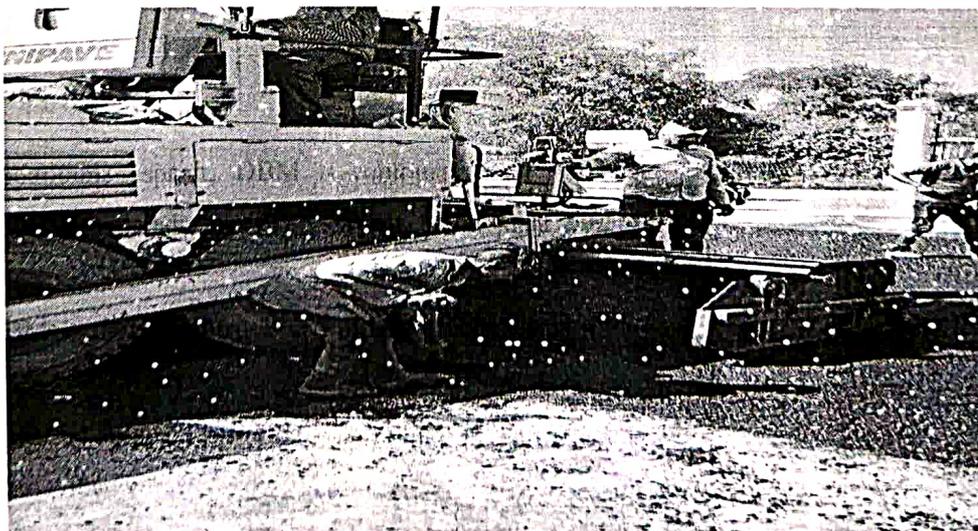


Fig – 4.4 Bituminous concrete



Fig – 4.4.1 procedure of bituminous concrete

e. PRIME COAT –

Prime coat is thin or low viscosity asphalt provide in granular base to make prepare for over another asphalt layer ,this material use to make material loose and bond or harder to use equipment and provide adhesion between in base course or asphalt layer.before use of prime coat the time should be minimum 48 to 72 hour before asphalt layer

700-900 gm/sq. space occupied by prime coat



Fig 4.5 prime coat

be spray before 7 hour and in given quantities like as morth 200 to 300 gm per square meter.

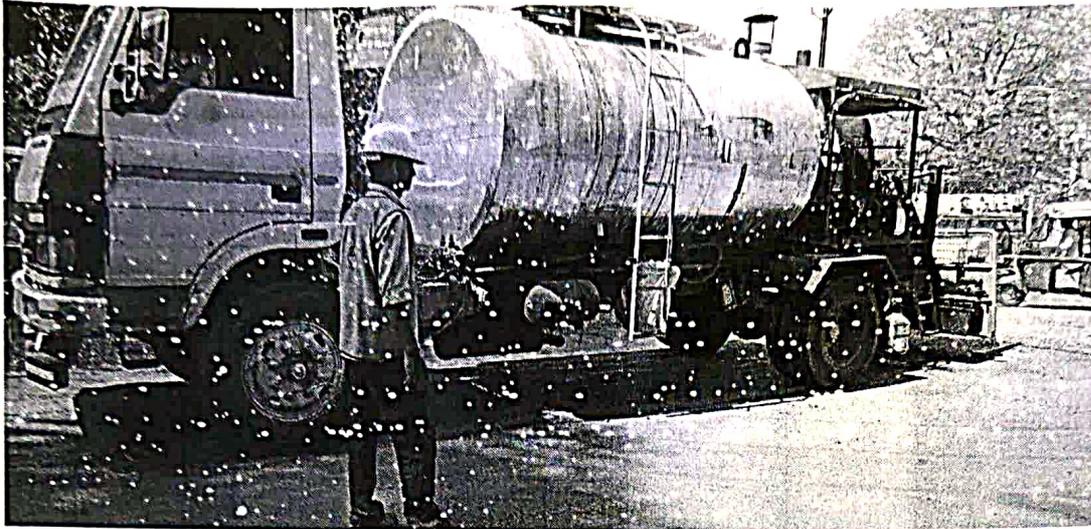


Fig 4.6 Tack coat

Tack coat application ought to bring about a flimsy, uniform covering of tack coat material covering roughly 90% of the asphalt surface (Flexible Pavements of Ohio, 2001). To accomplish this outcome, application rate will shift in view of the state of the asphalt getting the tack coat. Too little tack coat can bring about deficient holding between layers. An excess of tack coat can make a greased up slippage plane between layers, or can cause the attach coat material to be brought into an overlay, adversely influencing blend properties and in any event, making a potential for draining in flimsy overlays.



LARSEN & TOUBRO CONSTRUCTION

Project Name: Gwalior Smart City Project

SL NO: 000

Formal No: QMSQ-CIVIL-26

Rate of Spread

Table No: _____
Material: _____

Date 25/12/21

Area of paper (sq.m)	Weight of material + Paper (gm)	Actual wt. of material (gm)	Area of paper (sq.m)	Rate of spread of material (gm/sq.m)
312	340	28	0.09	311.11
310	337	27	0.09	300.00

Average (gm/sq.m) 305.55


L&T

CLIENT

Scanned by CamScanner

- TEST APPLIED ON SITE –

- a. Sieve analysis
- b. Sand replacement
- c. Bitumen extraction test
- d. Field density test by core cutter

- a. Sieve analysis –

Sieve analysis is used to determine or select best fine or course aggregate and the test is done by sieving aggregate by different size of sieve as give in IS code .

The materials used in site is good or sufficient or not we check by the help of sieve analysis and we get different size of particle by different sieves.

METHOD:

1. test sample is dry and weighed at 110 +5 degree calcius
2. And sieve the sample as given in set
3. After completing sieve the materials of each sieve weight properly
4. the cumulative passing weight of each sieve calculate the total percentage of sample weight.
5. Fineness modulus calculate as adding the cumulative percentage weight retained in each sieve or divided by 100.

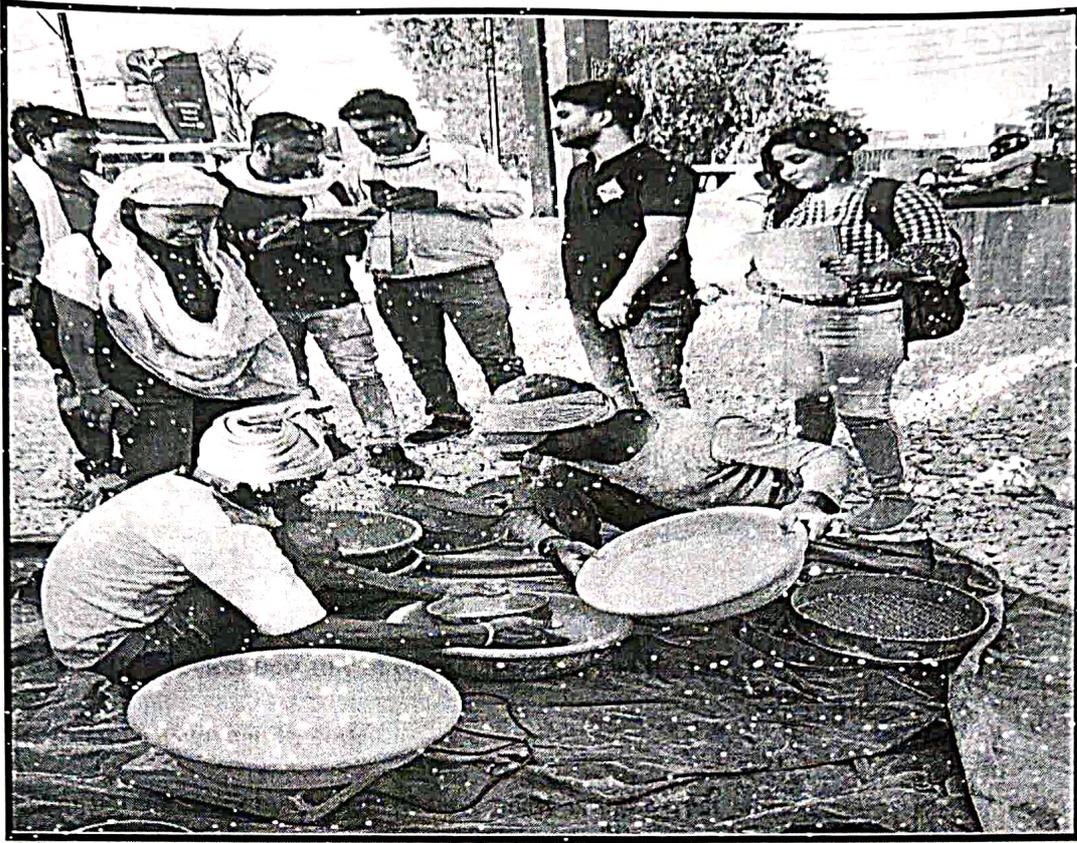


Fig 5.1 sieve analysis



Fig 5.1.1 retain weight of aggregate sample

L&T Construction Water & Fluid Treatment		LARSEN & TUBRO CONSTRUCTION				
Project Name:-Gwalior Smart City Project		SL NO: 000				
Format No : GMSO-CIVIL-15						
SIEVE ANALYSIS REPORT OF DENSE BITUMINOUS MACADAM [As per MoSRT & H]						
Laboratory Job No.	LF 20M159	Date Of Sample	09/03/22			
Type of Material	DBM	Sampled By	H T & PDM			
Source	Bilawal / H&T Mix	Date of Testing	09/03/22			
Location	Kadwa Road, Gwalior, MP, India	Tested By	H T & PDM			
Proposed Use	B - ROAD WORKS	Testing Method	Dry sieve Analysis			
grams Total Weight of sample						
Sieve size	Wt. Retained (gm)	% wt. Retained	Cum. % Retained	Cum. % Passing	% Passing as per Specification MoSRT&H	Remarks
37.5 MM	0	0	0	100	95-100	DBM GRADE-I as per MoRTH
20.5 MM	658	14.61	14.61	85.39	63-93	
13.2 MM	765	16.99	31.60	68.40	55-75	
4.75 MM	845	18.77	50.37	49.63	38-54	
2.36 MM	540	11.99	62.36	37.64	28-42	
75 MIC	810	17.99	80.35	19.65	7-21	
75 MIC	635	14.10	94.45	5.55	2-8	
Pan wt.	250					
Total wt.	4503					




b. Sand replacement test –

sand replacement test strategy is additionally used to decide the set up thickness of compacted soil to contrast it and the assigned compaction degree, consequently it indicates how much the compaction of the dirt is near the assigned compaction degree.



Fig 5.2 sand replacement



Fig 5.2.1 procedure of sandi replacemnt

c. Bitumen extraction test –

The Asphalt Extraction Test is used to determine the amount of bitumen present in asphaltic asphalt using a cold dissolvable extraction method. The properties of flexible pavement like strength, similarity, and opposition from deserts dying, raveling, and maturing of adaptable asphalt are significantly subject to the level of bitumen utilized with the total to lay the asphalt.



Fig 5.3 bitumen extraction



LARSEN & TOUBRO CONSTRUCTION

Project Name:-Gwalior Smart City Project

SL NO: 000

Format No : QMSG-CIVIL-22

Bitumen Content Test

Material:	DBM		
Source:	Bilaspur / Hot-mix / Road/curb/MSHL/road/curb/MSHL		
Test as per IS:	13826 Part - 7	Date	09/03/22

S. No.	Particular	Unit	Test No.	
			1	2
1	Weight of Sample taken (W1)	gm	500	500
2	Weight of Sample after extraction (W2)	gm	479.7	478.8
3	Bitumen Content (W1-W2)/W1*100	%	4.06	4.24
4	Average	%	4.15	

Remarks:-

L&T

CLIENT

d. Field density test by core cutter –

In core cutter, the field thickness of soil is gotten from direct estimations. Nonetheless, it isn't generally imaginable (especially if there should be an occurrence of sandy soil) to get a center example. In such circumstances, the sand substitution strategy is utilized to decide the field thickness.



Fig 5.4 field density by core cutter

L&T Construction		LARSEN & TOUPRO CONSTRUCTION		
Project Name: Gwalior Smart City Project		SL NO: 009		
FIELD DENSITY TEST REPORT (Core Cutting Method) AS per IS 2720 - Part -29		Formal No: OMBB-CVL-7		
Report No.	16-01-2022	Length (mm)	100	
Date	16-01-2022	Volume of Mould (cm ³)	30.15	
Area / Structure	Mohal Road CH-115 / 115 (110 x 150)	Wt of Mould (gm)	2075	
Source of Soil		Wt of Sample (gm)	3035	
		M = Maximum Dry Density (gm/cc)	1.930	
		Optimum Moisture Content (%)	9.27	
Sl.no	Details	Sample I	Sample II	Sample III
1	Sample Location			
2	W1=Weight of Mould + Weight of Sample (gm)	3015	3035	
3	W2=Weight of Sample (gm)	2075	3035	
4	B = Bulk Density - W2 / V (gm/cc)	2.115	2.034	
5	Moisture gauge reading content w (%)	6.7	5.27	
6	D= Dry Density (B / (100+w)) * 100 (gm/cc)	1.935	1.930	
7	Degree of Comparison (D / M) * 100 (%)	97.148	97.215	
8	Remarks	redme	SPATIAL	87.337

(FIELD DENSITY TEST READING)

- Footpath work at site –

1. Concrete block are used in footpath and size of concrete block is 400mm. The Concrete block is settled down 300mm from the road level and 100mm above the road level and at some places concrete block is the level of road because of entrance in the college, hospital and others

2. Different color of Cobble stone are used in footpath color of cobble is white, red, grey and size of cobble stone is 75mm

3. Stone dust are used below the cobble stone

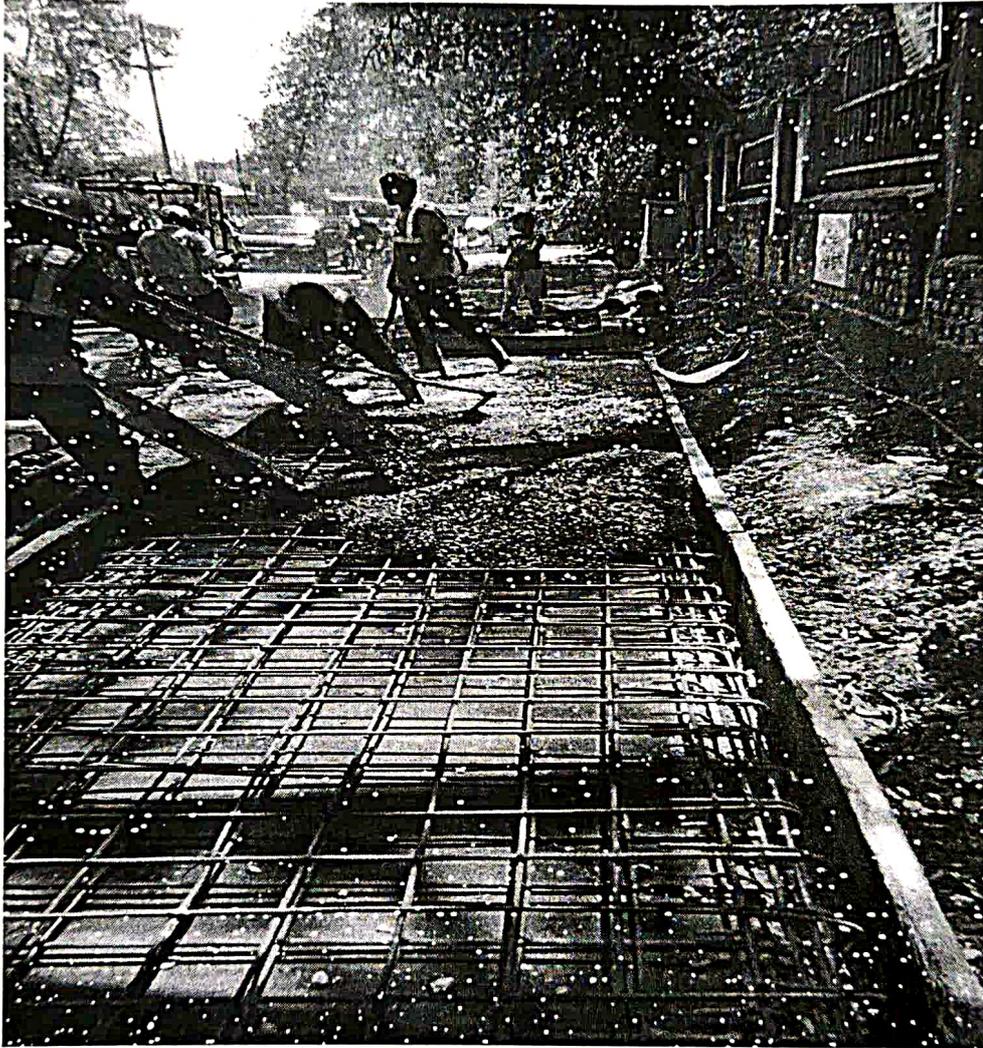


Fig 6 footpath work

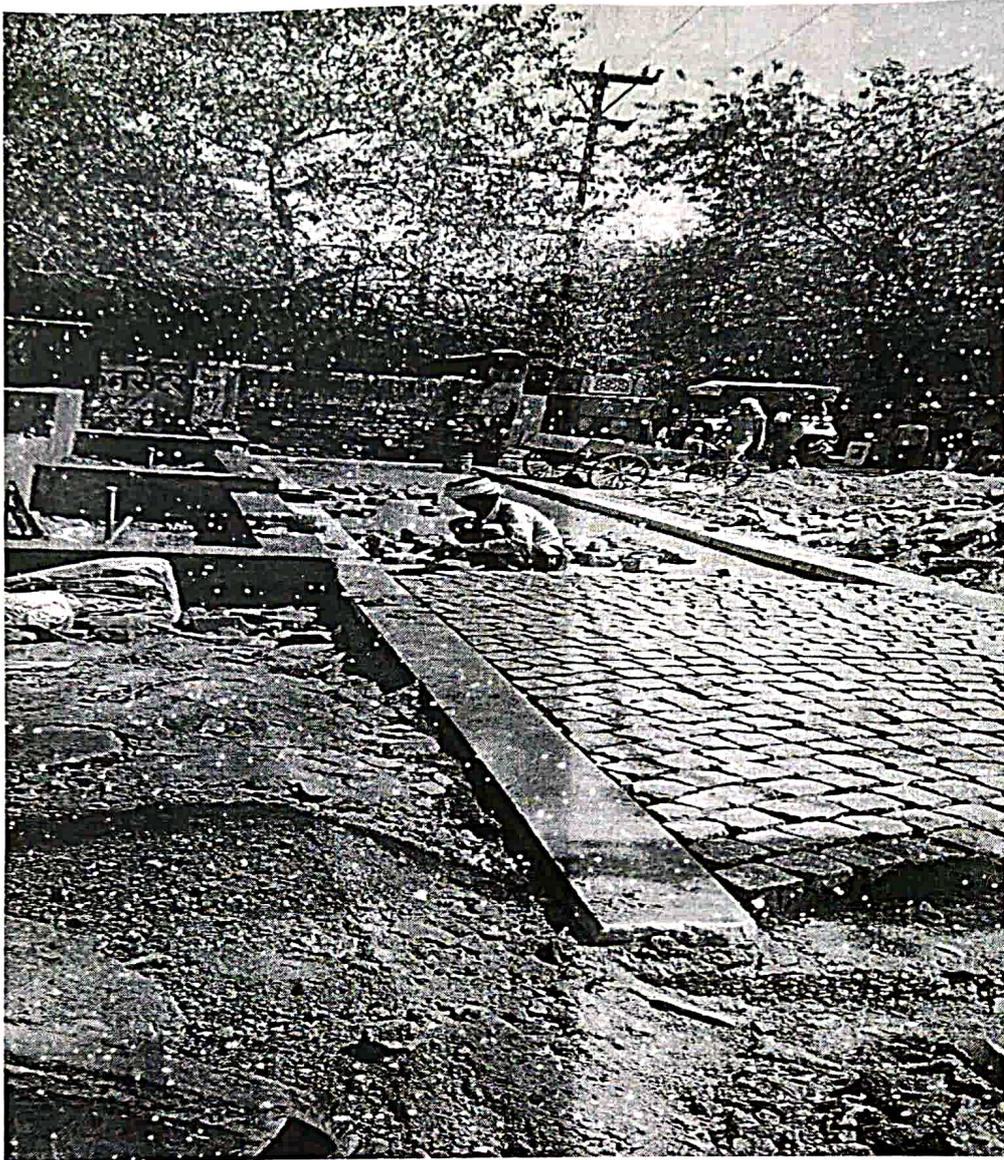


Fig 6.1 fixing cobble block on footpath

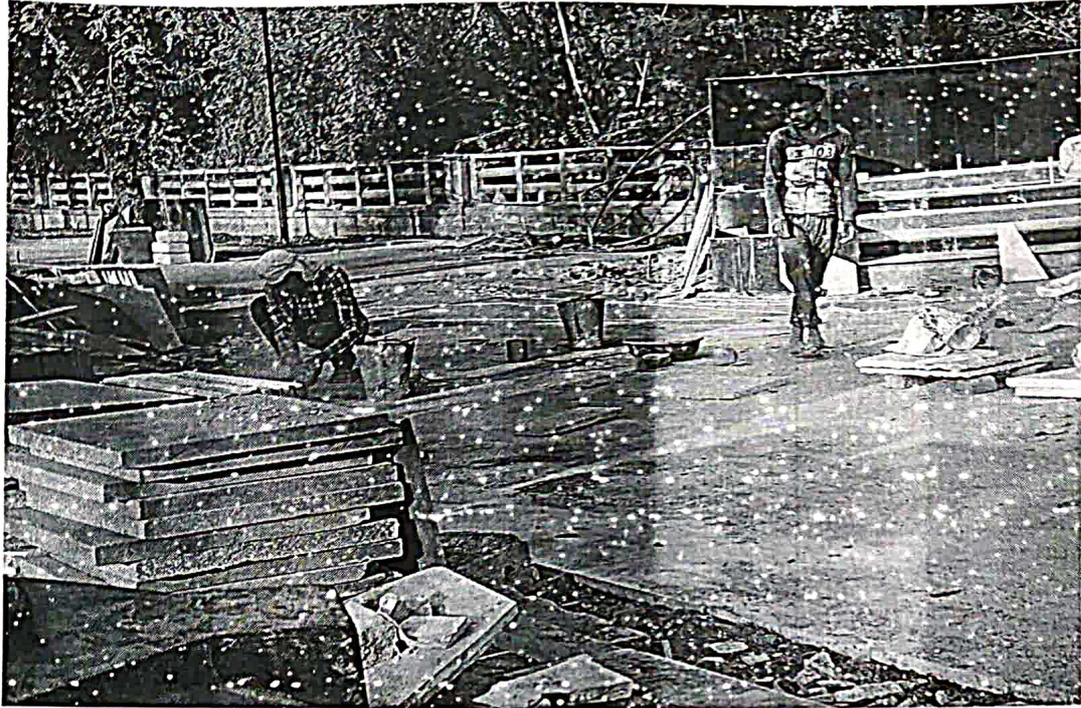


Fig 7 stone fixing work



Fig 8 Granite work



Fig 9 (SELFIE POINT AT KATORA TAAL ROAD)

- PLACE MAKING AREA

Place making area is refers to point of attraction in any place or in city for attract people by and help of art and by famous building and by the many things and in my city the place making area is in theme road is fountain with red stone design and other fountain or selfie point and red stone place in basement.



Fig 10 place making area

- **LAND SCAPE AREA :**

Land scape area means to provide a design and beautiful view in area to attract people by the help of combination of trees stone and by horticulture in a place ,but in our project land scape area materials for design is the combination of small plant and red stone in for beautiful view in selfie point.



Fig 11 land scape area

CONCLUSION:

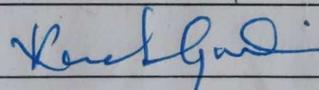
As an undergraduate of MITS Gwalior, I would like to conclude that internship programme was an excellent opportunity for me to enhance the knowledge in this field.

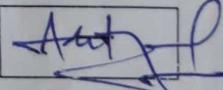
I have learnt so many things during this project and after completion of this training programme, I am achieving a high level of confidence and knowledge. I am really grateful to GSCDCL and IPE global for providing me this wonderful opportunity.

The main aim of this internship was to provide an opportunity to undergraduate student to identify, observe and practice application of civil engineering on real site, to get real time experience of technical as well as management practices, to deal with the real time problems arised on site and to interact with field workers. In this internship project I have been able to see the important theoretical as well as practical aspects of road construction . This experience and knowledge gained me is definitely going to help me in my future projects.

FORMAT

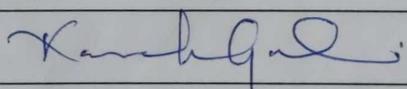
FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Kajal Godia		Department	Civil	
Industry/Organization	Gwalior Smart city		Date/Duration	DD/MM/YR -DD/MM/YR 18/01/22 - 15/02/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Worked with IPE-Global as PDME team in Gwalior Smart City Project with contractor - LGT Ltd - Project - Smart Road, underground utilities Multilayer flexible pavement Road work.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	RANJAN GOSWAMI				
<u>Signature of Industry Mentor</u>	 				

Receiving Date	21/2/22	Name of Faculty Mentor	Amit Agrawal	Sign	
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Kajal Godia		Department	Civil Engg.	
Industry/Organization	Smart city owl.		Date/Duration	DD/MM/YR - DD/MM/YR 15/02/22 - 01/03/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Internship at GSCDCL with IPE Global Ltd. in Gandhinagar Smart City project. Learned about various software like AutoCAD, Ms. excel. & site monitoring @ work. In Smart Road project.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	KANCHAN GOSWAMI				
<u>Signature of Industry Mentor</u>					

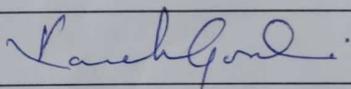
Receiving Date	7/3/22	Name of Faculty Mentor	Anita K Paul	Sign	
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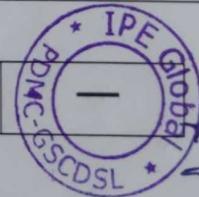
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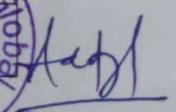
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Kajal Chodia		Department	Civil Eng.	
Industry/Organization	Smart city Cwl.		Date/Duration	DD/MM/YR - DD/MM/YR 01/03/22 - 15/03/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Internship at GSCDSL with IPE Global Ltd. in Gwalior Smart city Project. Learned about various software like Autocad, MS-excel etc. & site monitoring work in Smart Road Project.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	KANCHAN GOSWAMI .				
<u>Signature of Industry Mentor</u>					

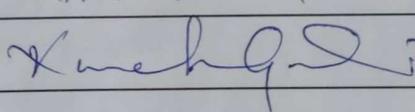
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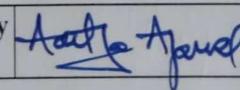


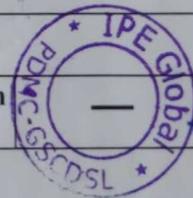


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Name of student	Kajal Grodia		Department	Civil	
Industry/Organization	Smart city Govt.		Date/Duration	DD/MM/YR - DD/MM/YR 15/03/22 - 31/03/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Internship at GSCDCL with IPE-Global Ltd. in Gwalior Smart City Project learned about various software like Autocad, Ms-excel etc. & site monitoring work in Smart Road Project.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	KANCHAN GOSWAMI.				
<u>Signature of Industry Mentor</u>					

Receiving Date	5/4/22	Name of Faculty Mentor		Sign	
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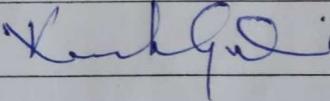
Name of student	Kajal Gadia		Department	Civil	
Industry/Organization	Civl. Smart city		Date/Duration	DD/MM/YR - DD/MM/YR 01/04/22 - 15/04/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Interview of IPE-Global at Gwalior smart city project. learn various software ex-Autocad, MS-excel, Monitoring in smart Road project.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	KANCHAN GOSWAMI				
<u>Signature of Industry Mentor</u>	Kanchan G.				

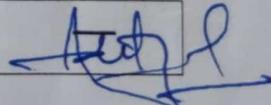


Receiving Date	20/4/22	Name of Faculty Mentor	Kanchan Goswami	Sign	[Signature]
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Kajal Grodia		Department	civil	
Industry/Organization	Crawations Smart city		Date/Duration	DD/MM/YR - DD/MM/YR 16/04/22 - 30/04/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Intern of IPE-Global at Gwalior Smart city project. Learn various software ex-Autocad, MS-excel. monitoring in Smart Road project.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	KANCHAN GOSWAMI				
<u>Signature of Industry Mentor</u>	 				

Receiving Date	5/5/22	Name of Faculty Mentor	Ashwini	Sign	
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Kajal Gadia		Department	Civil	
Industry/Organization	Smart city Gwl.		Date/Duration	01/05/22 - 20/05/22	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Internship in IPE-Global Ltd in Gwalior smart city project, learn about smart Road Project details, learn about various engineering software like AutoCAD.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	KANCHAN GOSWAMI				
<u>Signature of Industry Mentor</u>	Kanchan Goswami				

Receiving Date	31/5/22	Name of Faculty Mentor	Ashok Patel	Sign	Ashok Patel
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Civil Engineering Department

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