

List of Events for Road Carpeting

- 1. Tender Final & Publish on 13.04.2023.**
- 2. Notices for residents to be part of the committee publish on 09.05.2023.**
- 3. Notices for residents to be part of the committee publish on 26.10.2023.**
- 4. Work order for road carpeting.**
- 5. Work of road carpeting started on 01.11.2023.**
- 6. Leveling data of KV-II roads.**
- 7. Lab report of the carpeting road.**



Kendriya Vihar-II Apartment Owners' Association

Community Centre-1, Kendriya Vihar-II, Plot No.3, Sector-82, Noida-201304, U.P.
(website: www.noidakv2.org ; E-mail: noidakv2@gmail.com ; Tel: 0120-4984693)

Ref No. KV-II/Road Repair/12/ 2023-24

Date: 26.10.2023

To

JCC Infratech Pvt. Ltd.
1474, Sector-15, Part-2,
Gurugram, Haryana

Sub: Work Order for carrying out Road repairs and re –carpeting work of KV-II Complex,
Sector -82, Noida

Dear Sir,

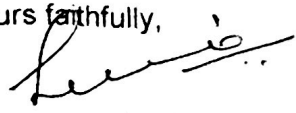
We are pleased to award the work of road repairing and re-carpeting of KV-II Complex, Sector-82, Noida. Details of the work is as under :

S.No	ITEMS	QTY	UNIT	RATE		Amount (In Rs.)
				In Fig.	In words	
1	Providing and applying tack coat using bitumen emulsion conforming to IS:8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom. On bituminous surface @ 0.25kg/Sqm	34000	Sqm	20		6,80,000
2	Providing and applying 2.5 mm thick road marking strips (retro reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	500 m2	Sqm	460		230000

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3	<p>Providing and laying Dense Graded Bituminous Macadam using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specifications and directions of Engineer-in-Charge.</p> <p>25 to 30 mm average compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.</p>	05	cum	10,000	50000	
4	<p>Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.</p> <p>25 to 30 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH</p>	935	Cum	11,300	10,565,500	
					Total	11525500/-
					GST 18%	2074590/-
Rupees one Crore thirty six lakhs & Ninety thousand only					Grant Total	13600090/-

Other terms and conditions of the tender document will remain unchanged.

Yours faithfully,

 (Dr. Lokesh Kumar Sinha)
 Secretary, BOM
 o/c.

Accepted

 27/10/23

Dr. S.N. Sachdeva
Ph.D, M.E (Highways)
MIRC, MIUT, MISTE, MISRMTT



Civil Engineering Department
National Institute of Technology
Kurukshetra – 136119 (Haryana)
Ph. 01744-231347 (O), 235439 (R), 9971800201
Fax: 238350, e-mail: s.sachdeva@yahoo.co.in

Professor & Principal Investigator

No. SNS/CE/2023-24

Dated: 06.10.2023

ANNEXURE- A

Mix Design for BC (25-30 mm thick)

Work: Road Repair & Carpeting at KV-2, Kendriya Vihar, Sector 82, Noida, Uttar Pradesh

1. Material Supplied

The client supplied the following materials for mix design for BC

- i. Aggregate 13.2 mm size (20mm down)
- ii. Aggregate 10 mm size
- iii. Stone Dust
- iv. Hydrated Lime
- v. Bitumen : VG-30

2. Proportioning of Aggregates

The results of the sieve analysis of the aggregate along with MORTH grading specifications for the granular mix are given in the Table 1 below.

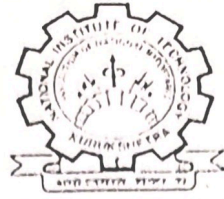
Sieve size (mm)	Percent by weight passing the sieve						
	Aggregate Designation *				MORTH Specified Grading		Observed Grading of the Granular Mix (Proportion A:B:C:D=10:43:45:2)
	13.2 mm (A)	10 mm (B)	Stone Dust (C)	Hyd. Lime (D)	Range	Mean	
19	100	100	100	100	100	100	100
13.2	78.4	100	100	100	90-100	95	97.8
9.5	6.3	74.4	100	100	70-88	79	71
4.75	0	16.6	100	100	53-71	62	54.1
2.36	0	1.1	91.4	100	42-58	50	43.6
1.18	0	0.5	75.4	100	34-48	41	36.1
0.6	0	0	59.4	100	26-84	32	28.7
0.3	0	0	39.2	95.4	18-28	23	19.5
0.15	0	0	24.7	90.6	45-280	16	12.9
0.075	0	0	5.8	85.3	45-206	7	4.3

Table 1 Sieve Analysis

*Note: Various aggregate are mentioned as designated by the client.

Consultant in the field of highway material testing; granular, bituminous and CC mix design; Subgrade soil evaluation; traffic studies; trp. Planning; pavement design and quality control jobs.

Dr. S.N. Sachdeva
Ph.D, M.E (Highways)
MIRC, MIUT, MISTE, MISRMTT



Civil Engineering Department
National Institute of Technology
Kurukshetra – 136119 (Haryana)
Ph. 01744-231347 (O), 235439 (R), 9971800201
Fax: 238350, e-mail: s-sachdeva@nithoo.co.in

Professor & Principal Investigator

On the basis of the sieve analysis, the proportion of aggregate to satisfy the MORTH grading requirement is found to be as given in table 2 below.

Table 2 Proportion of Aggregates in the Granular Mix by weight of total aggregates.

Aggregates	13.2 mm	10 mm	Stone Dust	Hyd. Lime
Proportion	10%	43%	44%	3%

The final grading of the aggregate mixed in the above proportion as given in the last column of table 1.

3. Specified Gravity and Bulk Density of Materials.

Specified gravity and bulk density of materials are given in table 3

Table 3 Specified Gravity and Bulk Density Values

Material	13.2 mm	10 mm	Stone Dust	Hyd. Lime	Bitumen VG 30
Specific Gr. (Gsb)	2.644	2.64	2.618	2.2	1.014
Bilk Density (loose) g/cc	1.42	1.41	1.58	0.75	-

4. Quantities of Materials

Quantities of material for 10 m² area for a compacted thickness of **30 mm** and density of **2.340 g/cc** of BC are found to be as given in table below in table 4

Material		13.20 mm	10 mm	Stone Dust	Hyd. Lime	Bitumen VG-30
Quantity	kg	55.341	237.966	249.035	11.068	31.59
	m ³	0.03897	0.1687	0.1576	0.0147	-
Proportion by mass of total mix (%)		9.46	40.678	42.57	1.892	5.4

5. Marshall's Test for Optimum Bitumen Content

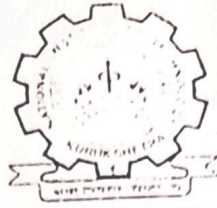
For determining optimum bitumen content, a number of Marshall's Test specimens of the mix with the above proportion of granular materials were prepared with different bitumen contents. It was found that the optimum bitumen content of **5.5 %** by mass of total mix satisfied the required Marshall's test criteria. Table 4 summaries the properties of the bituminous mix at optimum bitumen content.

Table 5 Properties of the Bituminous Mix at Optimum Bitumen Content

Consultant in the field of highway material testing; granular, bituminous and CC mix design;
Subgrade soil evaluation; traffic studies; trp. Planning; pavement design and quality control jobs

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MIRC, MIUT, MISTE, MISRMTT

Professor & Principal Investigator

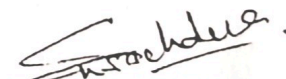


Civil Engineering Department
National Institute of Technology
Kurukshetra - 136119 (Haryana)
Ph. 01744-231347 (O), 235439 (R), 997180020
Fax: 238350, e-mail: sachdeva@nitk.ac.in

Property	Observed Value	MORTH Requirement
Compaction level (Number of blows)	75 blows each face of the specimen	
Optimum bitumen content (by mass of total mix)	5.50%	Min. 5.40%
Stability (at 60 degree C)	13.3 kN	Min 12.0 kN
Marshall Flow	3.9 mm	2.5 - 4 mm
Marshall Quotient (Stability/Flow)	3.41	2 - 5
Observed Maximum specific gravity of Mix (Gmm)	2.435 g/cc	-
Bulk Specific gravity of mix (Gmb)	2.340 g/cc	-
Effective specific gravity of total aggregate (Gse)	2.647 g/cc	-
Bitumen absorbed by agg (by mass of total mix)	0.00374	-
Percent air voids (Voids in total mix. VTM)	0.039	3 - 5 %
Percent voids in mineral aggregate (VMA)	0.155	Min. 12%
Percent voids filled with bitumen (VFB)	0.7484	65 - 75 %
Coating of aggregate particle	>95%	95% Minimum
Tensile Strength Ratio	0.82	80% Minimum
Fines to Bitumen Ratio (F/B)	0.8	0.6 - 1.2

6. Concluding Remarks

The mix design has been done and the above test results are applicable only to the sample of aggregates and bitumen supplied by the client organization, relevant MORTH specification regarding proportioning, mixing, spreading, rolling, surface finish and other quality control during mixing, laying and compacting of GSB layer in the field shall have to be strictly followed for the designed performance of the mix.


(S.N SACHDEVA)

DR. S.N. SACHDEVA

Professor

Department of Civil Engineering
National Institute of Technology
KURUKSHETRA - 136119

Consultant in the field of highway material testing; granular, bituminous and CC mix design.
Subgrade soil evaluation; traffic studies; Irp. Planning; pavement design and quality control jobs



GOVERNMENT POLYTECHNIC EDUCATION SOCIETY UTTAWAR (PALWAL)

Ph: 01275-282383,

Civil Engg Deptt E-mail : hodcegpu@gmail.com

Phone No +91 8816065585

Email: mnhasan@gputtawar.edu.in

Dr. M N Hasan
Chairman Consultancy

To

The Secretary, BOM
KV-II AOA Sector 82, Noida

Memo No. 1675

Dated. 25.11.2023

Subject: Test Report of samples.
Reference: Your memo No KV-II /Road Repair/12/2023-24 dated 21-11-2023.
Name of the Work: Road Repair and road Carpetting inside the Kendriya Vihar-II Complex.

Item 1 and 2 (Bitumen Content and Density):-

Based on the test conducted on the samples supplied by you the following are the result observed:-

Sample Description	Bitumen Content %	Mix Density (kg/m ³)	As per MORTH Specifications (Minimum Bitumen Content percentage by mass of Total Mix)
Sample 1	5.84	2720	5.4
Sample 2	5.50	2340	

TEST REPORT

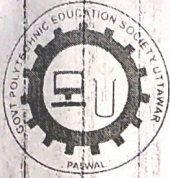
Item 3 (Gradation):-

(i) Sample -1 :-

Based on the test conducted on the samples supplied by you the following are the result observed:-

Sr. No.	Sieve size (mm)	Average Weight Retained	Average % age Weight Retained	%age Passing	Permissible %age Passing
1	19	0	0	100	100
2	13.2	0	0	100	90-100
3	9.5	135.4	13.54	86.6	70-88
4	4.75	324.2	32.42	54.18	53-71
5	2.36	113.2	11.32	42.86	42-58
6	1.18	71.8	7.18	35.68	34-48
7	0.6	78.5	7.85	27.83	26-38
8	0.3	91.3	9.13	18.7	18-28
9	0.15	56.4	5.64	13.06	12-20
10	0.075	71.8	7.18	5.88	4-10

Handwritten signature and date
25/11/2023
Chairman, IRG
Govt. Polytechnic, Utt
Palwal, Haryana



GOVERNMENT POLYTECHNIC EDUCATION SOCIETY UTTAWAR (PALWAL)

Ph: 01275-282383,

Civil Engg Deptt E-mail : hodcegpu@gmail.com

Phone No +91 8816065585

Email: mnhasan@gputtawar.edu.in

Dr. M N Hasan
Chairman Consultancy

(ii) Sample -2 :-

Based on the test conducted on the samples supplied by you the following are the result observed:-

Sr. No.	Sieve size (mm)	Average Weight Retained	Average % age Weight Retained	% age Passing	Permissible %age Passing
1	19	0	0	100	100
2	13.2	0	0	100	90-100
3	9.5	136.8	13.68	86.32	70-88
4	4.75	324.9	32.49	53.83	53-71
5	2.36	114.2	11.42	42.41	42-58
6	1.18	70.2	7.02	35.39	34-48
7	0.6	77.6	7.76	27.63	26-38
8	0.3	92.5	9.25	18.38	18-28
9	0.15	57.1	5.71	12.67	12-20
10	0.075	72.2	7.22	5.45	4-10

TEST REPORT

Dr M N Hasan
Head Civil Engineering & Chairman IRG
Govt. Polytechnic Education Society
Uttarakhand, Palwal, Haryana

Chairman, IRG
Govt. Polytechnic, Utta:
Palwal, Haryana

14/25/11/2023

Noida KV -II NSL

RD	BS	IS	FS	HI	RL	Avg. RL
TBM PKT. 7 (102 to 104)	1.030			101.030		
0 C		1.460		101.030	99.57	
R		1.478		101.030	99.55	99.551
L		1.500		101.030	99.53	
30 C		1.425		101.030	99.61	
R		1.410		101.030	99.62	99.595
L		1.470		101.030	99.56	
68 C		1.465		101.030	99.57	
R		1.440		101.030	99.59	99.568
L		1.480		101.030	99.55	
RHS front Road 0 C		1.480		101.030	99.55	
R		1.490		101.030	99.54	99.555
L		1.455		101.030	99.58	
30 C		1.460		101.030	99.57	
R		1.478		101.030	99.55	99.544
L		1.520		101.030	99.51	
55 C		1.460		101.030	99.57	
R		1.458		101.030	99.57	99.576
L		1.443		101.030	99.59	
C/P	1.239		1.100	101.169	99.93	
0 C		1.590		101.169	99.579	
R		1.582		101.169	99.587	99.578
L		1.600		101.169	99.569	
30 C		1.555		101.169	99.614	
R		1.570		101.169	99.599	99.597

L		1.590		101.169	99.579	
60 C		1.535		101.169	99.634	
R		1.540		101.169	99.629	99.627
L		1.552		101.169	99.617	
90 C		1.520		101.169	99.649	
R		1.560		101.169	99.609	99.633
L		1.527		101.169	99.642	
104 C		1.535		101.169	99.634	
R		1.536		101.169	99.633	99.624
L		1.565		101.169	99.604	
Circle 0 C		1.517		101.169	99.652	
R		1.510		101.169	99.659	99.642
L		1.554		101.169	99.615	
Half Circle 30 C		1.495		101.169	99.674	
R		1.564		101.169	99.605	99.653
L		1.488		101.169	99.681	
C/P	1.299		1.256	101.212	99.913	
60 C		1.520		101.212	99.692	
R		1.533		101.212	99.679	99.675
L		1.558		101.212	99.654	
LHS Gate no 2 side 0 C		1.602		101.212	99.610	
R		1.623		101.212	99.589	99.587
L		1.650		101.212	99.562	
30 C		1.652		101.212	99.560	
R		1.680		101.212	99.532	99.536
L		1.695		101.212	99.517	

51 C		1.580		101.212	99.632	
R		1.585		101.212	99.627	99.617
L		1.620		101.212	99.592	
Circle Round RD 90 C		1.523		101.212	99.689	
R		1.490		101.212	99.722	99.713
L		1.485		101.212	99.727	
Circle to next Road Staraight Road 0 C		1.530		101.212	99.682	
R		1.565		101.212	99.647	99.663
L		1.552		101.212	99.660	
C/P	1.552		1.550	101.214	99.662	
LHS Road 0 C		1.610		101.214	99.604	
R		1.640		101.214	99.574	99.590
L		1.621		101.214	99.593	
30 C		1.675		101.214	99.539	
R		1.735		101.214	99.479	99.527
L		1.650		101.214	99.564	
52 C		1.675		101.214	99.539	
R		1.715		101.214	99.499	99.514
L		1.710		101.214	99.504	
C/P	1.297		1.448	101.063	99.766	
RHS Link 0 C		1.510		101.063	99.553	
R		1.537		101.063	99.526	99.552
L		1.485		101.063	99.578	
30 C		1.480		101.063	99.583	
R		1.528		101.063	99.535	99.574
L		1.460		101.063	99.603	

68 C		1.470		101.063	99.593	
R		1.465		101.063	99.598	99.591
L		1.480		101.063	99.583	
C/P	1.350		1.235	101.178	99.828	
Circle to straight Road 30 C		1.480		101.178	99.698	
R		1.500		101.178	99.678	99.676
L		1.525		101.178	99.653	
60 C		1.466		101.178	99.712	
R		1.484		101.178	99.694	99.703
L		1.475		101.178	99.703	
90 C		1.440		101.178	99.738	
R		1.475		101.178	99.703	99.718
L		1.465		101.178	99.713	
120 C		1.470		101.178	99.708	
R		1.510		101.178	99.668	99.688
L		1.490		101.178	99.688	
133 C		1.480		101.178	99.698	
R		1.505		101.178	99.673	99.686
L		1.490		101.178	99.688	
C/P	1.162		1.320	101.020	99.858	
0 C		1.515		101.020	99.505	
R		1.565		101.020	99.455	99.477
L		1.550		101.020	99.470	
30 C		1.530		101.020	99.490	
R		1.560		101.020	99.460	99.490
L		1.500		101.020	99.520	

60 C		1.500		101.020	99.520	
R		1.535		101.020	99.485	99.513
L		1.485		101.020	99.535	
90 C		1.455		101.020	99.565	
R		1.510		101.020	99.510	99.538
L		1.480		101.020	99.540	
120 C		1.518		101.020	99.502	
R		1.585		101.020	99.435	99.487
L		1.495		101.020	99.525	
150 C		1.510		101.020	99.510	
R		1.560		101.020	99.460	99.498
L		1.495		101.020	99.525	
Sn. 12 side start 0 C		1.550		101.020	99.470	
R		1.513		101.020	99.507	99.487
L		1.535		101.020	99.485	
30 C		1.530		101.020	99.490	
R		1.510		101.020	99.510	99.491
L		1.546		101.020	99.474	
60 C		1.500		101.020	99.520	
R		1.490		101.020	99.530	99.507
L		1.550		101.020	99.470	
90 C		1.520		101.020	99.500	
R		1.510		101.020	99.510	99.492
L		1.554		101.020	99.466	
102 C		1.525		101.020	99.495	
R		1.510		101.020	99.510	99.485
L		1.570		101.020	99.450	
C/P	1.335		1.365	100.990	99.655	

Square Road O C		1.455		100.990	99.535	
R		1.470		100.990	99.520	99.517
L		1.495		100.990	99.495	
38 C		1.525		100.990	99.465	
R		1.540		100.990	99.450	99.458
L		1.530		100.990	99.460	
85 C		1.475		100.990	99.515	
R		1.480		100.990	99.510	99.508
L		1.490		100.990	99.500	
C/P	1.545		1.495	101.040	99.495	
123 C		1.470		101.040	99.570	
R		1.485		101.040	99.555	99.558
L		1.490		101.040	99.550	
C/P	1.395		1.375	101.060	99.665	
1st O C		1.570		101.060	99.490	
R		1.550		101.060	99.510	99.495
L		1.575		101.060	99.485	
27 C		1.500		101.060	99.560	
R		1.530		101.060	99.530	99.540
L		1.530		101.060	99.530	
RHS Road O C		1.550		101.060	99.510	
R		1.575		101.060	99.485	99.497
L		1.565		101.060	99.495	
49 C		1.530		101.060	99.530	
R		1.512		101.060	99.548	99.529
L		1.550		101.060	99.510	

LHS Road 0 C		1.510		101.060	99.550	
R		1.520		101.060	99.540	99.542
L		1.525		101.060	99.535	
49 C		1.560		101.060	99.500	
R		1.585		101.060	99.475	99.495
L		1.550		101.060	99.510	
1st 60 C		1.555		101.060	99.505	
R		1.591		101.060	99.469	99.483
L		1.585		101.060	99.475	
90 C		1.528		101.060	99.532	
R		1.550		101.060	99.510	99.516
L		1.555		101.060	99.505	
120 C		1.520		101.060	99.540	
R		1.550		101.060	99.510	99.520
L		1.550		101.060	99.510	
C/P	1.480		1.470	101.070	99.590	
RHS Road 0 C		1.540		101.070	99.530	
R		1.547		101.070	99.523	99.537
L		1.512		101.070	99.558	
49 C		1.580		101.070	99.490	
R		1.586		101.070	99.484	99.486
L		1.585		101.070	99.485	
LHS Road 0 C		1.535		101.070	99.535	
R		1.530		101.070	99.540	99.540
L		1.525		101.070	99.545	
49 C		1.600		101.070	99.470	
R		1.580		101.070	99.490	99.472
L		1.615		101.070	99.455	

1st 150 C		1.520		101.070	99.550	
R		1.515		101.070	99.555	99.551
L		1.522		101.070	99.548	
C/P	1.505		1.450	101.125	99.620	
Circle side RHS 0 C		1.485		101.125	99.640	
R		1.490		101.125	99.635	99.638
L		1.485		101.125	99.640	
49 C		1.550		101.125	99.575	
R		1.552		101.125	99.573	99.594
L		1.490		101.125	99.635	
LHS Road 0 C		1.550		101.125	99.575	
R		1.560		101.125	99.565	99.567
L		1.565		101.125	99.560	
49 C		1.590		101.125	99.535	
R		1.600		101.125	99.525	99.512
L		1.650		101.125	99.475	
1st 180 C		1.560		101.125	99.565	
R		1.565		101.125	99.560	99.563
L		1.560		101.125	99.565	
C/P	1.362		1.360	101.127	99.765	
RHS Road 0 C		1.580		101.127	99.547	
R		1.585		101.127	99.542	99.542
L		1.590		101.127	99.537	
49 C		1.610		101.127	99.517	
R		1.615		101.127	99.512	99.515
L		1.610		101.127	99.517	

LHS Road 0 C		1.555		101.127	99.572	
R		1.560		101.127	99.567	99.572
L		1.550		101.127	99.577	
49 C		1.630		101.127	99.497	
R		1.645		101.127	99.482	99.489
L		1.640		101.127	99.487	
1st 210 C		1.570		101.127	99.557	
R		1.575		101.127	99.552	99.552
L		1.580		101.127	99.547	
240 C		1.570		101.127	99.557	
R		1.575		101.127	99.552	99.552
L		1.580		101.127	99.547	
C/P	1.540		1.580	101.087	99.547	
C/P	0.600		1.522	100.165	99.565	
LHS Road 0 C		1.560		100.165	98.605	
R		1.565		100.165	98.600	98.600
L		1.570		100.165	98.595	
30 C		1.630		100.165	98.535	
R		1.640		100.165	98.525	98.530
L		1.635		100.165	98.530	
60 C		1.610		100.165	98.555	
R		1.625		100.165	98.540	98.548
L		1.615		100.165	98.550	
C/P	1.535		1.625	100.075	98.540	
90 C		1.510		100.075	98.565	
R		1.525		100.075	98.550	98.558
L		1.515		100.075	98.560	

LHS Road 0 C		1.560		100.075	98.515	
R		1.560		100.075	98.515	98.513
L		1.565		100.075	98.510	
30 C		1.545		100.075	98.530	
R		1.540		100.075	98.535	98.532
L		1.545		100.075	98.530	
60 C		1.532		100.075	98.543	
R		1.535		100.075	98.540	98.539
L		1.540		100.075	98.535	
98 C		1.565		100.075	98.510	
R		1.565		100.075	98.510	98.507
L		1.575		100.075	98.500	
C/P	1.525		1.450	100.150	98.625	
1st 270 C		1.540		100.150	98.610	
R		1.555		100.150	98.595	98.602
L		1.550		100.150	98.600	
300 C		1.605		100.150	98.545	
R		1.610		100.150	98.540	98.537
L		1.625		100.150	98.525	
330 C		1.595		100.150	98.555	
R		1.610		100.150	98.540	98.545
L		1.610		100.150	98.540	
Block no 42 Pkt III A 58-76 0 C		1.545		100.150	98.605	
R		1.555		100.150	98.595	98.600
L		1.550		100.150	98.600	
30 C		1.555		100.150	98.595	
R		1.565		100.150	98.585	98.590

L		1.560		100.150	98.590	
60 C		1.560		100.150	98.590	
R		1.575		100.150	98.575	98.585
L		1.560		100.150	98.590	
90 C		1.560		100.150	98.590	
R		1.570		100.150	98.580	98.585
L		1.565		100.150	98.585	
120 C		1.520		100.150	98.630	
R		1.530		100.150	98.620	98.625
L		1.525		100.150	98.625	
C/P	1.615		1.550	100.215	98.600	
Circle LHS 0 C		1.580		100.215	98.635	
R		1.620		100.215	98.595	98.612
L		1.610		100.215	98.605	
LHS Road 0 C		1.585		100.215	98.630	
R		1.605		100.215	98.610	98.615
L		1.610		100.215	98.605	
38 C		1.570		100.215	98.645	
R		1.585		100.215	98.630	98.637
L		1.580		100.215	98.635	
Circle LHS 0 C		1.640		100.215	98.575	
R		1.655		100.215	98.560	98.567
L		1.650		100.215	98.565	
C/P	1.540		1.640	100.115	98.575	
Circle Straight 0 C		1.590		100.115	98.525	
R		1.610		100.115	98.505	98.513
L		1.605		100.115	98.510	

30 C		1.550		100.115	98.565	
R		1.560		100.115	98.555	98.560
L		1.555		100.115	98.560	
60 C		1.560		100.115	98.555	
R		1.565		100.115	98.550	98.548
L		1.575		100.115	98.540	
100 C		1.575		100.115	98.540	
R		1.585		100.115	98.530	98.535
L		1.580		100.115	98.535	
C/P	1.600		1.520	100.195	98.595	
Outer ring Road near Mother Dairy (shop no 15841) O C		1.590		100.195	98.605	
R		1.700		100.195	98.495	98.575
L		1.570		100.195	98.625	
30 C		1.590		100.195	98.605	
R		1.690		100.195	98.505	98.578
L		1.570		100.195	98.625	
C/P	1.625		1.645	100.175	98.550	
RHS Road O C		1.610		100.175	98.565	
R		1.600		100.175	98.575	98.563
L		1.625		100.175	98.550	
30 C		1.620		100.175	98.555	
R		1.610		100.175	98.565	98.557
L		1.625		100.175	98.550	
52 C		1.595		100.175	98.580	
R		1.610		100.175	98.565	98.573
L		1.600		100.175	98.575	

60 C		1.575		100.175	98.600	
R		1.655		100.175	98.520	98.588
L		1.530		100.175	98.645	
90 C		1.600		100.175	98.575	
R		1.645		100.175	98.530	98.572
L		1.565		100.175	98.610	
120 C		1.570		100.175	98.605	
R		1.630		100.175	98.545	98.600
L		1.525		100.175	98.650	
C/P	1.530		1.510	100.195	98.665	
0 C		1.620		100.195	98.575	
R		1.640		100.195	98.555	98.563
L		1.635		100.195	98.560	
30 C		1.610		100.195	98.585	
R		1.630		100.195	98.565	98.573
L		1.625		100.195	98.570	
52 C		1.600		100.195	98.595	
R		1.640		100.195	98.555	98.573
L		1.625		100.195	98.570	
150 C		1.595		100.195	98.600	
R		1.665		100.195	98.530	98.590
L		1.555		100.195	98.640	
C/P	1.490		1.500	100.185	98.695	
RHS Road 0 C		1.580		100.185	98.605	
R		1.640		100.185	98.545	98.585
L		1.580		100.185	98.605	

30 C		1.590		100.185	98.595	
R		1.640		100.185	98.545	98.578
L		1.590		100.185	98.595	
60 C		1.595		100.185	98.590	
R		1.630		100.185	98.555	98.580
L		1.590		100.185	98.595	
90 C		1.575		100.185	98.610	
R		1.625		100.185	98.560	98.592
L		1.580		100.185	98.605	
130 C		1.610		100.185	98.575	
R		1.660		100.185	98.525	98.562
L		1.600		100.185	98.585	
Straight Road 180 C		1.550		100.185	98.635	
R		1.575		100.185	98.610	98.627
L		1.550		100.185	98.635	
C/P	1.100		1.165	100.120	99.020	
210 C		1.540		100.120	98.580	
R		1.610		100.120	98.510	98.565
L		1.515		100.120	98.605	
240 C		1.550		100.120	98.570	
R		1.610		100.120	98.510	98.557
L		1.530		100.120	98.590	
270 C		1.565		100.120	98.555	
R		1.620		100.120	98.500	98.545
L		1.540		100.120	98.580	
300 C		1.490		100.120	98.630	
R		1.590		100.120	98.530	98.607
L		1.460		100.120	98.660	

330 C		1.355		100.120	98.765	
R		1.410		100.120	98.710	98.752
L		1.340		100.120	98.780	
C/P	1.400		1.130	100.390	98.990	
Entry Gate 0 C		1.170		100.390	99.220	
R		1.175		100.390	99.215	99.215
L		1.180		100.390	99.210	
Entry start 0 C		0.630		100.390	99.760	
R		0.620		100.390	99.770	99.762
L		0.635		100.390	99.755	
360 C		1.580		100.390	98.810	
R		1.610		100.390	98.780	98.805
L		1.565		100.390	98.825	
390 C		1.820		100.390	98.570	
R		1.880		100.390	98.510	98.553
L		1.810		100.390	98.580	
420 C		1.875		100.390	98.515	
R		1.910		100.390	98.480	98.515
L		1.840		100.390	98.550	
450 C		1.880		100.390	98.510	
R		1.900		100.390	98.490	98.512
L		1.855		100.390	98.535	
C/P	1.535		1.860	100.065	98.530	
480 C		1.595		100.065	98.470	
R		1.620		100.065	98.445	98.450
L		1.630		100.065	98.435	

510 C		1.600		100.065	98.465	
R		1.630		100.065	98.435	98.450
L		1.615		100.065	98.450	
C/P	1.565		1.600	100.030	98.465	
RHS Road 0 C		1.540		100.030	98.490	
R		1.560		100.030	98.470	98.478
L		1.555		100.030	98.475	
30 C		1.470		100.030	98.560	
R		1.485		100.030	98.545	98.553
L		1.475		100.030	98.555	
60 C		1.410		100.030	98.620	
R		1.425		100.030	98.605	98.607
L		1.435		100.030	98.595	
90 C		1.320		100.030	98.710	
R		1.335		100.030	98.695	98.695
L		1.350		100.030	98.680	
540 C		1.520		100.030	98.510	
R		1.535		100.030	98.495	98.498
L		1.540		100.030	98.490	
C/P	1.355		1.330	100.055	98.700	
RHS Road 0 C		1.500		100.055	98.555	
R		1.495		100.055	98.560	98.547
L		1.530		100.055	98.525	
49 C		1.490		100.055	98.565	
R		1.520		100.055	98.535	98.552
L		1.500		100.055	98.555	
C/P	1.490		1.480	100.065	98.575	

0 C		1.500		100.065	98.565	
R		1.520		100.065	98.545	98.545
L		1.540		100.065	98.525	
30 C		1.495		100.065	98.570	
R		1.525		100.065	98.540	98.552
L		1.520		100.065	98.545	
70 C		1.435		100.065	98.630	
R		1.452		100.065	98.613	98.619
L		1.450		100.065	98.615	
C/P	1.565		1.535	100.095	98.530	
570 C		1.610		100.095	98.485	
R		1.560		100.095	98.535	98.488
L		1.650		100.095	98.445	
600 C		1.555		100.095	98.540	
R		1.520		100.095	98.575	98.537
L		1.600		100.095	98.495	
630 C		1.520		100.095	98.575	
R		1.490		100.095	98.605	98.575
L		1.550		100.095	98.545	
C/P	1.065		0.900	100.260	99.195	
660 C		1.450		100.260	98.810	
R		1.490		100.260	98.770	98.787
L		1.480		100.260	98.780	
RHS Road 0 C		1.650		100.260	98.610	
R		1.680		100.260	98.580	98.600
L		1.650		100.260	98.610	

48 C		1.580		100.260	98.680	
R		1.600		100.260	98.660	98.677
L		1.570		100.260	98.690	
(Gate no 2) 660 C		1.690		100.260	98.570	
R		1.670		100.260	98.590	98.573
L		1.700		100.260	98.560	
C/P	1.600		1.695	100.165	98.565	
690 C		1.600		100.165	98.565	
R		1.580		100.165	98.585	98.565
L		1.620		100.165	98.545	
720 C		1.600		100.165	98.565	
R		1.580		100.165	98.585	98.565
L		1.620		100.165	98.545	
750 C		1.540		100.165	98.625	
R		1.520		100.165	98.645	98.627
L		1.555		100.165	98.610	
RHS Road 0 C		1.510		100.165	98.655	
R		1.520		100.165	98.645	98.662
L		1.480		100.165	98.685	
50 C		1.495		100.165	98.670	
R		1.470		100.165	98.695	98.670
L		1.520		100.165	98.645	
C/P	1.490		1.495	100.160	98.670	
RHS Road 0 C		1.495		100.160	98.665	
R		1.485		100.160	98.675	98.653
L		1.540		100.160	98.620	
30 C		1.595		100.160	98.565	

R		1.585		100.160	98.575	98.560
L		1.620		100.160	98.540	
70 C		1.575		100.160	98.585	
R		1.565		100.160	98.595	98.582
L		1.595		100.160	98.565	
C/P	1.500		1.515	100.145	98.645	
780 C		1.540		100.145	98.605	
R		1.525		100.145	98.620	98.603
L		1.560		100.145	98.585	
810 C		1.565		100.145	98.580	
R		1.500		100.145	98.645	98.597
L		1.580		100.145	98.565	
RHS Road 0 C		1.505		100.145	98.640	
R		1.550		100.145	98.595	98.610
L		1.550		100.145	98.595	
37 C		1.530		100.145	98.615	
R		1.560		100.145	98.585	98.595
L		1.560		100.145	98.585	
840 C		1.530		100.145	98.615	
R		1.500		100.145	98.645	98.615
L		1.560		100.145	98.585	
870 C		1.505		100.145	98.640	
R		1.540		100.145	98.605	98.630
L		1.500		100.145	98.645	
900 C		1.505		100.145	98.640	
R		1.530		100.145	98.615	98.637
L		1.490		100.145	98.655	

930 C		1.505		100.145	98.640	
R		1.480		100.145	98.665	98.640
L		1.530		100.145	98.615	
C/P	1.535		1.510	100.170	98.635	
(Near Gate no A531) 0 C		1.530		100.170	98.640	
R		1.580		100.170	98.590	98.612
L		1.565		100.170	98.605	
280 C		1.550		100.170	98.620	
R		1.580		100.170	98.590	98.598
L		1.585		100.170	98.585	
960 C		1.090		100.170	99.080	
R		0.980		100.170	99.190	99.103
L		1.130		100.170	99.040	
990 C		1.440		100.170	98.730	
R		1.470		100.170	98.700	98.733
L		1.400		100.170	98.770	
C/P	1.465		1.440	100.195	98.730	
1020 C		1.500		100.195	98.695	
R		1.500		100.195	98.695	98.682
L		1.540		100.195	98.655	
1050 C		1.460		100.195	98.735	
R		1.450		100.195	98.745	98.728
L		1.490		100.195	98.705	
1080 C		1.450		100.195	98.745	
R		1.450		100.195	98.745	98.732
L		1.490		100.195	98.705	

C/P	1.440		1.510	100.125	98.685	
1110 C		1.500		100.125	98.625	
R		1.520		100.125	98.605	98.598
L		1.560		100.125	98.565	
RHS Road 0 C		1.480		100.125	98.645	
R		1.520		100.125	98.605	98.622
L		1.510		100.125	98.615	
38 C		1.425		100.125	98.700	
R		1.435		100.125	98.690	98.692
L		1.440		100.125	98.685	
1140 C		1.490		100.125	98.635	
R		1.500		100.125	98.625	98.622
L		1.520		100.125	98.605	
1170 C		1.500		100.125	98.625	
R		1.510		100.125	98.615	98.615
L		1.520		100.125	98.605	
1200 C		1.475		100.125	98.650	
R		1.460		100.125	98.665	98.630
L		1.550		100.125	98.575	
1230 C		1.480		100.125	98.645	
R		1.475		100.125	98.650	98.640
L		1.500		100.125	98.625	
C/P	1.560		1.500	100.185	98.625	
LHS Road 0 C		1.540		100.185	98.645	
R		1.550		100.185	98.635	98.638
L		1.550		100.185	98.635	
30 C		1.480		100.185	98.705	

R		1.500		100.185	98.685	98.687
L		1.515		100.185	98.670	
1260 C		1.520		100.185	98.665	
R		1.480		100.185	98.705	98.665
L		1.560		100.185	98.625	
1290 C		1.465		100.185	98.720	
R		1.450		100.185	98.735	98.710
L		1.510		100.185	98.675	
C/P	1.560		1.510	100.235	98.675	
RHS Road 0 C		1.525		100.235	98.710	
R		1.530		100.235	98.705	98.705
L		1.535		100.235	98.700	
30 C		1.520		100.235	98.715	
R		1.510		100.235	98.725	98.713
L		1.535		100.235	98.700	
52 C		1.525		100.235	98.710	
R		1.530		100.235	98.705	98.710
L		1.520		100.235	98.715	
1320 C		1.540		100.235	98.695	
R		1.550		100.235	98.685	98.680
L		1.575		100.235	98.660	
1350 C		1.570		100.235	98.665	
R		1.565		100.235	98.670	98.658
L		1.596		100.235	98.639	
C/P	1.495		1.505	100.225	98.730	
RHS Road 0 C		1.500		100.225	98.725	
R		1.515		100.225	98.710	98.707

L		1.540		100.225	98.685	
30 C		1.485		100.225	98.740	
R		1.500		100.225	98.725	98.727
L		1.510		100.225	98.715	
52 C		1.505		100.225	98.720	
R		1.505		100.225	98.720	98.715
L		1.520		100.225	98.705	
1380 C		1.445		100.225	98.780	
R		1.450		100.225	98.775	98.777
L		1.450		100.225	98.775	
End			1.350	100.170	98.820	