CLIMATE PROOFED ARID AND SEMI ARID RURAL ROADS,

FINAL DETAILED DESIGN OF MIRERA - MALLE ROAD
BATCH 2

MARCH 2025

EMPLOYER

DIRECTOR GENERAL
KERRA
P.O BOX 48151-00100,
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	MIRERA MALLE ROAD DRAWINGS
	COVER PAGE
	DRAWING LIST
	GENERAL DRAWINGS
CE/1045/GD/MM/01	LOCATION MAP
	PLAN AND PROFILE
CE1045/PP/MM/01	PLAN AND PROFILE - 5+500 - 6+100
CE1045/PP/MM/02	PLAN AND PROFILE - 6+100 -6+700
CE1045/PP/MM/03	PLAN AND PROFILE - 6+700 - 7+300
CE1045/PP/MM/04	PLAN AND PROFILE - 7+300 - 7+900
CE1045/PP/MM/05	PLAN AND PROFILE - 7+900 - 8+500
CE1045/PP/MM/06	PLAN AND PROFILE - 8+500 - 9+100
CE1045/PP/MM/07	PLAN AND PROFILE - 9+100 - 9+700
CE1045/PP/MM/08	PLAN AND PROFILE - 9+700 - 10+300
CE1045/PP/MM/09	PLAN AND PROFILE - 10+300 - 10+900
CE1045/PP/MM/10	PLAN AND PROFILE - 10+900- 11+510.17
	TYPICAL CROSS-SECTION
CE1045/TD/MM/01	TYPICAL CROSS-SECTION FOR MIRERA - MALLE ROAD OPTION 1
CE1045/TD/MM/02	TYPICAL CROSS-SECTION FOR MIRERA - MALLE ROAD OPTION 2
	TYPICAL CULVERT DRAWINGS
CE1045/CDS/MM/O1	HEADWALL TYPE 1 (HEADWALL AND WINGWALLS)
CE1045/CDS/MM/O2	HEADWALL TYPE 2 (DROP INLETS)
CE1045/CDS/MM/O3	HEADWALL TYPE 4 (FOR ACCESS CULVERT)
CE1045/CDS/MM/O4	BEDDING AND HAUNCH PROFILES TYPE III& IV
CE1045/CDS/MM/O5	CULVERT ROAD SIGNS
	STANDARD DRAWINGS
CE1045/SD/MM/01	STANDARD DRAWING - STANDARD - ROAD SIGNS
CE1045/SD/MM/02	STANDARD DRAWING - STANDARD - ROAD SIGNS INSTALLATION
CE1045/SD/MM/03	STANDARD DRAWING - STANDARD - MISC MINOR JUNCTION
CE1045/SD/MM/04	STANDARD DRAWING - MISC URBAN ROAD DETAIL
CE1045/SD/MM/05	STANDARD DRAWING - TRAFFIC MANAGEMENT
CE1045/SD/MM/06	STANDARD DRAWING - PUBLICITY SIGN BOARD
CE1045/SD/MM/07	STANDARD DRAWING - ROAD MARKING
CE1045/SD/MM/08	STANDARD DRAWING - MISC MARKING ON JUNCTION
CE1045/SD/MM/09	STANDARD DRAWING - STANDARD - BUMPS

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
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3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD)

DRAWING TITLE:
DRAWING LIST

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

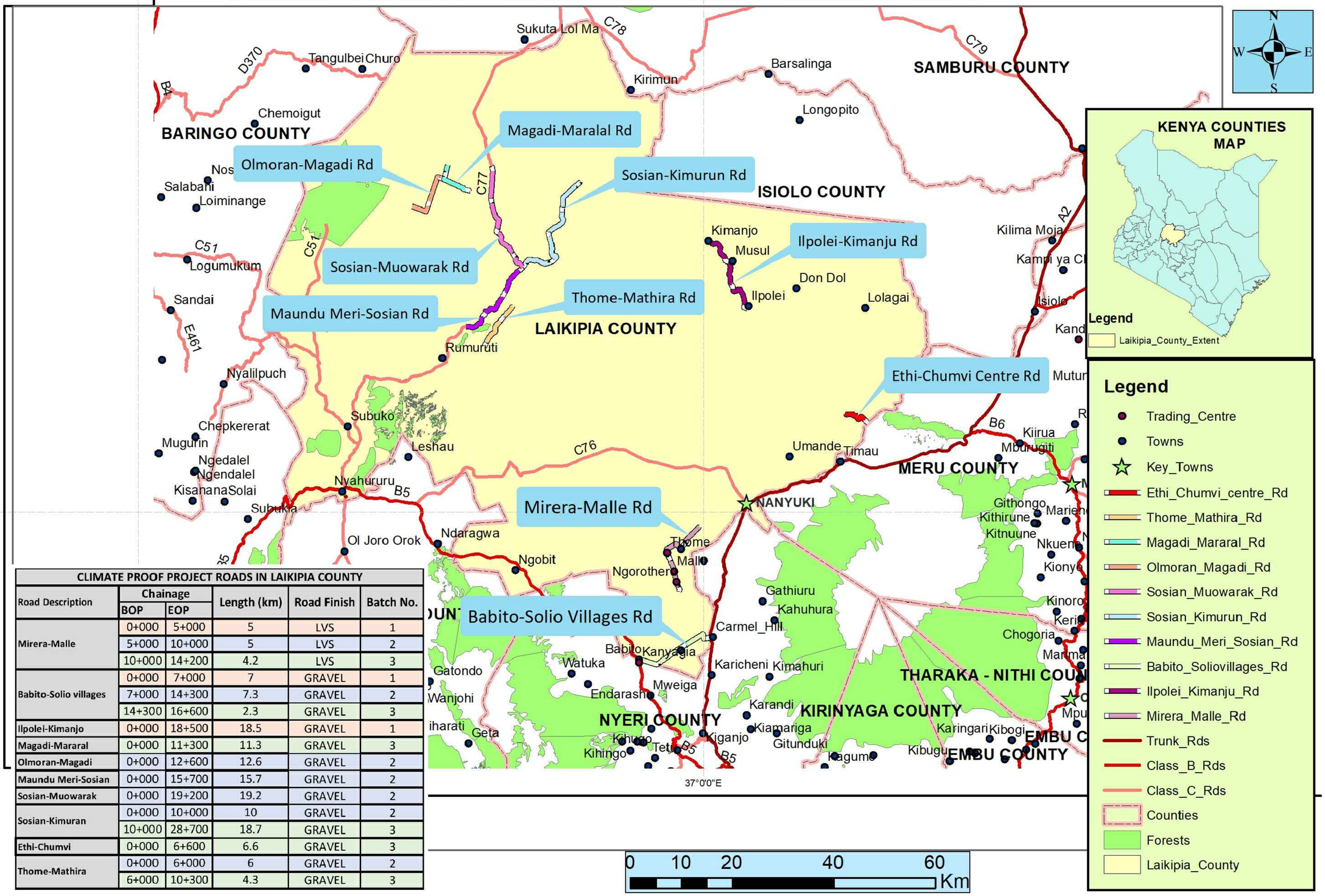
Drg No. CE1045/GD/MM/00

Scale: NTS

Date : MARCH 2025

GENERAL DRAWINGS

CLIMATE PROOFED PROJECT ROADS IN LAIKIPIA COUNTY



CLIMATE PROOF PROJECT ROADS IN LAIKIPIA COUNTY					
Road Description	Chainage		Length (km)	Road Finish	Batch No.
	BOP	EOP			
Mirera-Malle	0+000	5+000	5	LVS	1
	5+000	10+000	5	LVS	2
	10+000	14+200	4.2	LVS	3
Babito-Solio villages	0+000	7+000	7	GRAVEL	1
	7+000	14+300	7.3	GRAVEL	2
	14+300	16+600	2.3	GRAVEL	3
Ilpolei-Kimanjo	0+000	18+500	18.5	GRAVEL	1
Magadi-Mararal	0+000	11+300	11.3	GRAVEL	3
Olmoran-Magadi	0+000	12+600	12.6	GRAVEL	2
Maundu Meri-Sosian	0+000	15+700	15.7	GRAVEL	2
Sosian-Muowarak	0+000	19+200	19.2	GRAVEL	2
Sosian-Kimuran	0+000	10+000	10	GRAVEL	2
	10+000	28+700	18.7	GRAVEL	3
Ethi-Chumvi	0+000	6+600	6.6	GRAVEL	3
Thome-Mathira	0+000	6+000	6	GRAVEL	2
	6+000	10+300	4.3	GRAVEL	3

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PROJECT TITLE:
FINAL AND DETAILED ENGINEERING DESIGN OF MIRERA MALLE ROAD

DRAWING TITLE:
LOCATION MAP

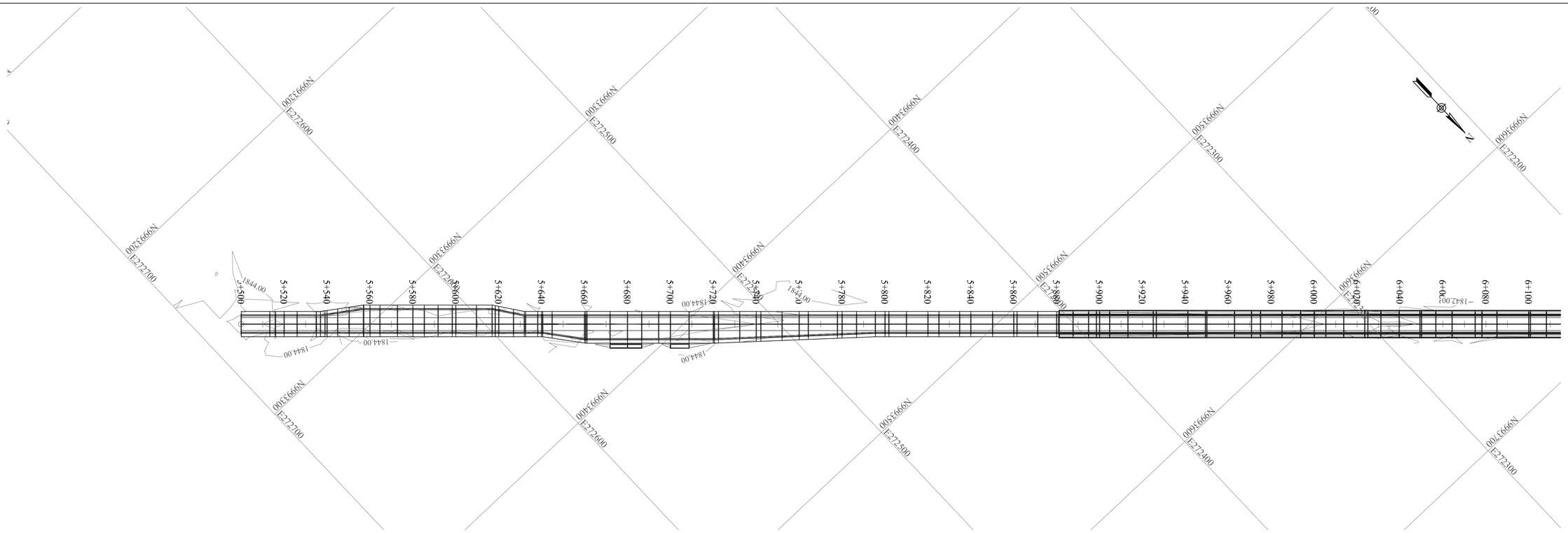
DRAWN BY: M.M
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

Drg No. CE1045/GD/MM/O1

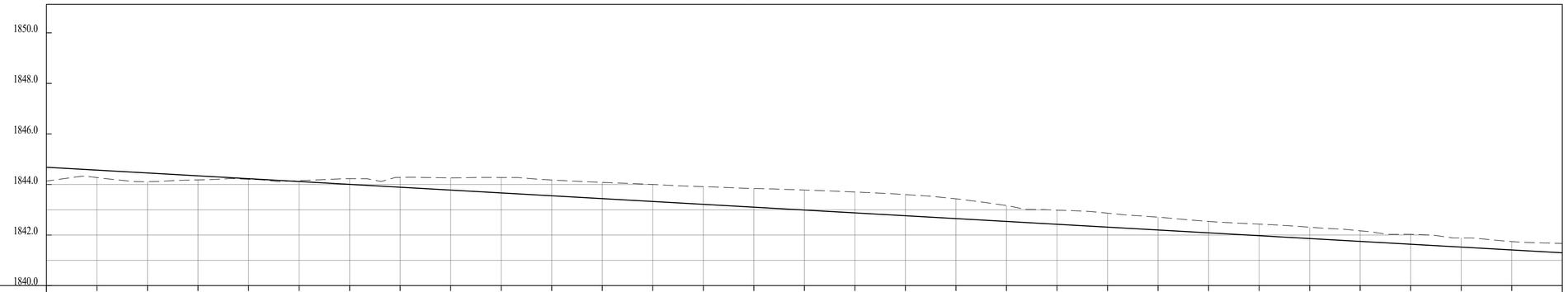
Scale: 1:2000 HORIZONTAL
1:200 VERTICAL

Date : JANUARY 2024

PLAN AND PROFILE



MIRERA MALE B2 PROFILE CHAINAGE 5+500 - 6+100



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
5+500	1844.692	1844.137
5+520	1844.569	1844.275
5+540	1844.456	1844.112
5+560	1844.343	1844.182
5+580	1844.230	1844.207
5+600	1844.118	1844.155
5+620	1844.005	1844.231
5+640	1843.892	1844.281
5+660	1843.779	1844.262
5+680	1843.667	1844.278
5+700	1843.554	1844.179
5+720	1843.441	1844.084
5+740	1843.328	1844.001
5+760	1843.215	1843.915
5+780	1843.103	1843.842
5+800	1842.990	1843.782
5+820	1842.877	1843.702
5+840	1842.764	1843.601
5+860	1842.651	1843.434
5+880	1842.539	1843.167
5+900	1842.426	1842.984
5+920	1842.313	1842.866
5+940	1842.200	1842.708
5+960	1842.088	1842.539
5+980	1841.975	1842.432
6+000	1841.862	1842.311
6+020	1841.749	1842.169
6+040	1841.636	1842.029
6+060	1841.524	1841.885
6+080	1841.411	1841.742
6+100	1841.298	1841.667

VERTICAL ALIGNMENT: -0.56%

HORIZONTAL ALIGNMENT: L=1230.56m

SUPERELEVATION

REVISIONS No.	DATE	DESCRIPTION

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PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE ROAD BACH 2

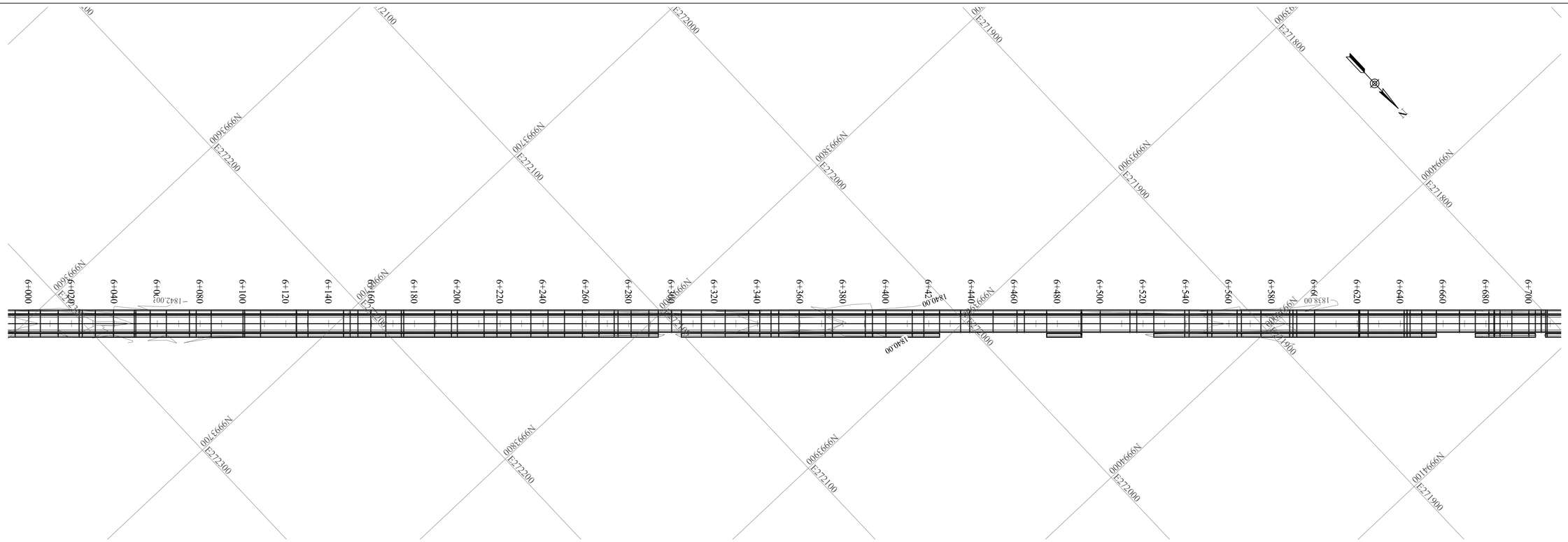
DRAWING TITLE:
PLAN AND PROFILE CHAINAGE 5+500 - 6+100

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

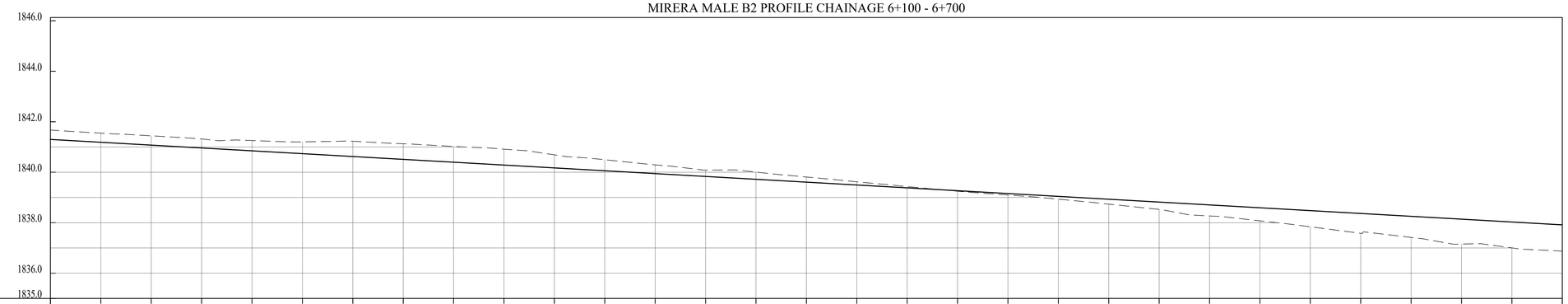
Drg No.CE1045/PP/MM/01

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 6+100 - 6+700



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
6+100	1841.298	1841.667
6+120	1841.185	1841.548
6+140	1841.073	1841.442
6+160	1840.960	1841.318
6+180	1840.847	1841.255
6+200	1840.734	1841.203
6+220	1840.621	1841.228
6+240	1840.509	1841.128
6+260	1840.396	1841.022
6+280	1840.283	1840.912
6+300	1840.170	1840.689
6+320	1840.057	1840.495
6+340	1839.945	1840.292
6+360	1839.832	1840.083
6+380	1839.719	1840.004
6+400	1839.606	1839.810
6+420	1839.494	1839.620
6+440	1839.381	1839.430
6+460	1839.268	1839.247
6+480	1839.155	1839.097
6+500	1839.042	1838.933
6+520	1838.930	1838.736
6+540	1838.817	1838.526
6+560	1838.704	1838.268
6+580	1838.591	1838.075
6+600	1838.479	1837.838
6+620	1838.366	1837.579
6+640	1838.253	1837.416
6+660	1838.140	1837.153
6+680	1838.027	1837.001
6+700	1837.915	1836.674

VERTICAL ALIGNMENT: -0.56%

HORIZONTAL ALIGNMENT: L=1230.56m

SUPERELEVATION

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PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE ROAD BACH 2

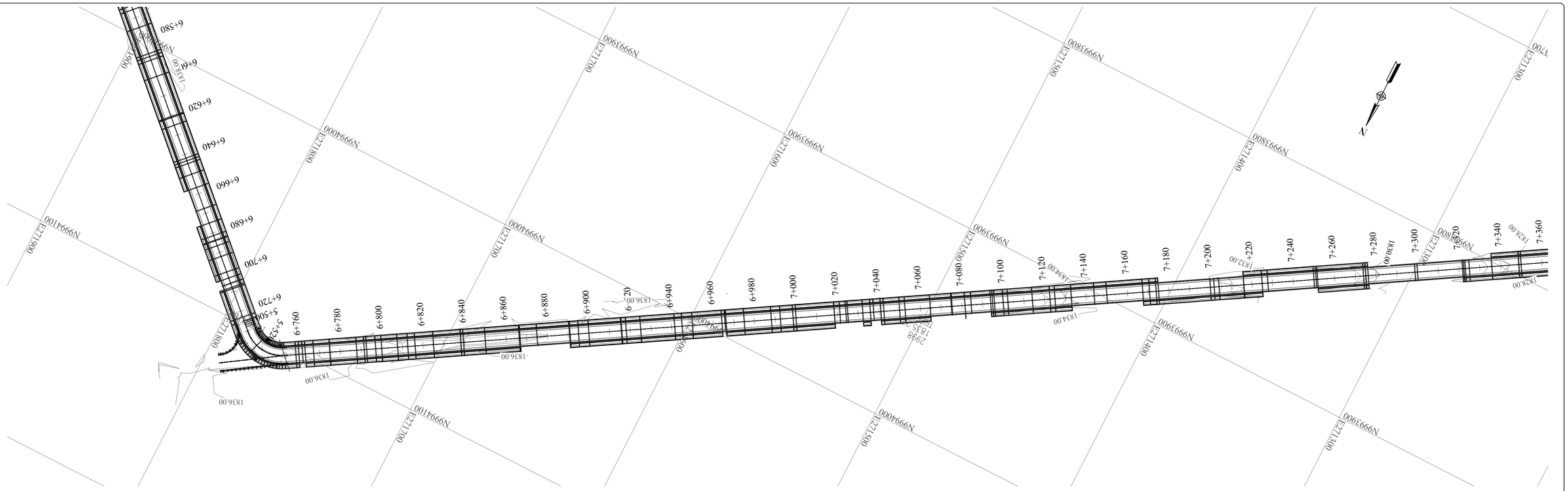
DRAWING TITLE:
PLAN AND PROFILE CHAINAGE 6+100 - 6+700

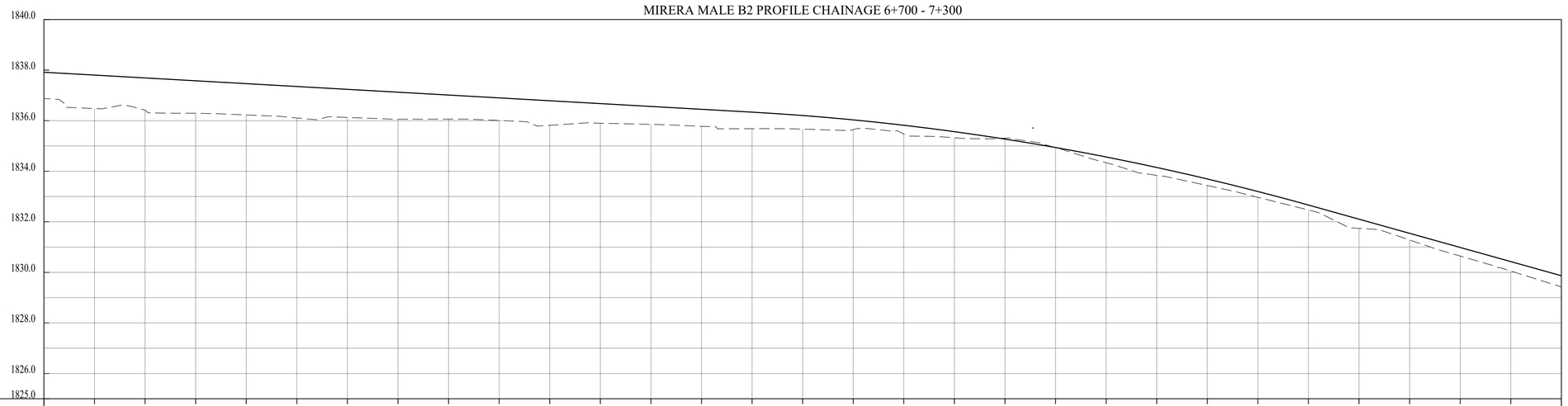
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

Drg No.CE1045/PP/MM/02

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025





CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
6+700	1837.915	1836.874
6+720	1837.802	1836.479
6+740	1837.689	1836.411
6+760	1837.576	1836.294
6+780	1837.463	1836.226
6+800	1837.351	1836.107
6+820	1837.238	1836.127
6+840	1837.125	1836.057
6+860	1837.012	1836.061
6+880	1836.900	1836.006
6+900	1836.787	1835.816
6+920	1836.674	1835.899
6+940	1836.561	1835.854
6+960	1836.448	1835.777
6+980	1836.336	1835.683
7+000	1836.203	1835.667
7+020	1836.031	1835.647
7+040	1835.818	1835.472
7+060	1835.565	1835.323
7+080	1835.271	1835.309
7+100	1834.937	1834.936
7+120	1834.563	1834.337
7+140	1834.149	1833.837
7+160	1833.694	1833.434
7+180	1833.198	1832.967
7+200	1832.663	1832.467
7+220	1832.103	1831.739
7+240	1831.544	1831.280
7+260	1830.984	1830.645
7+280	1830.425	1830.053
7+300	1829.865	1829.421

VERTICAL ALIGNMENT: -0.56% | CURVE L=221.43m, PVI STA=7+091, PVI EL=1835.7m | -2.80%

HORIZONTAL ALIGNMENT: L=1230.56m | L=22.52m, R=17.31m, PI STA=6+744, Δ=74.5 | L=1391.61m

SUPERELEVATION: -6.00%

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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PROJECT TITLE:
FINALDETAILED
ENGINEERING DESIGN OF
MIRERA - MALLE ROAD
BACH 2

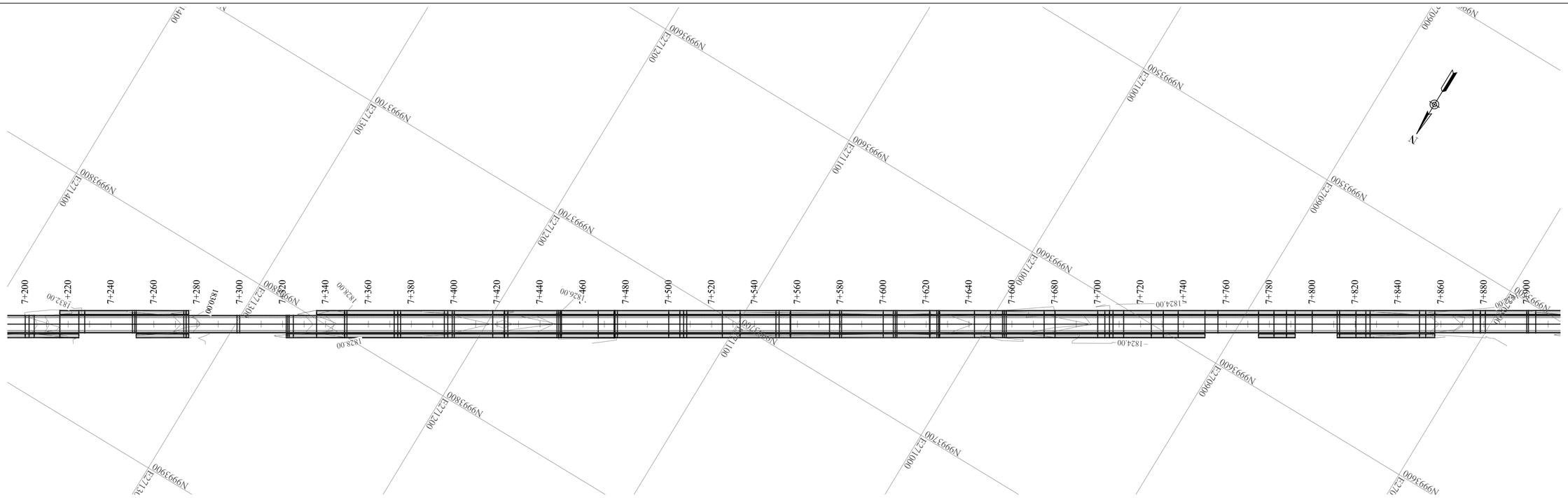
DRAWING TITLE:
PLAN AND PROFILE
CHAINAGE 6+700 - 7+300

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

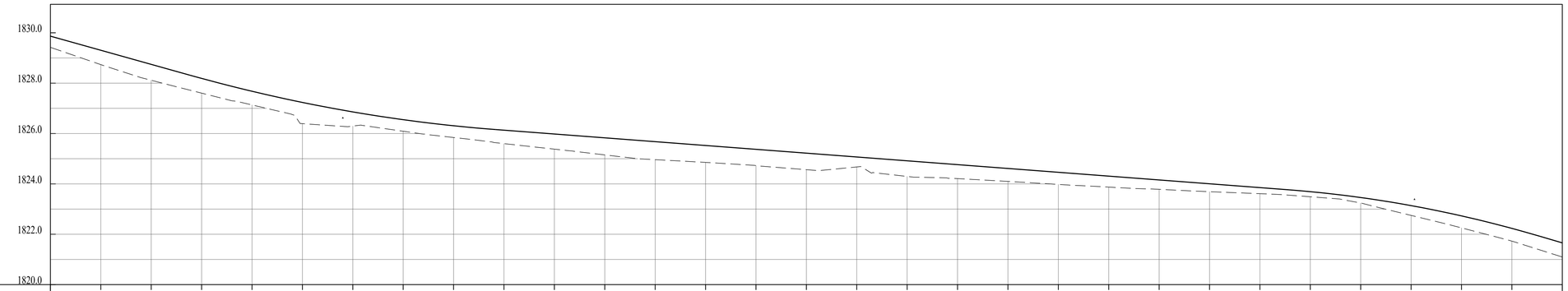
Drg No.CE1045/PP/MM/03

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 7+300 - 7+900



CHAINAGE (Km)	7+300	7+320	7+340	7+360	7+380	7+400	7+420	7+440	7+460	7+480	7+500	7+520	7+540	7+560	7+580	7+600	7+620	7+640	7+660	7+680	7+700	7+720	7+740	7+760	7+780	7+800	7+820	7+840	7+860	7+880	7+900
FINISHED ROAD LEVELS-FRL (m)	1829.865	1829.306	1828.746	1828.189	1827.678	1827.235	1826.859	1826.550	1826.308	1826.133	1825.981	1825.828	1825.676	1825.524	1825.372	1825.220	1825.068	1824.916	1824.764	1824.612	1824.460	1824.308	1824.155	1824.003	1823.851	1823.691	1823.459	1823.138	1822.729	1822.233	1821.657
ORIGINAL GROUND LEVELS-OGL (m)	1829.421	1828.736	1828.115	1827.604	1827.135	1826.392	1826.295	1826.091	1825.842	1825.599	1825.380	1825.152	1824.962	1824.854	1824.727	1824.565	1824.673	1824.296	1824.210	1824.100	1823.979	1823.872	1823.783	1823.690	1823.611	1823.489	1823.240	1822.749	1822.253	1821.727	1821.098

VERTICAL ALIGNMENT: -2.80% | CURVE L=121.3m, PVI STA=7+416, PVI EL=1826.6m | -0.76% | CURVE L=99.50m, PVI STA=7+841, PVI EL=1823.4m | -2.98%

HORIZONTAL ALIGNMENT: L=1391.61m

SUPERELEVATION

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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Tel. (020) 2717213/4

PROJECT TITLE:
FINALDETAILED
ENGINEERING DESIGN OF
MIRERA - MALLE ROAD
BACH 2

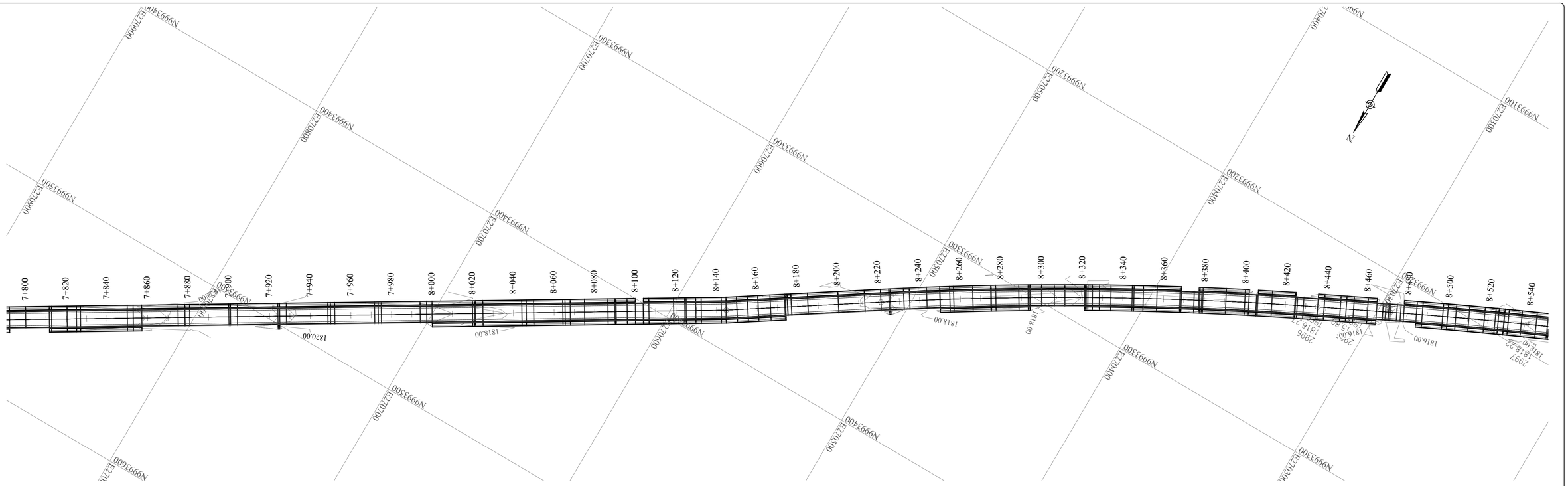
DRAWING TITLE:
PLAN AND PROFILE
CHAINAGE 7+300 - 7+900

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

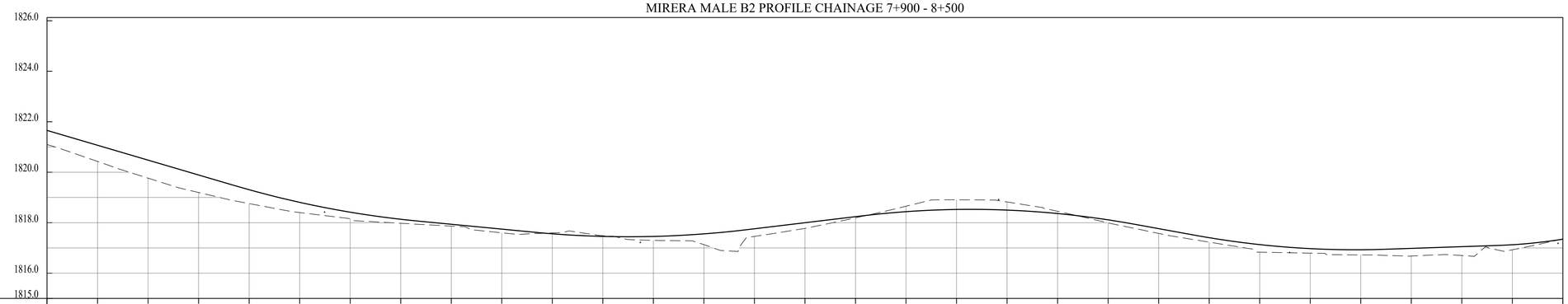
Drg No.CE1045/PP/MM/04

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 7+900 - 8+500



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
7+900	1821.657	1821.698
7+920	1821.068	1820.427
7+940	1820.479	1819.764
7+960	1819.890	1819.197
7+980	1819.306	1818.758
8+000	1818.806	1818.403
8+020	1818.416	1818.160
8+040	1818.136	1817.978
8+060	1817.939	1817.868
8+080	1817.746	1817.600
8+100	1817.560	1817.595
8+120	1817.457	1817.486
8+140	1817.456	1817.302
8+160	1817.557	1817.133
8+180	1817.759	1817.458
8+200	1817.999	1817.774
8+220	1818.238	1818.193
8+240	1818.437	1818.653
8+260	1818.525	1818.907
8+280	1818.500	1818.823
8+300	1818.363	1818.454
8+320	1818.113	1817.993
8+340	1817.764	1817.577
8+360	1817.405	1817.231
8+380	1817.132	1816.834
8+400	1816.973	1816.795
8+420	1816.928	1816.725
8+440	1816.983	1816.680
8+460	1817.051	1816.701
8+480	1817.127	1816.927
8+500	1817.349	1817.366

VERTICAL ALIGNMENT

-2.95% | CURVE L=72.1m, PVI STA=8+010, PVI EL=1818.4m | -0.96% | CURVE L=84.8m, PVI STA=8+135, PVI EL=1817.2m | 1.20% | CURVE L=107.41m, PVI STA=8+277, PVI EL=1818.9m | -1.82% | CURVE L=75.4m, PVI STA=8+392, PVI EL=1816.8m | 0.34% | CURVE L=47.2m, PVI STA=8+498, PVI EL=1817.2m

HORIZONTAL ALIGNMENT

L=1391.61m | L=76.22m | L=215.03m, R=1725.36m, PI STA=8+329, Δ=7.1 | L=35.78m | L=116.46m, R=2405.68m, PI STA=8+530, Δ=2.8

SUPERELEVATION

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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P.O. Box 48151- 00100, Nairobi. Kenya

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DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)

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Tel. (020) 2717213/4

PROJECT TITLE:
FINALDETAILED ENGINEERING DESIGN OF MIRERA - MALLE ROAD BACH 2

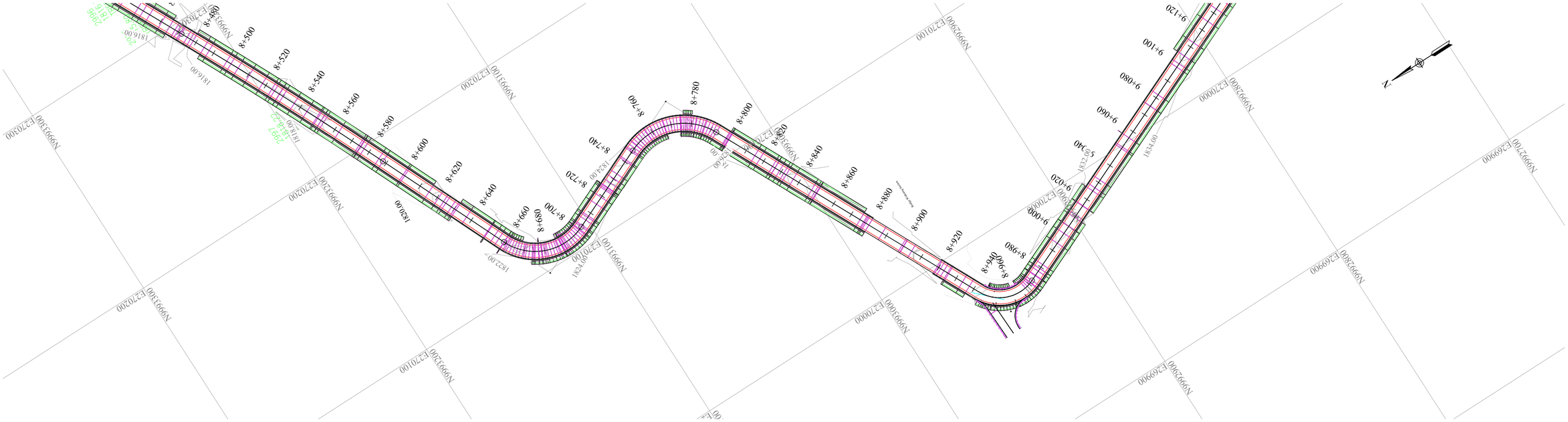
DRAWING TITLE:
PLAN AND PROFILE CHAINAGE 7+900 - 8+500

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

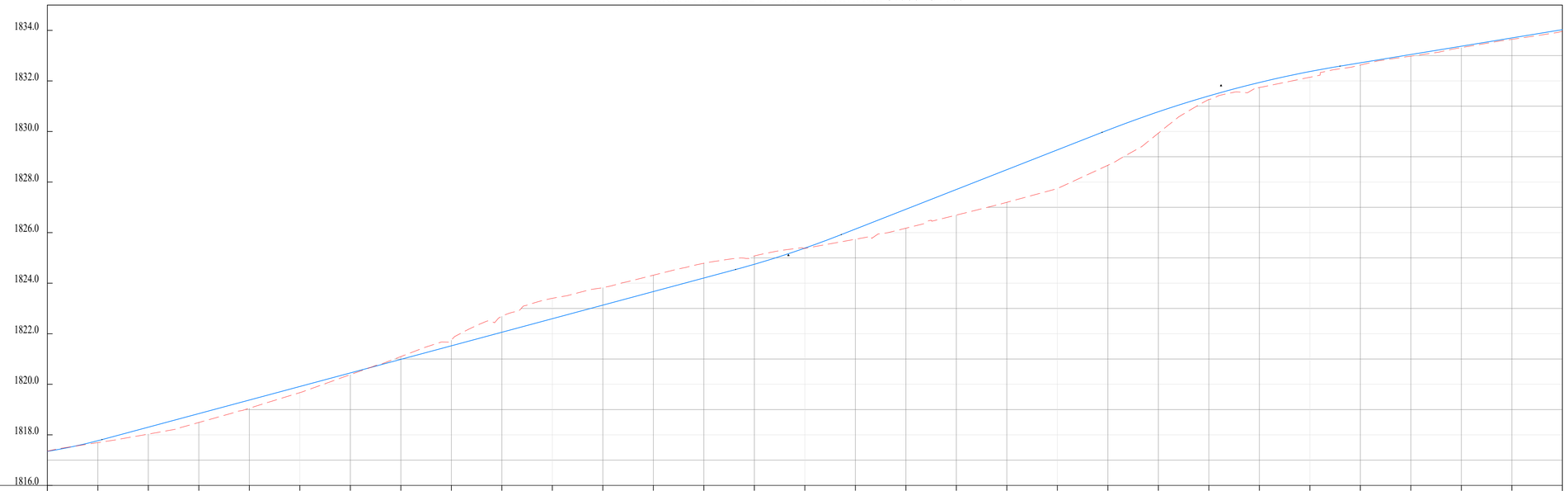
Drg No.CE1045/PP/MM/05

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 8+500 - 9+100



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
8+500	1817.349	1817.256
8+520	1817.769	1817.694
8+540	1818.305	1818.030
8+560	1818.841	1818.490
8+580	1819.377	1819.053
8+600	1819.913	1819.670
8+620	1820.450	1820.384
8+640	1820.986	1821.096
8+660	1821.522	1821.742
8+680	1822.058	1822.690
8+700	1822.594	1823.402
8+720	1823.131	1823.824
8+740	1823.667	1824.315
8+760	1824.203	1824.788
8+780	1824.747	1825.076
8+800	1825.386	1825.375
8+820	1826.139	1825.737
8+840	1826.922	1826.174
8+860	1827.706	1826.693
8+880	1828.489	1827.198
8+900	1829.272	1827.742
8+920	1830.055	1828.663
8+940	1830.779	1829.933
8+960	1831.406	1831.264
8+980	1831.937	1831.738
9+000	1832.371	1832.145
9+020	1832.716	1832.629
9+040	1833.044	1832.980
9+060	1833.372	1833.318
9+080	1833.700	1833.645
9+100	1834.028	1833.964

VERTICAL ALIGNMENT

- CURVE L=47.2m, PVI STA=8+498, PVI EL=1817.2m
- 2.68%
- CURVE L=41.8m, PVI STA=8+793, PVI EL=1825.1m
- 3.92%
- CURVE L=94.20m, PVI STA=8+965, PVI EL=1831.8m
- 1.64%

HORIZONTAL ALIGNMENT

- L=116.46m, R=2405.68m, PI STA=8+530, Δ=2.8
- L=70.99m
- L=42.78m, R=27.32m, PI STA=8+686, Δ=89.7
- L=44.76m
- L=46.18m, R=30.30m, PI STA=8+776, Δ=87.3
- L=150.10m
- L=29.17m, R=19.19m, PI STA=8+961, Δ=87.1
- L=355.73m

SUPERELEVATION

-6.00% -6.00% 6.00% 6.00% -6.00% -6.00%

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)

CONSULTANT:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINALDETAILED
ENGINEERING DESIGN OF
MIRERA - MALLE ROAD
BACH 2

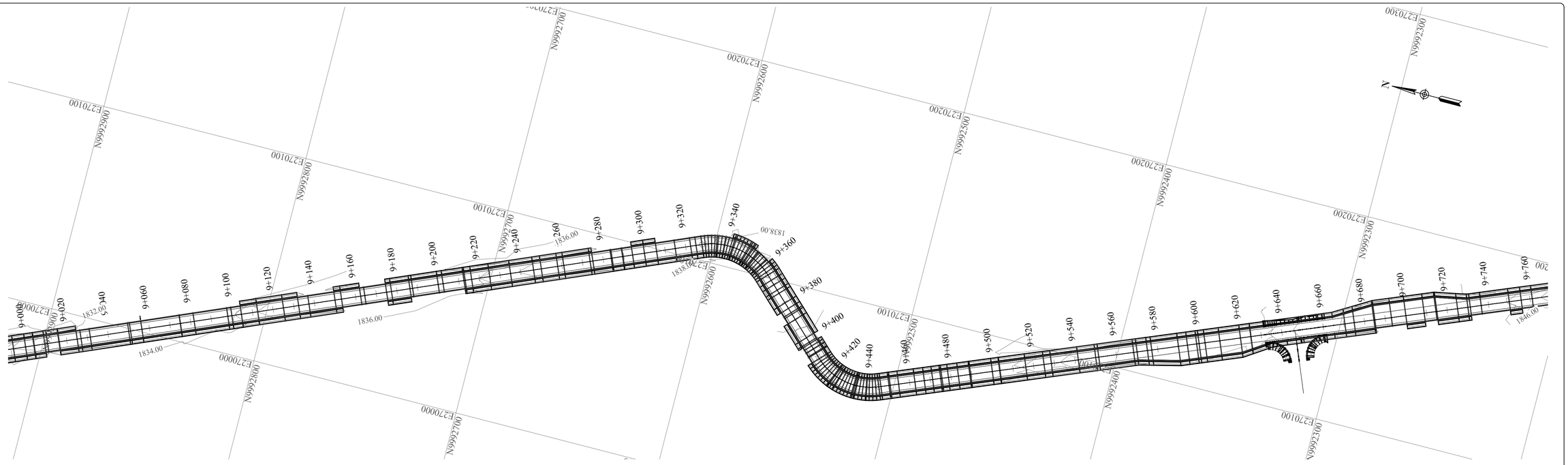
DRAWING TITLE:
PLAN AND PROFILE
CHAINAGE 8+500 - 9+100

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

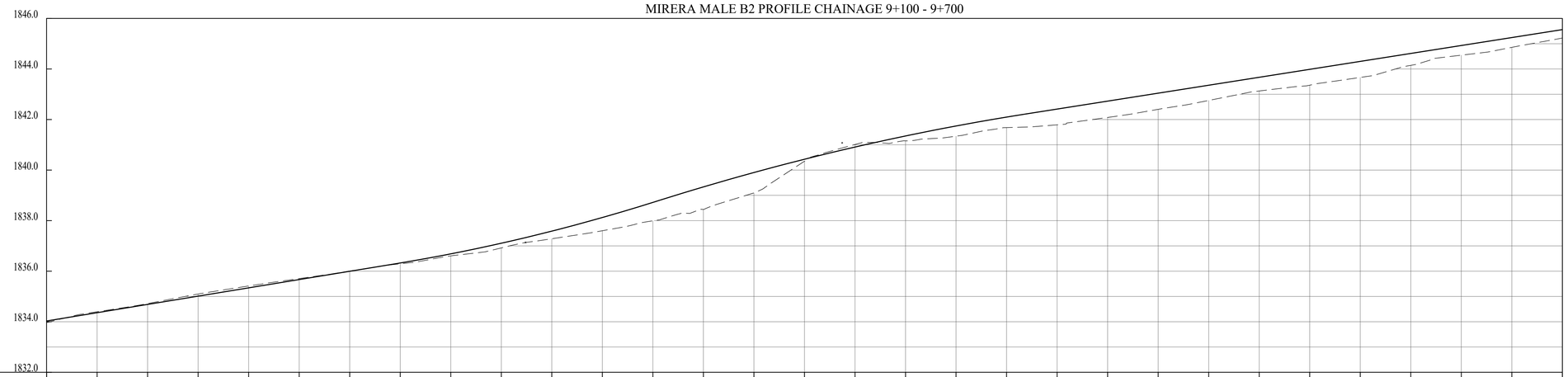
Drg No.CE1045/PP/MM/06

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 9+100 - 9+700



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
9+100	1834.028	1833.964
9+120	1834.356	1834.394
9+140	1834.684	1834.718
9+160	1835.012	1835.095
9+180	1835.340	1835.413
9+200	1835.668	1835.707
9+220	1835.996	1836.006
9+240	1836.324	1836.292
9+260	1836.685	1836.605
9+280	1837.105	1836.920
9+300	1837.585	1837.282
9+320	1838.123	1837.599
9+340	1838.721	1837.992
9+360	1839.334	1838.441
9+380	1839.903	1839.097
9+400	1840.429	1840.350
9+420	1840.911	1841.012
9+440	1841.350	1841.158
9+460	1841.745	1841.341
9+480	1842.096	1841.681
9+500	1842.414	1841.790
9+520	1842.728	1842.082
9+540	1843.043	1842.404
9+560	1843.357	1842.755
9+580	1843.672	1843.130
9+600	1843.986	1843.358
9+620	1844.301	1843.665
9+640	1844.615	1844.143
9+660	1844.930	1844.547
9+680	1845.244	1844.855
9+700	1845.559	1845.224

VERTICAL ALIGNMENT

- 1.64%
- CURVE L=101.5m, PVI STA=9+290, PVI EL=1837.1m
- 3.14%
- CURVE L=144.17m, PVI STA=9+415, PVI EL=1841.1m
- 1.57%

HORIZONTAL ALIGNMENT

- L=355.73m
- L=36.87m, R=31.57m, PI STA=9+349, Δ=66.9
- L=46.99m
- L=33.34m, R=28.94m, PI STA=9+431, Δ=66.0
- L=379.24m

SUPERELEVATION

- 6.00% 6.00%
- -6.00% -6.00%

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

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DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)

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3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINALDETAILED ENGINEERING DESIGN OF MIRERA - MALLE ROAD BACH 2

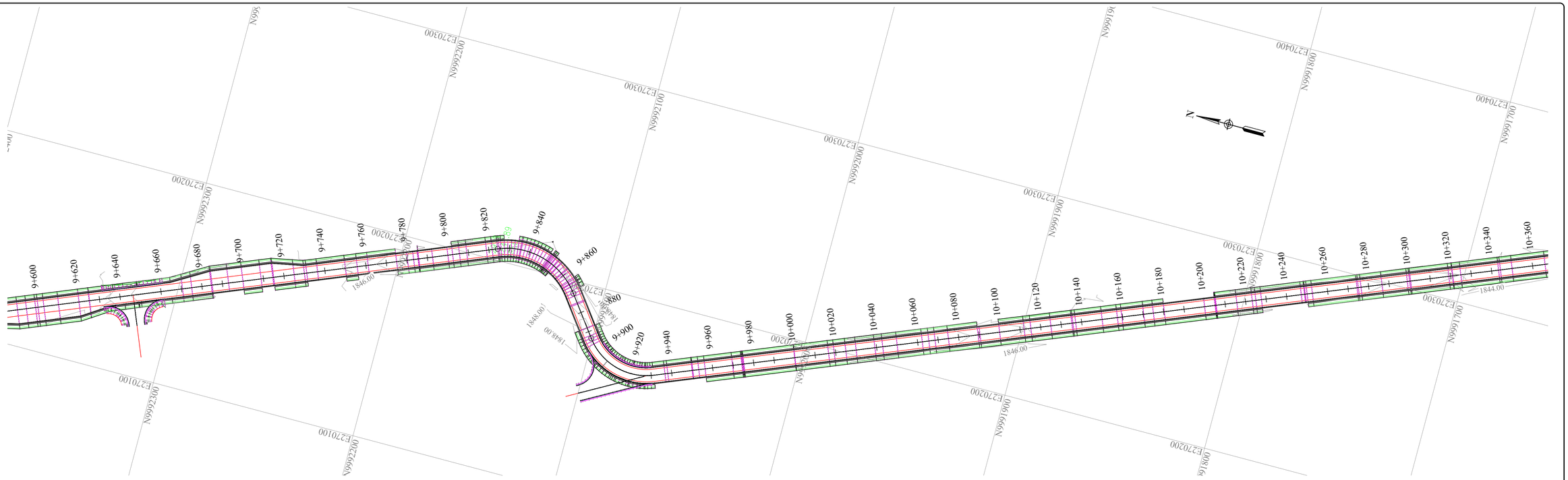
DRAWING TITLE:
PLAN AND PROFILE CHAINAGE 9+100 - 9+700

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

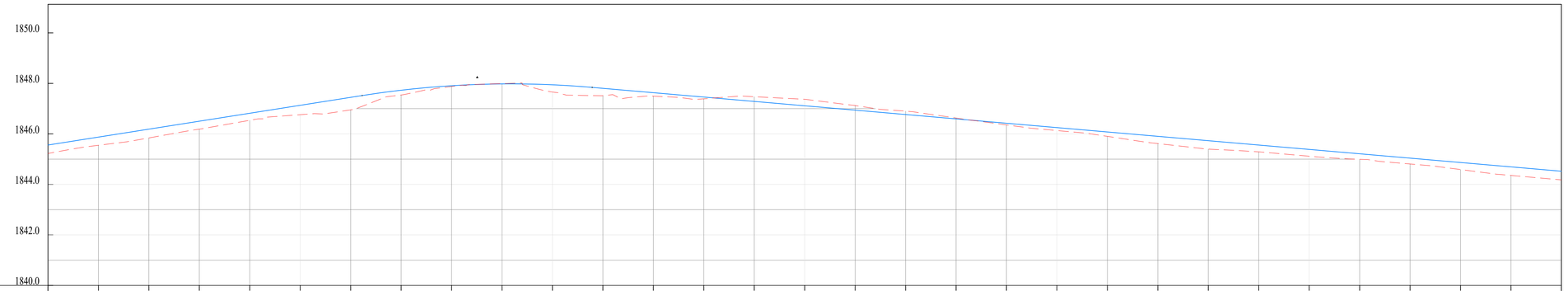
Drg No.CE1045/PP/MM/07

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 9+700 - 10+300



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
9+700	1845.559	1845.224
9+720	1845.873	1845.549
9+740	1846.188	1845.840
9+760	1846.502	1846.188
9+780	1846.817	1846.538
9+800	1847.131	1846.761
9+820	1847.446	1846.952
9+840	1847.729	1847.540
9+860	1847.907	1847.876
9+880	1847.979	1847.990
9+900	1847.944	1847.658
9+920	1847.804	1847.513
9+940	1847.631	1847.494
9+960	1847.459	1847.390
9+980	1847.286	1847.472
10+000	1847.113	1847.370
10+020	1846.940	1847.122
10+040	1846.767	1846.901
10+060	1846.595	1846.628
10+080	1846.422	1846.356
10+100	1846.249	1846.132
10+120	1846.076	1845.902
10+140	1845.904	1845.616
10+160	1845.731	1845.396
10+180	1845.558	1845.290
10+200	1845.385	1845.117
10+220	1845.212	1844.993
10+240	1845.040	1844.809
10+260	1844.867	1844.588
10+280	1844.694	1844.356
10+300	1844.521	1844.179

VERTICAL ALIGNMENT: 1.57% | CURVE L=91.18m, PVI STA=9+870, PVI EL=1848.2m | -0.86%

HORIZONTAL ALIGNMENT: L=379.24m | L=45.74m, R=34.72m, PI STA=9+851, Δ=75.5 | L=23.41m | L=37.76m, R=28.72m, PI STA=9+916, Δ=75.3 | L=1578.93m

SUPERELEVATION: 6.00% 6.00% -6.00% -6.00%

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FINALDETAILED
ENGINEERING DESIGN OF
MIRERA - MALLE ROAD
BACH 2

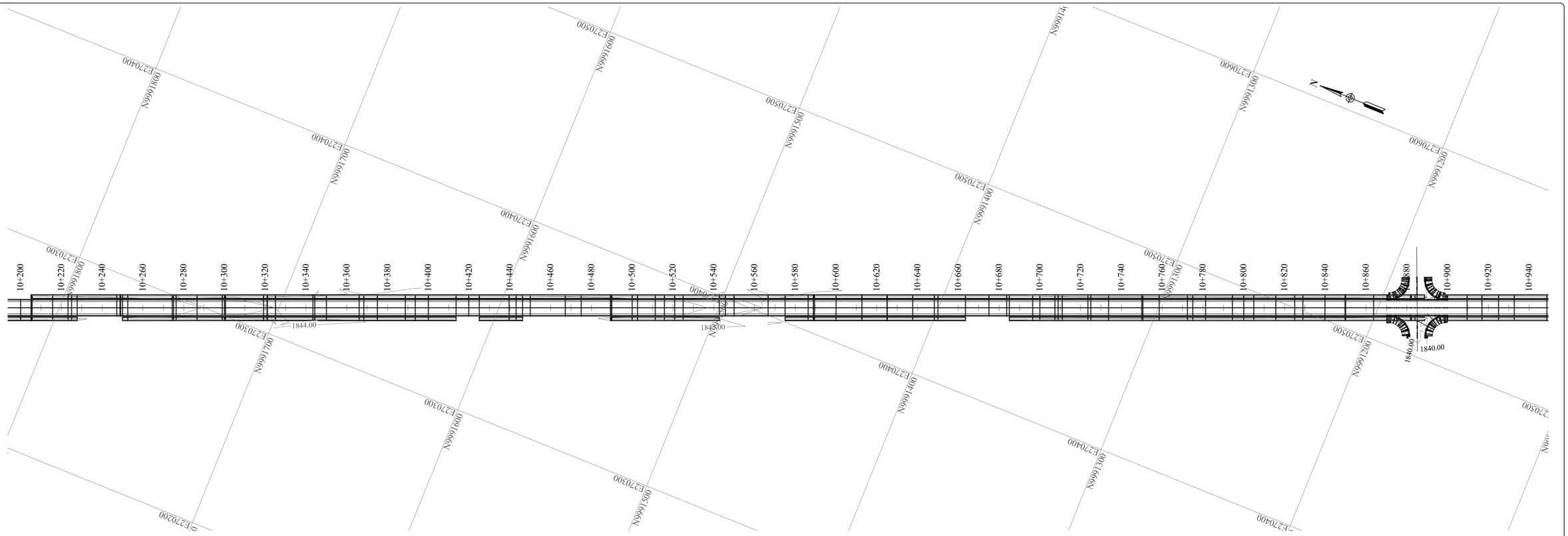
DRAWING TITLE:
PLAN AND PROFILE
CHAINAGE 9+700 - 10+300

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

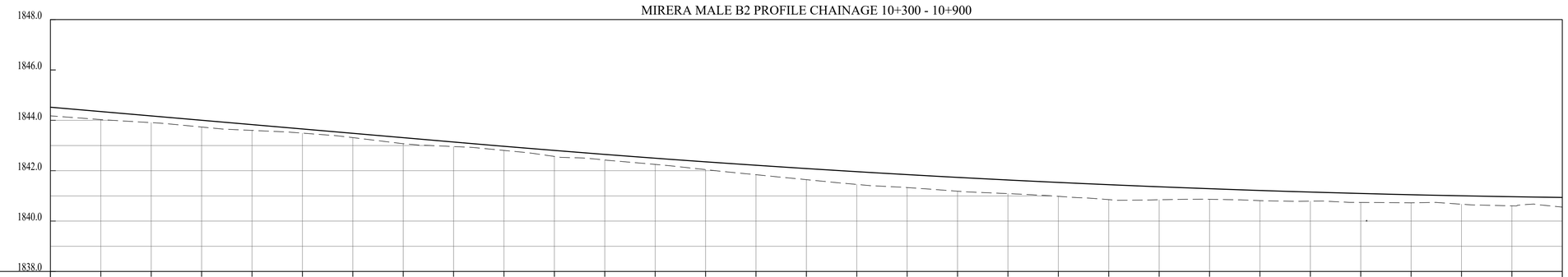
Drg No.CE1045/PP/MM/09

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 10+300 - 10+900



CHAINAGE (Km)	10+300	10+320	10+340	10+360	10+380	10+400	10+420	10+440	10+460	10+480	10+500	10+520	10+540	10+560	10+580	10+600	10+620	10+640	10+660	10+680	10+700	10+720	10+740	10+760	10+780	10+800	10+820	10+840	10+860	10+880	10+900
FINISHED ROAD LEVELS-FRL (m)	1844.521	1844.348	1844.176	1844.003	1843.830	1843.657	1843.484	1843.312	1843.139	1842.968	1842.804	1842.647	1842.497	1842.353	1842.216	1842.086	1841.962	1841.845	1841.735	1841.632	1841.535	1841.445	1841.362	1841.285	1841.215	1841.152	1841.096	1841.046	1841.003	1840.967	1840.938
ORIGINAL GROUND LEVELS-OGL (m)	1844.179	1844.029	1843.909	1843.734	1843.600	1843.492	1843.314	1843.073	1842.960	1842.805	1842.567	1842.424	1842.251	1842.043	1841.841	1841.645	1841.455	1841.330	1841.185	1841.089	1840.983	1840.852	1840.846	1840.865	1840.812	1840.790	1840.739	1840.725	1840.669	1840.605	1840.556

VERTICAL ALIGNMENT: -0.86%; CURVE L=717.3m, PVI STA=10+822, PVI EL=1840.0m

HORIZONTAL ALIGNMENT: L=1578.93m

SUPERELEVATION

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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Tel. (020) 2717213/4

PROJECT TITLE:
FINALDETAILED
ENGINEERING DESIGN OF
MIRERA - MALLE ROAD
BACH 2

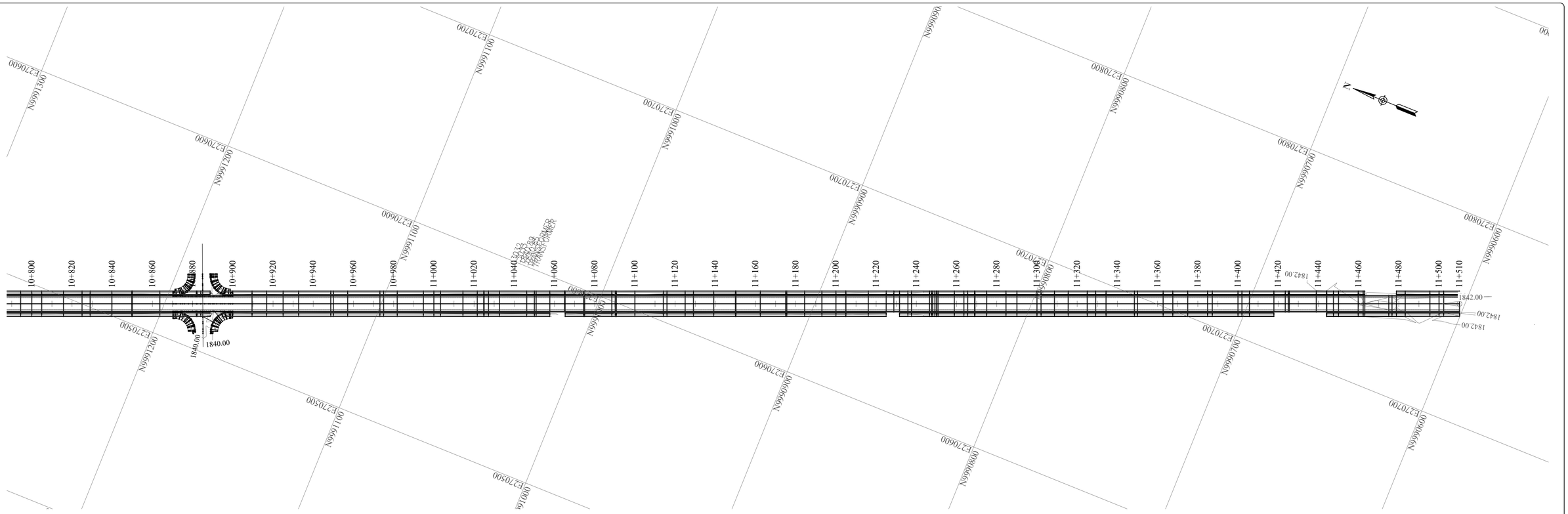
DRAWING TITLE:
PLAN AND PROFILE
CHAINAGE 10+300 - 10+900

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

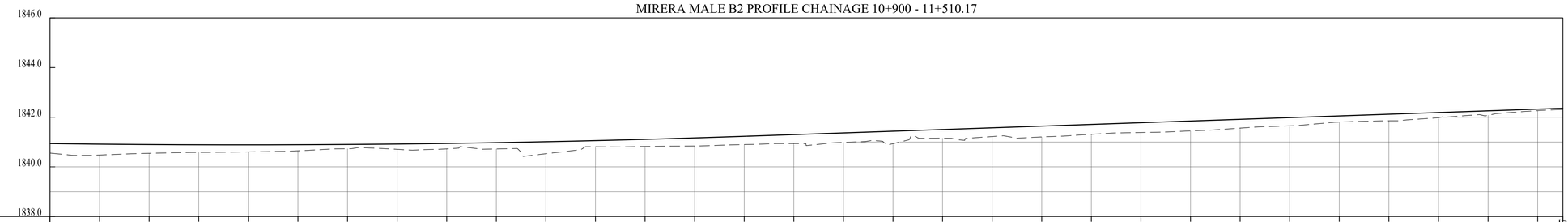
Drg No.CE1045/PP/MM/09

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025



MIRERA MALE B2 PROFILE CHAINAGE 10+900 - 11+510.17



CHAINAGE (Km)	FINISHED ROAD LEVELS-FRL (m)	ORIGINAL GROUND LEVELS-OGL (m)
10+900	1840.938	1840.556
10+920	1840.915	1840.478
10+940	1840.899	1840.546
10+960	1840.890	1840.584
10+980	1840.887	1840.604
11+000	1840.891	1840.648
11+020	1840.902	1840.731
11+040	1840.920	1840.707
11+060	1840.944	1840.725
11+080	1840.975	1840.722
11+100	1841.013	1840.530
11+120	1841.058	1840.811
11+140	1841.109	1840.823
11+160	1841.167	1840.841
11+180	1841.232	1840.898
11+200	1841.300	1840.938
11+220	1841.368	1840.986
11+240	1841.437	1840.935
11+260	1841.505	1841.157
11+280	1841.573	1841.221
11+300	1841.642	1841.206
11+320	1841.710	1841.312
11+340	1841.779	1841.384
11+360	1841.847	1841.449
11+380	1841.915	1841.561
11+400	1841.984	1841.652
11+420	1842.052	1841.803
11+440	1842.121	1841.857
11+460	1842.189	1841.983
11+480	1842.257	1842.077
11+500	1842.326	1842.265
11+510.17	1842.361	1842.312

VERTICAL ALIGNMENT: CURVE L=717.3m, PVI STA=10+822, PVI EL=1840.0m; 0.34%

HORIZONTAL ALIGNMENT: L=1578.93m

SUPERELEVATION

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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PROJECT TITLE:
FINALDETAILED
ENGINEERING DESIGN OF
MIRERA - MALLE ROAD
BACH 2

DRAWING TITLE:
PLAN AND PROFILE
CHAINAGE 10+900 - 11+510.17

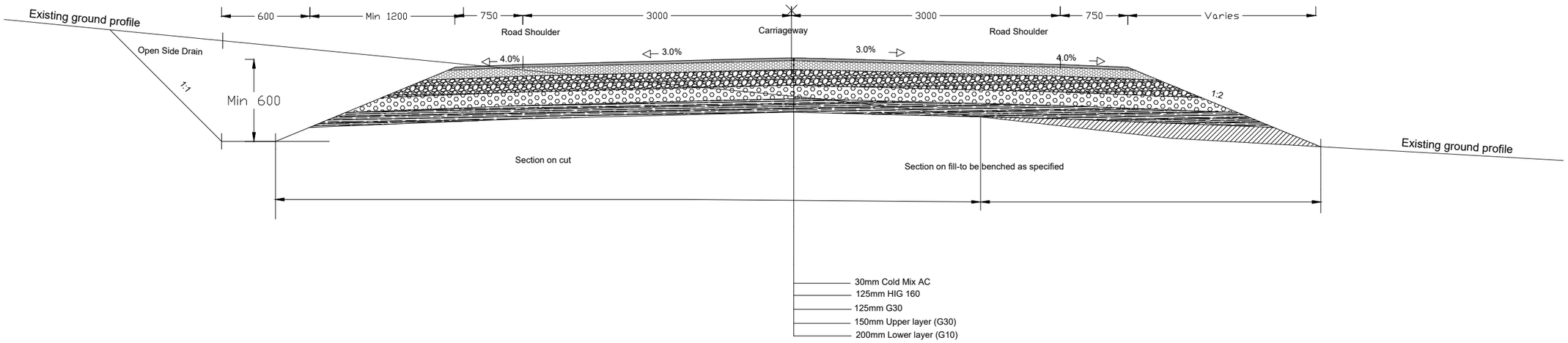
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.N.J

Drg No.CE1045/PP/MM/10

Scale:1:1000 HORIZONTAL
1:100 VERTICAL

Date : MARCH 2025

TYPICAL CROSS-SECTION



MIRERA MALLE TYPICAL CROSS-SECTION OPTION 1

SCALE 1:50

GENERAL NOTES:

1. Final fill slopes 1:4 where Hf $\leq$ 1.0m
   1:2 where Hf 1.0m $\leq$ H $\leq$ 3.0m
   1:1.5 where Hf $\leq$ 3.0m
2. Cutting backslopes may be steepened as instructed at culvert locations to minimise pipe extensions.
3. Cutting Backslopes 1:3 where Hc $\leq$ 1.0m
   1:2 where Hc 1.0m $\leq$ H $\leq$ 3.0m
   1:1.5 where Hc $\leq$ 3.0m
   1:0.5 in rock cut
4. Width of side ditches 1.0m or wider as instruted by the Engineer.
5. Final shoulder width to be 2.0m where guard rails are instructed.

Slope benching details

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
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P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN
OF MIRERA MALE ROAD

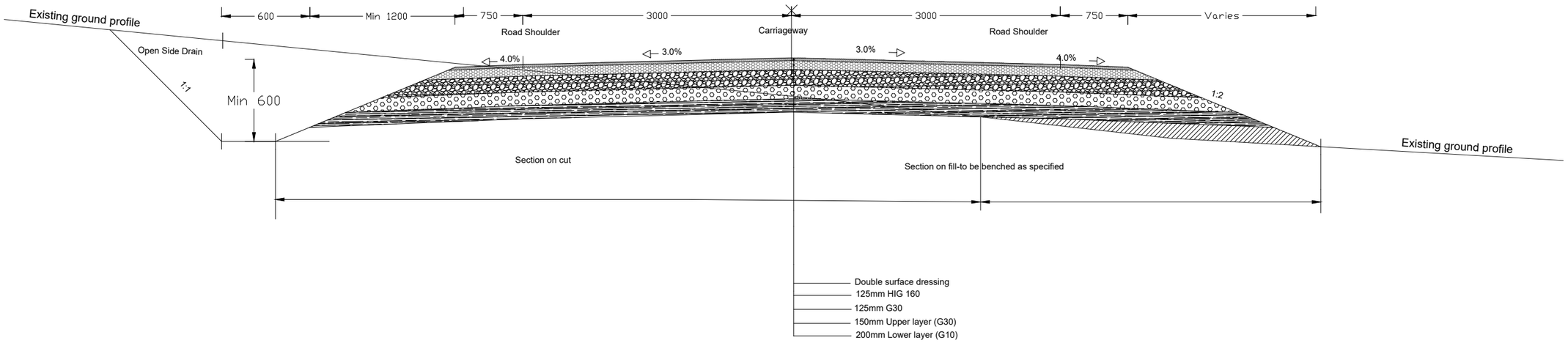
DRAWING TITLE:
TYPICAL CROSS SECTION FOR MIRERA – MALLE ROAD PAVEMENT BATCH 2

DRAWN BY: SWO
DESIGNED BY: CNM
CHECKED BY: MJN

Drg No. CE1045/TD/MM/01

Scale: AS SHOWN

Date : MARCH 2025



MIRERA MALLE TYPICAL CROSS-SECTION OPTION 2

SCALE 1:50

GENERAL NOTES:

1. Final fill slopes 1:4 where Hf $\leq$ 1.0m
   1:2 where Hf 1.0m $\leq$ H $\leq$ 3.0m
   1:1.5 where Hf $\leq$ 3.0m
2. Cutting backslopes may be steepened as instructed at culvert locations to minimise pipe extensions.
3. Cutting Backslopes 1:3 where Hc $\leq$ 1.0m
   1:2 where Hc 1.0m $\leq$ H $\leq$ 3.0m
   1:1.5 where Hc $\leq$ 3.0m
   1:0.5 in rock cut
4. Width of side ditches 1.0m or wider as instruted by the Engineer.
5. Final shoulder width to be 2.0m where guard rails are instructed.

Slope benching details

REVISIONS No.	DATE	DESCRIPTION

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PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN
OF MIRERA MALE ROAD

DRAWING TITLE:
TYPICAL CROSS SECTION FOR MIRERA – MALLE ROAD PAVEMENT BATCH 2

DRAWN BY: SWO
DESIGNED BY: CNM
CHECKED BY: MJN

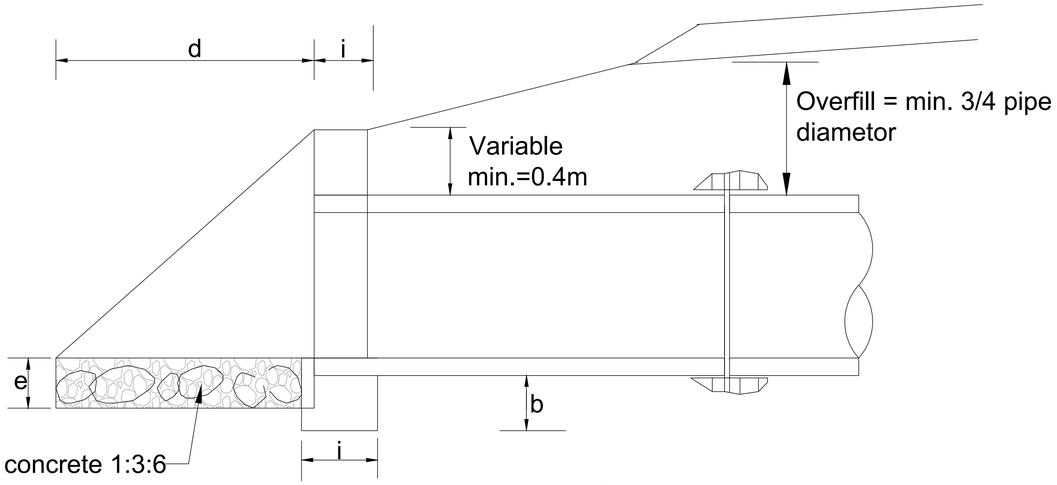
Drg No. CE1045/TD/MM/02

Scale: AS SHOWN

Date : MARCH 2025

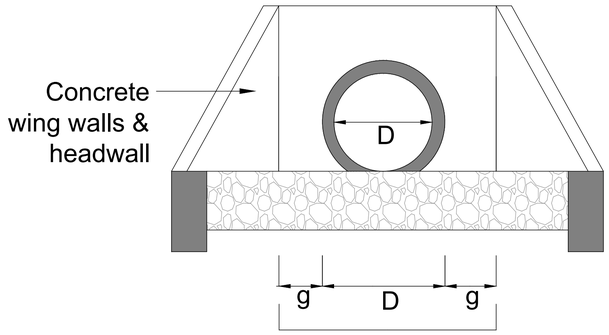
TYPICAL CULVERT DRAWINGS

FIGURE H.8 - HEADWALL TYPE 1 (HEAD AND WINGWALLS)



SECTION B-B

A-A



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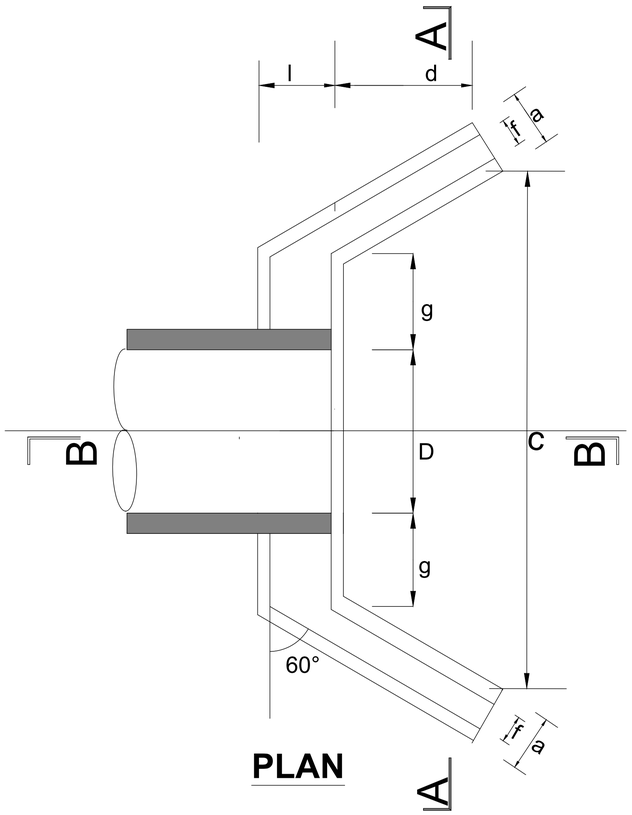
SECTION A-A



PLAN

DIMENSIONS AND MATERIAL REQUIREMENTS

PIPE DIAMETER IN (M)			TYPE A (CONCRETE BLOCKS			TYPE B (STONE MASONRY)		
			450	600	900	450	600	900
DIMENSION		UNIT						
a	FOUNDATION	m	0.30	0.30	0.30	0.40	0.40	0.60
b	FOUNDATION	m	0.30	0.30	0.40	0.30	0.30	0.40
c	FOUNDATION		2.20	2.35	2.89	2.20	2.35	2.89
d	APRON	m	1.00	1.00	1.20	1.00	1.00	1.20
e	APRON	m	0.20	0.20	0.20	0.20	0.20	0.20
f	WALL	m	0.20	0.20	0.20	0.40	0.40	0.40
g	WALL	m	0.30	0.30	0.30	0.30	0.30	0.30
h	WALL	m	1.15	1.15	1.39	1.15	1.15	1.39
l	WALL	m	0.20	0.20	0.20	0.40	0.40	0.40
k	APRON	m	1.05	1.20	1.50	1.05	1.20	1.50
MATERIAL REQUIREMENT								
FOUNDATION (Concrete)		m3	0.3	0.32	0.51	0.4	0.42	1.03
HEAD/WINGWALLS (Concrete/)		m3	0.4	0.47	0.67	0.8	0.93	1.35
APRON (Concrete)		m3	0.33	0.36	0.53	0.33	0.36	0.53

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA- MALLE ROAD BATCH 2

DRAWING TITLE:
HEADWALL TYPE 1 (HEADWALL AND WINGWALLS)

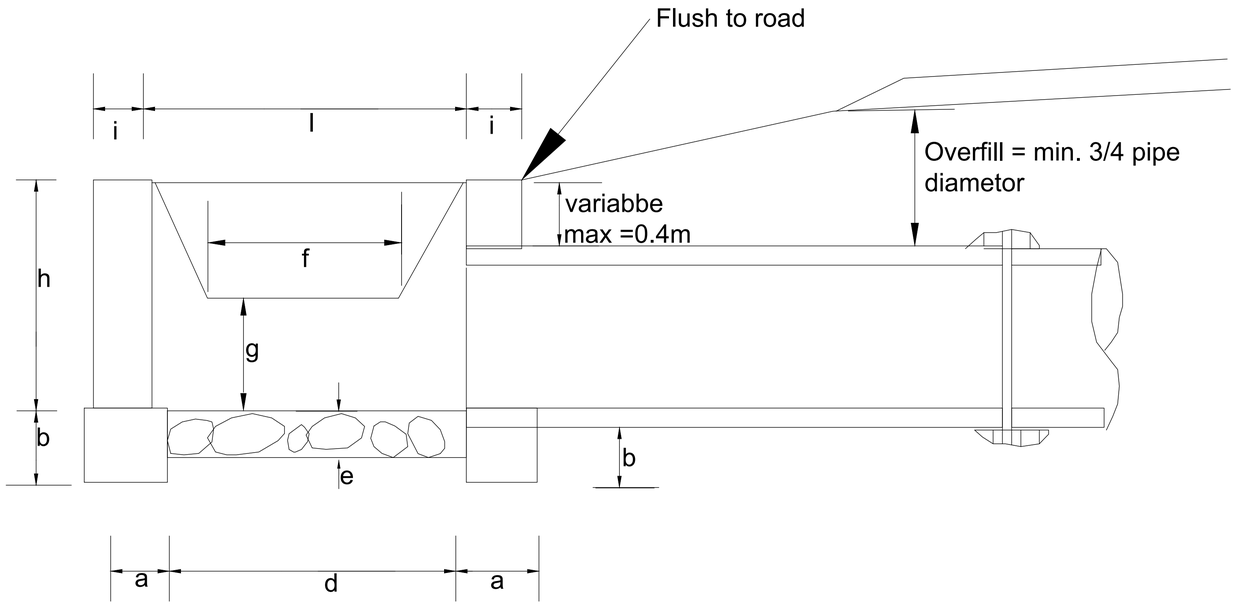
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/CDS/MM/O1

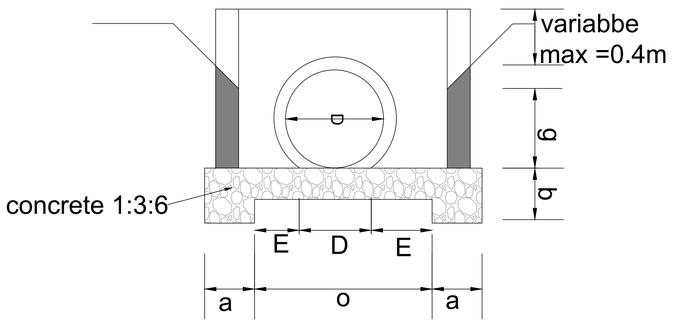
Scale: NTS

Date : MARCH 2025

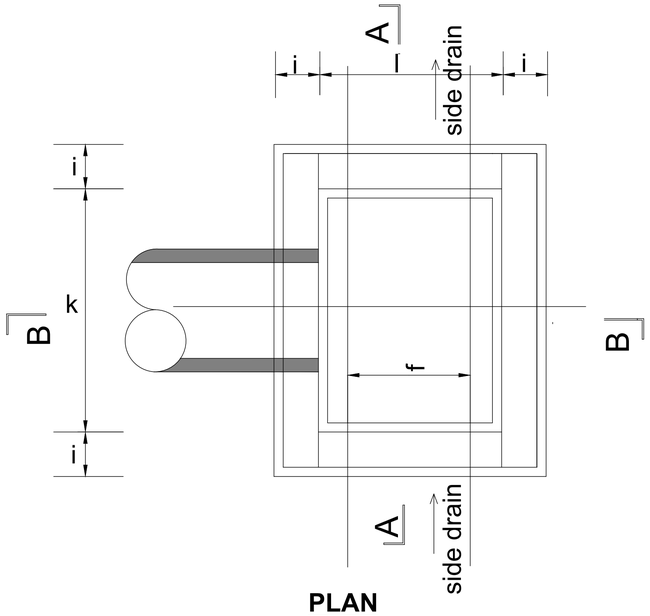
FIGURE H.9 - HEADWALL TYPE 2 (DROP INLETS)



SECTION B-B



SECTION A-A



PLAN

DIMENSIONS AND MATERIAL REQUIREMENTS

PIPE DIAMETER IN (M)			TYPE A (CONCRETE BLOCKS			TYPE B (STONE MASONRY)		
			450	600	900	450	600	900
DIMENSION		UNIT						
a	FOUNDATION	m	0.30	0.30	0.30	0.40	0.40	0.40
b	FOUNDATION	m	0.30	0.30	0.30	0.30	0.30	0.30
c	FOUNDATION	m	1.10	1.10	1.40	1.20	1.20	1.50
d	APRON	m	0.90	0.90	0.90	1.00	1.00	1.00
e	APRON	m	0.20	0.20	0.20	0.20	0.20	0.20
f	DROP INLET	m	0.60	0.60	0.60	0.60	0.60	0.60
g	DROP INLET	m	0.30	0.40	0.60	0.30	0.40	0.60
h	DROP INLET	m	0.60	0.80	1.20	0.60	0.80	1.20
I	DROP INLET	m	0.20	0.20	0.20	0.40	0.40	0.40
k	DROP INLET	m	1.20	1.20	1.50	1.20	1.20	1.50
l	DROP INLET	m	1.00	1.00	1.00	1.00	1.00	1.00
m	DROP INLET	m	0.38	0.30	0.30	0.38	0.30	0.30
MATERIAL REQUIREMENT								
FOUNDATION (Concrete)		m3	0.47	0.47	0.52	0.72	0.72	0.79
HEAD/WINGWALLS (Concrete/Masonry)		m3	0.53	0.69	1.11	1.24	1.63	2.61
APRON (Concrete)		m3	0.24	0.24	0.30	0.24	0.24	0.30

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
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DIRECTOR GENERAL
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)

Consultant:
Runji Consulting Group Ltd
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P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA- MALLE ROAD BATCH 2

DRAWING TITLE:
HEADWALL TYPE 2 (DROP INLETS)

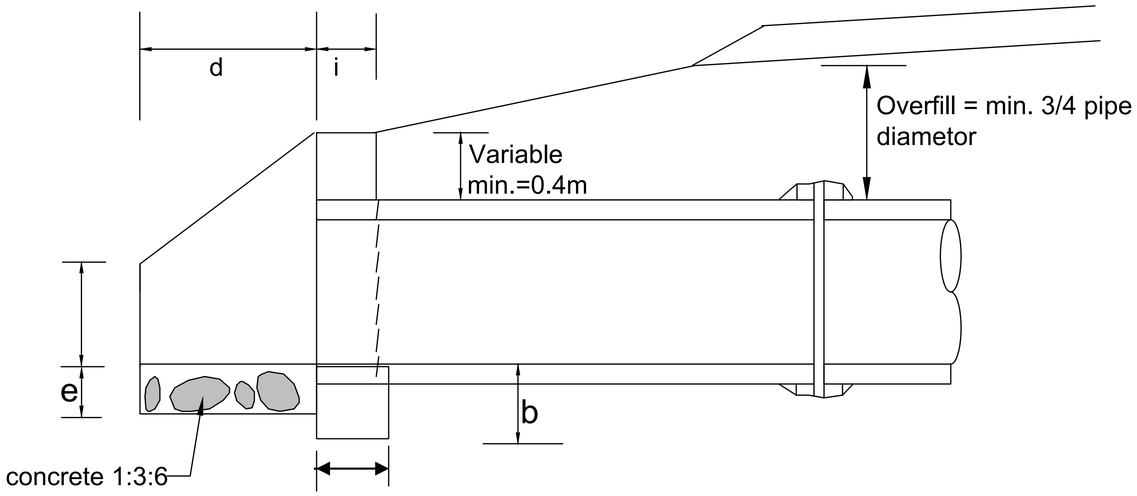
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/CDS/MM/O2

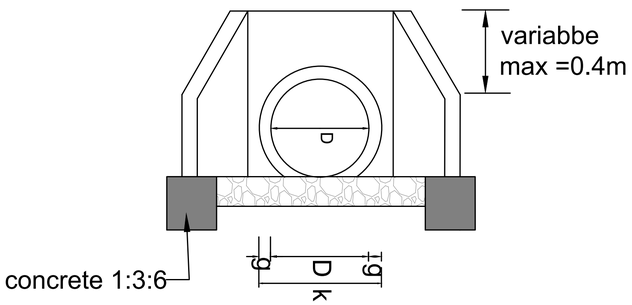
Scale: NTS

Date : MARCH 2025

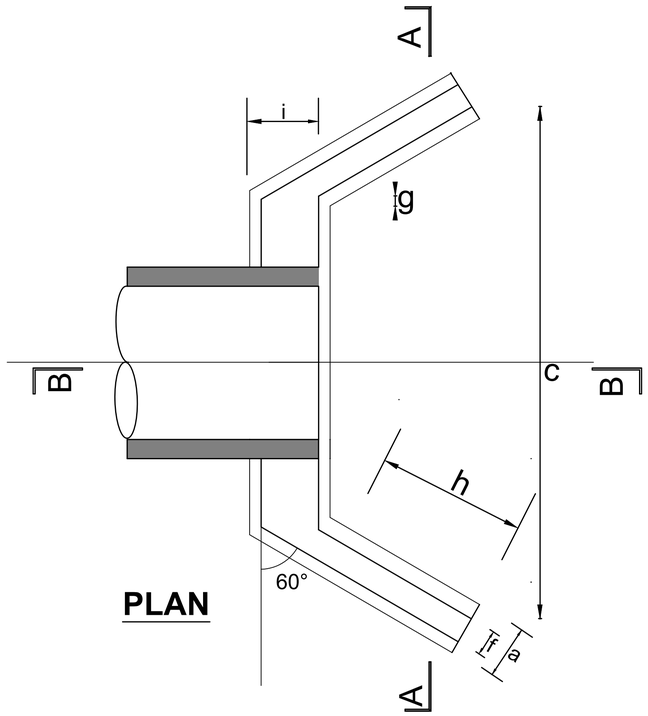
FIGURE H.12 - HEADWALL TYPE 4 (FOR ACCESS CULVERT)



SECTION B-B



SECTION A-A



PLAN

DIMENSIONS AND MATERIAL REQUIREMENTS

	PIPE DIAMETER IN (M)		TYPE A (CONCRETE BLOCKS			TYPE B (STONE MASONRY)		
			450	600	900	450	600	900
	DIMENSION	UNIT						
a	FOUNDATION	m	0.30	0.30		0.40	0.40	
b	FOUNDATION	m	0.30	0.30		0.30	0.30	
c	APRON		1.34	1.49		1.34	1.49	
d	APRON	m	0.60	0.60		0.60	0.60	
e	APRON	m		0.20		0.20	0.20	
f	WINGWALLS	m	0.20	0.20		0.40	0.40	
g	WINGWALLS	m	0.10	0.10		0.10	0.10	
h	HEADWALLS	m	0.69	0.69		0.69	0.69	
I	HEADWALLS	m	0.20	0.20		0.40	0.40	
k	HEADWALLS	m	0.65	0.80		0.65	0.80	
l	HEADWALLS	m	0.40	0.40		0.40	0.40	
	MATERIAL REQUIREMENT							
	FOUNDATION (Concrete 1:2:4, 1:3:6)	m3	0.18	0.2		0.24	0.26	
	HEAD/WINGWALLS (Concrete/Masonry)	m3	0.25	0.29		0.50	0.58	
	APRON	m3	0.12	0.14		0.12	0.14	

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
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P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA- MALLE ROAD BATCH 2

DRAWING TITLE:
HEADWALL TYPE 4 (FOR ACCESS CULVERT)

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/CDS/MM/O3

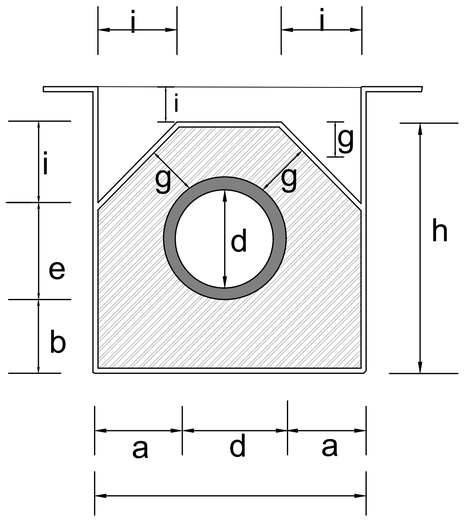
Scale: NTS

Date : MARCH 2025

FIGURE H.14-BEDDING AND HAUNCH PROFILES TYPE III& IV

PROFILE IV

(CONCRETE)



450 (mm)	600 (mm)	900 (mm)
Dimensions in (m)		
0.15	0.2	0.2
0.15	0.15	0.15
0.86	0.15	1.48
0.56	0.72	1.08
0.46	0.15	0.78
0.15	0.15	0.15
0.15	0.15	0.15
0.81	1.02	1.38
0.28	0.35	0.45
volume in (m3/m)		
0.37	0.61	0.92
-fair to poor subgrade condition -overfill >$\frac{3}{4}$ Dia; -Seasonal waterflow only. -Use gravel material for. -backfill/overfill.		

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
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3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA- MALLE ROAD BATCH 2

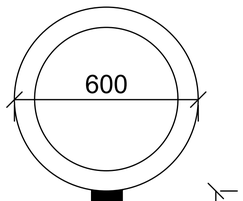
DRAWING TITLE:
BEDDING AND HAUNCH PROFILES TYPE III& IV

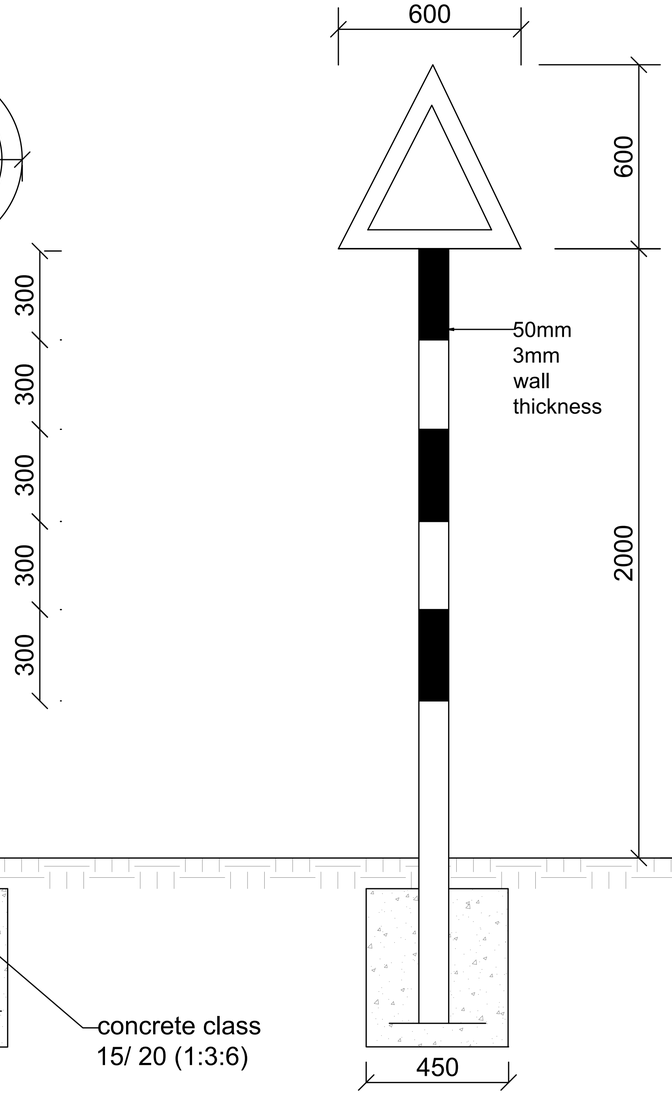
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

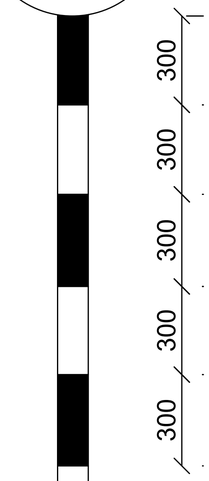
Drg No. CE1045/CDS/MM/O4

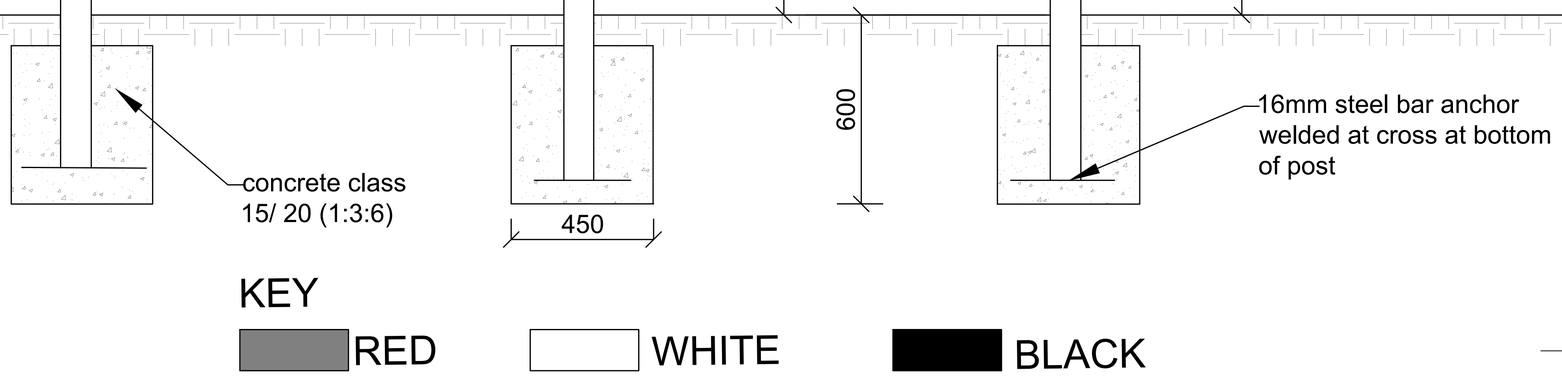
Scale: NTS

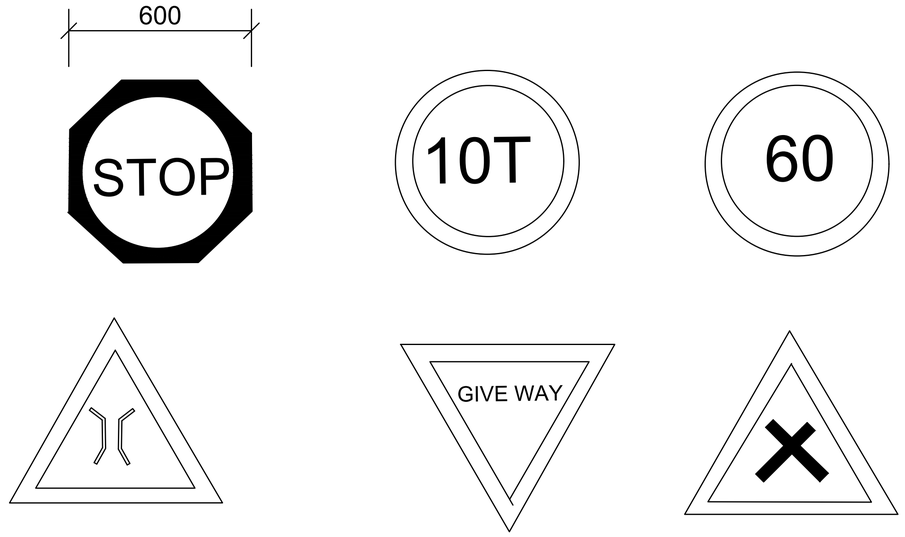
Date : MARCH 2025

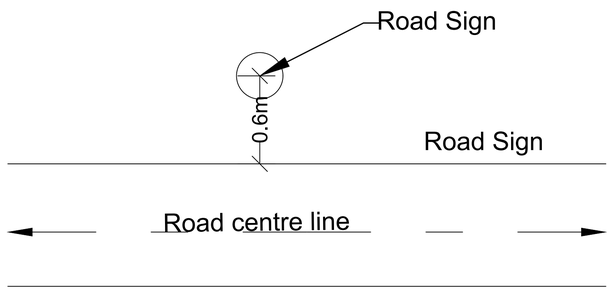












1.The type of sign required and their location shall de shown as road plan or as directed by engineer
2.signs plate to be 2mm thick mild steel plate
3.sign post to be 50mm fixing clamp/brackets
4.Sign plate to be fixed to steel tube by $Nos M10 bolts and 50mm fixing clamp/brackets
5,Sign paints shall be reflective
6.The sign plate and post shall be treated by applying two coats of lead red oxide paint before applying a priming and two finish coats of approved paints. Paints used shall have a hard,durable and glossy finish.

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF
MIRERA- MALLE ROAD
BATCH 2

DRAWING TITLE:
CULVERT ROAD SIGNS

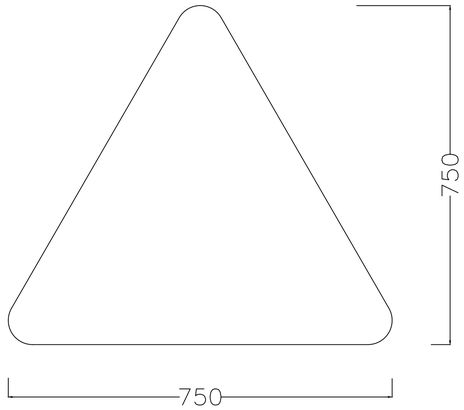
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

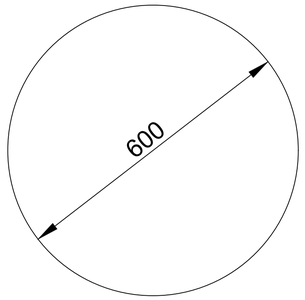
Drg No. CE1045/CDS/MM/O5

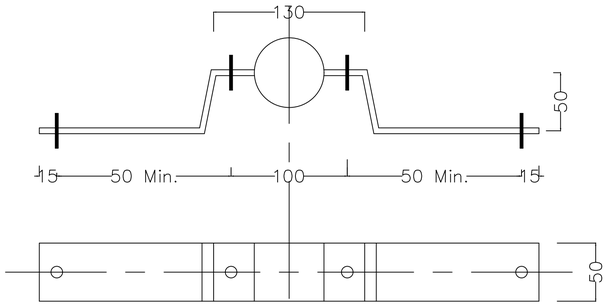
Scale: NTS

Date : MARCH 2025

STANDARD DRAWINGS

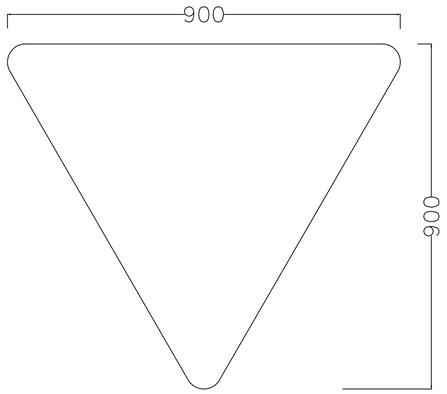


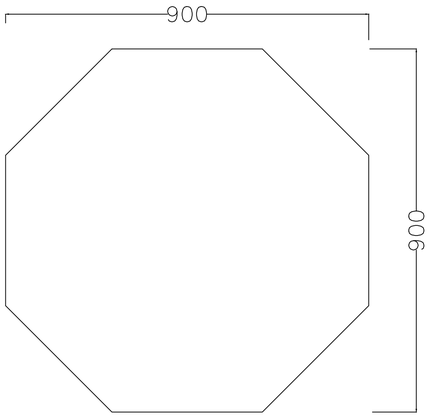


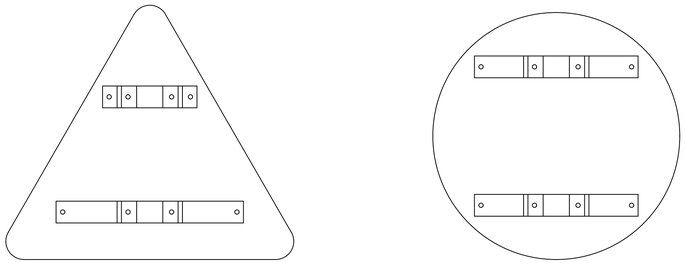


FIXING BRACKET DETAIL

SCALE 1:2.5

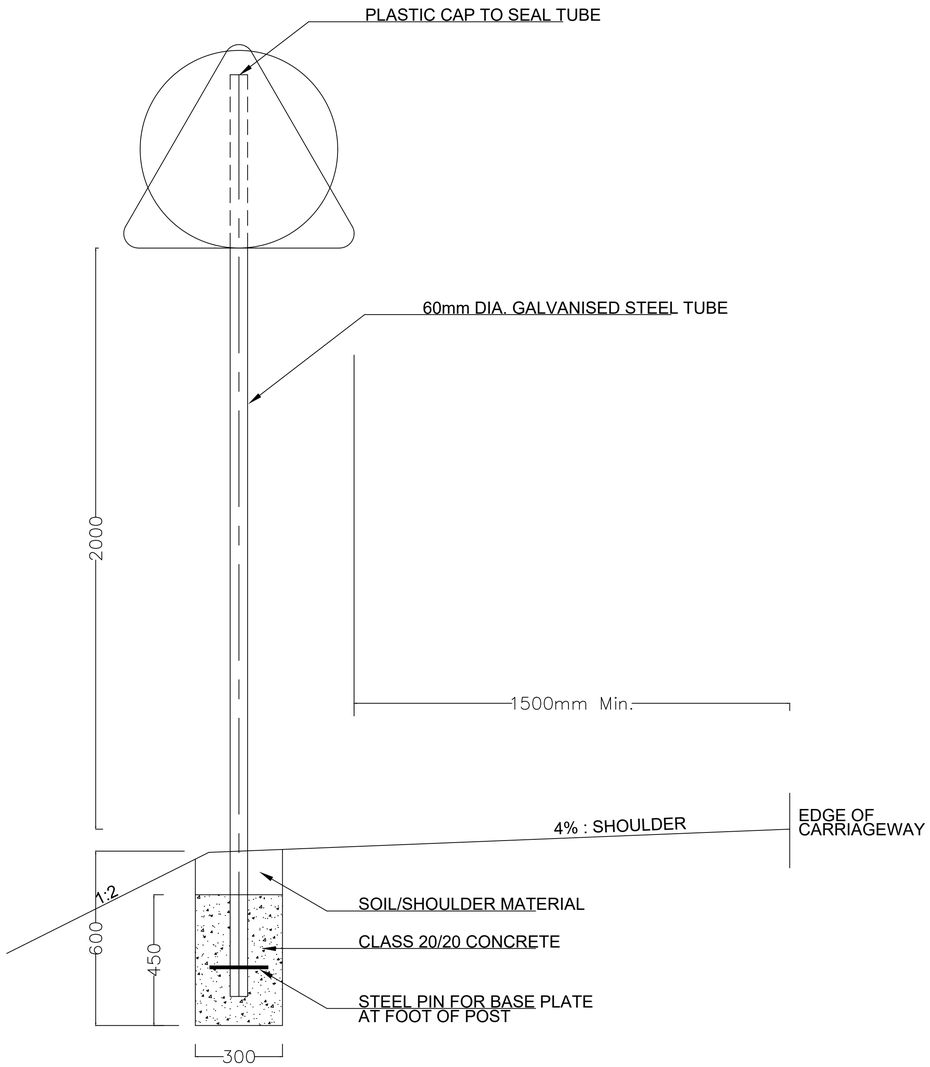






TYPICAL FIXING DETAILS

SCALE 1:25



SIGN PLACEMENT

SCALE 1:10

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL ROAD SIGNS ARE 3mm ALUMINIUM PLATES WITH REFLECTIVE MATERIALS.
3. PLASTIC WASHERS TO BE PLACED BETWEEN ALUMINIUM SIGNS AND STEEL BRACKETS.
4. ALL SIGN SUPPORTS AND FITTINGS TO BE GALVANISED MILD STEEL.
5. THE ENDS OF BOLTS TO BE HAMMERED OR SPOT WELDED.
6. ALL WHITE, RED, BLUE AND YELLOW PARTS ON SIGNS TO BE MADE OF RETRO-REFLECTIVE MATERIAL.
7. THE WIDTHS OF SIGN MARKINGS TO BE AS FOLLOWS;
   - RED BORDERS TO STANDARD SIGNS - 75mm
   - RED STRIPES ON COUNT DOWN SIGNS - 75mm
   - RED BORDER TO PRIORITY TRIANGLE SIGNS - 100mm
   - RED BORDER TO PROHIBITORY SIGNS - 50mm
   - RED BORDERS TO CRUCIFORM LEVEL "X" - 60mm
   - WHITE BORDER TO PRIORITY (OCTAGON) - 50mm
   - YELLOW STRIPES ON HAZARD SIGNS - 100mm.
   - BLACK STRIPES ON HAZARD SIGNS - 200mm.

PREFORMED FLANGE ANGLE STIFFENING

STIFFENING TO SIGNS

SCALE 1:20

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
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P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
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Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

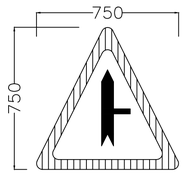
DRAWING TITLE:
STANDARD DRAWING - STANDARD - ROAD SIGNS

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/SD/MM/01

Scale: AS SHOWN

Date : MARCH 2025



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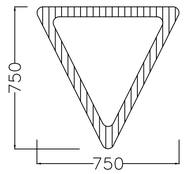

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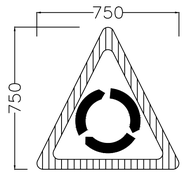

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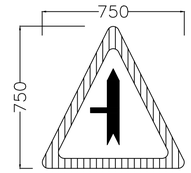

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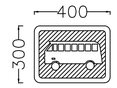
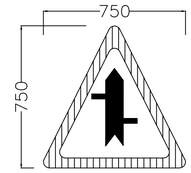


SIGN TYPE I 41



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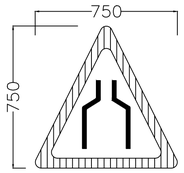
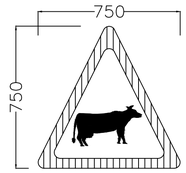
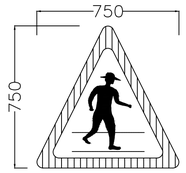


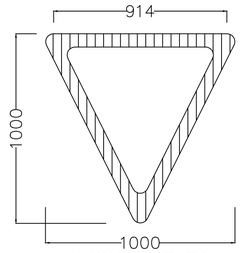
SIGN TYPE W 7



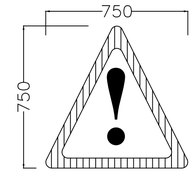
SIGN TYPE W 20



SIGN TYPE W 17



SIGN TYPE R2



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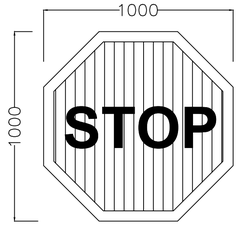
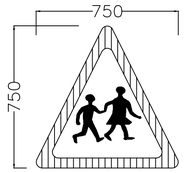


SIGN TYPE R 1



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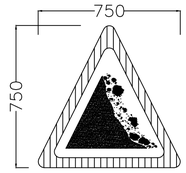

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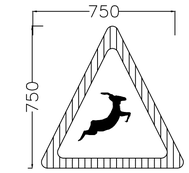

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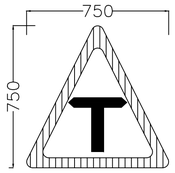
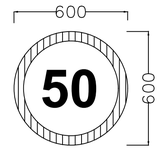
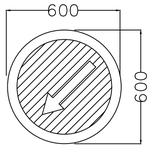


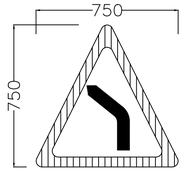
SIGN TYPE W 27



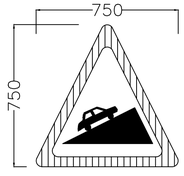
SIGN TYPE P25



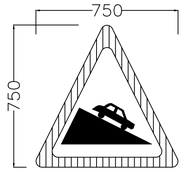
SIGN TYPE M5



SIGN TYPE W 1



SIGN TYPE W 6



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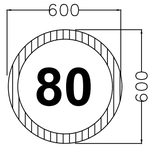

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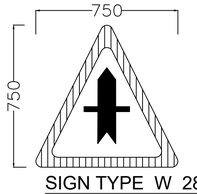
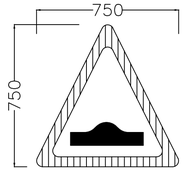


SIGN TYPE W 28A



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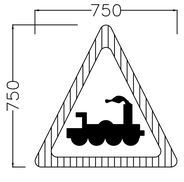
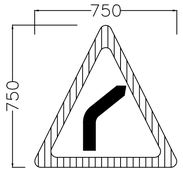
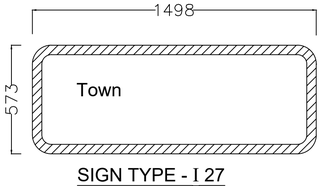


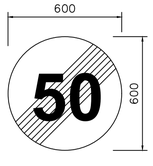
SIGN TYPE W 32



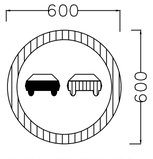
SIGN TYPE W 2



SIGN TYPE - I 27



SIGN TYPE P30



SIGN TYPE P23

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

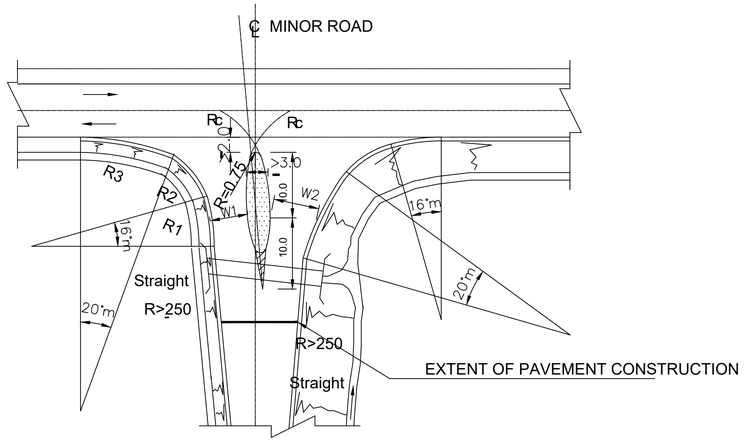
DRAWING TITLE:
STANDARD DRAWING - STANDARD - ROAD SIGNS INSTALLATION

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/SD/MM/02

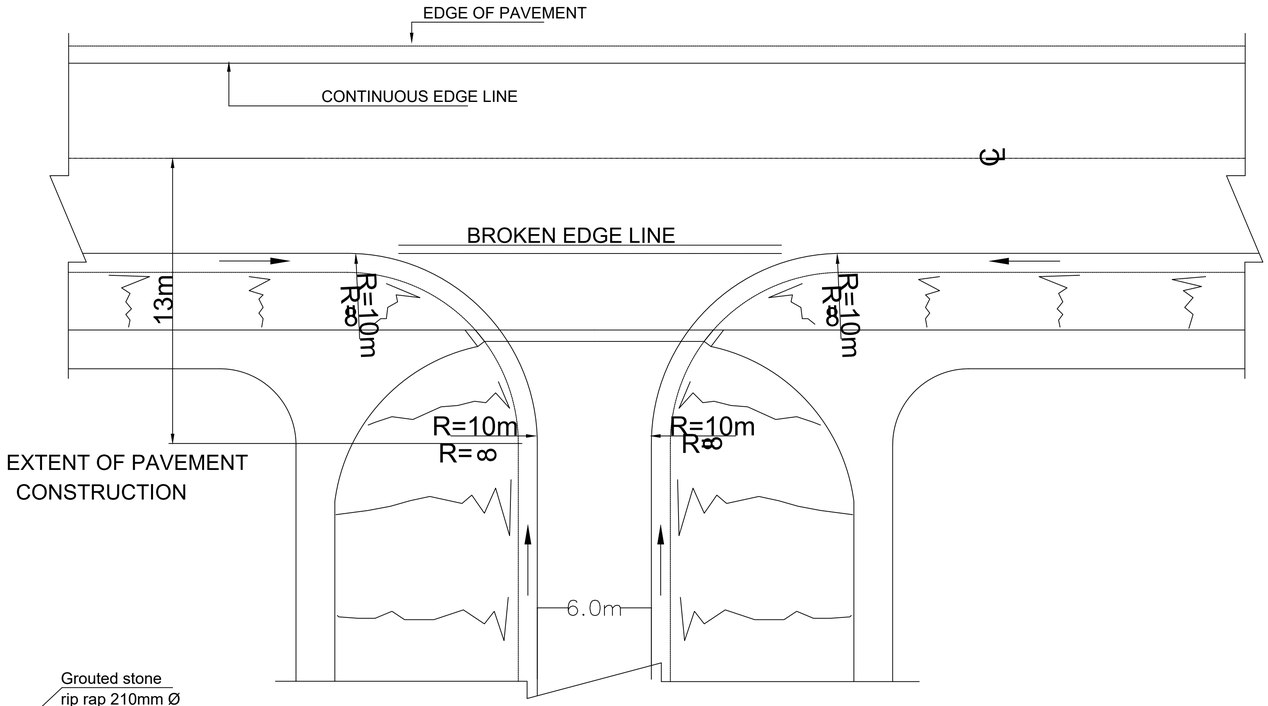
Scale: AS SHOWN

Date : MARCH 2025

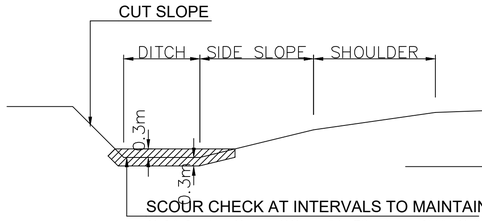


NOTES
1. Rc=CONTROL RADIUS DEPENDANT UPON VEHICLE TURNING CHARACTERISTICS RECOMMENDED VALUE 15m.
2. THE RATIO R1:R2:R3 TO BE 2:1:3 AND THE RECOMMENDED VALUE FOR R2 IS 12.0m
3. W1 SHALL EQUAL MINOR ROAD LANE WIDTH BUT SHALL NOT BE LESS THAN 3.0m
4. W2 SHALL EQUAL 5.5m (EXCLUDING OFFSETS TO RAISED KERBS)

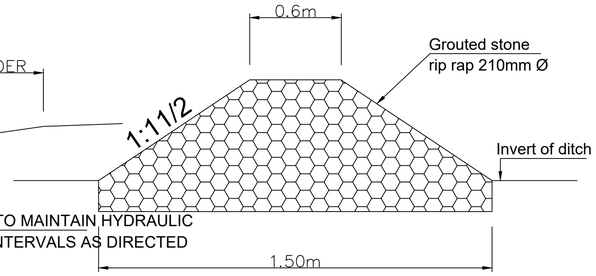
JUNCTION TYPE I
1:75



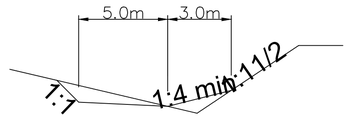
JUNCTION TYPE II
1:100



TYPICAL ELEVATION
OF A SCOUR CHECK

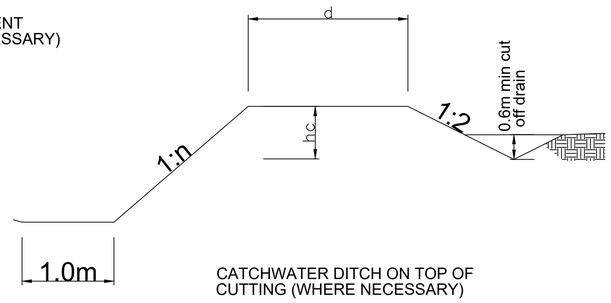


TYPICAL SECTION
THROUGH A SCOUR CHECK
1:50



CATCHWATER DITCH AT EMBANKMENT
FOOT FOR HIGH FILL (WHERE NECESSARY)

LONGITUDINAL SECTION II

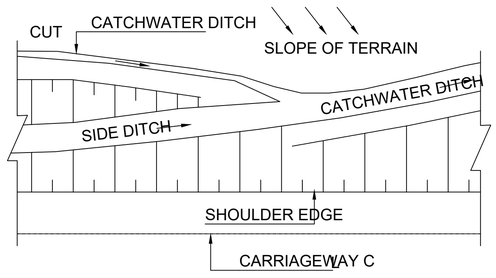


CATCHWATER DITCH ON TOP OF
CUTTING (WHERE NECESSARY)

LONGITUDINAL SECTION I

NOTES
R1 = 24m
R2 = 12m
R3 = 36m
Rc = 15m

1. JUNCTION TYPE I WILL BE USED FOR ALL JUNCTION WITH CLASSIFIED ROADS AND TYPE II FOR THE OTHER JUNCTIONS EG SCHOOL ETC.
2. DIMENSIONS IN METERS UNLESS STATED OTHERWISE.
3. ROAD MARKINGS TO BE CARRIED OUT IN ACCORDANCE WITH M.O.P.W. ROAD DESIGN MANUAL.
4. EXTENT OF PROTECTION WORKS AT INLET AND OUTLET OF 600mm PIPE CULVERT TO BE AS DIRECTED BY THE ENGINEER.
5. CENTRE LINE OF SIDE DRAIN TO BE MAINTAINED AT CONSTANT DISTANCE FROM EGDE OF PAVEMENT.
6. MAINROAD CROSS-SECTION TO BE APPLIED ON SIDE ROAD CONSTRUCTION TO LIMIT OF BITUMEN SURFACING.
7. FOR PRIVATE ACCESSES OR AS DIRECTED, PAVEMENT BEYOND EDGE OF MAIN ROAD TO BE 150mm COMPACTED GRAVEL.



PLAN

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

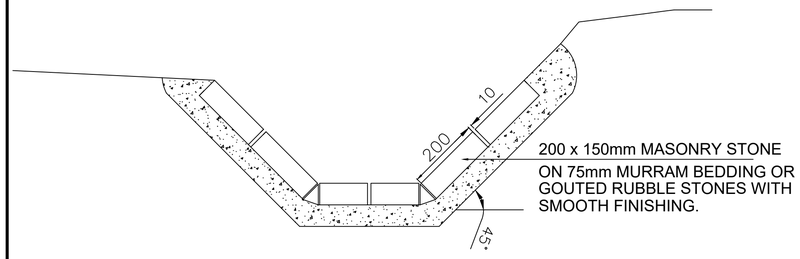
DRAWING TITLE:
STANDARD DRAWING - STANDARD - MISC MINOR JUNCTION

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

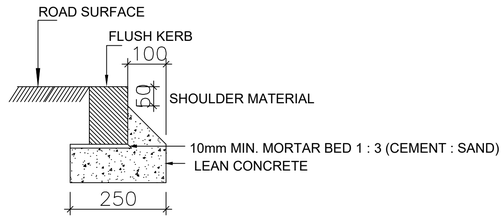
Drg No. CE1045/SD/MM/03

Scale: AS SHOWN

Date : MARCH 2025

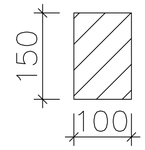


MASONRY STONE LINED DRAIN
WITH FOUR COURSES
SCALE 1:50

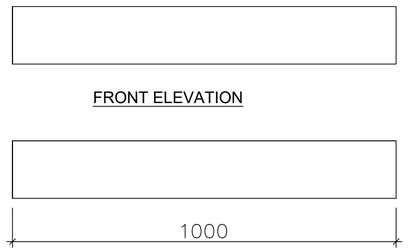


BEDDING AND HAUNCHING TO FLUSH KERB PREFABRICATED

SCALE 1 : 10



SECTION A - A

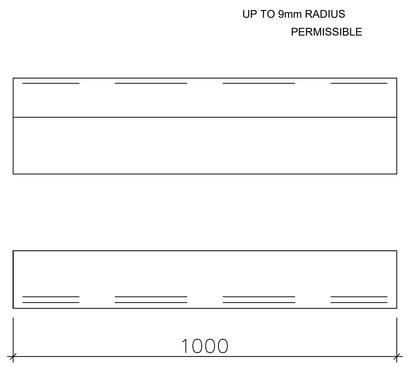


FRONT ELEVATION

PLAN

STANDARD FLUSH KERB

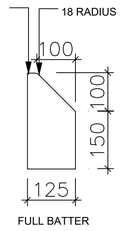
SCALE 1 : 10



PLAN

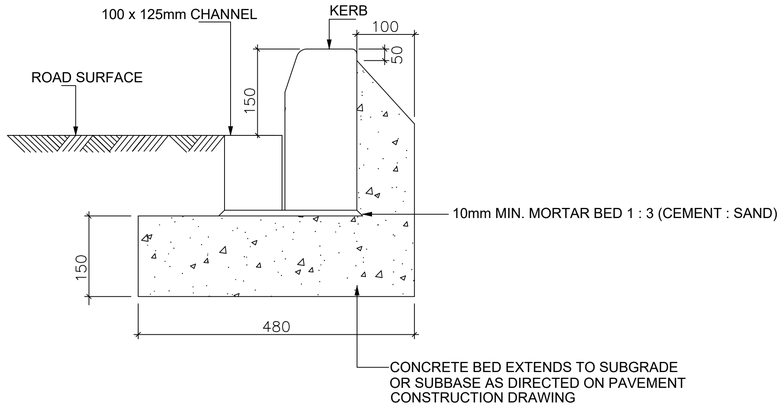
STANDARD RAISED FLUSH KERB

SCALE 1 : 10



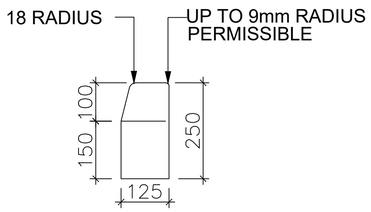
FULL BATTER

SECTION B - B



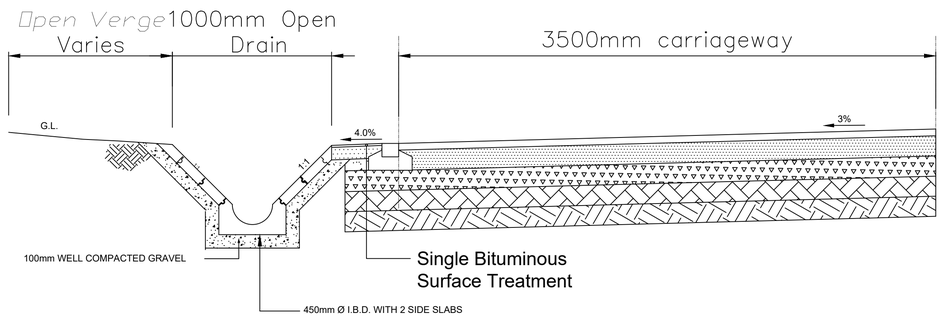
BEDDING AND HAUNCHING TO RAISED KERB WITH CHANNEL

SCALE 1:100



HALF BATTER

SECTION C - C



TYPICAL ROAD CROSS-SECTION FOR TOWNSHIP ROADS AND PARKING

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF
MIRERA - MALLE (ROAD)
BATCH 2

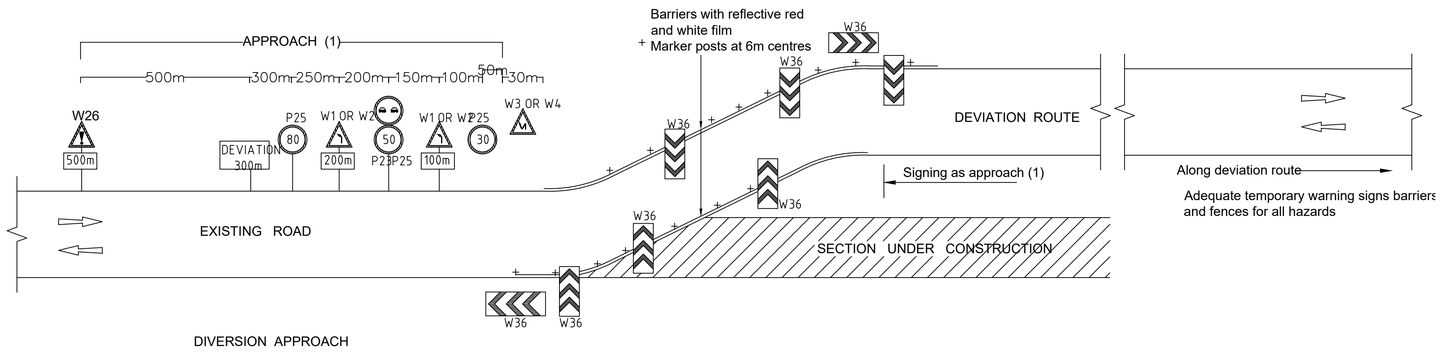
DRAWING TITLE:
STANDARD DRAWING -
MISC URBAN ROAD DETAIL

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

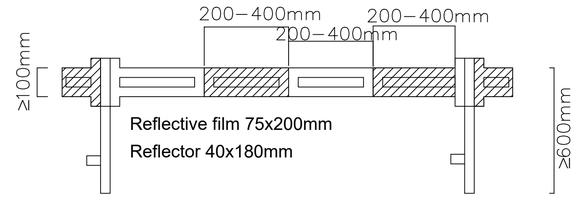
Drg No. CE1045/SD/MM/04

Scale: AS SHOWN

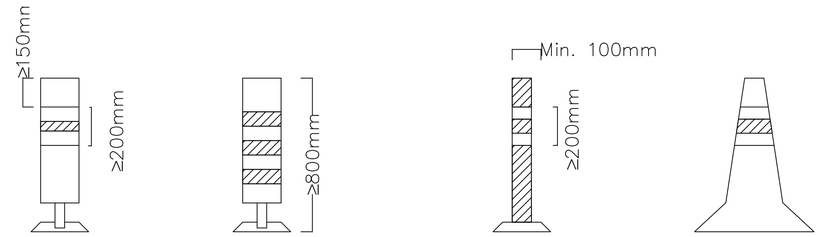
Date : MARCH 2025



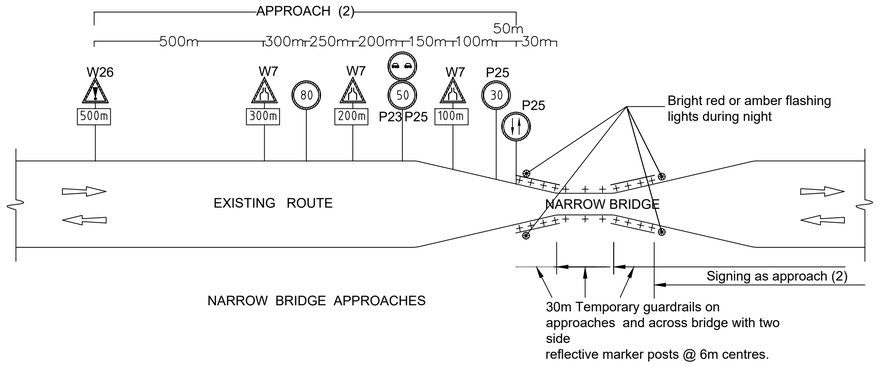
DIVERSION APPROACH



BARRIER

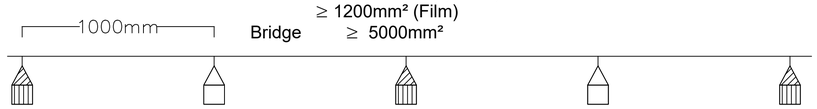


SAFETY POST



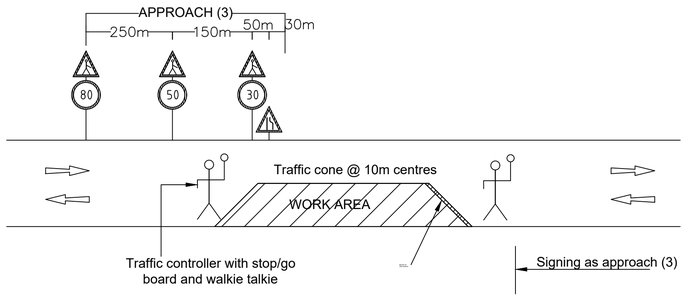
NARROW BRIDGE APPROACHES

TRAFFIC CONE



Reflector ≥ 800mm² (Prism)
≥ 1200mm² (Film)
Bridge ≥ 5000mm²

WARNING ROPE
(BETWEEN SAFETY POSTS)



TEMPORARY LANE CLOSURES

NOTES:

1. All temporary signs must be retro–reflective
2. Numbers, lettering and colours to be in accordance with the Manual of Traffic Signs in Kenya Part II (JUNE 1975)
3. Marker posts to be unbreakable plastic or glass fibre vergemaster or similar
4. All signs must be kept clean and visible at all times.
5. Sketches shown on this drawing are the minimum requirements, signs may be varied or adjusted as directed by the Resident Engineer to suit each particular site
6. Fences and barriers shall be provided as directed by the Resident Engineer to separate pedestrians and traffic where they will need to use road or deviation for access
7. All works and temporary signs are to comply with the requirements of Section 9 of the Standard Specification

REVISIONS No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

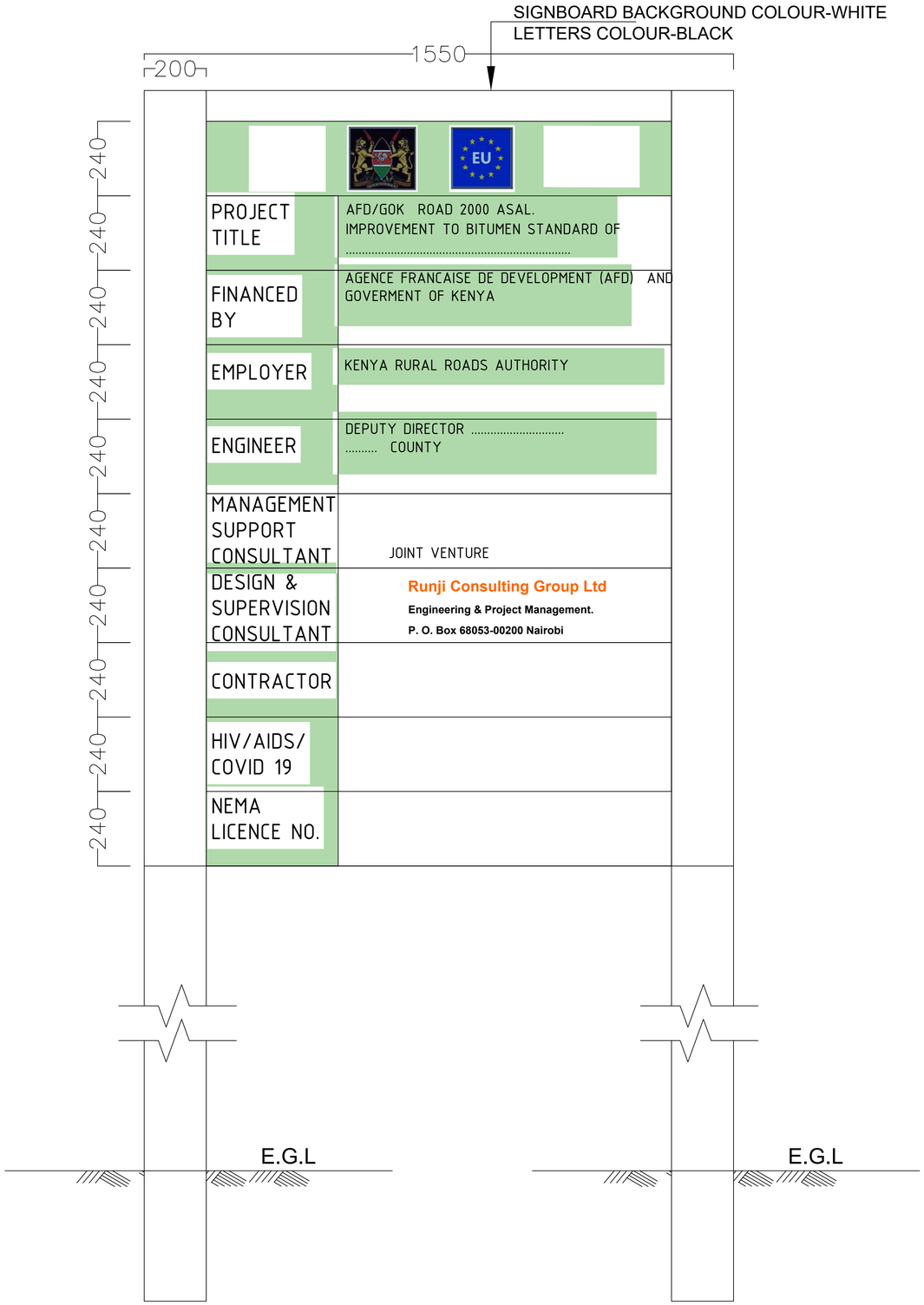
DRAWING TITLE:
STANDARD DRAWING - TRAFFIC MANAGEMENT

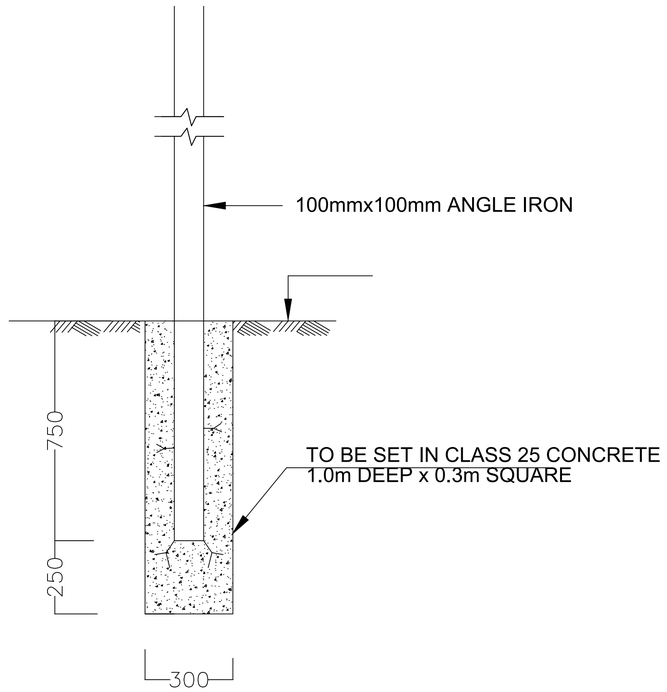
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/SD/MM/05

Scale: AS SHOWN

Date : MARCH 2025





SIGNBOARD FIXING DETAIL

SCALE: 1:100

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD)
BATCH 2

DRAWING TITLE:
STANDARD DRAWING - PUBLICITY SIGN BOARD

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/SD/MM/06

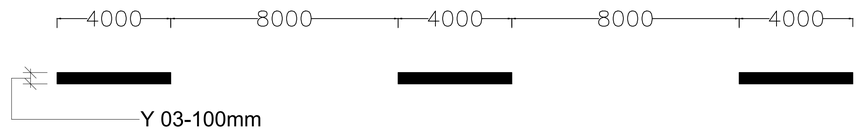
Scale: AS SHOWN

Date : MARCH 2025

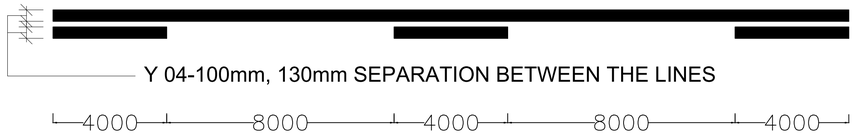
Y-01
CONTINOUS CENTRELINE
SINGE LINE(YELLOW)

Y 02
CONTINOUS CENTRELINE
DOUBLE LINE(YELLOW)

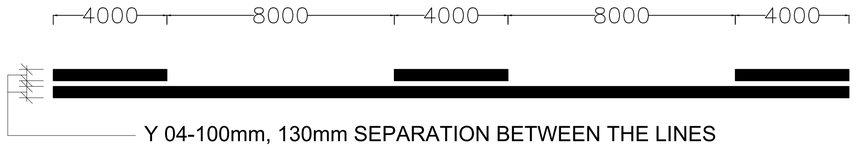
Y 03
BROKEN CENTRELINE
SINGLE LINE(YELLOW)



Y 04-1
COMBINED LINE
(YELLOW)

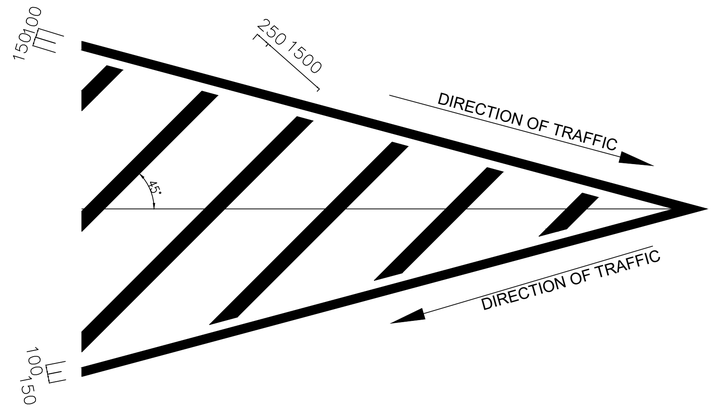


Y 04-2
COMBINED LINE
(YELLOW)



W 13
ACCUSTIC EDGE LINE
(WHITE)

DIRECTIONAL HATCHING



W 22
CONTINUITY LINE
(WHITE)

W 31-100mm

W 31
STOP LINE
(WHITE)

W 31-A
Cont
(WHITE)

W 32
GIVE WAY LINE
(WHITE)

W 33
ZEBRA PEDESTRIAN
CROSSING (WHITE)

REVISIONS	No.	DATE	DESCRIPTION

Kenya Rural Roads Authority
Bara Bara Plaza,
P.O. Box 48151- 00100, Nairobi. Kenya

DIRECTOR GENERAL	
DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

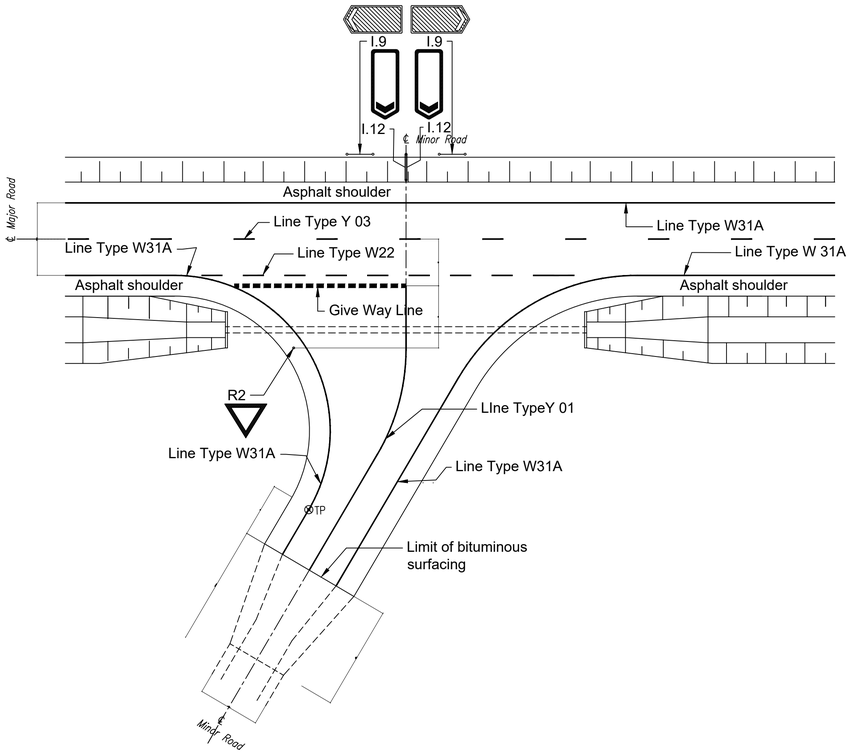
DRAWING TITLE:
STANDARD DRAWING - ROAD MARKING

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

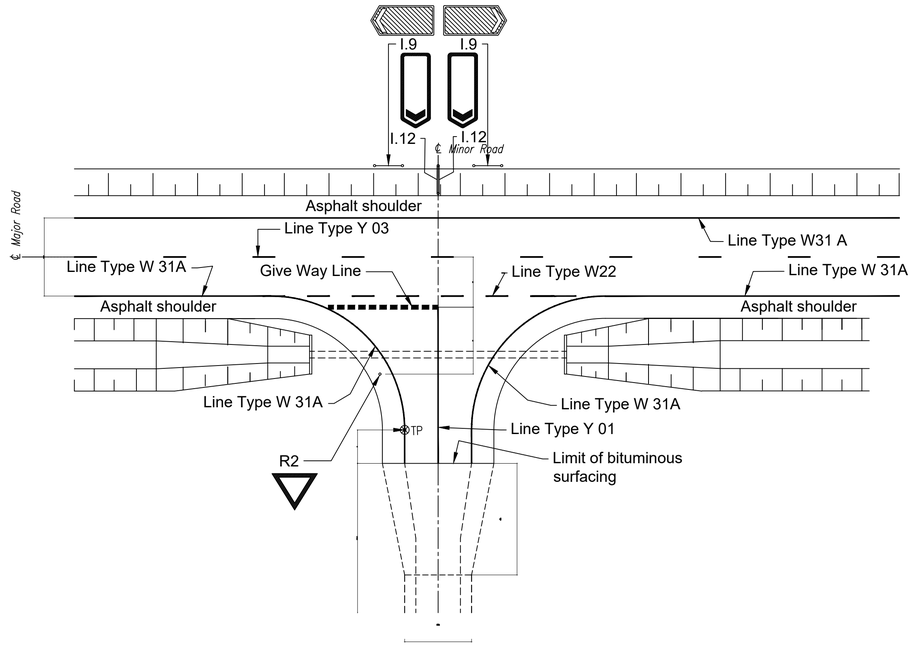
Drg No. CE1045/SD/MM/07

Scale: AS SHOWN

Date : MARCH 2025



ROAD MARKINGS AND SIGNS LAYOUT AT TYPE C1 JUNCTIONS
Scale 1:50



ROAD MARKINGS AND SIGNS MOUNTING AT TYPE C2 JUNCTIONS
Scale 1:50

NOTES:

1. Dimensions and road sign position details are in metres.
2. For layout details of road junction/access types, see Dwg. no. TYP-ALG-003.
3. For standard road marking Line Type details, see Dwg. no. TYP-ALG-006.
4. For road sign details, see Dwg. nos. TYP-SIG-005 - 006.
5. For sign board support and mounting details, see Dwg no. TYP-SIG-003.
6. Sign mounting details at junction type A1 are similar to those at junction type C2, unless otherwise specified by the Resident Engineer

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Kenya Rural Roads Authority
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DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
Runji Consulting Group Ltd
Engineering & Project Management.
3, Kindaruma Road (Off Ngong Road)
P. O. Box 68053-00200 Nairobi
Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

DRAWING TITLE:
STANDARD DRAWING - MISC MARKING ON JUNCTION

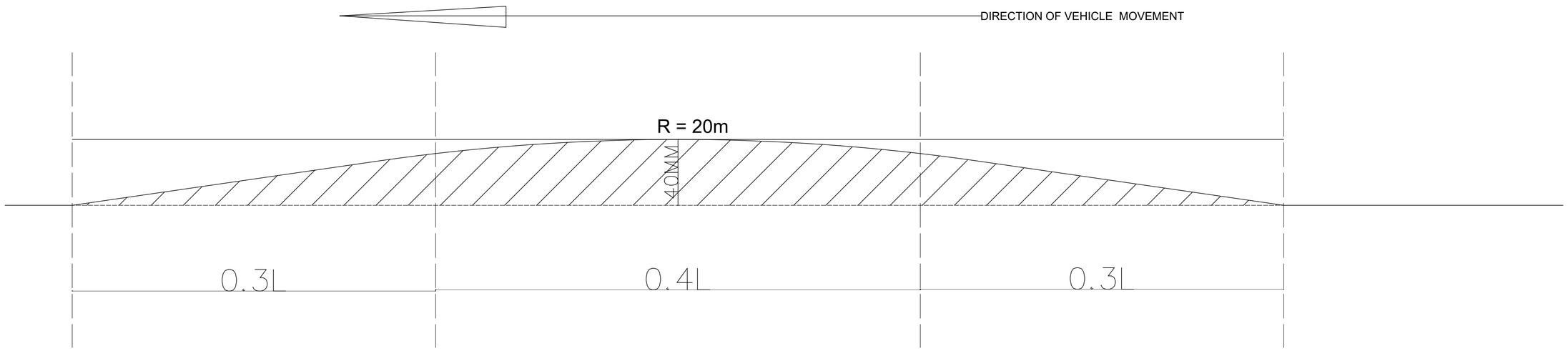
DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/SD/MM/08

Scale: AS SHOWN

Date : MARCH 2025

SPEED BUMPS DETAILS



NOTE

When	Middle	Slope	Respective Speed
L =	0.4 x L	0.3 x L	
5m	2.0m	1.5m	50kph
4m	1.6m	1.2m	40kph
3m	1.2m	0.9m	30kph

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DIRECTOR (PLANNING , DESIGN &ENVIRONMENT)	

Consultant:
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Tel. (020) 2717213/4

PROJECT TITLE:
FINAL DETAILED ENGINEERING DESIGN OF MIRERA - MALLE (ROAD) BATCH 2

DRAWING TITLE:
STANDARD DRAWING - STANDARD - BUMPS

DRAWN BY: S.W.O
DESIGNED BY: C.N.M
CHECKED BY: M.J.N

Drg No. CE1045/SD/MM/09

Scale: AS SHOWN

Date : MARCH 2025