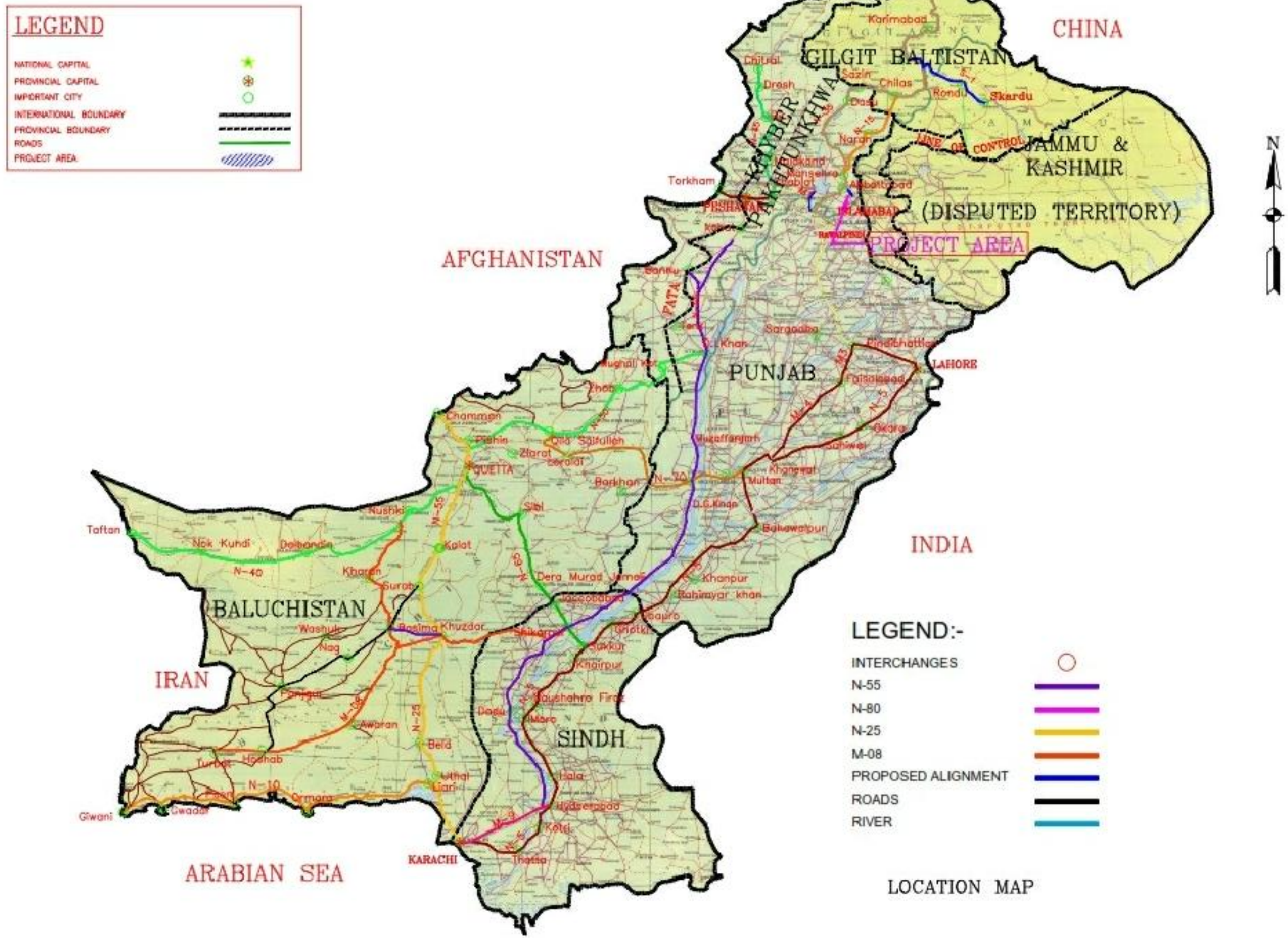


CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000	KEY MAP
					RECOMMNED			DATE: JANUARY 2022
					CHD./VER			DWG. NO 38164/102/TD/ RLP/LOT-01/KM
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DWG. NO
		REV	DATE	DESCRIPTION	APPROVED		DATE: JANUARY 2022	38164/102/TD/ RLP/LOT-01/01



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022
		REV	DATE	DESCRIPTION	APPROVED			DWG. NO 38164/102/TD/ RLP/LOT-01/02



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/03
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/04
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**
					RECOMMNED		
					CHD./VER		
		REV	DATE	DESCRIPTION	APPROVED		

TITLE:	
ROUTE LOCATION PLAN	
DATE: JANUARY 2022	DWG. NO 38164/102/TD/ RLP/LOT-01/05



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/06
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/07
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/08
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/09
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**
					RECOMMNED		
					CHD./VER		
		REV	DATE	DESCRIPTION	APPROVED		

TITLE:	ROUTE LOCATION PLAN
DATE: JANUARY 2022	DWG. NO 38164/102/TD/ RLP/LOT-01/10



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/11
					CHD./VER			
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**
					RECOMMNED		
					CHD./VER		
		REV	DATE	DESCRIPTION	APPROVED		

TITLE:	
ROUTE LOCATION PLAN	
DATE: JANUARY 2022	DWG. NO 38164/102/TD/ RLP/LOT-01/12



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/13
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/14
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER		DATE: JANUARY 2022	DWG. NO 38164/102/TD/ RLP/LOT-01/15
		REV	DATE	DESCRIPTION	APPROVED			



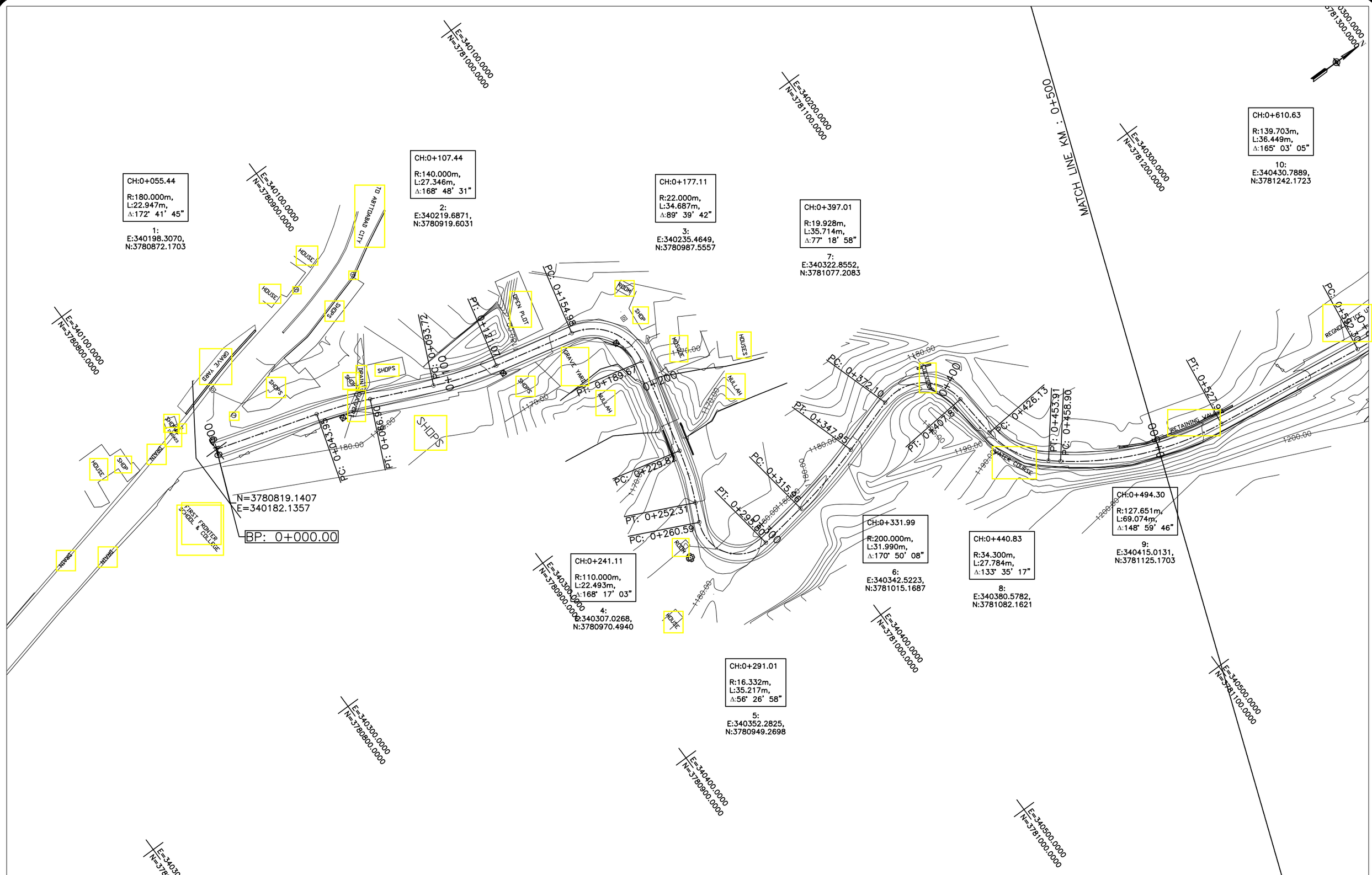
CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/16
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RLP/LOT-01/17
		REV	DATE	DESCRIPTION	APPROVED			



CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	ROUTE LOCATION PLAN
					RECOMMNED			
					CHD./VER			DWG. NO
		REV	DATE	DESCRIPTION	APPROVED		DATE: JANUARY 2022	38164/102/TD/ RLP/LOT-01/01



F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.			DRAWN	JUNAID KHAN
				SUBMITTED	NOSHERWAN NAEEM
				RECOMMENDED	
				CHD./VER.	
	REV.	DATE	DESCRIPTION	APPROVED	APPROVED

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 0+000 ~ KM: 0+500

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 01

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:0+610.63

R:139.703m,
L:36.449m,
Δ:165° 03' 05"

10:
E:340430.7889,
N:3781242.1723

CH:0+655.65

R:27.937m,
L:34.921m,
Δ:108° 22' 47"

11:
E:340425.0661,
N:3781287.0353

CH:0+705.81

R:86.133m,
L:26.858m,
Δ:162° 08' 02"

12:
E:340475.1512,
N:3781311.0848

CH:0+759.19

R:63.332m,
L:25.998m,
Δ:156° 28' 48"

13:
E:340514.0175,
N:3781347.9874

CH:0+884.39

R:280.833m,
L:41.397m,
Δ:171° 33' 15"

14:
E:340632.0163,
N:3781390.9249

CH:0+979.80

R:102.326m,
L:23.270m,
Δ:166° 58' 14"

15:
E:340725.5738,
N:3781410.0439

CH:1+028.72

R:147.173m,
L:58.616m,
Δ:157° 10' 49"

16:
E:340770.1470,
N:3781430.4315

CH:0+494.30

R:127.651m,
L:69.074m,
Δ:148° 59' 46"

9:
E:340415.0131,
N:3781125.1703

CH:0+440.83

R:34.300m,
L:27.784m,
Δ:133° 35' 17"

8:
E:340380.5782,
N:3781082.1621

CH:1+545.74

R:12.880m,
L:37.955m,
Δ:11° 09' 40"

MATCH LINE KM : 1+000

MATCH LINE :KM : 0+5

E=340300.0000 N=3781300.0000
E=340400.0000 N=3781400.0000
E=340500.0000 N=3781500.0000
E=340600.0000 N=3781600.0000
E=340300.0000 N=3781200.0000
E=340500.0000 N=3781400.0000
E=340600.0000 N=3781500.0000
E=340700.0000 N=3781500.0000
E=340500.0000 N=3781300.0000
E=340600.0000 N=3781300.0000
E=340500.0000 N=3781200.0000
E=340600.0000 N=3781200.0000
E=340700.0000 N=3781300.0000

PT: 0+628.76
PC: 0+635.44
PC: 0+692.28
PT: 0+719.13
PC: 0+746.00
PT: 0+772.00
PC: 0+852.30
PT: 0+527.07
PC: 0+426.13
PT: 0+453.91
PC: 0+458.90
PC: 0+965.12
PT: 0+991.39
PC: 0+999.00
PT: 1+027.63

REGULATORY UTILITY STORE
RETAINING WALL
PCC TRACK
STAIRS
HOUSE
RETAINING WALL
KUTCHA TRACK
TRACTOR TRACK
BOUNDARY WALL
PER COURSE

1190.00 1200.00 1210.00 1220.00 1230.00 1240.00

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 0+500 ~ KM: 1+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 02

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

E=340700.0000 N=3781600.0000

E=340800.0000 N=3781600.0000

E=340900.0000 N=3781600.0000

E=341000.0000 N=3781600.0000

E=341100.0000 N=3781500.0000

E=340700.0000 N=3781500.0000

E=341100.0000 N=3781300.0000

E=341000.0000 N=3781300.0000

E=340900.0000 N=3781300.0000

E=340800.0000 N=3781300.0000

E=340700.0000 N=3781300.0000

MATCH LINE KM : 1+500

MATCH LINE :KM : 1+000

CH:0+884.39
R:280.833m,
L:41.397m,
Δ:171° 33' 15"
14:
E:340632.0163,
N:3781390.9249

CH:0+979.80
R:102.326m,
L:23.270m,
Δ:166° 58' 14"
15:
E:340725.5738,
N:3781410.0439

CH:1+028.72
R:147.173m,
L:58.616m,
Δ:157° 10' 49"
16:
E:340770.1470,
N:3781430.4315

CH:1+100.81
R:95.726m,
L:48.104m,
Δ:151° 12' 29"
17:
E:340842.9916,
N:3781432.6692

CH:1+147.68
R:104.020m,
L:30.694m,
Δ:163° 05' 36"
18:
E:340884.2548,
N:3781457.0251

CH:1+207.79
R:100.757m,
L:30.459m,
Δ:162° 40' 47"
19:
E:340942.8792,
N:3781471.2564

CH:1+250.24
R:90.339m,
L:27.305m,
Δ:162° 40' 56"
20:
E:340985.4791,
N:3781468.5199

CH:1+329.79
R:16.144m,
L:40.074m,
Δ:37° 46' 31"
21:
E:341062.9910,
N:3781487.3324

CH:1+660.30
R:106.409m,
L:30.228m,
Δ:163° 43' 25"
27:
E:341168.5044,
N:3781397.5558

CH:1+624.43
R:118.385m,
L:19.443m,
Δ:170° 35' 24
26:
E:341132.681
N:3781394.997

CH:1+568.96
R:262.534m,
L:47.218m,
Δ:169° 41' 42"
25:
E:341078.6217,
N:3781382.0246

CH:1+497.51
R:541.511m,
L:38.047m,
Δ:175° 58' 28"
24:
E:341007.2633,
N:3781378.0481

CH:1+371.61
R:60.000m,
L:43.032m,
Δ:138° 54' 27"
22:
E:341003.0473,
N:3781412.1954

CH:1+545.74
R:12.880m,
L:37.955m,
Δ:11° 09' 40"
23:
E:340829.8249,
N:3781380.6375

PC: 0+863.69
PT: 0+905.05
PC: 0+968.19
PT: 0+991.39
PC: 1+076.24
PT: 1+124.34
PC: 1+132.22
PT: 1+162.92
PC: 1+192.44
PT: 1+222.90
PC: 1+236.48
PT: 1+263.79
PC: 1+282.61
PT: 1+322.68
PC: 1+349.72
PT: 1+392.11
PC: 1+454.26
PT: 1+478.46
PC: 1+545.29
PT: 1+645.08
PC: 1+614.68
PT: 1+634.11

RETAINING WALL
BOUNDARY WALL
UNDER CONSTRUCTION
CURASH PLANT AREA
POLITERY FARM
HOUSE
ROOM
MOSQUE
OPEN TRACK
T3

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 1+000 ~ KM: 1+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 03

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

CH:1+250.24
R:90.339m,
L:27.305m,
Δ:162° 40' 56"
20:
E:340985.4791,
N:3781468.5199

CH:1+329.79
R:16.144m,
L:40.074m,
Δ:37° 46' 31"
21:
E:341062.9910,
N:3781487.3324

CH:1+660.30
R:106.409m,
L:30.228m,
Δ:163° 43' 25"
27:
E:341168.5044,
N:3781397.5558

CH:1+792.46
R:47.965m,
L:32.593m,
Δ:141° 04' 00"
29:
E:341295.6055,
N:3781427.6047

CH:1+953.43
R:352.722m,
L:35.458m,
Δ:174° 14' 25"
31:
E:341447.0912,
N:3781455.4515

CH:2+020.29
R:49.053m,
L:41.983m,
Δ:130° 57' 44"
32:
E:341512.5292,
N:3781441.6074

CH:1+855.71
R:70.793m,
L:53.089m,
Δ:137° 02' 01"
30:
E:341347.3200,
N:3781466.2650

CH:1+750.98
R:86.567m,
L:34.015m,
Δ:157° 29' 12"
28:
E:341253.7151,
N:3781429.1792

CH:1+624.43
R:118.385m,
L:19.443m,
Δ:170° 35' 24"
26:
E:341132.6810,
N:3781394.9976

CH:1+568.96
R:262.534m,
L:47.218m,
Δ:169° 41' 42"
25:
E:341078.6217,
N:3781382.0246

CH:1+497.51
R:541.511m,
L:38.047m,
Δ:175° 58' 28"
24:
E:341007.2633,
N:3781378.0481

CH:2+214.59
R:166.137m,
L:46.316m,
Δ:164° 01' 37"
35:
E:341555.7316,
N:3781406.6499

CH:2+269.61
R:12.450m,
L:22.022m,
Δ:78° 39' 20"
36:
E:341519.6056,
N:3781364.7447

E=341200.0000
N=3781600.0000

E=341300.0000
N=3781600.0000

E=341400.0000
N=3781600.0000

E=341100.0000
N=3781500.0000

E=341200.0000
N=3781500.0000

E=341300.0000
N=3781500.0000

E=341400.0000
N=3781500.0000

E=341300.0000
N=3781400.0000

E=341400.0000
N=3781400.0000

E=341000.0000
N=3781300.0000

E=341100.0000
N=3781300.0000

E=341200.0000
N=3781300.0000

E=341300.0000
N=3781300.0000

E=341400.0000
N=3781300.0000

E=341500.0000
N=3781300.0000

MATCH LINE :KM : 1+500

MATCH LINE KM : 2+000

N

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 1+500 ~ KM: 2+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 04

MATCH LINE KM : 2+500

MATCH LINE :KM : 2+000

CH:1+855.71
R:70.793m,
L:53.089m,
Δ:137° 02' 01"
30:
E:341347.3200,
N:3781466.2650

CH:2+020.29
R:49.053m,
L:41.983m,
Δ:130° 57' 44"
32:
E:341512.5292,
N:3781441.6074

CH:2+072.18
R:168.359m,
L:31.209m,
Δ:169° 22' 44"
33:
E:341556.1284,
N:3781474.5721

CH:2+165.63
R:10.046m,
L:28.493m,
Δ:17° 29' 43"
34:
E:341619.0649,
N:3781543.7707

CH:2+575.24
R:100.861m,
L:33.614m,
Δ:160° 54' 19"
42:
E:341667.3948,
N:3781605.7527

CH:2+616.00
R:102.583m,
L:15.786m,
Δ:171° 10' 58"
43:
E:341665.4133,
N:3781646.7803

CH:2+214.59
R:166.137m,
L:46.316m,
Δ:164° 01' 37"
35:
E:341555.7316,
N:3781406.6499

CH:2+269.61
R:12.450m,
L:22.022m,
Δ:78° 39' 20"
36:
E:341519.6056,
N:3781364.7447

CH:2+289.96
R:12.431m,
L:20.418m,
Δ:85° 53' 21"
37:
E:341544.6220,
N:3781350.6373

CH:2+324.21
R:110.787m,
L:48.714m,
Δ:154° 48' 23"
38:
E:341561.9522,
N:3781387.2849

CH:2+380.77
R:107.653m,
L:40.659m,
Δ:158° 21' 37"
39:
E:341606.2122,
N:3781423.7666

CH:2+477.57
R:86.158m,
L:45.094m,
Δ:150° 00' 44"
40:
E:341653.1767,
N:3781508.9731

CH:2+521.74
R:95.956m,
L:29.232m,
Δ:162° 32' 43"
41:
E:341652.2888,
N:3781554.1934

E=341300.0000 N=3781400.0000
E=341400.0000 N=3781500.0000
E=341500.0000 N=3781600.0000
E=341600.0000 N=3781700.0000
E=341400.0000 N=3781400.0000
E=341700.0000 N=3781600.0000
E=341400.0000 N=3781300.0000
E=341500.0000 N=3781300.0000
E=341600.0000 N=3781300.0000
E=341700.0000 N=3781400.0000
E=341800.0000 N=3781600.0000

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 2+000 ~ KM: 2+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 05

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:2+072.18
R:168.359m,
L:31.209m,
Δ:169° 22' 44"
33:
E:341556.1284,
N:3781474.5721

CH:2+165.63
R:10.046m,
L:28.493m,
Δ:17° 29' 43"
34:
E:341619.0649,
N:3781543.7707

CH:2+575.24
R:100.861m,
L:33.614m,
Δ:160° 54' 19"
42:
E:341667.3948,
N:3781605.7527

CH:2+639.16
R:70.332m,
L:26.327m,
Δ:158° 33' 11"
44:
E:341660.7574,
N:3781669.4978

CH:2+672.09
R:125.056m,
L:14.791m,
Δ:173° 13' 25"
45:
E:341666.4527,
N:3781702.2494

CH:2+773.45
R:82.164m,
L:20.236m,
Δ:165° 53' 20"
47:
E:341657.3932,
N:3781799.3735

CH:2+808.82
R:121.587m,
L:18.336m,
Δ:171° 21' 34"
48:
E:341653.6079,
N:3781834.6494

CH:2+872.07
R:602.539m,
L:31.860m,
Δ:176° 58' 13"
50:
E:341658.6500,
N:3781897.7079

CH:3+020.50
R:120.245m,
L:26.218m,
Δ:167° 30' 26"
53:
E:341605.8177,
N:3782025.0975

CH:3+083.10
R:70.030m,
L:55.208m,
Δ:134° 49' 53"
54:
E:341552.4293,
N:3782057.9767

CH:2+962.84
R:79.693m,
L:18.691m,
Δ:166° 33' 43"
52:
E:341647.2776,
N:3781984.8926

CH:3+468.13
R:52.835m,
L:75.235m,
Δ:98° 24' 51"
61:
E:341703.0071,
N:3782087.5742

CH:2+521.74
R:95.956m,
L:29.232m,
Δ:162° 32' 43"
41:
E:341652.2888,
N:3781554.1934

CH:2+616.00
R:102.583m,
L:15.786m,
Δ:171° 10' 58"
43:
E:341665.4133,
N:3781646.7803

CH:2+713.89
R:53.915m,
L:34.701m,
Δ:143° 07' 23"
46:
E:341678.4276,
N:3781742.3132

CH:2+831.99
R:248.752m,
L:14.091m,
Δ:176° 45' 16"
49:
E:341654.6265,
N:3781857.8316

CH:2+936.59
R:34.314m,
L:21.065m,
Δ:144° 49' 32"
51:
E:341661.7257,
N:3781962.1633

CH:3+617.37
R:30.504m,
L:29.463m,
Δ:124° 39' 35"
63:
E:341858.1343,
N:3782097.0433

CH:3+790.43
R:16.249m,
L:28.783m,
Δ:78° 30' 20"
67:
E:341828.6604,
N:3781928.2648

CH:3+747.21
R:66.113m,
L:41.029m,
Δ:144° 26' 33"
66:
E:341853.2984,
N:3781965.4302

CH:3+684.30
R:89.688m,
L:26.457m,
Δ:163° 05' 54"
65:

MATCH LINE KM : 3+000

MATCH LINE :KM : 2+500

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NESPAK
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

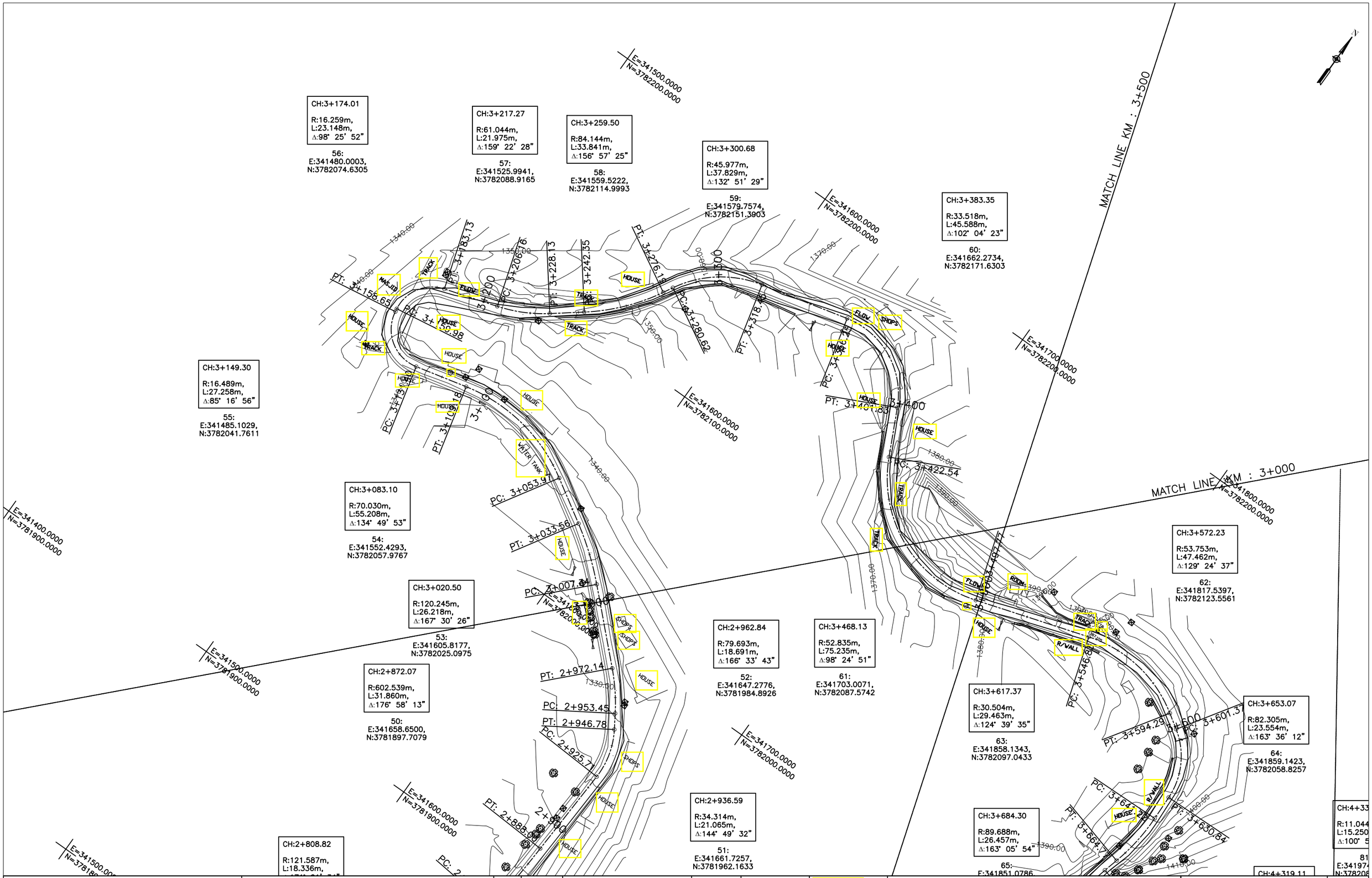
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 2+500 ~ KM: 3+000

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 06



F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NESPAK
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 3+000 ~ KM: 3+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 07

CH:3+383.35
R:33.518m,
L:45.588m,
Δ:102° 04' 23"
60:
E:341662.2734,
N:3782171.6303

E=341700.0000
N=3782200.0000

E=341800.0000
N=3782200.0000

CH:3+572.23
R:53.753m,
L:47.462m,
Δ:129° 24' 37"
62:
E:341817.5397,
N:3782123.5561

MATCH LINE : KM : 3+000

CH:3+853.07
R:82.305m,
L:23.554m,
Δ:163° 36' 12"
64:
E:341859.1423,
N:3782058.8257

R:199.302m,
L:32.231m,
Δ:170° 44' 03"
79:
E:342016.4442,
N:3782081.7576

CH:4+336.01
R:11.044m,
L:15.250m,
Δ:100° 52' 51"
81:
E:341974.3489,
N:3782081.5587

CH:4+319.11
R:11.428m,
L:18.675m,
Δ:86° 22' 15"
80:
E:341985.2947,
N:3782061.8131

CH:4+135.12
R:100.299m,
L:22.080m,
Δ:167° 23' 12"
75:
E:342091.3878,
N:3782098.3326

CH:4+106.09
R:32.879m,
L:16.758m,
Δ:150° 47' 49"
74:
E:342069.1388,
N:3782079.1135

CH:4+072.18
R:80.258m,
L:38.885m,
Δ:152° 14' 23"
73:
E:342035.1552,
N:3782072.1266

E=342100.0000
N=3782000.0000

CH:3+922.34
R:68.155m,
L:19.647m,
Δ:163° 29' 00"
70:
E:341911.2308,
N:3781989.0014

CH:4+009.36
R:239.734m,
L:22.476m,
Δ:174° 37' 42"
72:
E:341986.5848,
N:3782032.2617

CH:3+958.01
R:132.330m,
L:23.340m,
Δ:169° 53' 40"
71:
E:341943.9657,
N:3782003.5079

CH:3+887.91
R:23.130m,
L:27.073m,
Δ:112° 56' 12"
69:
E:341882.2928,
N:3781964.3583

CH:3+859.82
R:20.870m,
L:47.180m,
Δ:50° 28' 21"
68:
E:341903.1613,
N:3781898.0933

E=342000.0000
N=3781900.0000

CH:3+617.37
R:30.504m,
L:29.463m,
Δ:124° 39' 35"
63:
E:341858.1343,
N:3782097.0433

CH:3+468.13
R:52.835m,
L:75.235m,
Δ:98° 24' 51"
61:
E:341703.0071,
N:3782087.5742

CH:3+684.30
R:89.688m,
L:26.457m,
Δ:163° 05' 54"
65:
E:341851.0786,
N:3782028.4894

CH:3+747.21
R:66.113m,
L:41.029m,
Δ:144° 26' 33"
66:
E:341853.2984,
N:3781965.4302

CH:3+790.91
R:16.249m,
L:28.783m,
Δ:78° 30' 20"
67:
E:341828.6605,
N:3781928.2648

CH:2+962.84
R:79.693m,
L:18.691m,
Δ:166° 33' 43"
52:
E:341647.2776,
N:3781984.8926

CH:2+936.59
R:34.314m,
L:21.065m,
Δ:144° 49' 32"
51:
E:341661.7257,
N:3781962.1633

CH:2+831.99
R:248.752m,
L:14.091m,
Δ:176° 45' 16"

CH:3+020.50
R:120.245m,
L:26.218m,
Δ:167° 30' 26"
53:
E:341605.8177,
N:3782025.0975

CH:2+872.07
R:602.539m,
L:31.860m,
Δ:176° 58' 13"
50:
E:341658.6500,
N:3781897.7079

E=341600.0000
N=3782100.0000

E=341700.0000
N=3782000.0000

E=341700.0000
N=3781900.0000

MATCH LINE : KM : 3+500

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND
ENTERPRISE DEVELOPMENT
PROJECT
COMMUNICATION & WORKS (C&W)
DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 3+500 ~ KM: 4+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 08

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:3+922.34
R:68.155m,
L:19.647m,
Δ:163° 29' 00"
70:
E:341911.2306,
N:3781989.0014

CH:4+319.11
R:11.428m,
L:18.675m,
Δ:86° 22' 15"
80:
E:341985.2947,
N:3782061.8131

CH:4+336.01
R:11.044m,
L:15.250m,
Δ:100° 52' 51"
81:
E:341974.3489,
N:3782081.5587

CH:4+282.19
R:199.302m,
L:32.231m,
Δ:170° 44' 03"
79:
E:342016.4442,
N:3782081.7576

CH:4+416.02
R:56.253m,
L:38.457m,
Δ:140° 49' 50"
82:
E:342038.0428,
N:3782134.7818

CH:4+557.79
R:60.000m,
L:36.180m,
Δ:145° 27' 03"
84:
E:342046.6824,
N:3782277.3167

CH:4+613.03
R:32.087m,
L:23.968m,
Δ:137° 12' 08"
85:
E:342078.1583,
N:3782324.0970

CH:3+887.91
R:23.130m,
L:27.073m,
Δ:112° 56' 12"
69:
E:341882.2928,
N:3781964.3583

CH:3+958.01
R:132.330m,
L:23.340m,
Δ:169° 53' 40"
71:
E:341943.9657,
N:3782003.5079

CH:4+009.36
R:239.734m,
L:22.476m,
Δ:174° 37' 42"
72:
E:341986.5848,
N:3782032.2617

CH:4+072.18
R:80.258m,
L:38.885m,
Δ:152° 14' 23"
73:
E:342035.1552,
N:3782072.1266

CH:4+106.09
R:32.879m,
L:16.758m,
Δ:150° 47' 49"
74:
E:342069.1388,
N:3782079.1135

CH:4+135.12
R:100.299m,
L:22.080m,
Δ:167° 23' 12"
75:
E:342091.3878,
N:3782098.3326

CH:4+165.97
R:10.088m,
L:16.032m,
Δ:88° 56' 47"
76:
E:342118.6482,
N:3782112.9542

CH:4+182.42
R:10.139m,
L:16.470m,
Δ:86° 55' 24"
77:
E:342108.3955,
N:3782131.2531

CH:4+235.01
R:151.701m,
L:23.758m,
Δ:171° 01' 36"
78:
E:342059.8033,
N:3782100.4891

CH:4+465.18
R:181.198m,
L:56.568m,
Δ:168° 26' 14"
83:
E:342047.6774,
N:3782184.5879

CH:4+637.36
R:98.171m,
L:15.243m,
Δ:171° 06' 13"
86:
E:342102.9830,
N:3782329.9506

CH:4+713.19
R:87.406m,
L:29.260m,
Δ:160° 49' 10"
88:
E:342177.4852,
N:3782335.9645

CH:4+661.11
R:64.445m,
L:28.558m,
Δ:154° 36' 36"
87:
E:342125.0061,
N:3782338.9221

CH:4+759.07
R:46.893m,
L:27.140m,
Δ:146° 50' 21"
89:
E:342221.8600,
N:3782348.6509

MATCH LINE KM : 4+500

MATCH LINE :KM : 4+000

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

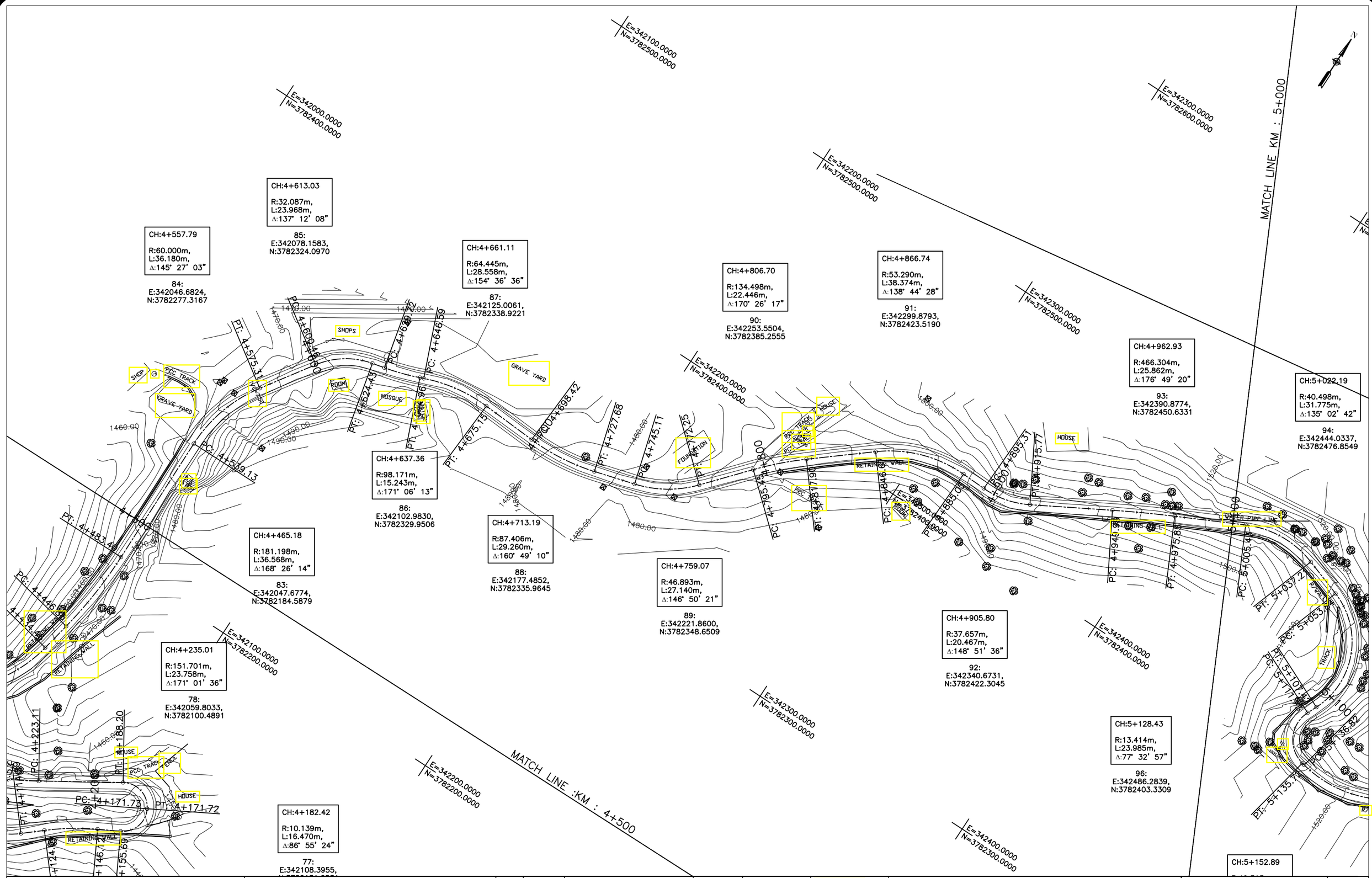
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 4+000 ~ KM: 4+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 09



F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	

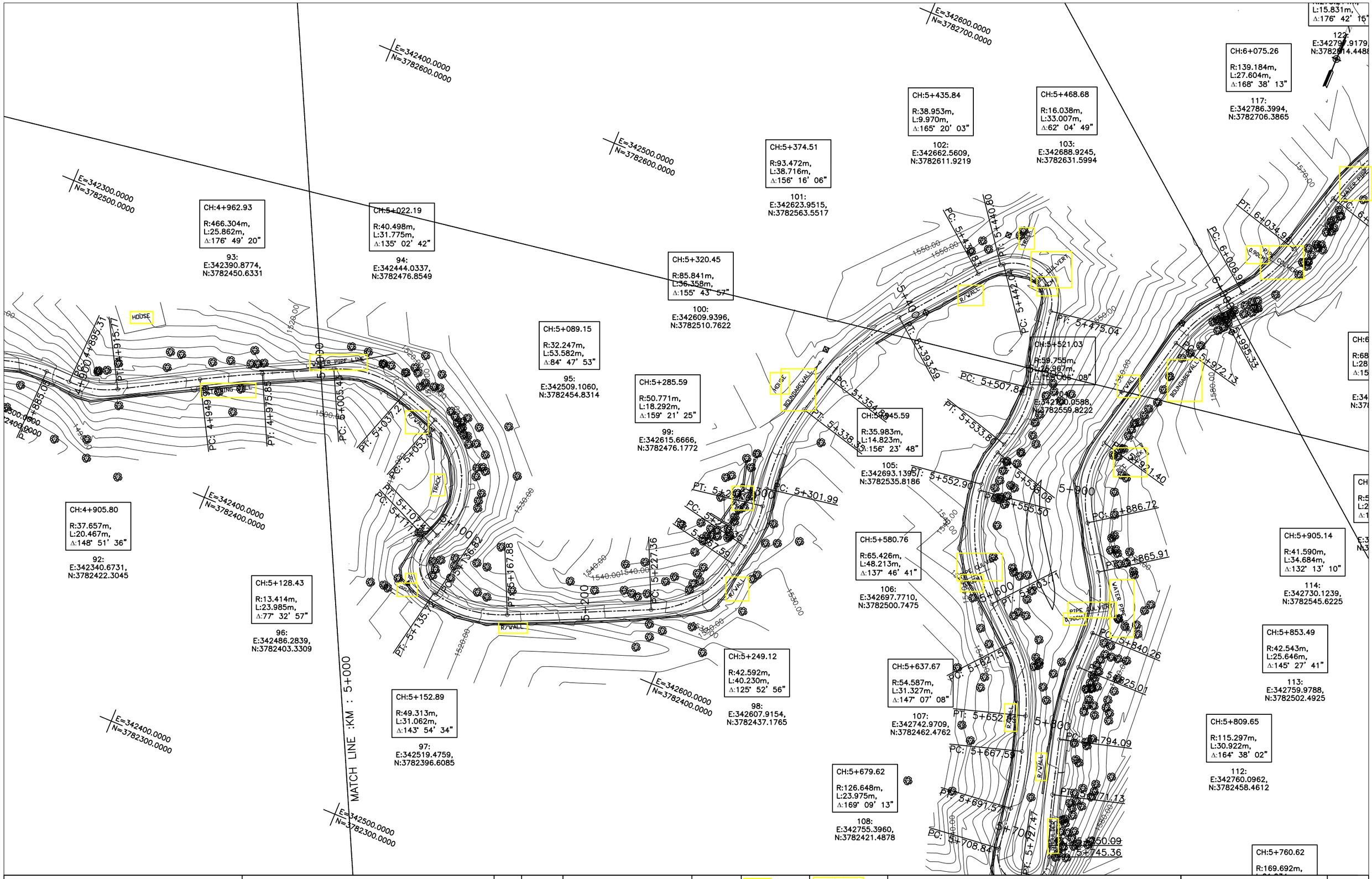
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 4+500 ~ KM: 5+000

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 10


E=342300.0000
N=3782500.0000
E=342400.0000
N=3782600.0000
E=342500.0000
N=3782600.0000
E=342600.0000
N=3782700.0000
E=342400.0000
N=3782400.0000
E=342600.0000
N=3782400.0000
E=342400.0000
N=3782300.0000
E=342500.0000
N=3782300.0000
CH:4+962.93
R:466.304m,
L:25.862m,
Δ:176° 49' 20"
93:
E:342390.8774,
N:3782450.6331
CH:5+022.19
R:40.498m,
L:31.775m,
Δ:135° 02' 42"
94:
E:342444.0337,
N:3782476.8549
CH:5+320.45
R:85.841m,
L:36.358m,
Δ:155° 43' 57"
100:
E:342609.9396,
N:3782510.7622
CH:5+374.51
R:93.472m,
L:38.716m,
Δ:156° 16' 06"
101:
E:342623.9515,
N:3782563.5517
CH:5+435.84
R:38.953m,
L:9.970m,
Δ:165° 20' 03"
102:
E:342662.5609,
N:3782611.9219
CH:5+468.68
R:16.038m,
L:33.007m,
Δ:62° 04' 49"
103:
E:342688.9245,
N:3782631.5994
CH:6+075.26
R:139.184m,
L:27.604m,
Δ:168° 38' 13"
117:
E:342786.3994,
N:3782706.3865
CH:5+089.15
R:32.247m,
L:53.582m,
Δ:84° 47' 53"
95:
E:342509.1060,
N:3782454.8314
CH:5+285.59
R:50.771m,
L:18.292m,
Δ:159° 21' 25"
99:
E:342615.6666,
N:3782476.1772
CH:5+445.59
R:35.983m,
L:14.823m,
Δ:156° 23' 48"
105:
E:342693.1395,
N:3782535.8186
CH:5+521.03
R:59.755m,
L:75.987m,
Δ:158° 06' 08"
E:342700.0588,
N:3782559.8222
CH:4+905.80
R:37.657m,
L:20.467m,
Δ:148° 51' 36"
92:
E:342340.6731,
N:3782422.3045
CH:5+128.43
R:13.414m,
L:23.985m,
Δ:77° 32' 57"
96:
E:342486.2839,
N:3782403.3309
CH:5+249.12
R:42.592m,
L:40.230m,
Δ:125° 52' 56"
98:
E:342607.9154,
N:3782437.1765
CH:5+152.89
R:49.313m,
L:31.062m,
Δ:143° 54' 34"
97:
E:342519.4759,
N:3782396.6085
CH:5+580.76
R:65.426m,
L:48.213m,
Δ:137° 46' 41"
106:
E:342697.7710,
N:3782500.7475
CH:5+637.67
R:54.587m,
L:31.327m,
Δ:147° 07' 08"
107:
E:342742.9709,
N:3782462.4762
CH:5+679.62
R:126.648m,
L:23.975m,
Δ:169° 09' 13"
108:
E:342755.3960,
N:3782421.4878
CH:5+905.14
R:41.590m,
L:34.684m,
Δ:132° 13' 10"
114:
E:342730.1239,
N:3782545.6225
CH:5+853.49
R:42.543m,
L:25.646m,
Δ:145° 27' 41"
113:
E:342759.9788,
N:3782502.4925
CH:5+809.65
R:115.297m,
L:30.922m,
Δ:164° 38' 02"
112:
E:342760.0962,
N:3782458.4612
CH:5+760.62
R:169.692m,
MATCH LINE :KM : 5+000
PC: 4+885.08
PT: 4+915.77
PC: 4+949
PT: 4+975.88
PC: 5+005.4
PT: 5+037.2
PC: 5+053.4
PT: 5+135.7
PC: 5+107.4
PT: 5+167.88
PC: 5+136.82
PT: 5+227.36
PC: 5+301.99
PT: 5+338.35
PC: 5+354.89
PT: 5+393.59
PC: 5+440.80
PT: 5+475.04
PC: 5+507.8
PT: 5+533.8
PC: 5+552.90
PT: 5+555.50
PC: 5+886.72
PT: 5+865.91
PC: 5+840.26
PT: 5+825.01
PC: 5+794.09
PT: 5+771.13
PC: 5+750.09
PT: 5+745.36
PC: 5+708.84
PT: 5+727.47
PC: 5+691.57
PT: 5+667.58
PC: 6+034.94
PC: 6+006.9
PT: 5+995.33
PT: 5+972.13
PC: 5+921.40
1570.00
1560.00
1550.00
1540.00
1530.00
1520.00
1500.00
1490.00
HOUSE
WATER PIPE LINE
R/WALL
TRACK
JUNCTION
BOUNDARY WALL
PIPE CULVERT
0.90m DIA
CHANNEL
KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.
REV.
DATE
DESCRIPTION
APPROVED
DRAWN
JUNAID KHAN
SUBMITTED
NOSHERWAN NAEEM
RECOMMENDED
CHD./VER.
APPROVED
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000
PLAN
KM: 5+000 ~ KM: 5+500
SCALE
1:1000
DATE
Janaury 2022
DWG NO.
4169/(ii)/TD/P 11
F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:5+249.12
R:42.592m,
L:40.230m,
Δ:125° 52' 56"
98:
E:342607.9154,
N:3782437.1765

CH:5+285.59
R:50.771m,
L:18.292m,
Δ:159° 21' 25"
99:
E:342615.6666,
N:3782476.1772

R:32.247m,
L:53.582m,
Δ:84° 47' 53"
95:
E:342509.1060,
N:3782454.8314

Δ:155° 43' 52"
100:
E:342609.9396,
N:3782510.7622

CH:5+545.58
R:55.983m,
L:15.823m,
Δ:156° 23' 48"
105:
E:342693.1395,
N:3782535.8186

CH:5+580.76
R:65.426m,
L:48.213m,
Δ:137° 46' 41"
106:
E:342697.7710,
N:3782500.7475

CH:5+637.67
R:54.587m,
L:31.327m,
Δ:147° 07' 08"
107:
E:342742.9709,
N:3782462.4762

CH:5+679.62
R:126.648m,
L:23.975m,
Δ:169° 09' 13"
108:
E:342755.3960,
N:3782421.4878

CH:5+721.46
R:10.795m,
L:18.638m,
Δ:81° 04' 47"
109:
E:342759.7898,
N:3782379.8051

CH:5+739.55
R:10.357m,
L:17.657m,
Δ:82° 19' 01"
110:
E:342783.6493,
N:3782386.1705

CH:5+760.62
R:169.692m,
L:21.034m,
Δ:172° 53' 53"
111:
E:342773.2197,
N:3782411.2003

CH:5+809.65
R:115.297m,
L:30.922m,
Δ:164° 38' 02"
112:
E:342760.0962,
N:3782458.4612

CH:5+853.49
R:42.543m,
L:25.646m,
Δ:145° 27' 41"
113:
E:342759.9788,
N:3782502.4925

CH:5+905.14
R:41.590m,
L:34.684m,
Δ:132° 13' 10"
114:
E:342730.1239,
N:3782545.6225

CH:5+983.93
R:51.861m,
L:23.200m,
Δ:154° 22' 06"
115:
E:342748.4570,
N:3782624.4701

CH:6+021.13
R:68.670m,
L:28.023m,
Δ:156° 37' 08"
116:
E:342771.9744,
N:3782653.8024

CH:6+125.99
R:312.571m,
L:25.727m,
Δ:175° 17' 03"
118:
E:342809.2355,
N:3782751.7846

CH:6+186.75
R:109.644m,
L:25.016m,
Δ:166° 55' 39
119:
E:342840.915
N:3782803.64

117:
E:342786.3994,
N:3782706.3865

E:342888.9243,
N:3782631.5994

E:342600.0000
N:3782400.0000

E:342600.0000
N:3782300.0000

E:342700.0000
N:3782300.0000

E:342900.0000
N:3782700.0000

E:342900.0000
N:3782600.0000

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 5+500 ~ KM: 6+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 12

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

101:
E:342623.9515,
N:3782563.5517

CH:5+435.84
R:38.953m,
L:9.970m,
Δ:165° 20' 03"

102:
E:342662.5609,
N:3782611.9219

CH:5+468.68
R:16.038m,
L:33.007m,
Δ:62° 04' 49"

103:
E:342688.9245,
N:3782631.5994

CH:6+399.65
R:14.126m,
L:39.212m,
Δ:20° 57' 05"

123:
E:342716.8412,
N:3782749.5047

CH:6+075.26
R:139.184m,
L:27.604m,
Δ:168° 38' 13"

117:
E:342786.3994,
N:3782706.3865

CH:6+295.77
R:275.214m,
L:15.831m,
Δ:176° 42' 15"

122:
E:342797.9179,
N:3782814.4488

CH:6+383.36
R:322.245m,
L:26.202m,
Δ:175° 20' 28"

124:
E:342766.0073,
N:3782833.4637

CH:6+457.23
R:339.129m,
L:28.769m,
Δ:175° 08' 22"

125:
E:342808.3978,
N:3782893.9767

CH:6+531.86
R:60.947m,
L:38.843m,
Δ:143° 29' 03"

126:
E:342845.8928,
N:3782958.5256

CH:6+243.33
R:15.394m,
L:17.912m,
Δ:113° 19' 51"

121:
E:342842.5714,
N:3782846.1820

CH:6+021.13
R:68.670m,
L:28.023m,
Δ:156° 37' 08"

116:
E:342771.9744,
N:3782653.8024

CH:6+125.99
R:312.571m,
L:25.727m,
Δ:175° 17' 03"

118:
E:342809.2355,
N:3782751.7846

CH:6+186.75
R:109.644m,
L:25.016m,
Δ:166° 55' 39"

119:
E:342840.9155,
N:3782803.6458

CH:6+224.87
R:15.142m,
L:27.279m,
Δ:76° 46' 40"

120:
E:342867.7074,
N:3782830.9174

CH:6+599.88
R:96.421m,
L:53.324m,
Δ:148° 18' 47"

127:
E:342909.6054,
N:3782986.0079

CH:5+905.14
R:41.590m,
L:34.684m,
Δ:132° 13' 10"

114:
E:342730.1239,
N:3782545.6225

CH:5+983.93
R:51.861m,
L:23.200m,
Δ:154° 22' 06"

115:
E:342748.4570,
N:3782624.4701

CH:5+853.49
R:42.543m,
L:25.646m,
Δ:145° 27' 41"

113:
E:342759.9788,
N:3782502.4925

CH:5+521.03
R:59.755m,
L:25.955m,
Δ:155° 06' 08"

104:
E:342700.0888,
N:3782559.9205

N=3782700.0000
E=342600.0000

N=3782900.0000
E=342700.0000

N=3783000.0000
E=342800.0000

N=3782900.0000
E=342900.0000

N=3782800.0000
E=342900.0000

N=3782700.0000
E=342900.0000

N=3782600.0000
E=342900.0000

N=3783000.0000
E=343000.0000

MATCH LINE KM 6+000

PC: 5+354.88
PT: 5+393.52
PC: 5+400.83
PT: 5+440.80
PC: 5+442.04
PT: 5+471.04
PC: 5+533.80
PT: 5+538.80
PC: 5+886.79
PT: 5+925.91
PC: 5+961.00
PT: 5+971.00
PC: 6+006.92
PT: 6+034.94
PC: 6+061.00
PT: 6+089.02
PC: 6+123.25
PT: 6+174.18
PC: 6+202.46
PT: 6+233.03
PC: 6+233.21
PT: 6+251.12
PC: 6+287.85
PT: 6+303.69
PC: 6+362.46
PT: 6+396.46
PC: 6+370.26
PT: 6+442.84
PC: 6+471.61
PC: 6+572.52
PT: 6+635.60
PC: 6+625.84

R/WALL
TRACK
CULVERT
BOUNDARE WALL
WATER PIPE LINE
PCC TRACK
1590.00
1600.00

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 6+000 ~ KM: 6+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 13

CH:6+457.23
R:339.129m,
L:28.769m,
Δ:175° 08' 22"
125:
E:342808.3978,
N:3782893.9767

CH:6+531.86
R:60.947m,
L:38.843m,
Δ:143° 29' 03"
126:
E:342845.8928,
N:3782958.5256

CH:6+655.70
R:265.883m,
L:35.035m,
Δ:172° 27' 01"
128:
E:342942.4130,
N:3783032.8961

CH:6+741.04
R:12.206m,
L:17.248m,
Δ:99° 02' 01"
130:
E:342941.1976,
N:3783087.6578

CH:6+793.47
R:33.599m,
L:22.781m,
Δ:141° 09' 08"
132:
E:342932.3963,
N:3783142.6139

CH:6+885.95
R:26.769m,
L:28.231m,
Δ:119° 34' 25"
134:
E:342935.9003,
N:3783228.9351

CH:6+961.87
R:311.206m,
L:23.373m,
Δ:175° 41' 49"
136:
E:342978.6283,
N:3783295.1335

CH:6+243.33
R:15.394m,
L:17.912m,
Δ:113° 19' 51"
121:
E:342842.5714,
N:3782846.1820

CH:6+224.87
R:15.142m,
L:27.279m,
Δ:76° 46' 40"
120:
E:342867.7074,
N:3782830.9174

CH:6+599.88
R:96.421m,
L:53.324m,
Δ:148° 18' 47"
127:
E:342909.6054,
N:3782986.0079

CH:6+723.47
R:16.744m,
L:37.033m,
Δ:53° 16' 34"
129:
E:342988.2563,
N:3783082.8726

CH:6+771.52
R:63.518m,
L:16.590m,
Δ:165° 02' 08"
131:
E:342939.2798,
N:3783121.6675

CH:6+852.70
R:25.169m,
L:22.479m,
Δ:128° 49' 37"
133:
E:342953.6111,
N:3783198.8888

CH:6+919.26
R:219.209m,
L:20.753m,
Δ:174° 34' 32"
135:
E:342953.9781,
N:3783260.3619

CH:7+043.64
R:211.373m,
L:40.374m,
Δ:169° 03' 21"
137:
E:343030.7990,
N:3783358.1150

MATCH LINE :KM : 6+500

MATCH LINE :KM : 7+000

E=342700.0000 N=3783400.0000
E=342800.0000 N=3783100.0000
E=342800.0000 N=3783200.0000
E=342800.0000 N=3783000.0000
E=342900.0000 N=3782800.0000
E=343000.0000 N=3783000.0000
E=343000.0000 N=3782900.0000
E=343100.0000 N=3783100.0000
E=343100.0000 N=3783200.0000
E=343100.0000 N=3783300.0000
E=343200.0000 N=3783400.0000

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 6+500 ~ KM: 7+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 14

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

MATCH LINE KM : 7+500

MATCH LINE :KM : 7+000

THANDIANI GALI

CH:7+099.16
R:199.013m,
L:15.026m,
Δ:175° 40' 27"
138:
E:343073.7823,
N:3783393.4462

CH:7+043.64
R:211.373m,
L:40.374m,
Δ:169° 03' 21"
137:
E:343030.7990,
N:3783358.1150

CH:7+139.56
R:114.177m,
L:23.723m,
Δ:168° 05' 43"
139:
E:343106.8453,
N:3783416.6776

CH:7+195.05
R:731.399m,
L:27.271m,
Δ:177° 51' 49"
140:
E:343144.7482,
N:3783457.3208

CH:7+274.15
R:180.013m,
L:41.437m,
Δ:166° 48' 40"
141:
E:343200.8165,
N:3783513.1193

CH:7+345.06
R:96.950m,
L:22.329m,
Δ:166° 48' 13"
142:
E:343261.3190,
N:3783550.4468

CH:7+371.55
R:140.356m,
L:15.203m,
Δ:173° 47' 38"
143:
E:343286.5421,
N:3783558.8748

CH:7+408.27
R:91.351m,
L:20.468m,
Δ:167° 09' 44"
144:
E:343319.9213,
N:3783574.2153

CH:7+444.69
R:167.527m,
L:18.534m,
Δ:173° 39' 40"
145:
E:343348.8744,
N:3783596.4480

CH:7+477.82
R:390.240m,
L:16.379m,
Δ:177° 35' 43"
146:
E:343372.7779,
N:3783619.4181

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT
PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

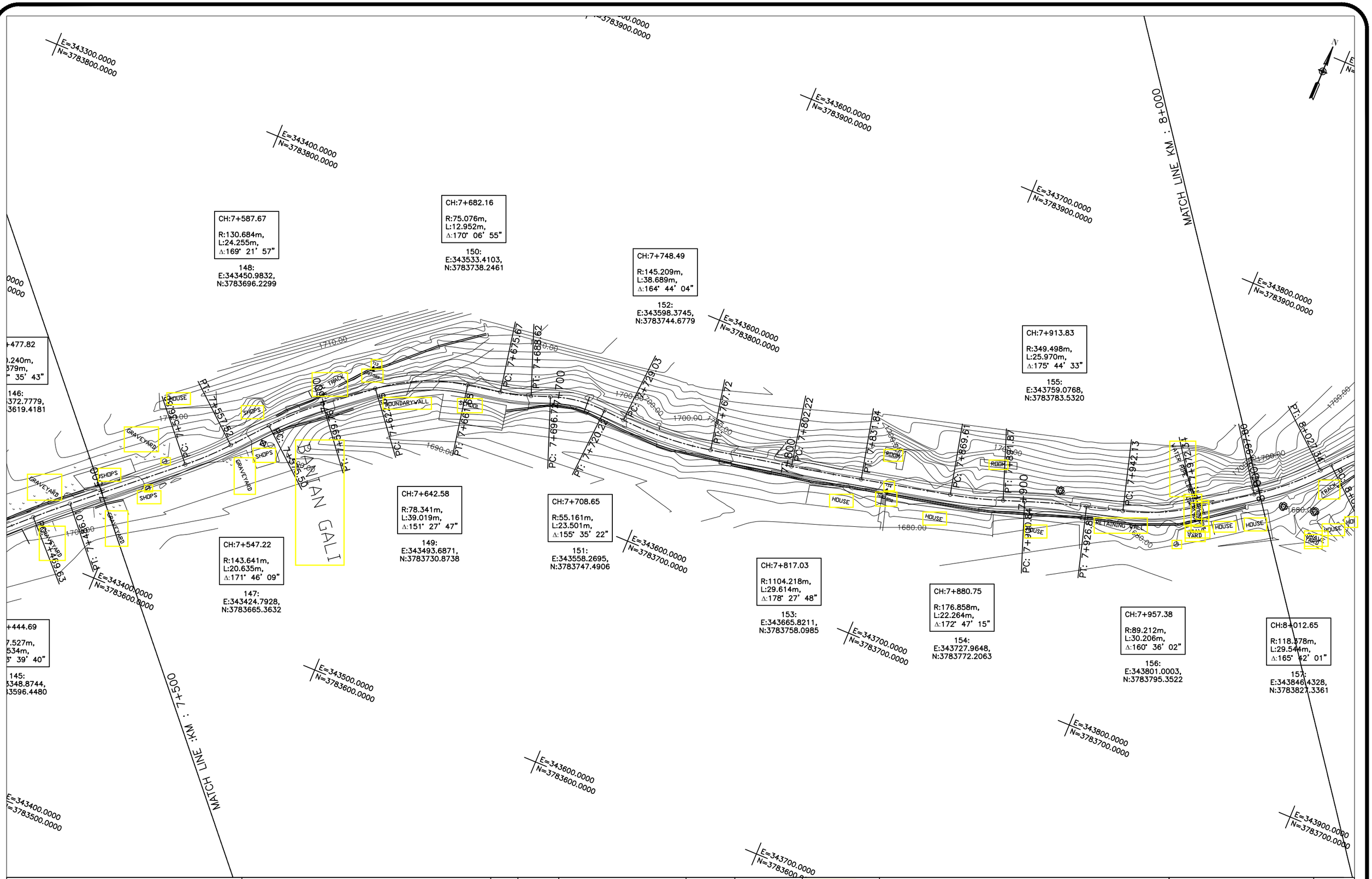
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 7+000 ~ KM: 7+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 15



KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 7+500 ~ KM: 8+000

SCALE
1:1000

DATE
January 2022

DWG NO.
4169/(ii)/TD/P 16

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:7+913.83

R:349.498m,
L:25.970m,
Δ:175° 44' 33"

155:
E:343759.0768,
N:3783783.5320

CH:8+012.65

R:118.378m,
L:29.544m,
Δ:165° 42' 01"

157:
E:343846.4328,
N:3783827.7361

CH:8+043.80

R:252.222m,
L:23.048m,
Δ:174° 45' 51"

158:
E:343866.7858,
N:3783851.1200

CH:8+070.52

R:246.516m,
L:18.099m,
Δ:175° 47' 37"

159:
E:343885.9544,
N:3783869.7665

CH:8+097.74

R:45.115m,
L:14.358m,
Δ:161° 45' 57"

160:
E:343904.0220,
N:3783890.1277

CH:8+126.59

R:16.738m,
L:20.144m,
Δ:111° 02' 33"

161:
E:343929.0710,
N:3783904.6956

CH:8+150.93

R:27.245m,
L:17.051m,
Δ:144° 08' 29"

162:
E:343924.7529,
N:3783931.5387

CH:8+189.47

R:51.232m,
L:42.605m,
Δ:132° 21' 11"

163:
E:343942.3387,
N:3783966.4737

CH:8+236.84

R:85.322m,
L:28.388m,
Δ:160° 56' 12"

164:
E:343990.4956,
N:3783979.9493

CH:8+268.12

R:893.545m,
L:31.532m,
Δ:177° 58' 41"

165:
E:344021.9836,
N:3783978.0619

CH:8+306.77

R:21.802m,
L:30.739m,
Δ:99° 13' 00"

166:
E:344060.4641,
N:3783974.3891

CH:8+358.65

R:195.336m,
L:26.634m,
Δ:172° 11' 16"

167:
E:344075.2129,
N:3784030.7333

CH:8+398.92

R:60.204m,
L:28.839m,
Δ:152° 33' 14"

168:
E:344080.0251,
N:3784070.7535

CH:8+494.53

R:97.606m,
L:97.164m,
Δ:122° 57' 51"

169:
E:344046.2040,
N:3784160.7833

MATCH LINE KM : 8+000

MATCH LINE KM : 8+500

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

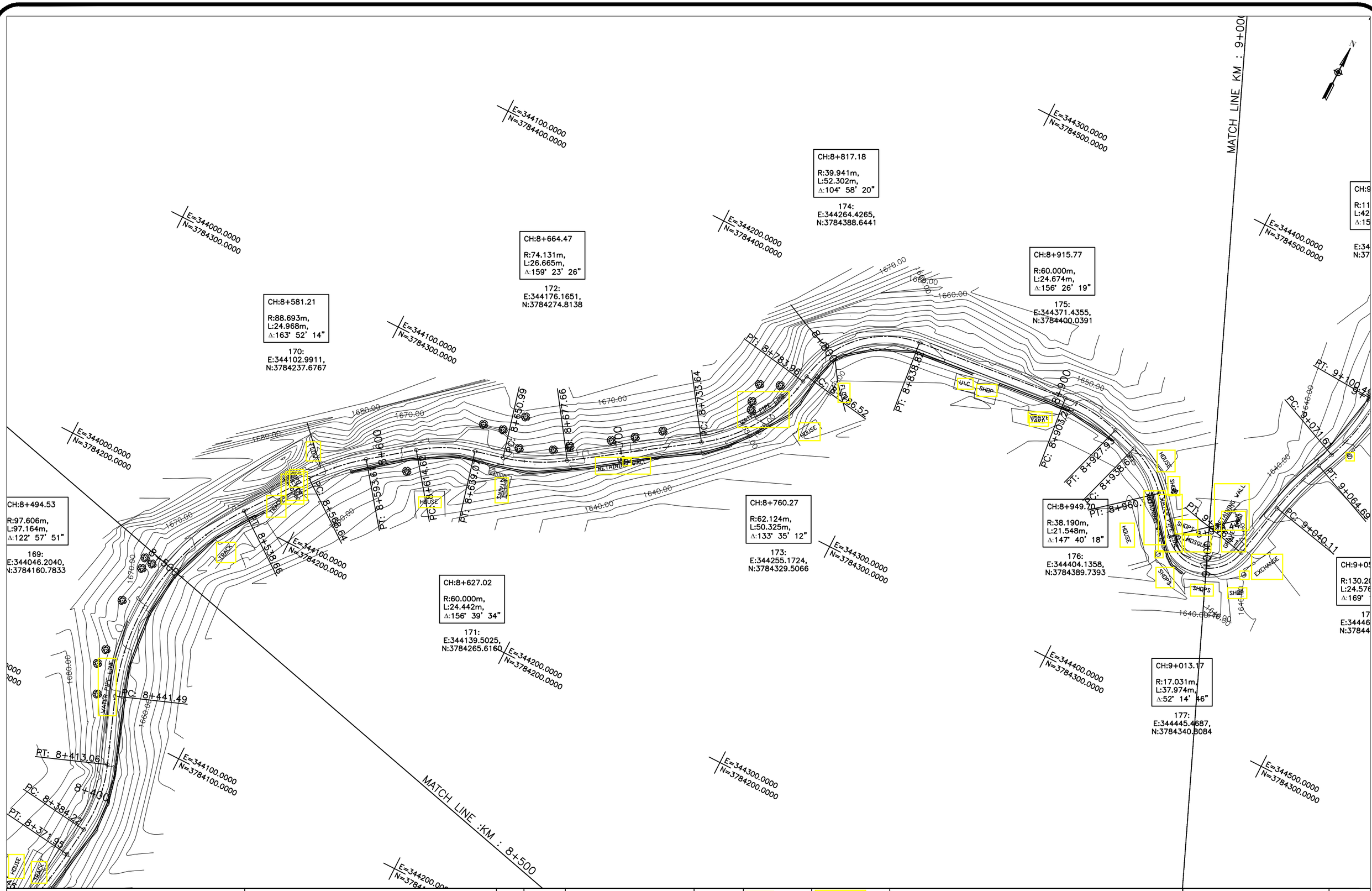
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 8+000 ~ KM: 8+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 17



F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 8+500 ~ KM: 9+000

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 18

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:8+915.77
R:60.000m,
L:24.674m,
Δ:156° 26' 19"
175:
E:344371.4355,
N:3784400.0391

CH:8+949.70
R:38.190m,
L:21.548m,
Δ:147° 40' 18"
176:
E:344404.1358,
N:3784389.7393

CH:9+013.17
R:17.031m,
L:37.974m,
Δ:52° 14' 46"
177:
E:344445.4687,
N:3784340.8084

CH:9+052.44
R:130.205m,
L:24.576m,
Δ:169° 11' 08"
178:
E:344460.2491,
N:3784410.0021

CH:9+086.20
R:83.491m,
L:28.879m,
Δ:160° 10' 53"
179:
E:344473.3992,
N:3784441.1752

CH:9+147.73
R:111.951m,
L:42.165m,
Δ:158° 25' 13"
180:
E:344476.6926,
N:3784502.9131

CH:9+194.20
R:29.188m,
L:21.764m,
Δ:137° 16' 36"
181:
E:344496.2704,
N:3784545.6093

CH:9+248.24
R:74.209m,
L:60.318m,
Δ:133° 25' 45"
182:
E:344547.1351,
N:3784566.8275

CH:9+355.08
R:19.459m,
L:36.738m,
Δ:71° 49' 45"
183:
E:344586.3124,
N:3784670.0407

CH:9+411.82
R:252.627m,
L:25.699m,
Δ:174° 10' 18"
184:
E:344643.6522,
N:3784623.6801

CH:9+467.58
R:87.395m,
L:29.976m,
Δ:160° 20' 52"
185:
E:344683.2431,
N:3784584.3854

CH:9+511.89
R:24.214m,
L:27.098m,
Δ:115° 52' 44"
186:
E:344723.6250,
N:3784565.4409

CH:9+556.59
R:90.880m,
L:37.130m,
Δ:156° 35' 29"
187:
E:344760.8807,
N:3784595.5975

CH:9+604
R:260.124
L:18.504m
Δ:175° 55
188:
E:344783.
N:3784638

MATCH LINE : KM 9+000

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND
ENTERPRISE DEVELOPMENT
PROJECT
COMMUNICATION & WORKS (C&W)
DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 9+000 ~ KM: 9+500

SCALE
1:1000

DATE
January 2022

DWG NO.
4169/(ii)/TD/P 19

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

CH:9+411.82
R:252.627m,
L:25.699m,
Δ:174° 10' 18"
184:
E:344643.6522,
N:3784623.6801

CH:9+652.48
R:114.299m,
L:28.520m,
Δ:165° 42' 13"
189:
E:344808.5510,
N:3784679.3399

CH:9+862.96
R:29.772m,
L:23.465m,
Δ:134° 50' 32"
194:
E:344939.4353,
N:3784837.3996

CH:9+891.36
R:24.803m,
L:18.453m,
Δ:137° 22' 17"
195:
E:344962.5343,
N:3784856.0568

CH:9+511.89
R:24.214m,
L:27.098m,
Δ:115° 52' 44"
186:
E:344723.6250,
N:3784565.4409

CH:9+556.59
R:90.880m,
L:37.130m,
Δ:156° 35' 29"
187:
E:344760.8807,
N:3784595.5975

CH:9+604.04
R:260.124m,
L:18.504m,
Δ:175° 55' 28"
188:
E:344783.1109,
N:3784638.1144

CH:9+699.66
R:289.679m,
L:26.996m,
Δ:174° 39' 38"
190:
E:344842.5887,
N:3784712.2384

CH:9+731.82
R:108.785m,
L:22.065m,
Δ:168° 22' 44"
191:
E:344863.5436,
N:3784736.6563

CH:9+774.50
R:93.423m,
L:18.542m,
Δ:168° 37' 42"
192:
E:344897.3502,
N:3784762.8259

CH:9+834.07
R:38.330m,
L:23.395m,
Δ:145° 01' 45"
193:
E:344936.3802,
N:3784807.9069

CH:9+922.53
R:50.248m,
L:35.052m,
Δ:140° 01' 54"
196:
E:344967.2435,
N:3784887.7815

CH:10+014.73
R:347.201m,
L:51.579m,
Δ:171° 29' 18"
197:
E:345037.3221,
N:3784949.9744

MATCH LINE KM : 10+000

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND
ENTERPRISE DEVELOPMENT
PROJECT
COMMUNICATION & WORKS (C&W)
DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 9+500 ~ KM: 10+000

SCALE
1:1000

DATE
January 2022

DWG NO.
4169/(ii)/TD/P 20

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

MATCH LINE KM : 10+500

MATCH LINE :KM : 10+000

E=344900.0000 N=3785000.0000

E=345000.0000 N=3785000.0000

E=345000.0000 N=3785100.0000

E=345000.0000 N=3785200.0000

E=345100.0000 N=3785200.0000

E=345100.0000 N=3785300.0000

E=345200.0000 N=3785300.0000

E=345200.0000 N=3785400.0000

E=345100.0000 N=3784900.0000

E=345200.0000 N=3785000.0000

E=345300.0000 N=3785100.0000

E=345400.0000 N=3785200.0000

PC: 9+988.90

PT: 10+040.47

CH:10+014.73
R:347.201m,
L:51.579m,
Δ:171° 29' 18"
197:
E:345037.3221,
N:3784949.9744

CH:10+105.00
R:395.060m,
L:41.373m,
Δ:173° 59' 59"
198:
E:345095.2855,
N:3785019.2975

CH:10+167.57
R:28.580m,
L:29.808m,
Δ:120° 14' 31"
199:
E:345140.2493,
N:3785062.8698

CH:10+208.13
R:54.142m,
L:42.181m,
Δ:135° 21' 42"
200:
E:345129.8091,
N:3785105.1911

CH:10+242.32
R:416.753m,
L:14.066m,
Δ:178° 03' 58"
201:
E:345148.4693,
N:3785136.5178

CH:10+288.14
R:60.000m,
L:22.611m,
Δ:158° 24' 28"
202:
E:345173.2333,
N:3785175.0699

CH:10+334.27
R:36.423m,
L:42.481m,
Δ:113° 10' 26"
203:
E:345182.1848,
N:3785220.6020

CH:10+399.40
R:30.860m,
L:29.261m,
Δ:125° 40' 18"
204:
E:345251.3251,
N:3785235.3631

CH:10+462.84
R:49.868m,
L:30.483m,
Δ:144° 58' 35"
205:
E:345277.7094,
N:3785295.6963

CH:10+494.17
R:32.106m,
L:22.450m,
Δ:139° 56' 13"
206:
E:345305.3060,
N:3785312.5125

CH:10+521.67
R:110.838m,
L:21.672m,
Δ:168° 47' 49"
207:
E:345314.3746,
N:3785339.4897

PC: 10+276.70
PT: 10+289.15
PT: 10+310.25
PC: 10+352.73
PC: 10+385.26
PT: 10+447.28
PC: 10+447.56
PT: 10+482.75
PC: 10+506.50
PT: 10+532.47

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 10+000 ~ KM: 10+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 21

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

MATCH LINE KM : 11+000

MATCH LINE :KM : 10+500

CH:10+462.84
R:49.868m,
L:30.483m,
Δ:144° 58' 35"
205:
E:345277.7094,
N:3785295.6963

CH:10+494.17
R:32.106m,
L:22.450m,
Δ:139° 56' 13"
206:
E:345305.3060,
N:3785312.5125

CH:10+521.67
R:110.838m,
L:21.672m,
Δ:168° 47' 49"
207:
E:345314.3746,
N:3785339.4897

CH:10+555.88
R:118.843m,
L:20.045m,
Δ:170° 20' 09"
208:
E:345331.4018,
N:3785369.2405

CH:10+587.78
R:32.578m,
L:21.667m,
Δ:141° 53' 39"
209:
E:345351.7034,
N:3785393.9141

CH:10+619.03
R:20.397m,
L:20.900m,
Δ:121° 17' 34"
210:
E:345383.0378,
N:3785400.8300

CH:10+663.09
R:103.536m,
L:18.638m,
Δ:169° 41' 10"
211:
E:345397.9274,
N:3785444.4522

CH:10+684.05
R:31.479m,
L:15.936m,
Δ:150° 59' 42"
212:
E:345401.0459,
N:3785465.2382

CH:10+724.17
R:51.916m,
L:22.446m,
Δ:155° 13' 42"
213:
E:345386.8914,
N:3785503.1514

CH:10+753.19
R:500.407m,
L:27.811m,
Δ:176° 48' 56"
214:
E:345389.0937,
N:3785532.4469

CH:10+791.69
R:18.523m,
L:31.803m,
Δ:81° 37' 36"
215:
E:345389.8426,
N:3785570.9368

CH:10+822.10
R:114.993m,
L:27.637m,
Δ:166° 13' 47"
216:
E:345430.7852,
N:3785564.0941

CH:10+864.80
R:66.304m,
L:34.709m,
Δ:150° 00' 24"
217:
E:345473.5012,
N:3785567.2926

CH:10+910.91
R:71.648m,
L:21.347m,
Δ:162° 55' 44"
218:
E:345512.2731,
N:3785593.7166

CH:10+939.92
R:127.833m,
L:10.270m,
Δ:175° 23' 49"
219:
E:345530.4945,
N:3785616.4984

CH:10+967.06
R:24.698m,
L:21.941m,
Δ:129° 06' 03"
220:
E:345549.0969,
N:3785636.2687

CH:10+999.71
R:56.431m,
L:27.204m,
Δ:152° 22' 44"
221:
E:345544.5467,
N:3785670.1794

CH:11+039.70
R:17.757m,
L:28.481m,
Δ:88° 06' 09"
222:
E:345558.3936,
N:3785708.2676

CH:11+061.91
R:14.696m,
L:18.538m,
Δ:107° 43' 35"
223:
E:345586.6425,
N:3785696.9253

E=345200.0000
N=3785500.0000

E=345200.0000
N=3785400.0000

E=345300.0000
N=3785600.0000

E=345400.0000
N=3785700.0000

E=345400.0000
N=3785500.0000

E=345400.0000
N=3785300.0000

E=345500.0000
N=3785500.0000

E=345500.0000
N=3785400.0000

E=345600.0000
N=3785600.0000

E=345600.0000
N=3785500

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED
			CHD./VER.
			APPROVED

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 10+500 ~ KM: 11+000

SCALE: 1:1000

DATE: Janury 2022

DWG NO.: 4169/(ii)/TD/P 22

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI – Center – Package 1.dwg

CH:10+967.06
:24.698m,
:21.941m,
:129° 06' 03"
220:
:345549.0969,
:3785636.2687

CH:11+039.70
R:17.757m,
L:28.481m,
Δ:88° 06' 09"
222:
E:345558.3936,
N:3785708.2676

CH:11+090.45
R:90.044m,
L:18.374m,
Δ:168° 18' 31"
224:
E:345606.6991,
N:3785721.1674

CH:11+177.78
R:25.776m,
L:23.529m,
Δ:127° 41' 58"
226:
E:345661.8974,
N:3785787.3071

CH:11+330.20
R:18.617m,
L:21.643m,
Δ:113° 23' 19"
230:
E:345733.5970,
N:3785890.4825

CH:11+355.83
R:66.985m,
L:14.134m,
Δ:167° 54' 39"
231:
E:345761.8003,
N:3785886.7328

CH:11+374.55
R:84.763m,
L:18.017m,
Δ:167° 49' 16"
232:
E:345780.5157,
N:3785888.2109

CH:11+465.78
R:35.053m,
L:30.155m,
Δ:130° 42' 39"
235:
E:345854.3916,
N:3785923.6991

CH:11+532.81
R:39.774m,
L:17.351m,
Δ:155° 00' 19"
238:
E:345911.8845,
N:3785957.1878

CH:10+939.92
R:127.833m,
L:10.270m,
Δ:175° 23' 49"
219:
E:345530.4945,
N:3785616.4984

CH:10+999.71
R:56.431m,
L:27.204m,
Δ:152° 22' 44"
221:
E:345544.5467,
N:3785670.1794

CH:11+061.91
R:14.696m,
L:18.538m,
Δ:107° 43' 35"
223:
E:345586.6425,
N:3785696.9253

CH:11+131.12
R:60.000m,
L:22.377m,
Δ:158° 37' 55"
225:
E:345638.4895,
N:3785746.6419

CH:11+207.89
R:56.569m,
L:27.376m,
Δ:152° 16' 19"
227:
E:345693.5001,
N:3785791.6214

CH:11+264.60
R:22.269m,
L:31.203m,
Δ:99° 43' 04"
228:
E:345740.1079,
N:3785824.8685

CH:11+305.28
R:24.563m,
L:24.327m,
Δ:123° 15' 15"
229:
E:345719.6452,
N:3785867.2278

CH:11+394.78
R:37.396m,
L:14.341m,
Δ:158° 01' 40"
233:
E:345800.6320,
N:3785885.5044

CH:11+435.06
R:18.748m,
L:15.833m,
Δ:131° 36' 43"
234:
E:345839.8375,
N:3785895.5044

CH:11+494.96
R:20.476m,
L:15.712m,
Δ:136° 02' 07"
236:
E:345884.7274,
N:3785930.9307

CH:11+515.54
R:32.297m,
L:16.671m,
Δ:150° 25' 33"
237:
E:345896.2653,
N:3785948.9532

E=345500.0000 N=3785800.0000
E=345600.0000 N=3785900.0000
E=345700.0000 N=3786000.0000
E=345800.0000 N=3786100.0000
E=345500.0000 N=3785700.0000
E=345600.0000 N=3785800.0000
E=345700.0000 N=3785700.0000
E=345800.0000 N=3785800.0000
E=345600.0000 N=3785600.0000
E=345800.0000 N=3785700.0000
E=345900.0000 N=3785800.0000

MATCH LINE :KM : 11+000
MATCH LINE KM : 11+500

PC: 10+934.65
PT: 10+945.05
PC: 10+958.31
PT: 10+985.84
PC: 11+040.82
PT: 11+081.85
PC: 11+099.60
PT: 11+165.12
PC: 11+188.65
PT: 11+193.93
PC: 11+200.00
PT: 11+221.31
PC: 11+292.02
PT: 11+277.02
PC: 11+316.45
PT: 11+339.67
PC: 11+348.74
PT: 11+365.51
PC: 11+362.87
PT: 11+387.52
PC: 11+400.00
PT: 11+478.47
PC: 11+502.00
PT: 11+541.35

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 11+000 ~ KM: 11+500

SCALE: 1:1000

DATE: Janury 2022

DWG NO.: 4169/(ii)/TD/P 23

CH:11+374.55
763m,
017m,
° 49' 16"

232:
780.5157,
5888.2109

CH:11+465.78
R:35.053m,
L:30.155m,
Δ:130° 42' 39"

235:
E:345854.3916,
N:3785923.6991

CH:11+532.81
R:39.774m,
L:17.351m,
Δ:155° 00' 19"

238:
E:345911.8845,
N:3785957.1878

CH:11+594.86
R:24.034m,
L:14.298m,
Δ:145° 54' 45"

240:
E:345962.4072,
N:3785991.3651

CH:11+642.21
R:19.334m,
L:12.160m,
Δ:143° 57' 42"

242:
E:345980.6949,
N:3786034.8940

CH:11+692.10
R:37.995m,
L:15.952m,
Δ:155° 56' 42"

244:
E:346008.6615,
N:3786075.7840

CH:11+724.89
R:24.145m,
L:22.883m,
Δ:125° 42' 00"

245:
E:346032.7832,
N:3786098.3474

CH:11+861.91
R:189.276m,
L:36.963m,
Δ:168° 48' 39"

248:
E:346106.4928,
N:3786161.5890

CH:11+976.28
R:150.220m,
L:27.373m,
Δ:169° 33' 35"

251:
E:346129.5864,
N:3786273.3300

CH:12+023.38
R:126.090m,
L:50.564m,
Δ:157° 01' 25"

252:
E:346135.4141,
N:3786320.1490

CH:11+494.96
R:20.476m,
L:15.712m,
Δ:136° 02' 07"

236:
E:345884.7274,
N:3785930.9307

CH:11+515.54
R:32.297m,
L:16.671m,
Δ:150° 25' 33"

237:
E:345896.2653,
N:3785948.9532

CH:11+555.16
R:46.894m,
L:23.831m,
Δ:150° 52' 59"

239:
E:345925.5690,
N:3785975.2122

CH:11+620.85
R:53.227m,
L:19.550m,
Δ:158° 57' 20"

241:
E:345976.5060,
N:3786013.7223

CH:11+665.76
R:56.922m,
L:24.214m,
Δ:155° 37' 37"

243:
E:345998.2836,
N:3786051.1643

CH:11+792.29
R:17.489m,
L:27.633m,
Δ:89° 28' 09"

246:
E:346100.7364,
N:3786084.8780

CH:11+821.69
R:90.078m,
L:19.282m,
Δ:167° 44' 08"

247:
E:346107.6066,
N:3786121.3045

CH:11+929.89
R:76.864m,
L:18.026m,
Δ:166° 33' 46"

250:
E:346115.5856,
N:3786229.0213

E=345800.0000
N=3786000.0000

E=345900.0000
N=3786100.0000

E=345900.0000
N=3786200.0000

E=346000.0000
N=3786200.0000

E=346000.0000
N=3786300.0000

E=346000.0000
N=3785900.0000

E=346100.0000
N=3786000.0000

E=346200.0000
N=3786100.0000

E=346200.0000
N=3786200.0000

E=346200.0000
N=3786300.0000

E=346300.0000
N=3786200.0000

MATCH LINE :KM : 11+500

MATCH LINE :KM : 12+000

R/WALL

SHED

SHOPS

WATER PIPE LINE

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 11+500 ~ KM: 12+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 24

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

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CH:11+976.28

R:150.220m,
L:27.373m,
Δ:169° 33' 35"

251:
E:346129.5864,
N:3786273.3300

CH:12+023.38

R:126.090m,
L:50.564m,
Δ:157° 01' 25"

252:
E:346135.4141,
N:3786320.1490

CH:12+136.91

R:334.681m,
L:19.170m,
Δ:176° 43' 05"

254:
E:346191.0346,
N:3786419.8680

CH:12+187.75

R:47.768m,
L:11.829m,
Δ:165° 48' 40"

256:
E:346206.5206,
N:3786467.0833

CH:12+250.73

R:152.388m,
L:41.901m,
Δ:164° 14' 45"

258:
E:346217.5830,
N:3786528.9830

CH:12+325.20

R:70.191m,
L:31.947m,
Δ:153° 55' 19"

259:
E:346205.1099,
N:3786602.6679

CH:12+370.66

R:35.831m,
L:12.244m,
Δ:160° 25' 17"

260:
E:346178.2580,
N:3786640.0559

CH:12+392.47

R:19.754m,
L:24.832m,
Δ:107° 58' 23"

261:
E:346172.1751,
N:3786661.1206

CH:12+431.34

R:68.744m,
L:23.547m,
Δ:160° 22' 28"

262:
E:346207.5919,
N:3786685.0818

CH:12+464.77

R:27.452m,
L:24.081m,
Δ:129° 44' 22"

263:
E:346227.5139,
N:3786712.2082

CH:12+108.97

R:319.535m,
L:20.979m,
Δ:176° 14' 18"

253:
E:346178.6474,
N:3786394.8152

CH:12+167.00

R:30.780m,
L:14.980m,
Δ:152° 06' 56"

255:
E:346205.8931,
N:3786446.0323

CH:12+213.51

R:158.902m,
L:27.040m,
Δ:170° 15' 00"

257:
E:346213.5906,
N:3786491.9090

CH:12+505.69

R:22.583m,
L:26.079m,
Δ:113° 50' 05"

264:
E:346270.0277,
N:3786714.7678

CH:12+550.29

R:78.325m,
L:34.447m,
Δ:154° 48' 06"

265:
E:346286.7334,
N:3786759.7137

MATCH LINE :KM : 12+000

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND
ENTERPRISE DEVELOPMENT
PROJECT
COMMUNICATION & WORKS (C&W)
DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 12+000 ~ KM: 12+500

SCALE 1:1000

DATE: January 2022

DWG NO. 4169/(ii)/TD/P 25

CH:12+431.34
R:68.744m,
L:23.547m,
Δ:160° 22' 28"
262:
E:346207.5919,
N:3786685.0818

CH:12+464.77
R:27.452m,
L:24.081m,
Δ:129° 44' 22"
263:
E:346227.5139,
N:3786712.2082

CH:12+621.70
R:76.440m,
L:26.416m,
Δ:160° 12' 00"
267:
E:346292.2298,
N:3786830.9446

CH:12+671.79
R:149.752m,
L:10.772m,
Δ:175° 52' 42"
269:
E:346319.1446,
N:3786873.4603

CH:12+799.58
R:102.269m,
L:17.439m,
Δ:170° 13' 47"
272:
E:346363.0209,
N:3786990.9791

CH:12+865.51
R:53.561m,
L:16.020m,
Δ:162° 51' 45"
274:
E:346366.5084,
N:3787056.3823

CH:12+906.58
R:20.650m,
L:14.701m,
Δ:139° 12' 38"
276:
E:346351.6422,
N:3787087.5403

CH:12+956.74
R:44.605m,
L:29.437m,
Δ:142° 11' 16"
278:
E:346325.7456,
N:3787131.2478

CH:12+989.48
R:17.211m,
L:17.792m,
Δ:120° 46' 08"
279:
E:346329.5253,
N:3787164.8961

CH:12+550.29
R:78.325m,
L:34.447m,
Δ:154° 48' 06"
265:
E:346286.7334,
N:3786759.7137

CH:12+578.10
R:46.365m,
L:12.300m,
Δ:164° 48' 01"
266:
E:346284.3541,
N:3786787.9940

CH:12+651.00
R:199.486m,
L:18.088m,
Δ:174° 48' 18"
268:
E:346307.0980,
N:3786856.5002

CH:12+691.57
R:186.290m,
L:16.736m,
Δ:174° 51' 09"
270:
E:346329.4145,
N:3786890.3750

CH:12+766.95
R:38.515m,
L:17.063m,
Δ:154° 37' 00"
271:
E:346362.5994,
N:3786958.0633

CH:12+835.61
R:98.047m,
L:28.051m,
Δ:163° 36' 28"
273:
E:346369.5962,
N:3787026.4425

CH:12+890.08
R:14.325m,
L:20.455m,
Δ:98° 10' 56"
275:
E:346371.3246,
N:3787080.5968

CH:12+929.59
R:724.663m,
L:20.540m,
Δ:178° 22' 34"
277:
E:346339.8881,
N:3787108.0815

N=3786700.0000
E=346300.0000

N=3786800.0000
E=346200.0000

N=3786900.0000
E=346200.0000

N=3787000.0000
E=346200.0000

N=3787100.0000
E=346200.0000

N=3787172.3268
E=346319.7280

N=3786700.0000
E=346400.0000

N=3786800.0000
E=346400.0000

N=3786900.0000
E=346400.0000

N=3787000.0000
E=346400.0000

N=3787200.0000
E=346400.0000

PI: 13+000

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT
PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED
			CHD./VER.
			APPROVED

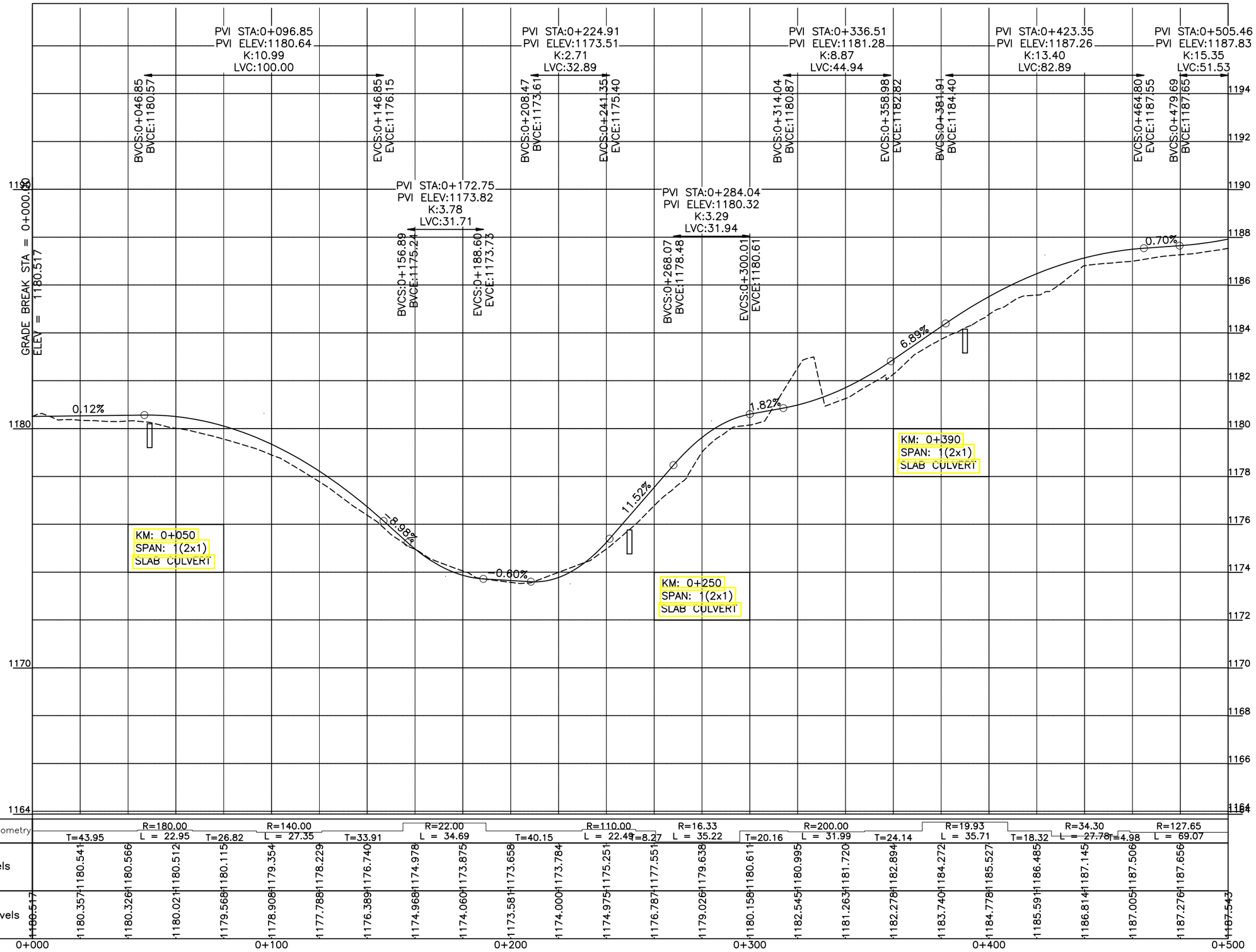
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PLAN
KM: 12+500 ~ KM: 13+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 26



KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				DRAWN	JUNAID KHAN
					SUBMITTED	NOSHERWAN NAEEM
					RECOMMENDED	
					CHD./VER.	
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

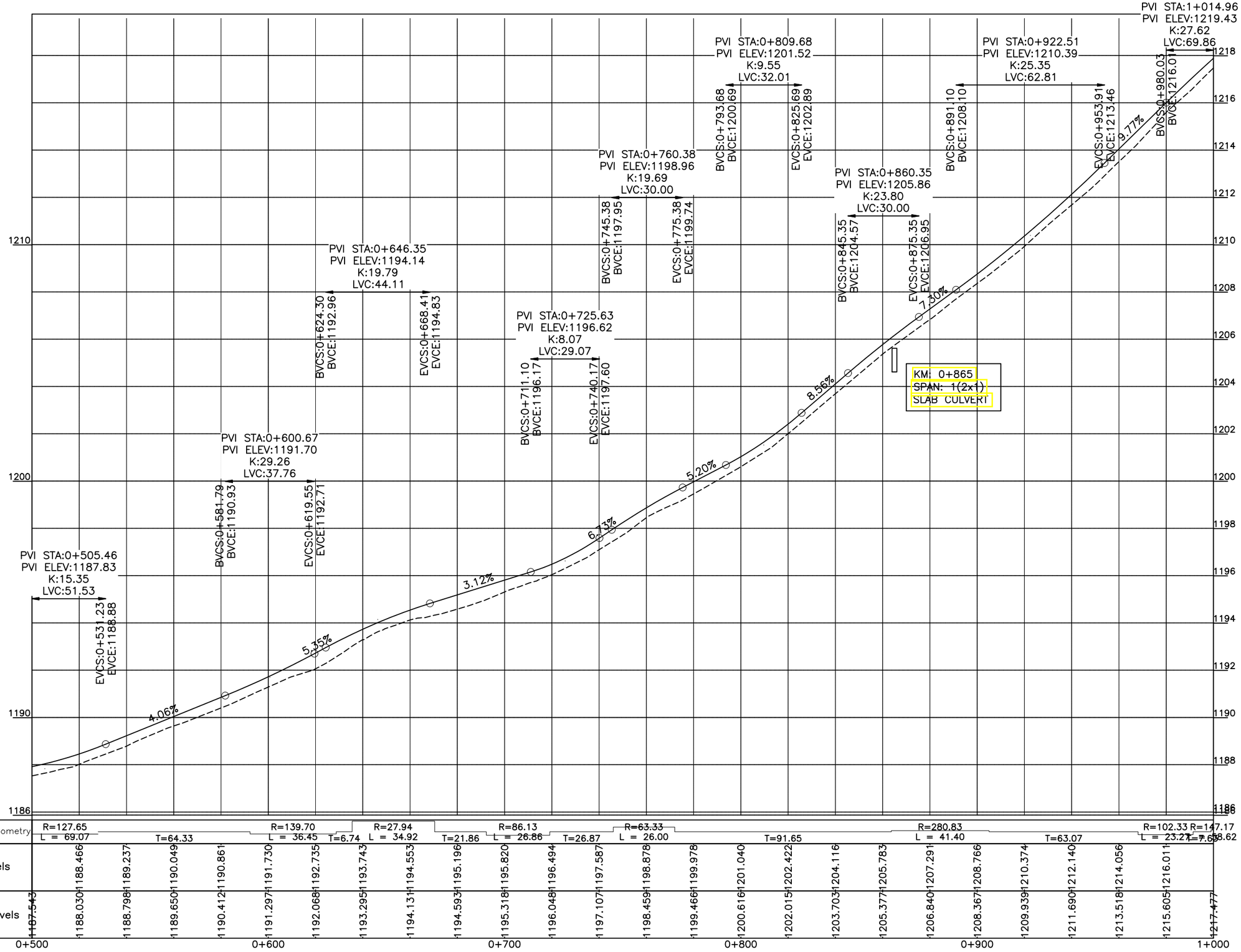
PROFILE
KM: 0+000 ~ KM: 0+500

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 001

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED
			CHD./VER.
			APPROVED

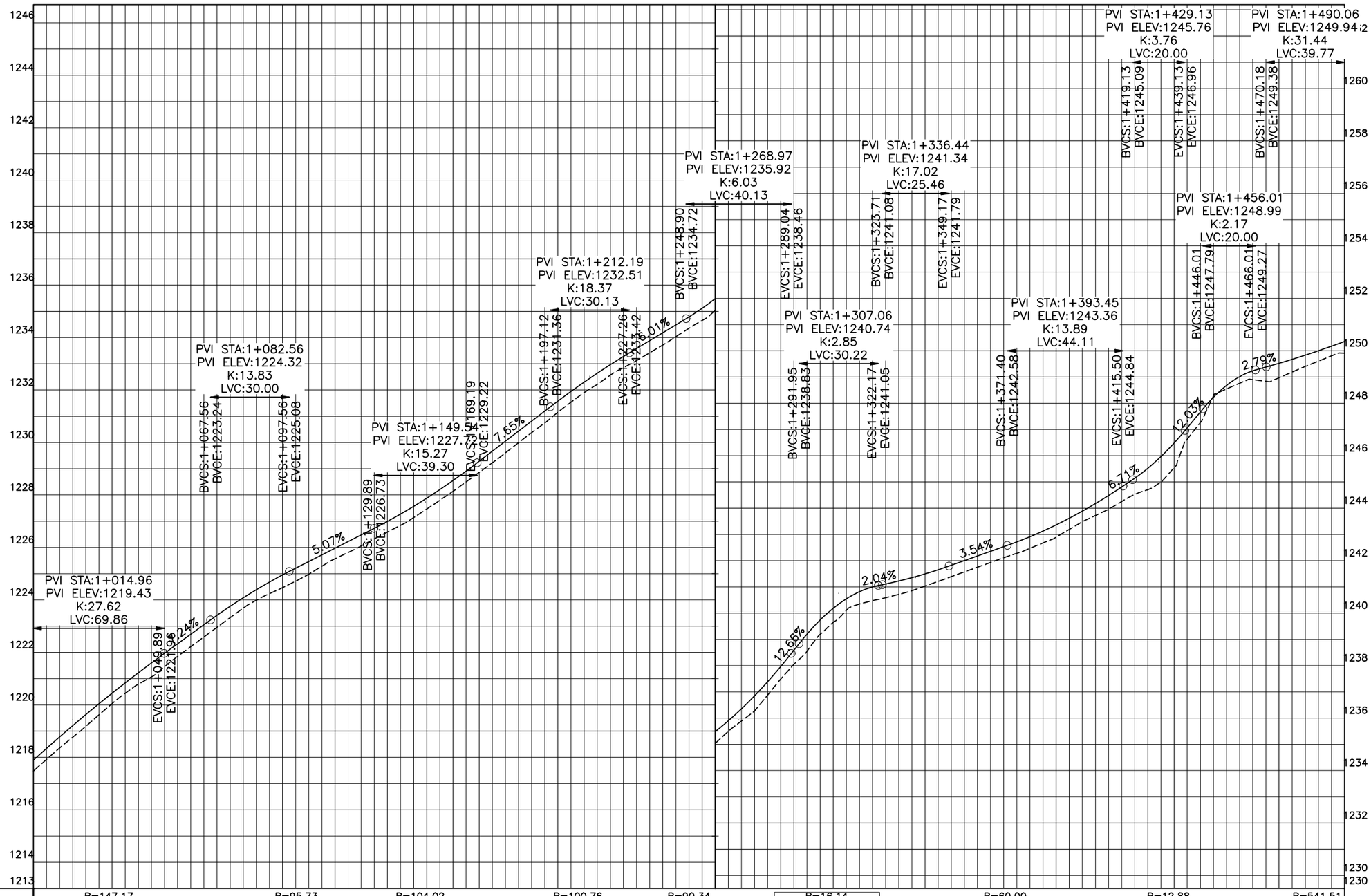
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM: 0+500 ~ KM: 1+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 002



Horizontal Geometry		R=147.17 L = 58.62	T=18.61	R=95.73 L = 48.10	T=7.88	R=104.02 L = 30.69	T=29.52	R=100.76 L = 30.46	T=13.58	R=90.34 L = 27.31	T=18.82	R=16.14 L = 40.07	T=26.44	R=60.00 L = 43.03	T=21.76	R=12.88 L = 37.96	T=26.60	R=541.51 L = 38.05	
Design levels	1217.477	1219.631	1221.223	1222.690	1224.082	1225.209	1226.224	1227.272	1228.550	1230.051	1231.578	1232.968	1234.183	1235.486	1237.387	1239.737	1241.001	1241.495	1242.178	1242.912	1243.887	1245.144	1247.063	1249.017	1249.673	1249.911
Ground Levels		1219.184	1220.787	1222.217	1223.685	1224.714	1225.808	1226.843	1228.138	1229.604	1231.155	1232.565	1233.716	1235.038	1236.878	1239.192	1240.478	1241.033	1241.751	1242.471	1243.485	1244.526	1246.632	1248.762	1249.190	
		1+000				1+100				1+200						1+300					1+400					1+500

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

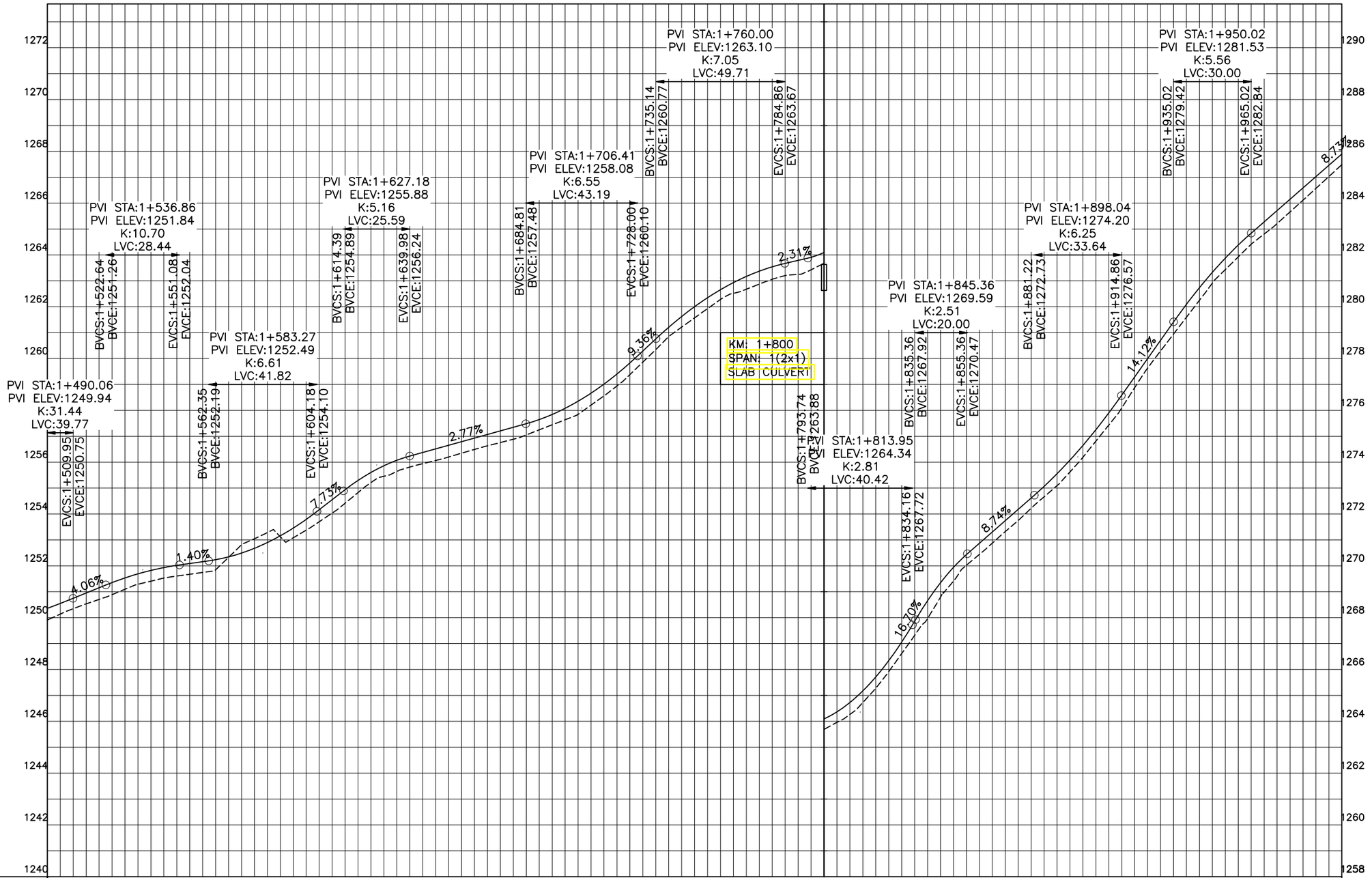
PROFILE
KM: 1+000 ~ KM: 1+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 003

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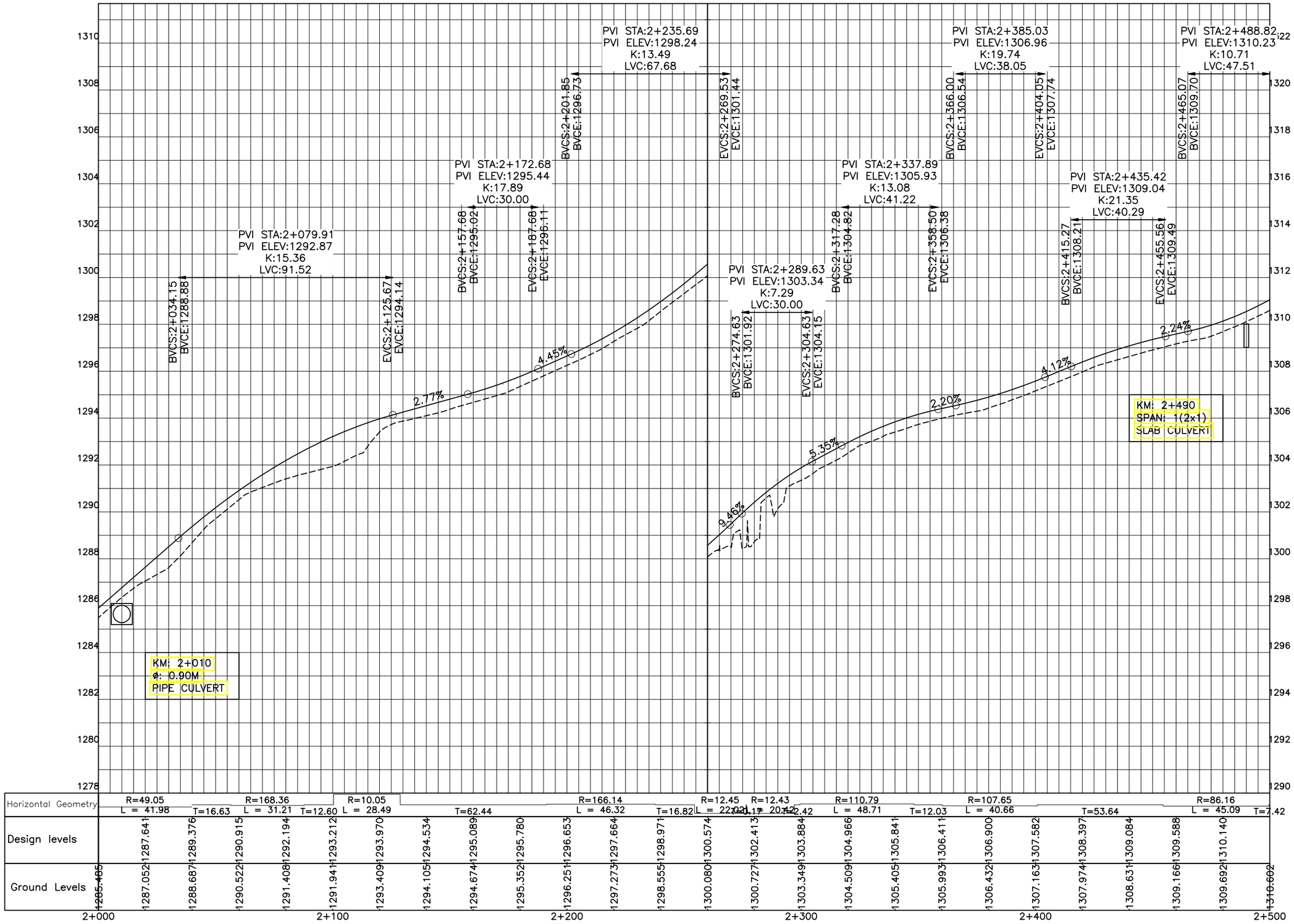
Horizontal Geometry	R=541.51 L = 38.05 T=28.76	R=262.53 L = 47.22	R=118.38 L = 19.41 T=22.18	R=106.41 L = 30.23 T=10.95	R=86.57 L = 34.02 T=58.44	R=47.97 L = 32.59 T=7.74	R=70.79 L = 53.09 T=19.75	R=352.72 L = 35.46 T=54.75	R=49.05 T=26.17 L = 41.98
Design levels	1249.911 1250.703 1251.153 1251.408 1251.824 1251.744 1252.161 1253.045 1252.676 1253.378 1253.793 1254.827 1255.296 1255.812 1256.238 1256.348 1256.792 1256.888 1257.347 1257.639 1258.078 1258.943 1259.402 1260.849 1261.209 1262.282 1263.060 1263.544 1263.683 1264.093 1265.278 1265.713 1267.969 1268.654 1270.441 1270.871 1272.221 1272.619 1274.194 1274.648 1276.883 1277.295 1279.597 1280.097 1281.926 1282.382 1283.661 1284.150 1285.485									
Ground Levels									
	1+500		1+600		1+700		1+800		1+900 2+000

				DRAWN	JUNAID KHAN	REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000
				SUBMITTED	NOSHERWAN NAEEM	
				RECOMMENDED		PROFILE ~~KM~~ 1+500 ~ KM 2+000
				CHD./VER.		SCALE 1:1000
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		DATE Janury 2022
						DWG NO. 4169/(ii)/TD/P 004

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

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				DRAWN	JUNAID KHAN	
				SUBMITTED	NOSHERWAN NAEEM	
				RECOMMENDED		
				CHD./VER.		
REV.	DATE	DESCRIPTION	APPROVED	APPROVED		

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

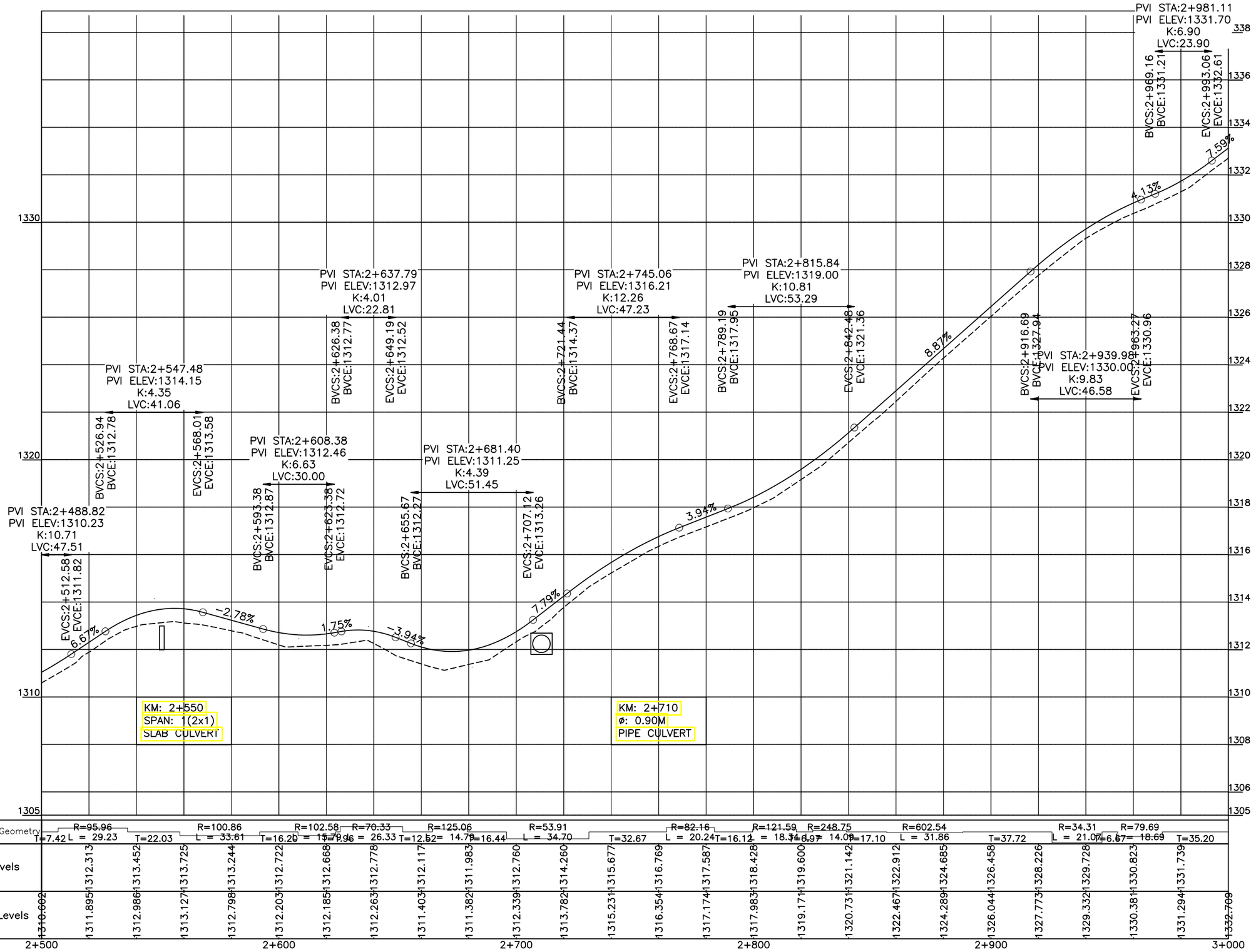
PROFILE

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 005

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED
			CHD./VER.
			APPROVED

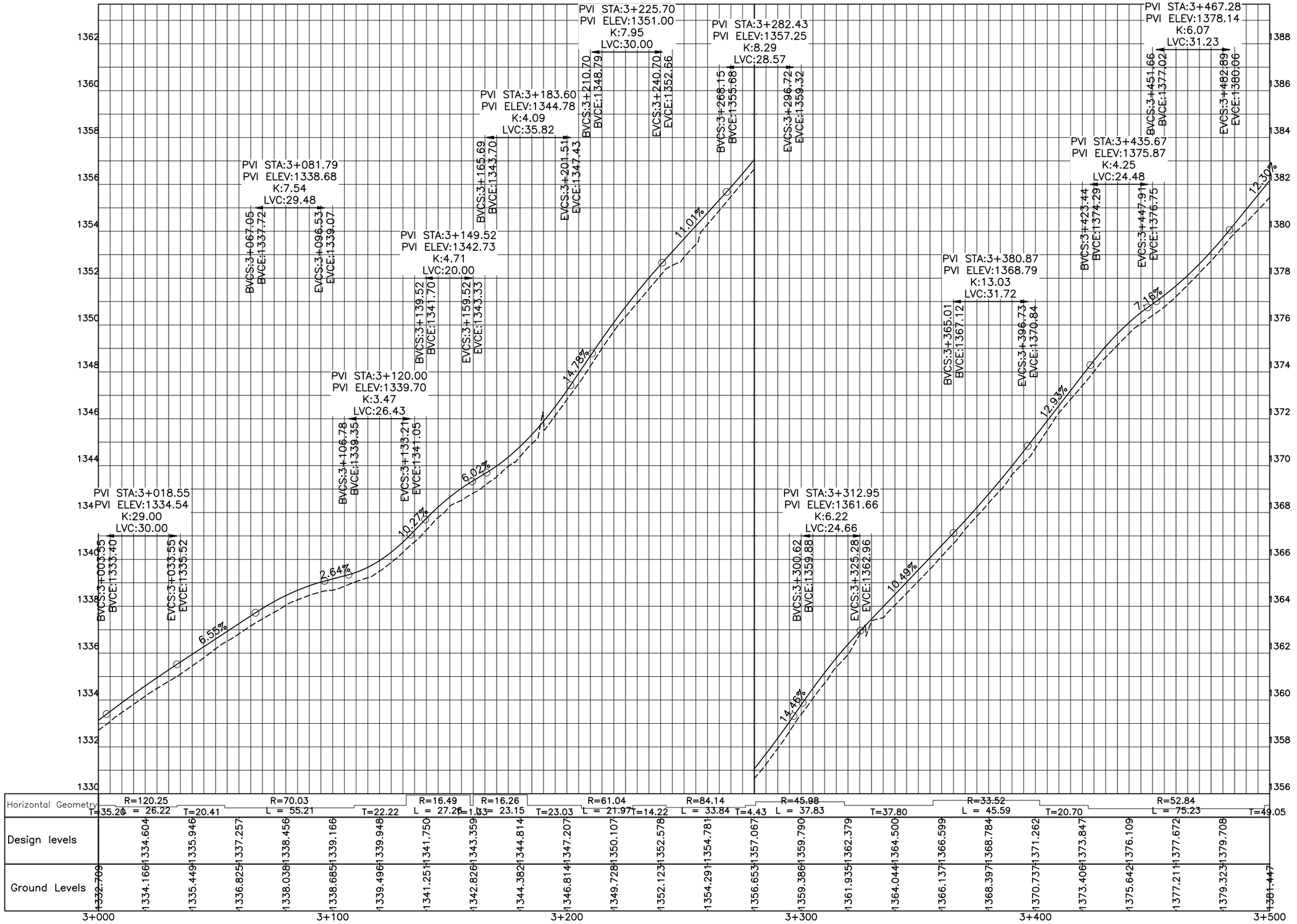
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM: 2+500 ~ KM: 3+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 006



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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

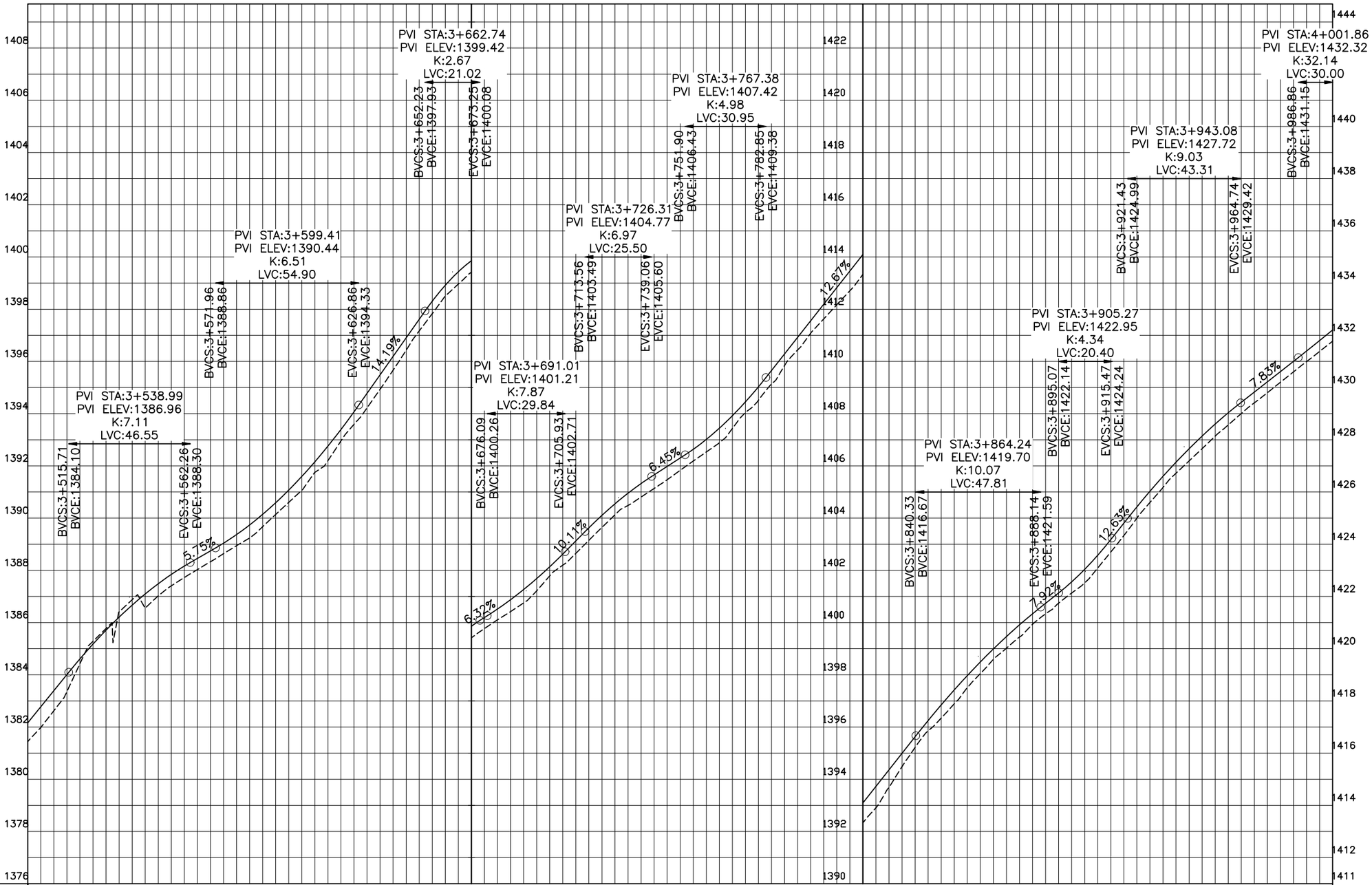
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
~~KM~~ 3+000 ~ 3+500

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 007



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KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

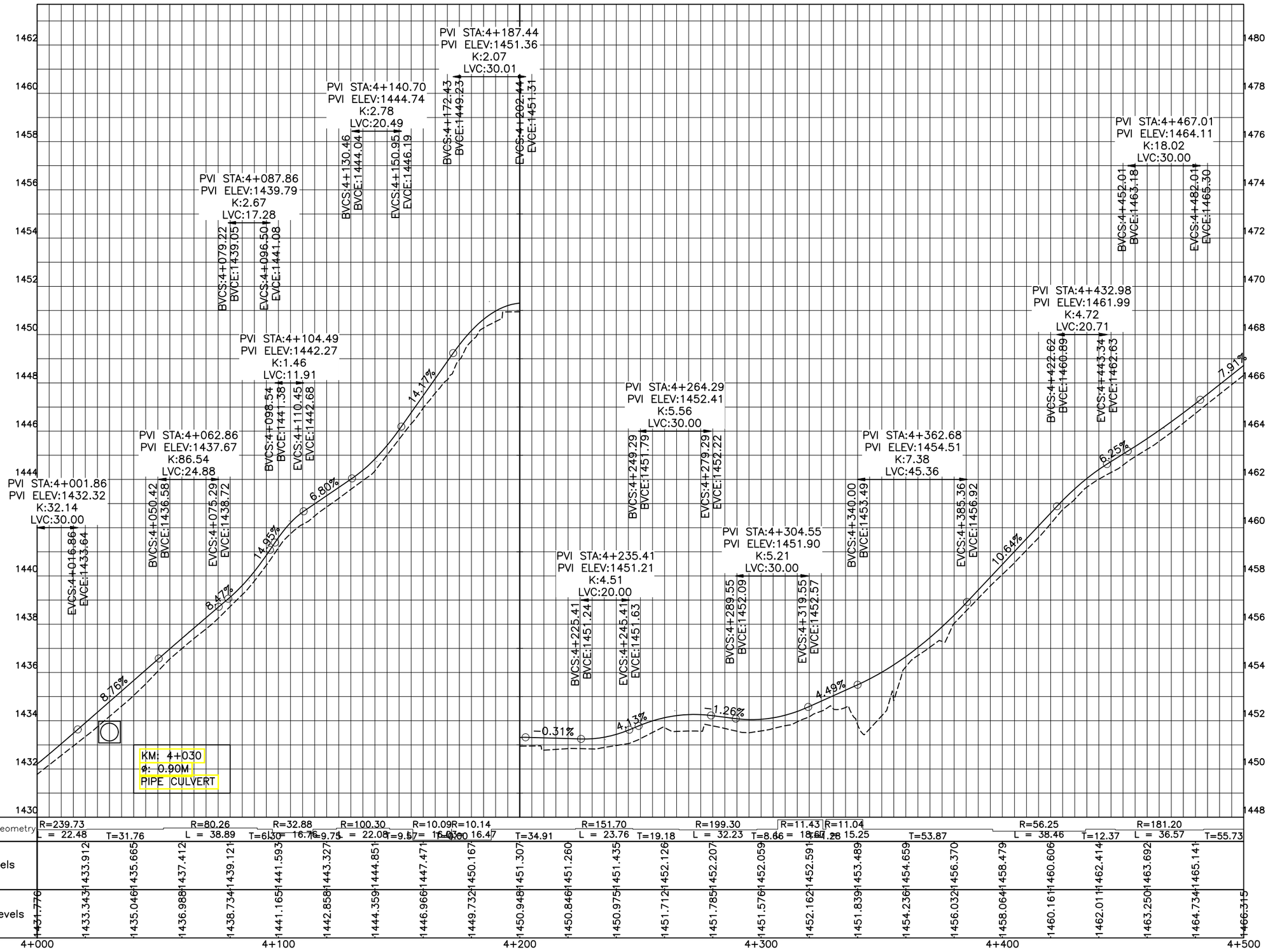
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM: 3+500 ~ KM: 4+000

SCALE 1:1000

DATE: January 2022

DWG NO. 4169/(ii)/TD/P 008



Horizontal Geometry	R=239.73 L = 22.48 T=31.76	R=80.26 L = 38.89 T=16.76	R=32.88 T=9.75	R=100.30 L = 22.08 T=9.57	R=10.09	R=10.14 L = 16.47 T=8.60	R=151.70 T=34.91	R=199.30 L = 23.76 T=19.18	R=11.43 L = 32.23 T=8.66	R=11.04 L = 18.67 T=8.28	R=56.25 L = 15.25 T=7.87	R=181.20 L = 38.46 T=12.37	R=181.20 L = 36.57 T=55.73
Design levels	1431.776	1433.912	1435.665	1437.412	1439.121	1441.593	1443.327	1444.851	1447.471	1450.167	1451.307	1451.260	1451.435	1452.126	1452.207	1452.059	1452.591	1453.489	1454.659	1456.370	1458.479	1460.606	1462.414	1463.692	1465.141
Ground Levels	1431.776	1433.343	1435.046	1436.988	1438.734	1441.165	1442.858	1444.359	1446.966	1449.732	1450.948	1450.846	1450.975	1451.712	1451.785	1451.576	1452.162	1451.839	1454.236	1456.032	1458.064	1460.161	1462.011	1463.250	1464.734	1466.315
	4+000					4+100					4+200					4+300					4+400				4+500

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

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			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

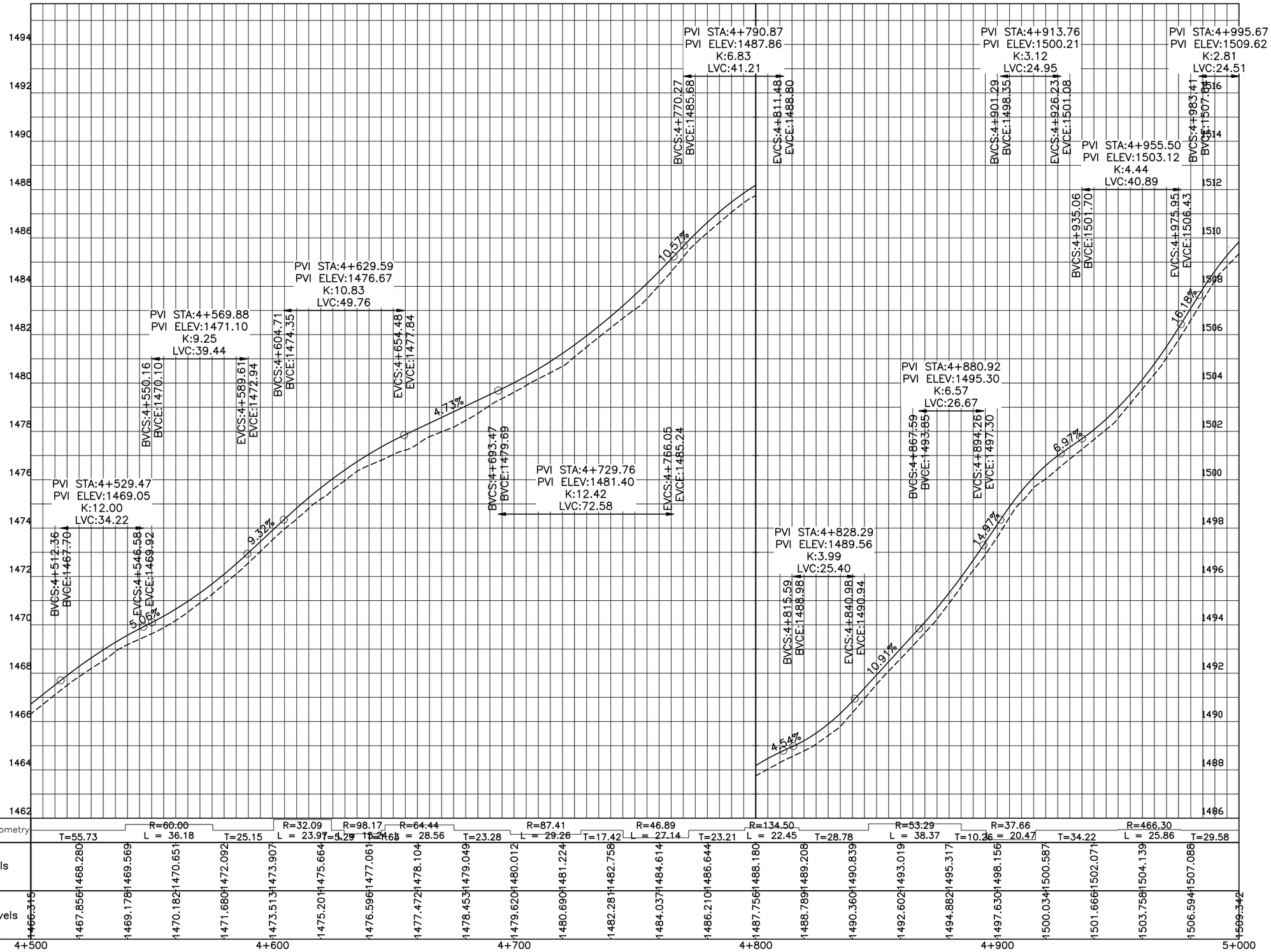
PROFILE
KM 4+000 ~ 4+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 009

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

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			RECOMMENDED:
			CHD./VER.:
			APPROVED:

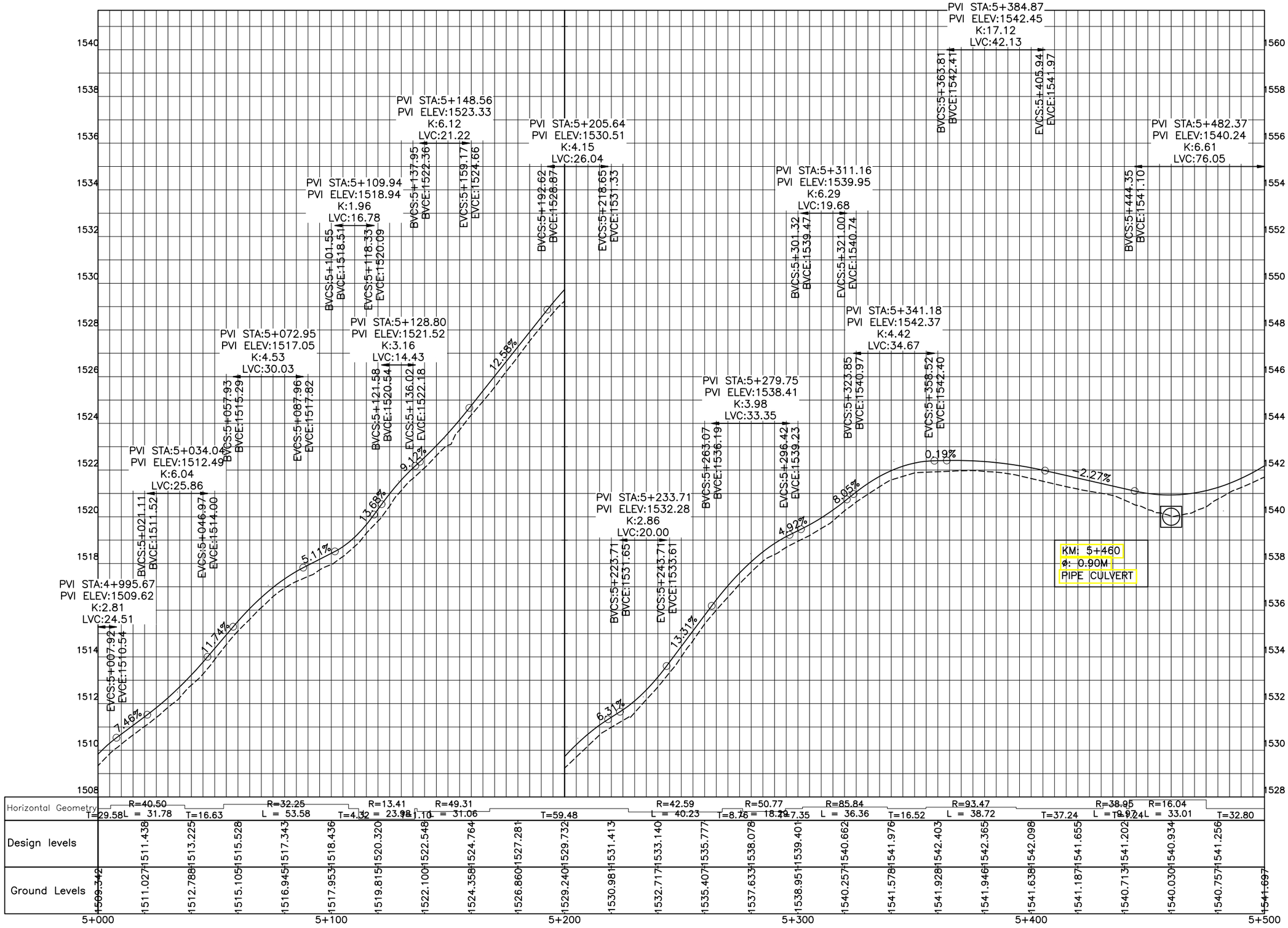
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
~~KM~~ 4+500 ~ 5+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 010



KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM: 5+000 ~ KM: 5+500

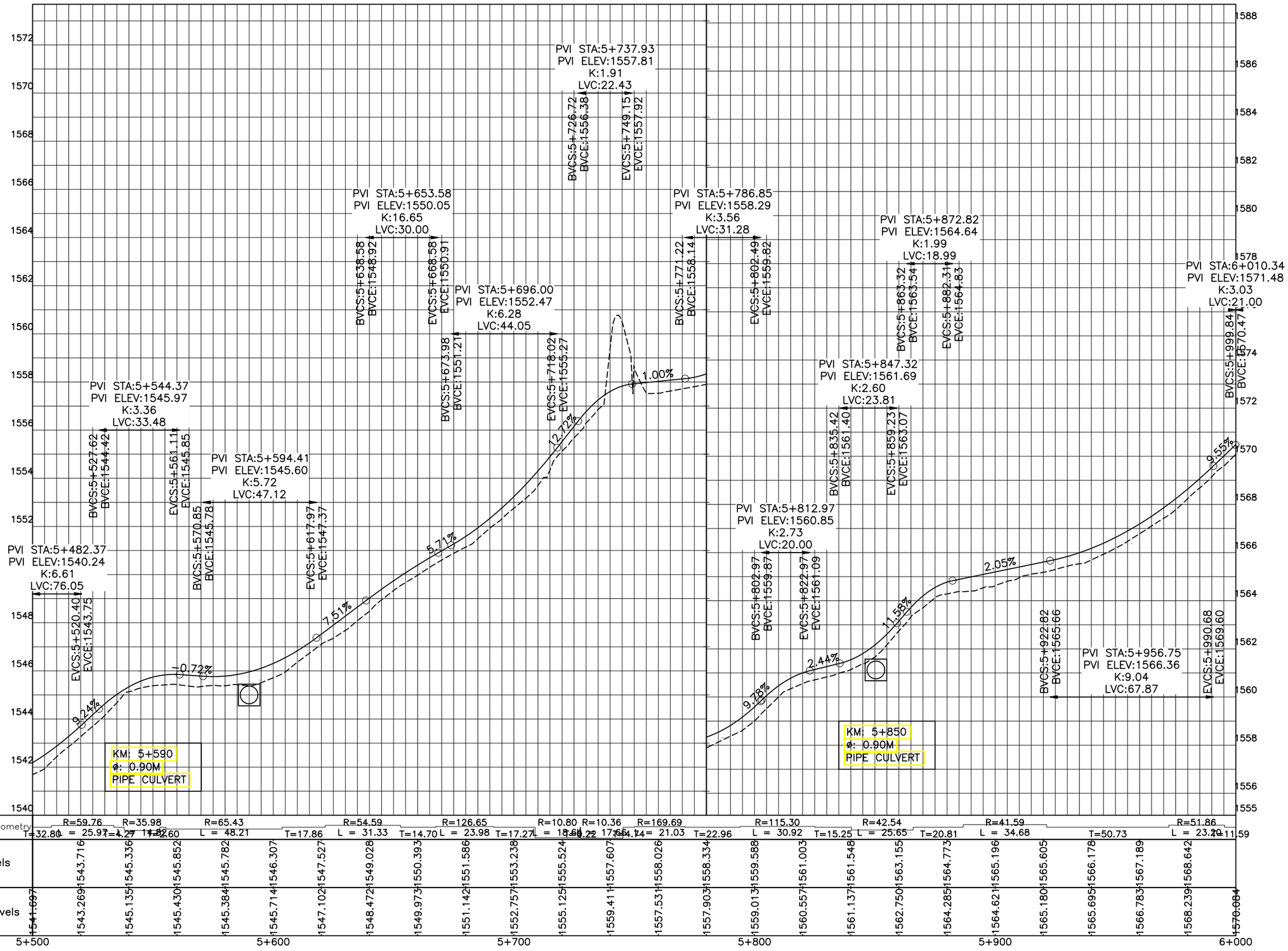
SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 011

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
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			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

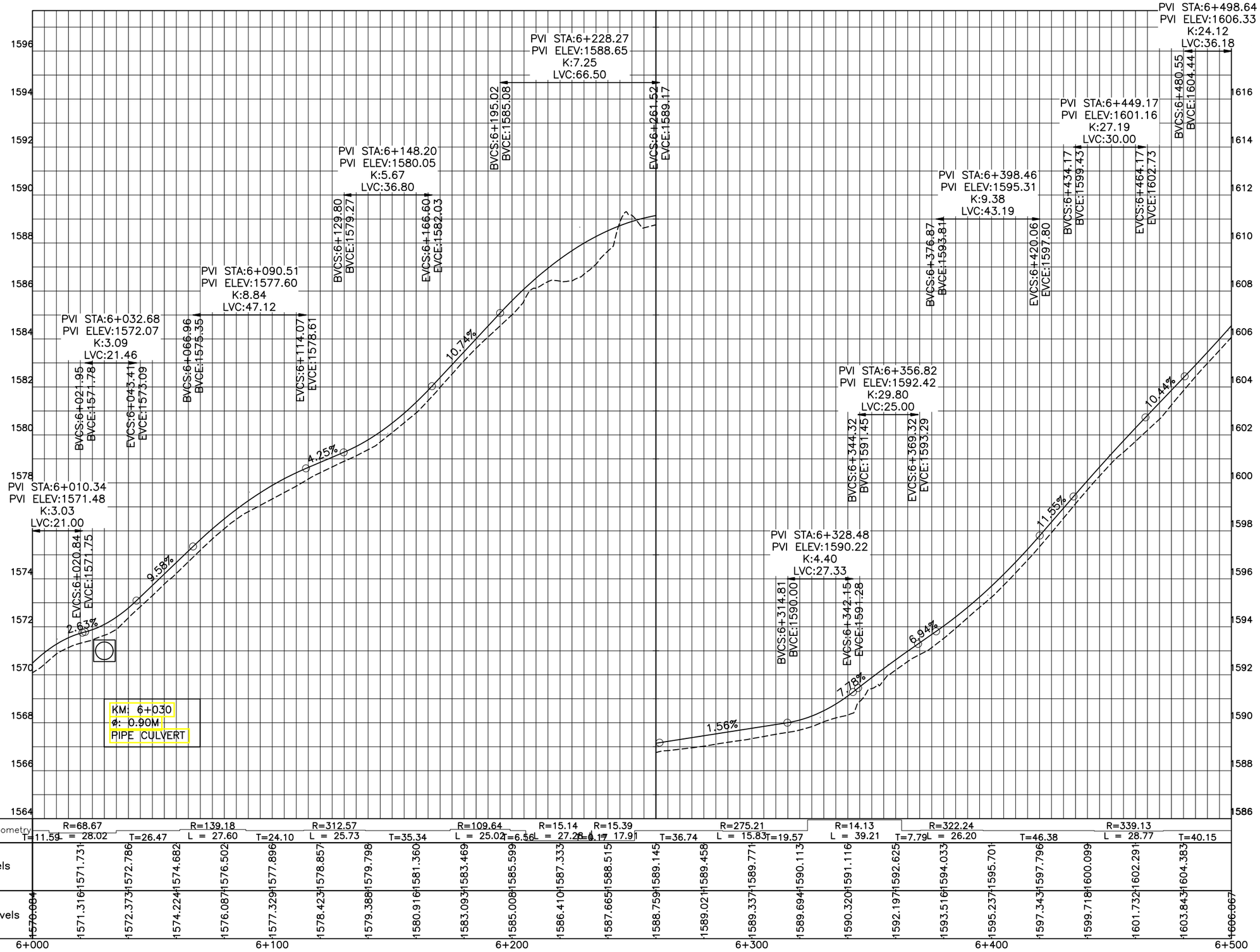
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 5+500 ~ 6+000

SCALE: 1:1000

DATE:

DWG NO.: 4169/(ii)/TD/P 012



Horizontal Geometry	R=68.67 T=11.59 L = 28.02	T=26.47	R=139.18 L = 27.60	T=24.10	R=312.57 L = 25.73	T=35.34	R=109.64 L = 25.02	T=6.56	R=15.14 L = 27.28	R=15.39 ∆=67.17	17.91	T=36.74	R=275.21 L = 15.83	T=19.57	R=14.13 L = 39.21	R=322.24 T=7.79 L = 26.20	T=46.38	R=339.13 L = 28.77	T=40.15
Design levels	1570.084	1571.731	1572.786	1574.682	1576.502	1577.896	1578.857	1579.798	1581.360	1583.469	1585.599	1587.333	1588.515	1589.145	1589.458	1589.771	1590.113	1591.116	1592.625	1594.033	1595.701	1597.796	1600.099	1602.291	1604.383
Ground Levels	1570.084	1571.316	1572.373	1574.224	1576.087	1577.329	1578.423	1579.388	1580.916	1583.093	1585.008	1586.410	1587.665	1588.759	1589.021	1589.337	1589.694	1590.320	1592.197	1593.516	1595.237	1597.343	1599.718	1601.732	1603.843	1606.067

6+000 6+100 6+200 6+300 6+400 6+500

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COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
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			CHD./VER.:
			APPROVED:

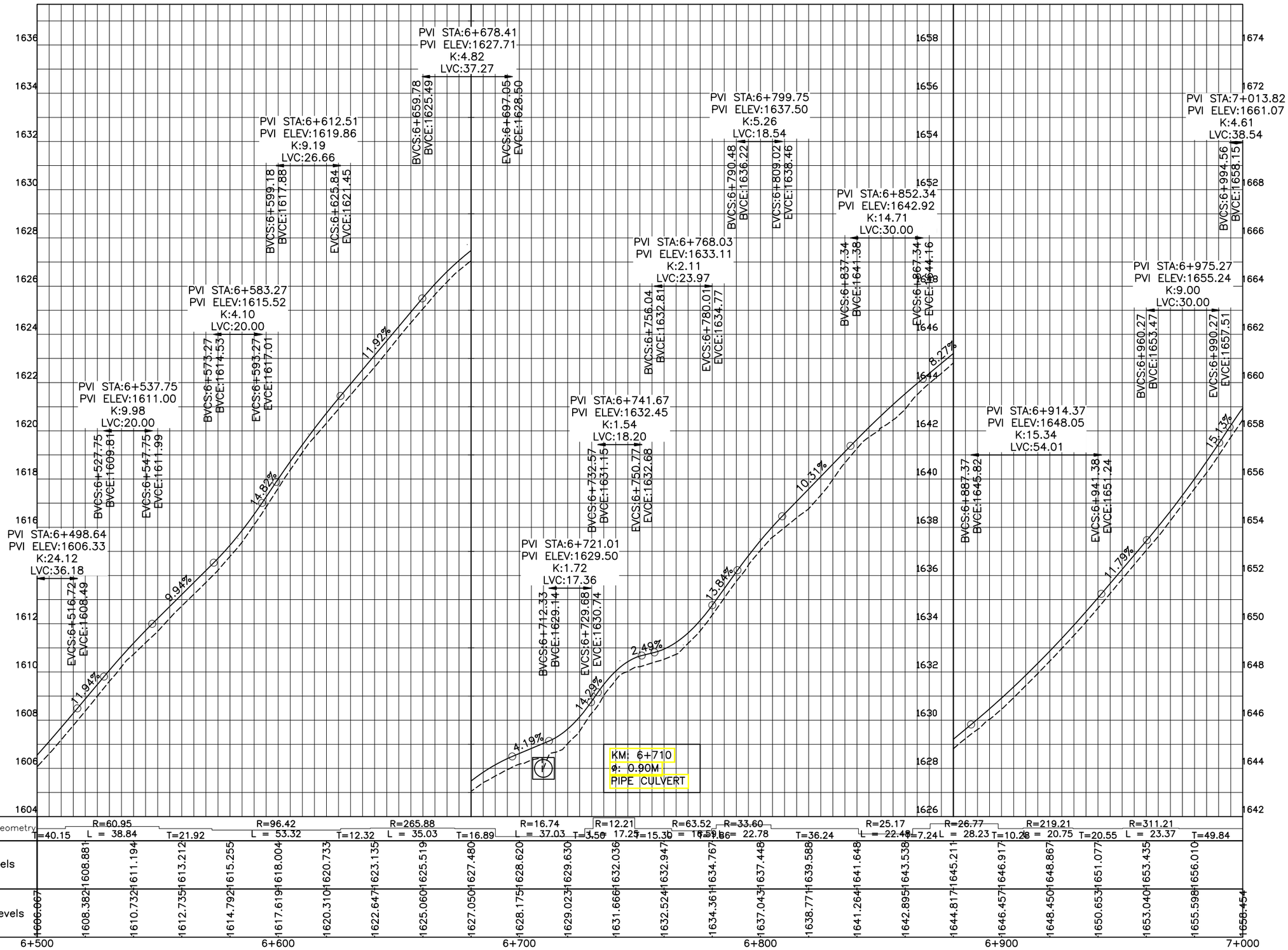
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
---KM 6+000~6+5000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 013



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INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
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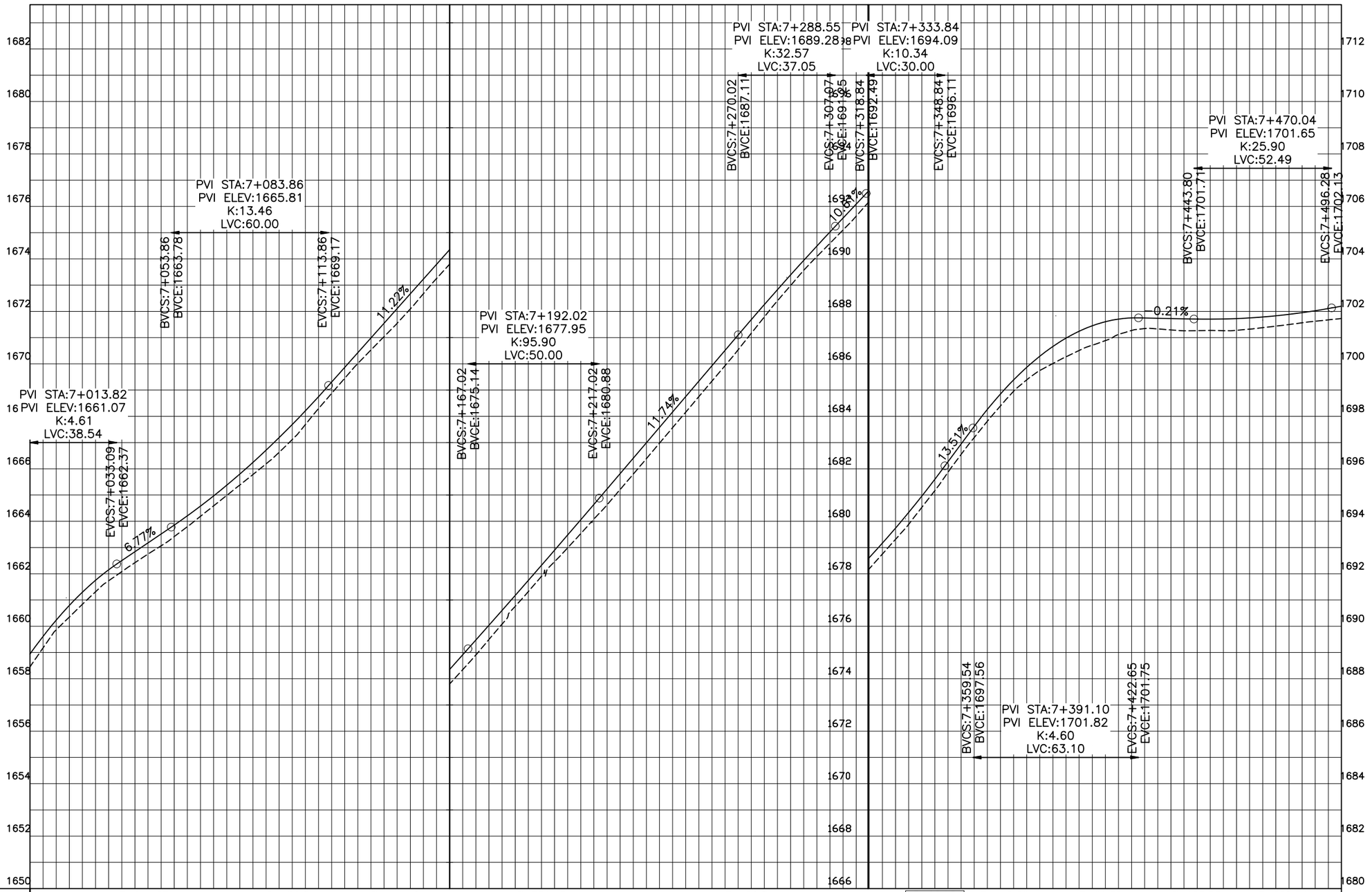
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM: 6+500 ~ KM: 7+000

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 014



Horizontal Geometry		R=211.37			R=199.01			R=114.18			R=731.40			R=180.01			R=96.95	R=140.36	R=91.35	R=167.53	R=390.24	
	T=49.84	L = 40.37	T=27.88	L = 15.03	T=20.99	L = 23.72	T=30.03	L = 27.27	T=44.65	L = 41.44	T=39.07	L = 22.33	T=7.77	L = 15.20	T=18.85	L = 20.47	T=16.95	L = 18.53	T=15.68	L = 16.38	T=50.87	
Design levels	1658.454	1661.301	1662.840	1664.207	1665.800	1667.690	1669.863	1672.108	1674.352	1676.606	1678.898	1681.232	1683.580	1685.929	1688.263	1690.489	1692.618	1694.955	1697.619	1699.866	1701.243	1701.751	1701.717	1701.725	1701.886	1701.728
Ground Levels	1658.454	1660.838	1662.420	1663.794	1665.383	1667.117	1669.451	1671.546	1673.800	1676.085	1678.461	1680.623	1682.978	1685.341	1687.792	1690.087	1692.193	1694.528	1697.192	1699.387	1700.510	1701.270	1701.258	1701.280	1701.500	1701.728
	7+000				7+100				7+200					7+300					7+400			7+500	

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

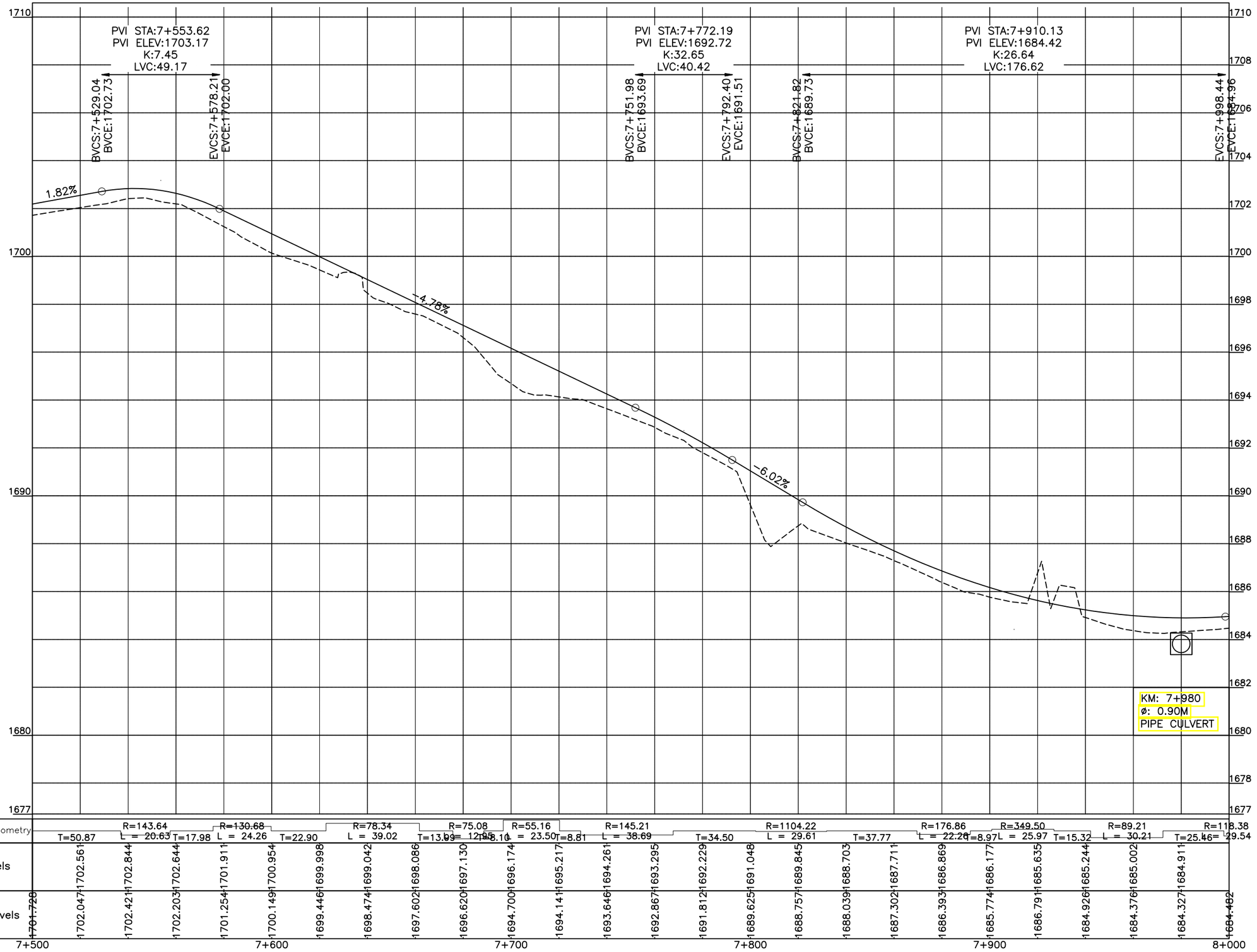
PROFILE
KM 7+000 ~ 7+500

SCALE 1:1000

DATE **January 2022**

DWG NO. 4169/(ii)/TD/P 015

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

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SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

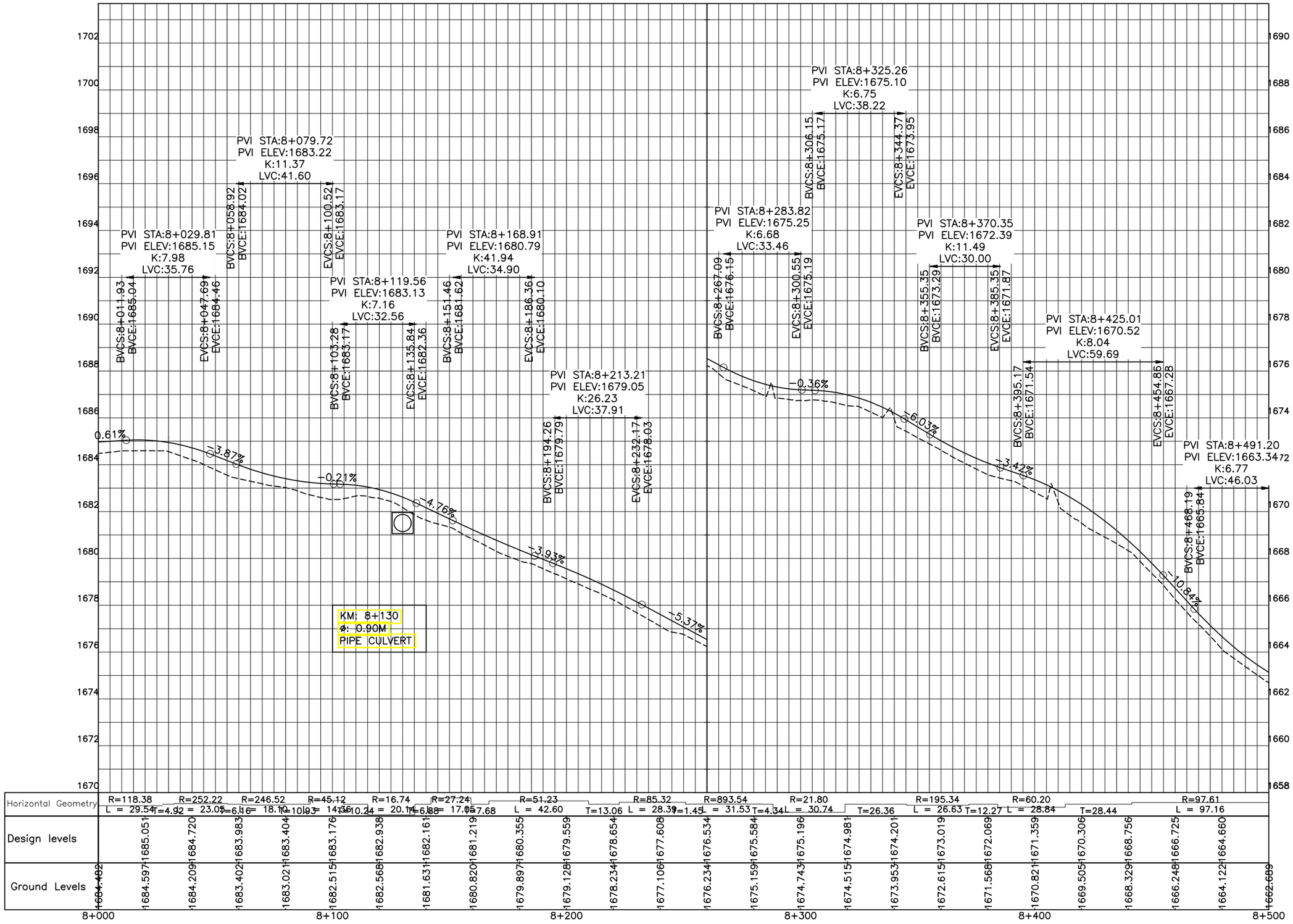
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM: 7+500 ~ KM: 8+000

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 016



Horizontal Geometry	R=118.38 L = 29.54	T=4.92	R=252.22 L = 23.05	T=6.16	R=246.52 L = 18.10	R=45.12 L = 10.93	R=16.74 L = 14.36	R=27.24 L = 10.24	T=6.88	R=51.23 L = 17.05	T=7.68	R=85.32 L = 42.60	R=893.54 T=13.06	L = 28.39	T=1.45	R=21.80 L = 31.53	T=4.34	L = 30.74	T=26.36	R=195.34 L = 26.63	T=12.27	R=60.20 L = 28.84	T=28.44	R=97.61 L = 97.16
Design levels	1685.051	1684.720	1683.983	1683.404	1683.176	1682.938	1682.161	1681.219	1680.355	1679.559	1678.654	1677.608	1676.534	1675.584	1675.196	1674.981	1674.201	1673.019	1672.069	1671.359	1670.306	1668.756	1666.725	1664.660
Ground Levels	1684.462	1684.597	1684.209	1683.402	1683.021	1682.515	1682.568	1681.631	1680.820	1679.897	1679.128	1678.234	1677.106	1676.234	1675.159	1674.743	1674.515	1673.953	1672.615	1671.568	1670.821	1669.505	1668.329	1666.248	1664.122	1662.689
	8+000					8+100					8+200					8+300						8+400			8+500

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NESPAK
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

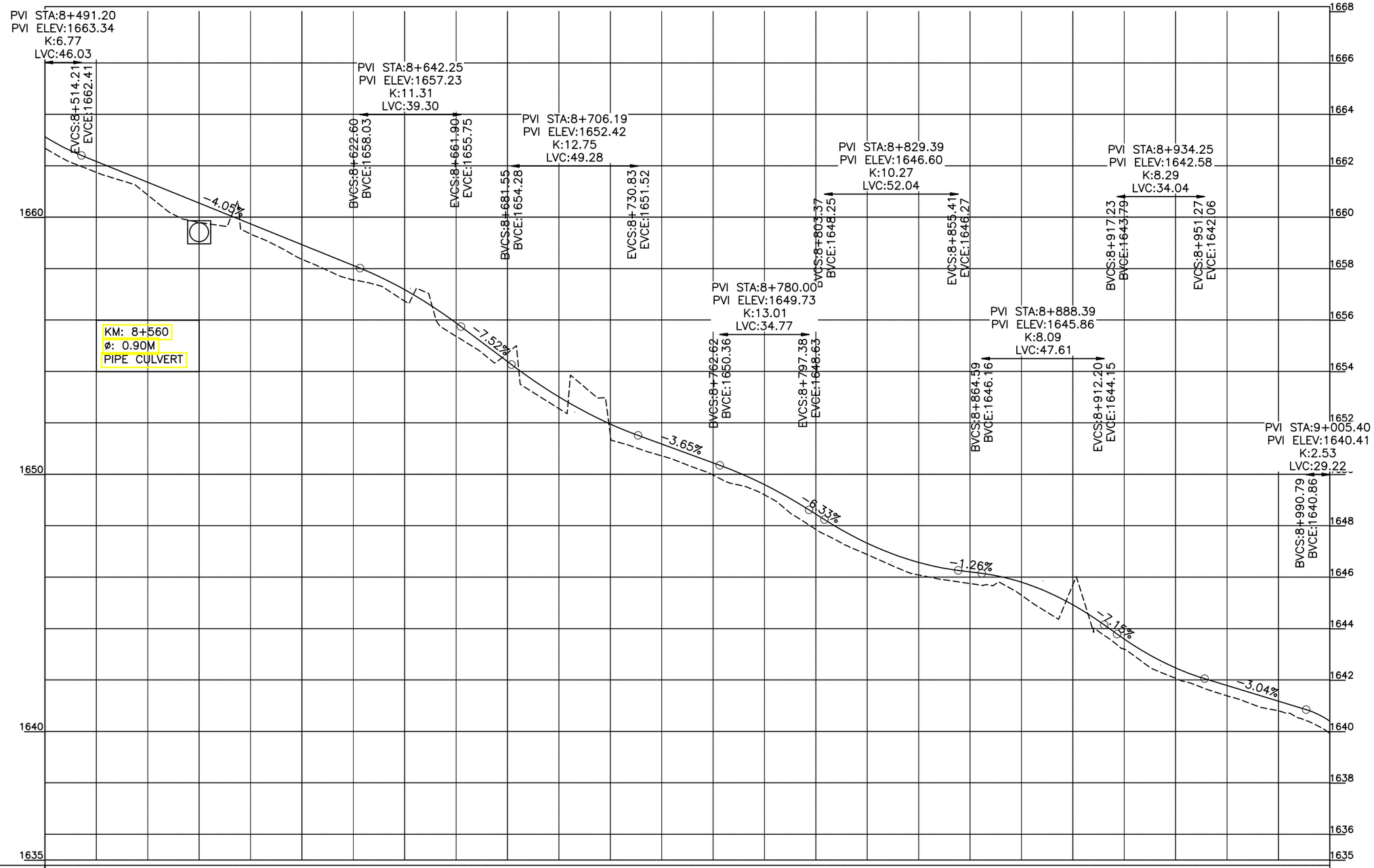
PROFILE
KM 8+000 ~ 8+500

SCALE 1:1000

DATE: January 2022

DWG NO. 4169/(ii)/TD/P 017

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INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

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			CHD./VER.
			APPROVED

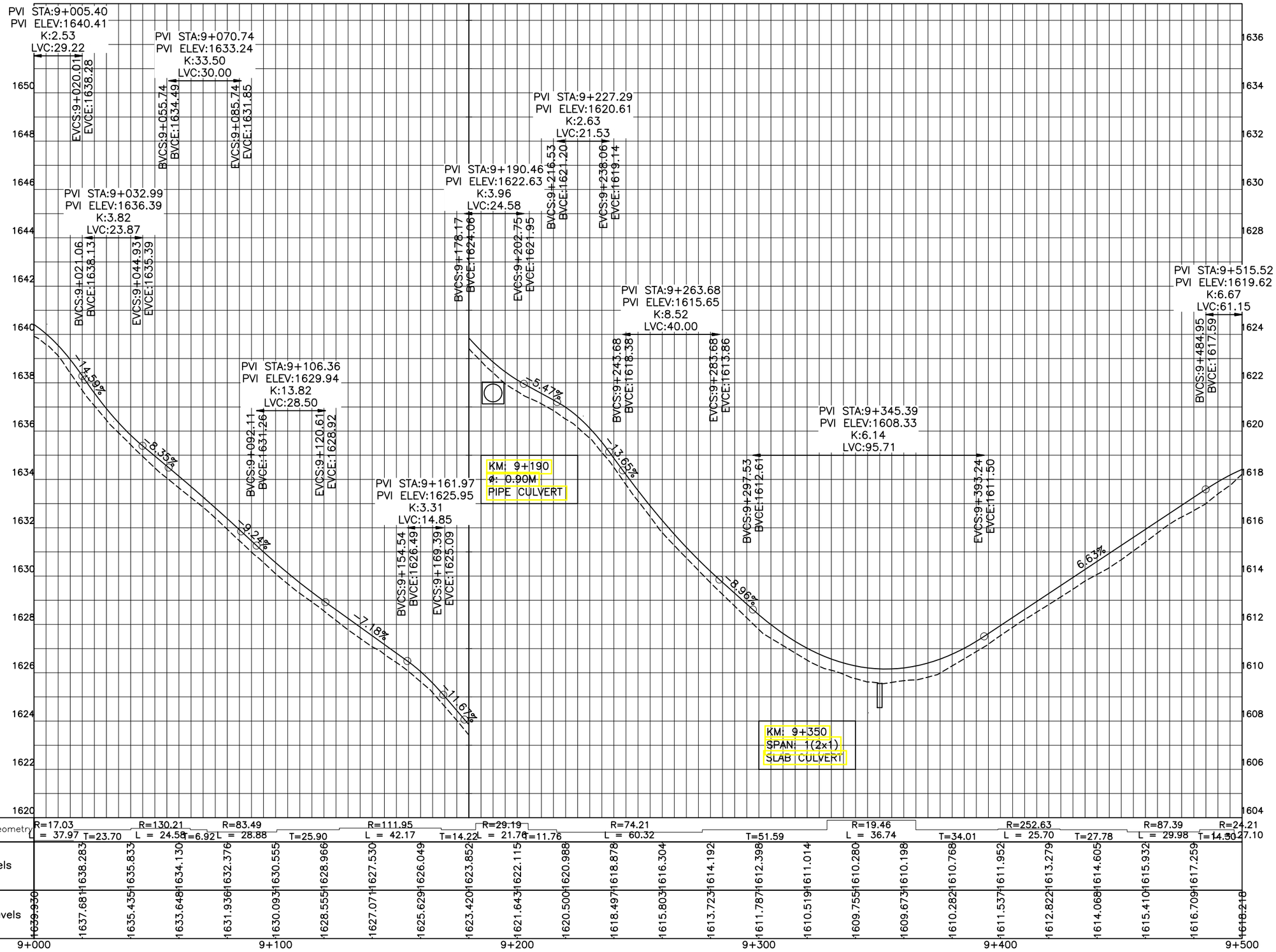
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 8+500 ~ 9+000

SCALE: 1:1000

DATE: **January 2022**

DWG NO.: 4169/(ii)/TD/P 018



Horizontal Geometry	R=17.03 L = 37.97 T=23.70	R=130.21 L = 24.58 T=6.92	R=83.49 L = 28.88 T=25.90	R=111.95 L = 42.17 T=14.22	R=29.19 L = 21.76 T=11.76	R=74.21 L = 60.32 T=51.59	R=19.46 L = 36.74 T=34.01	R=252.63 L = 25.70 T=27.78	R=87.39 L = 29.98 T=14.30	R=24.21 L = 27.10
Design levels	1638.283	1635.833	1634.130	1632.376	1630.555	1628.966	1627.530	1626.049	1623.852	1622.115
Ground Levels	1639.936	1637.681	1635.435	1633.648	1631.936	1630.093	1628.555	1627.071	1625.629	1623.420

9+000	9+100	9+200	9+300	9+400	9+500

Design levels	1620.988	1618.878	1616.304	1614.192	1612.398	1611.014	1610.280	1610.198	1610.768	1611.952	1613.279	1614.605	1615.932	1617.259	
Ground Levels	1620.500	1618.497	1615.803	1613.723	1611.787	1610.519	1609.755	1609.673	1610.282	1611.537	1612.822	1614.068	1615.410	1616.709	1618.218

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KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

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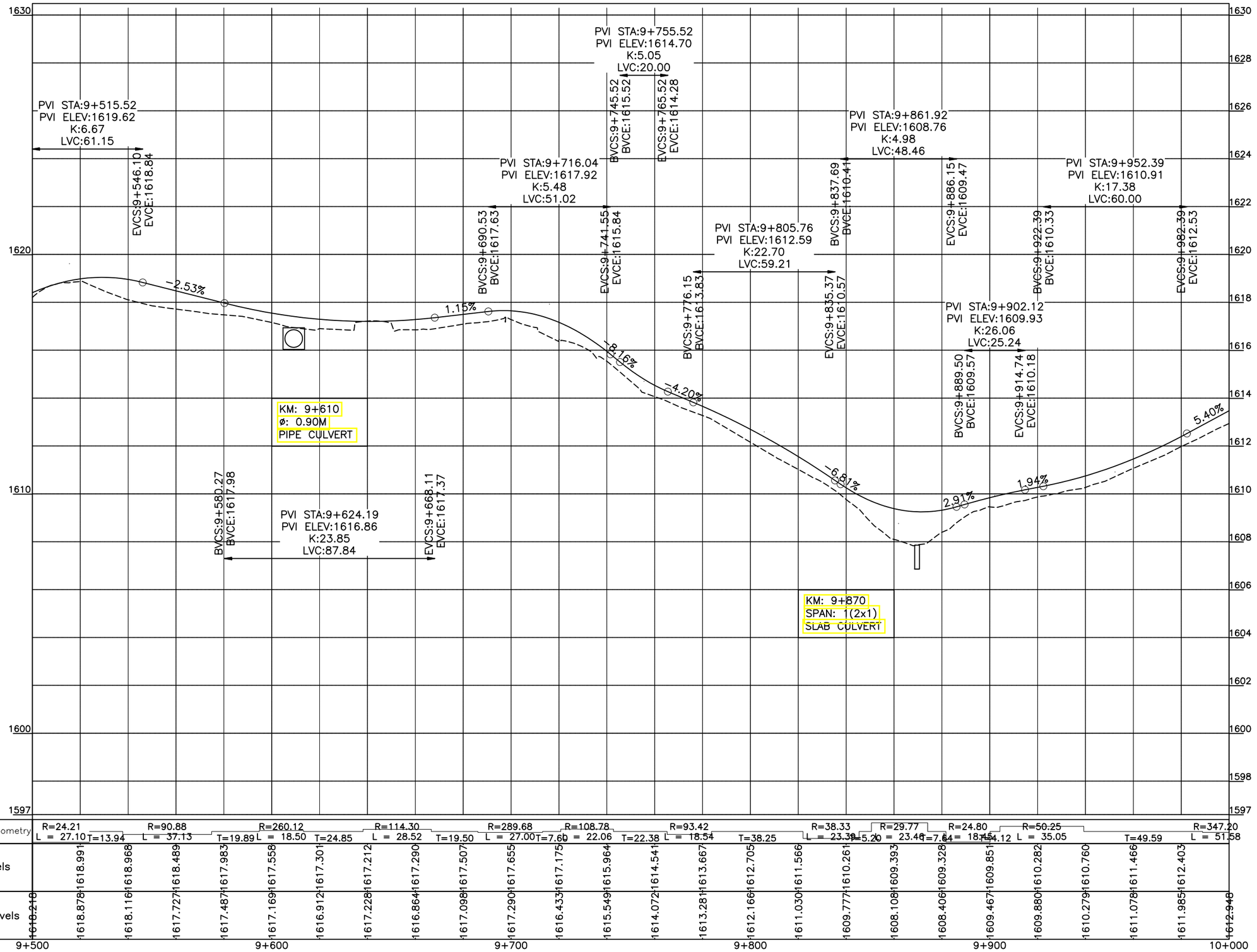
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 9+000 ~ 9+500

SCALE: 1:1000

DATE: **January 2022**

DWG NO.: 4169/(ii)/TD/P 019



Horizontal Geometry	R=24.21 L = 27.10 T=13.94	R=90.88 L = 37.13 T=19.89	R=260.12 L = 18.50 T=24.85	R=114.30 L = 28.52 T=19.50	R=289.68 L = 27.00 T=7.60	R=108.78 L = 22.06 T=22.38	R=93.42 L = 18.54 T=38.25	R=38.33 L = 23.39 T=15.20	R=29.77 L = 23.46 T=7.64	R=24.80 L = 18.45 T=54.12	R=50.25 L = 35.05 T=49.59	R=347.20 L = 51.58
Design levels	1618.991	1618.968	1618.489	1617.983	1617.558	1617.301	1617.212	1617.290	1617.507	1617.655	1617.175	1615.964	1615.549	1614.072	1614.541	1613.667	1613.281	1612.705	1612.166	1611.566	1611.030	1610.261	1609.777	1609.393	1608.108	1608.406	1609.328	1609.467	1609.851	1609.880	1610.282	1610.279	1610.760	1611.078	1611.466	1611.985	1612.403
Ground Levels	1618.218	1618.878	1618.116	1617.727	1617.487	1617.169	1616.912	1617.228	1616.864	1617.098	1617.290	1616.433	1615.549	1614.072	1614.541	1613.281	1613.667	1612.166	1612.705	1611.030	1611.566	1609.777	1610.261	1608.108	1609.393	1608.406	1609.328	1609.467	1609.851	1609.880	1610.282	1610.279	1610.760	1611.078	1611.466	1611.985	1612.940

9+500 9+600 9+700 9+800 9+900 10+000

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

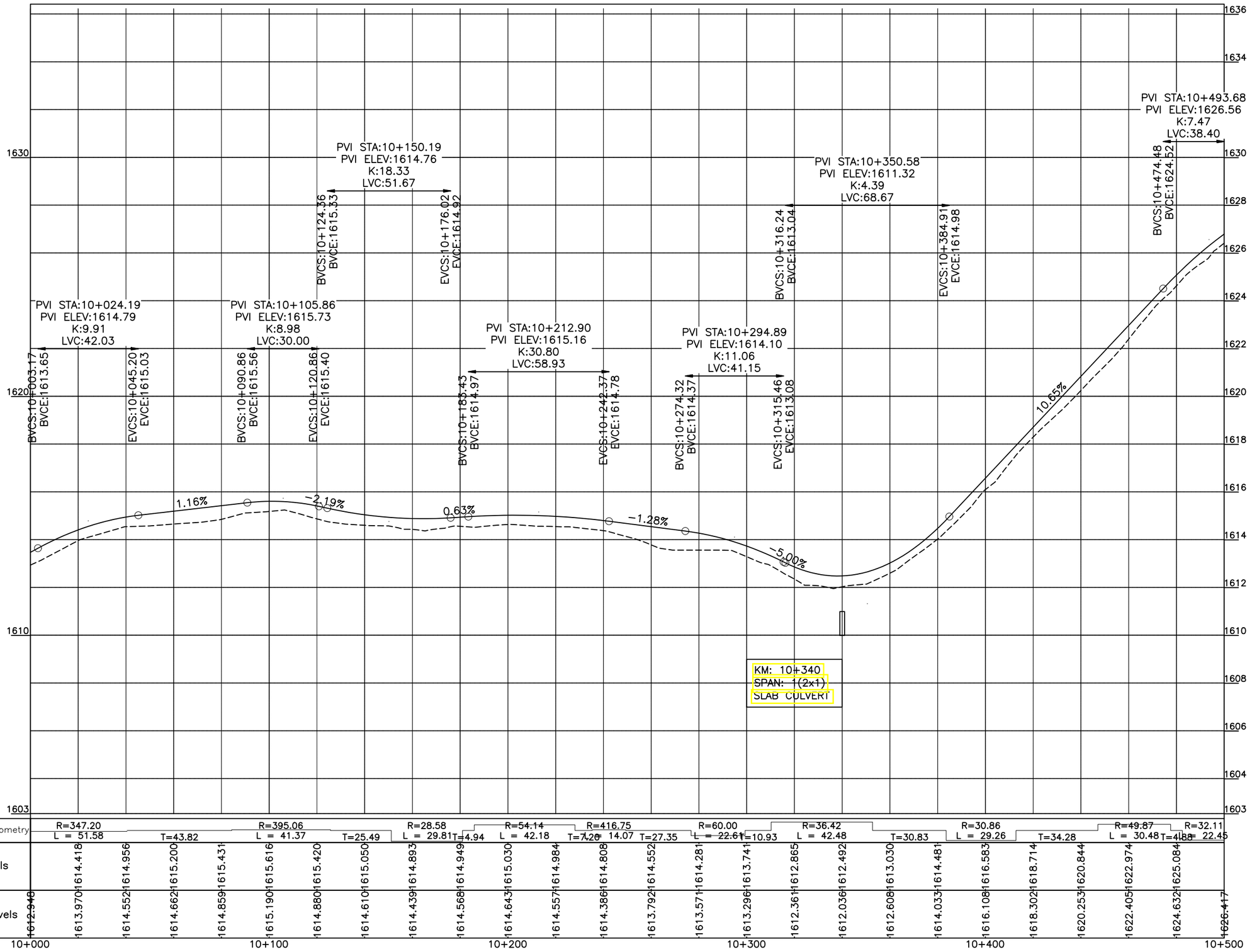
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 9+500 ~ 10+000

SCALE 1:1000

DATE January 2022

DWG NO. 4169/(ii)/TD/P 020



Horizontal Geometry	R=347.20 L = 51.58	T=43.82	R=395.06 L = 41.37	T=25.49	R=28.58 L = 29.81	T=4.94	R=54.14 L = 42.18	T=7.26	R=416.75 L = 14.07	T=27.35	R=60.00 L = 22.61	T=10.93	R=36.42 L = 42.48	T=30.83	R=30.86 L = 29.26	T=34.28	R=49.87 L = 30.48	T=41.88	R=32.11 L = 22.45
Design levels	1613.970	1614.418	1614.552	1614.956	1614.662	1615.200	1614.859	1615.431	1615.190	1615.616	1614.880	1615.420	1614.610	1615.050	1614.439	1614.893	1614.568	1614.949	1614.643	1615.030	1614.557	1614.984	1614.386	1614.808	1613.792	1614.552	1613.571	1614.281	1613.296	1613.741	1612.361	1612.865	1612.036	1612.492	1612.608	1613.030	1614.033	1614.481	1616.108	1616.583	1618.302	1618.714	1620.253	1620.844	1622.405	1622.974	1624.632	1625.084	1626.417
Ground Levels	1612.948																																																

10+000 10+100 10+200 10+300 10+400 10+500

F:\KITE PROJECT\Thandiani Road Project\Separate Packages\ABBOTTABAD TO THANDIANI - Center - Package 1.dwg

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

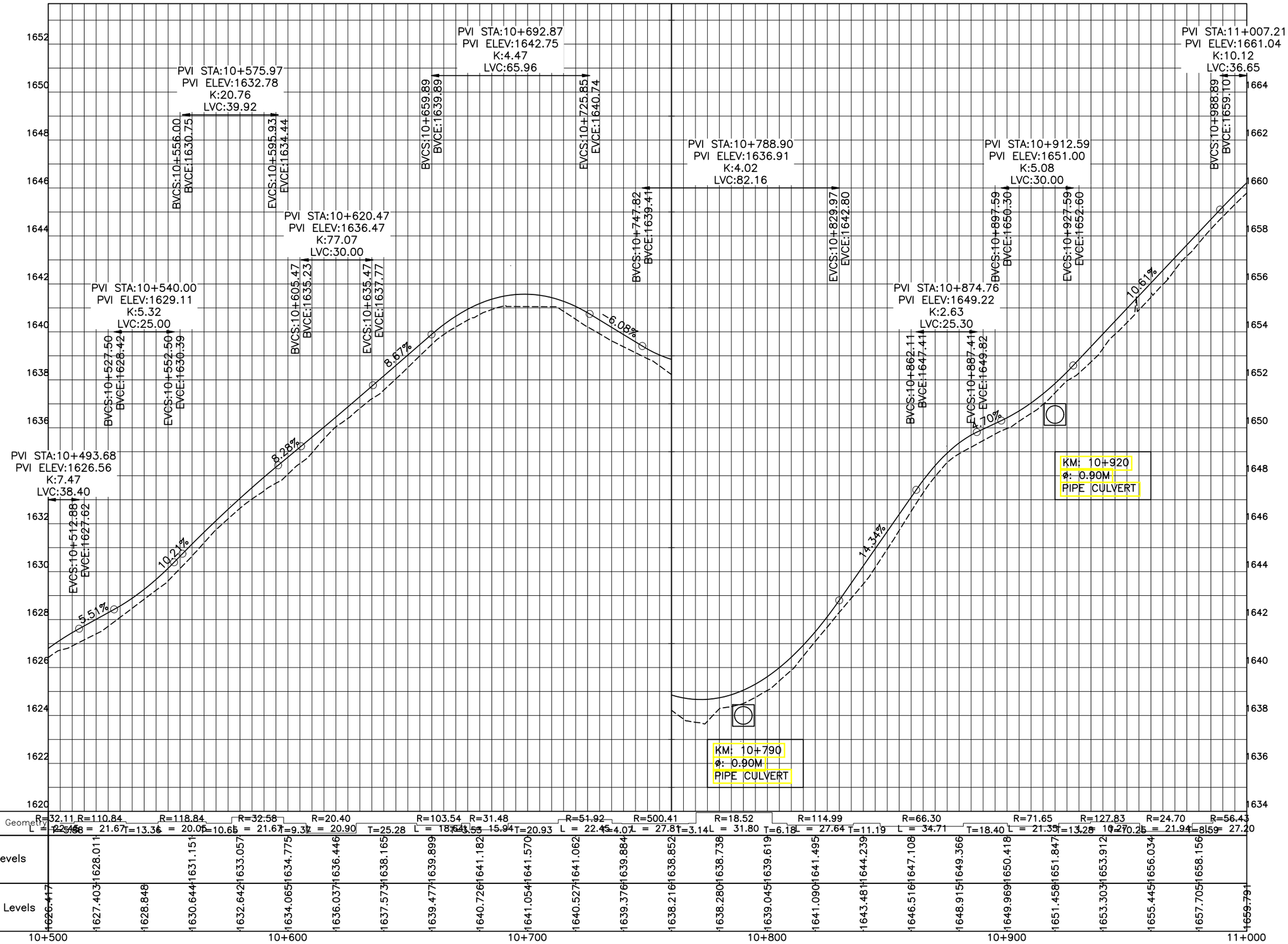
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 10+000 ~ 10+500

SCALE 1:1000

DATE **January 2022**

DWG NO. 4169/(ii)/TD/P 021



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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	JUNAID KHAN
SUBMITTED	NOSHERWAN NAEEM
RECOMMENDED	
CHD./VER.	
APPROVED	

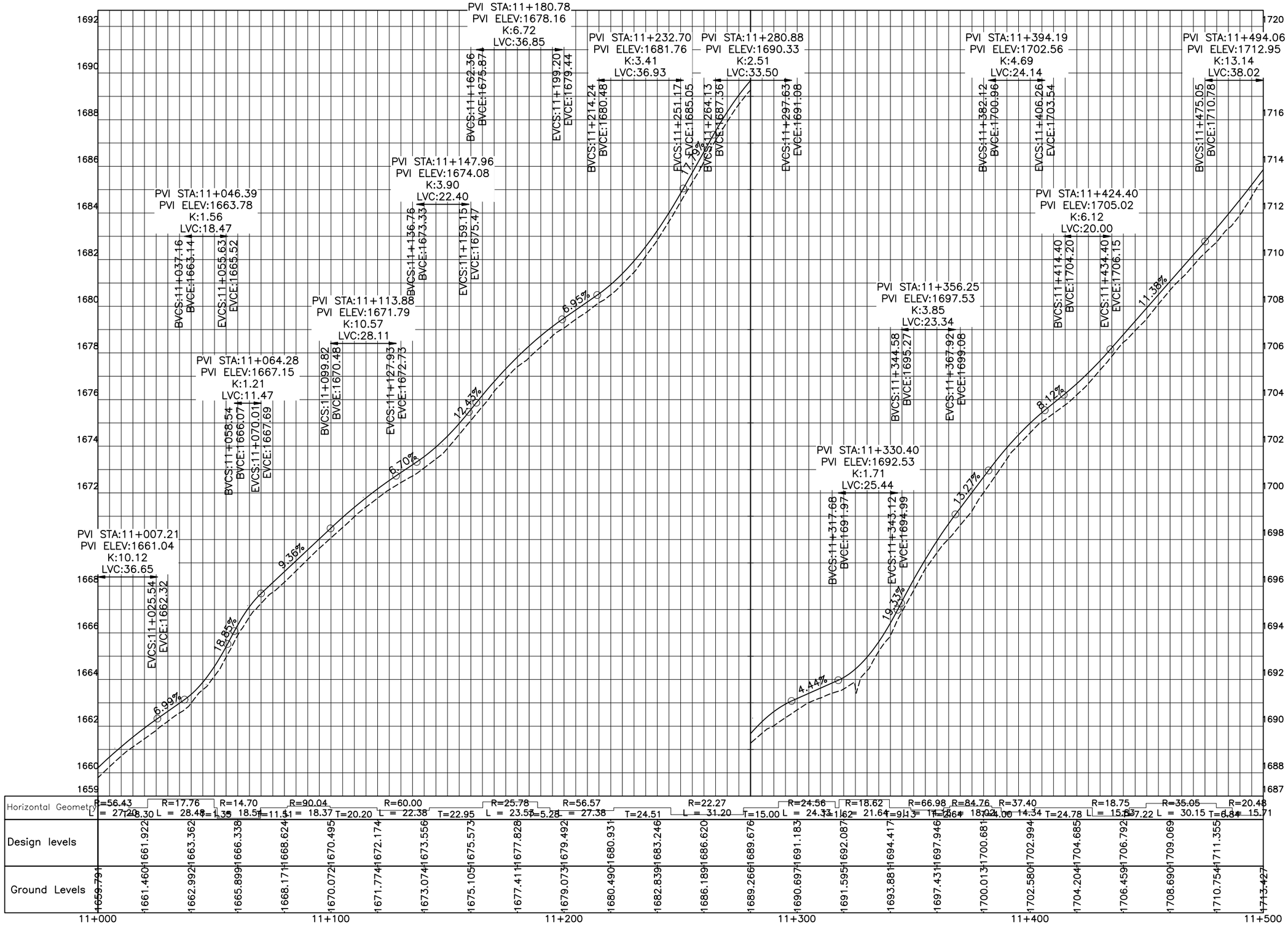
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 10+500 ~ 11+000

SCALE
1:1000

DATE
January 2022

DWG NO.
4169/(ii)/TD/P 022



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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NESPAK
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

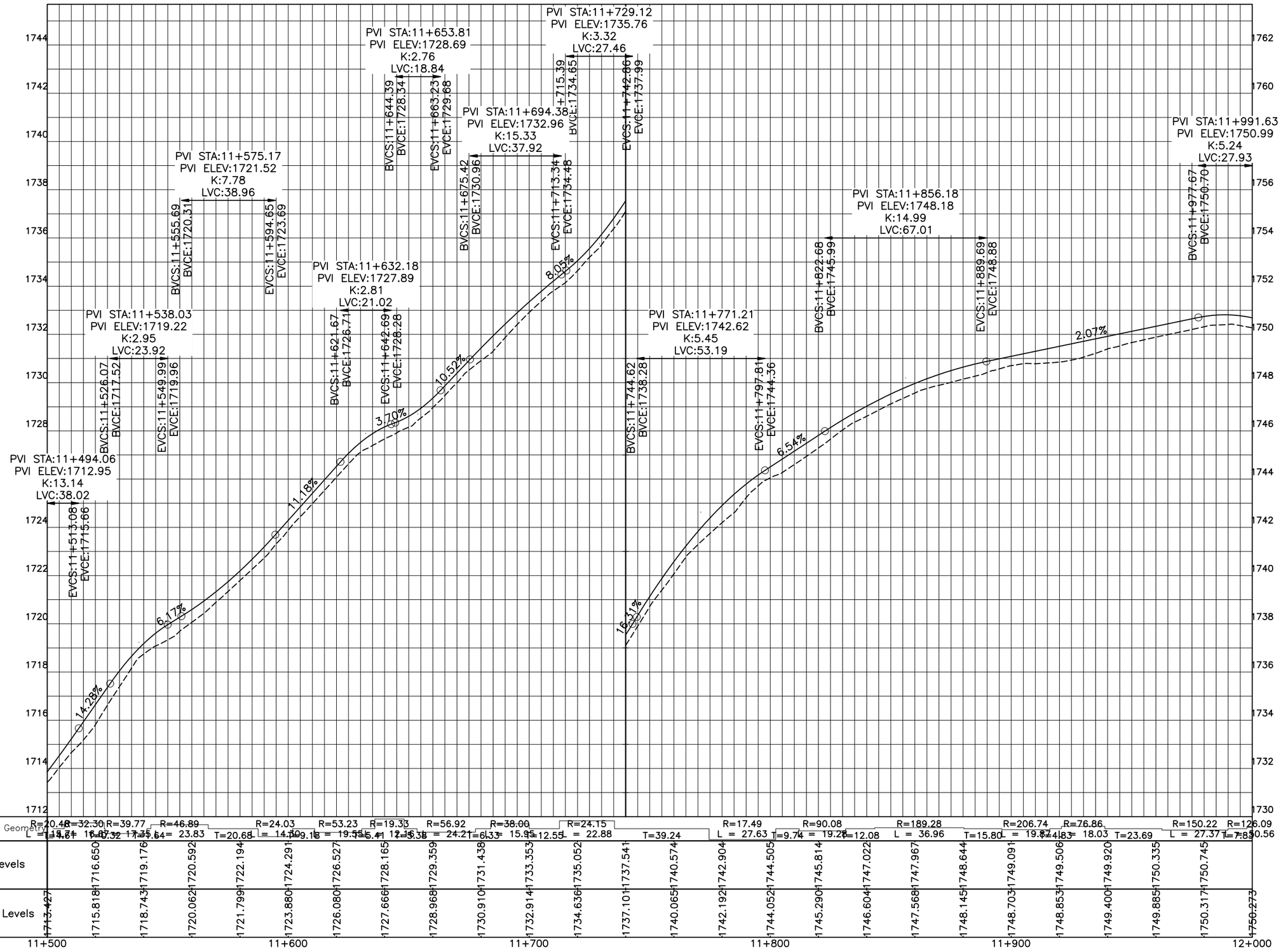
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 11+000 ~ 11+500

SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 023



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KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN: JUNAID KHAN
			SUBMITTED: NOSHERWAN NAEEM
			RECOMMENDED:
			CHD./VER.:
			APPROVED:

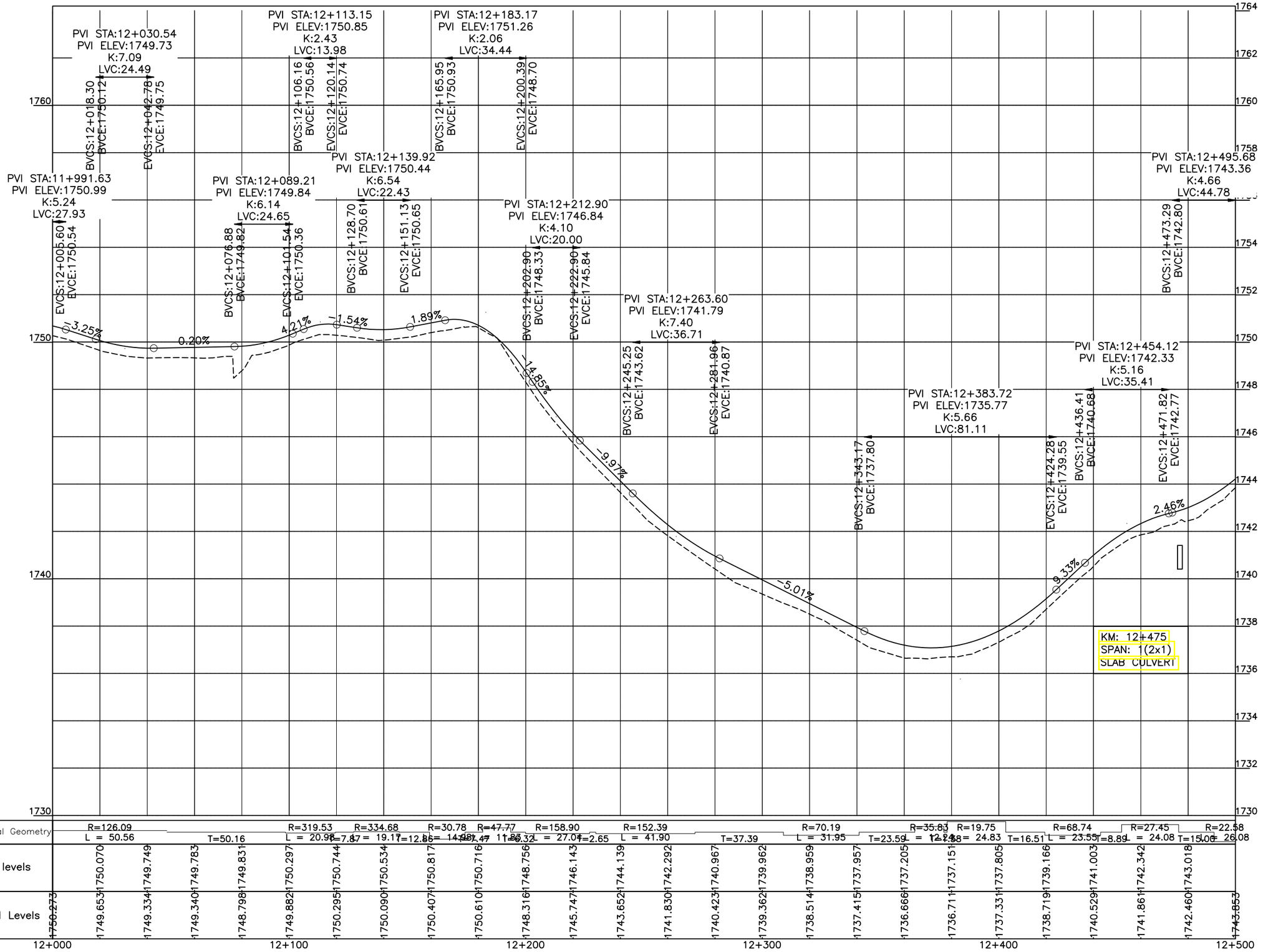
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 11+500 ~ 12+000

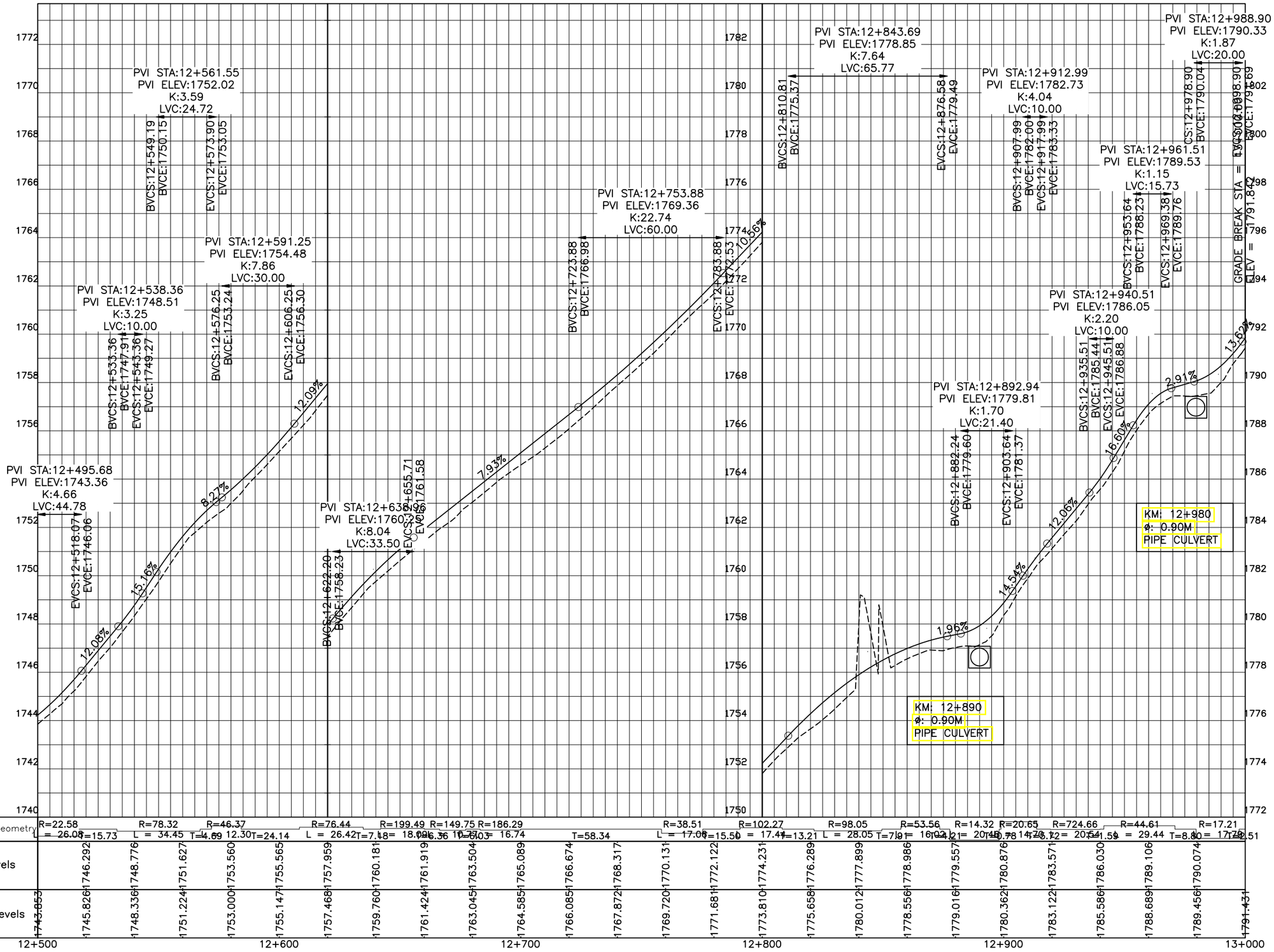
SCALE: 1:1000

DATE: January 2022

DWG NO.: 4169/(ii)/TD/P 024


PVI STA:12+030.54
PVI ELEV:1749.73
K:7.09
LVC:24.49
PVI STA:12+113.15
PVI ELEV:1750.85
K:2.43
LVC:13.98
PVI STA:12+183.17
PVI ELEV:1751.26
K:2.06
LVC:34.44
PVI STA:11+991.63
PVI ELEV:1750.99
K:5.24
LVC:27.93
PVI STA:12+089.21
PVI ELEV:1749.84
K:6.14
LVC:24.65
PVI STA:12+139.92
PVI ELEV:1750.44
K:6.54
LVC:22.43
PVI STA:12+212.90
PVI ELEV:1746.84
K:4.10
LVC:20.00
PVI STA:12+263.60
PVI ELEV:1741.79
K:7.40
LVC:36.71
PVI STA:12+383.72
PVI ELEV:1735.77
K:5.66
LVC:81.11
PVI STA:12+454.12
PVI ELEV:1742.33
K:5.16
LVC:35.41
PVI STA:12+495.68
PVI ELEV:1743.36
K:4.66
LVC:44.78
BVCS:12+000.60 BVCE:1750.54
EVCS:12+018.30 EVCE:1750.12
BVCS:12+076.88 BVCE:1749.82
EVCS:12+042.78 EVCE:1749.75
BVCS:12+106.16 BVCE:1750.56
EVCS:12+101.54 EVCE:1750.36
BVCS:12+120.14 EVCE:1750.74
BVCS:12+128.70 BVCE 1750.61
EVCS:12+151.13 EVCE:1750.65
BVCS:12+165.95 BVCE:1750.93
BVCS:12+202.90 BVCE:1748.33
EVCS:12+200.39 EVCE:1748.70
EVCS:12+222.90 EVCE:1745.84
BVCS:12+245.25 BVCE:1743.62
EVCS:12+281.96 EVCE:1740.87
BVCS:12+343.17 BVCE:1737.80
EVCS:12+424.28 EVCE:1739.55
BVCS:12+436.41 BVCE:1740.68
EVCS:12+471.82 EVCE:1742.77
BVCS:12+473.29 BVCE:1742.80
3.25%
0.20%
4.21%
1.54%
1.89%
-4.85%
-9.97%
-5.01%
9.33%
2.46%
KM: 12+475
SPAN: 1(2x1)
SLAB CULVERT
1764
1762
1760
1758
1754
1752
1750
1748
1746
1744
1742
1740
1738
1736
1734
1732
1730

| | | |



Horizontal Geometry	R=22.58 L = 26.05 T=15.73	R=78.32 L = 34.45 T=4.69	R=46.37 L = 12.30 T=24.14	R=76.44 L = 26.42 T=7.18	R=199.49 L= 18.09 T=6.36	R=149.75 T=6.03	R=186.29 L= 16.74	T=58.34	R=38.51 L = 17.06 T=15.50	R=102.27 L = 17.44 T=13.21	R=98.05 L = 28.05 T=7.91	R=53.56 L= 16.02	R=14.32 L= 4.21	R=20.65 L= 20.45 T=20.78	R=724.66 L= 14.72 T=6.72	R=44.61 L= 20.54 T=11.59	R=17.21 L = 29.44 T=8.80	L= 17.79 L=12.51
Design levels	1746.292	1748.776	1751.627	1753.560	1755.565	1757.959	1760.181	1761.919	1763.504	1765.089	1766.674	1768.317	1770.131	1772.122	1774.231	1776.289	1777.899	1778.986	1779.557	1780.876	1783.571	1786.030	1789.106	1790.074
Ground Levels	1743.853	1745.826	1748.336	1751.224	1753.000	1755.147	1757.468	1759.760	1761.424	1763.045	1764.585	1766.085	1767.872	1769.720	1771.681	1773.810	1775.658	1780.012	1778.556	1779.016	1780.362	1783.122	1785.586	1788.689	1789.456	1791.431

12+500 12+600 12+700 12+800 12+900 13+000

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KHYBER PAKHTUNKHWA
INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
COMMUNICATION & WORKS (C&W) DEPARTMENT, KPK

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED		
				DRAWN	JUNAID KHAN
				SUBMITTED	NOSHERWAN NAEEM
				RECOMMENDED	
				CHD./VER.	
				APPROVED	

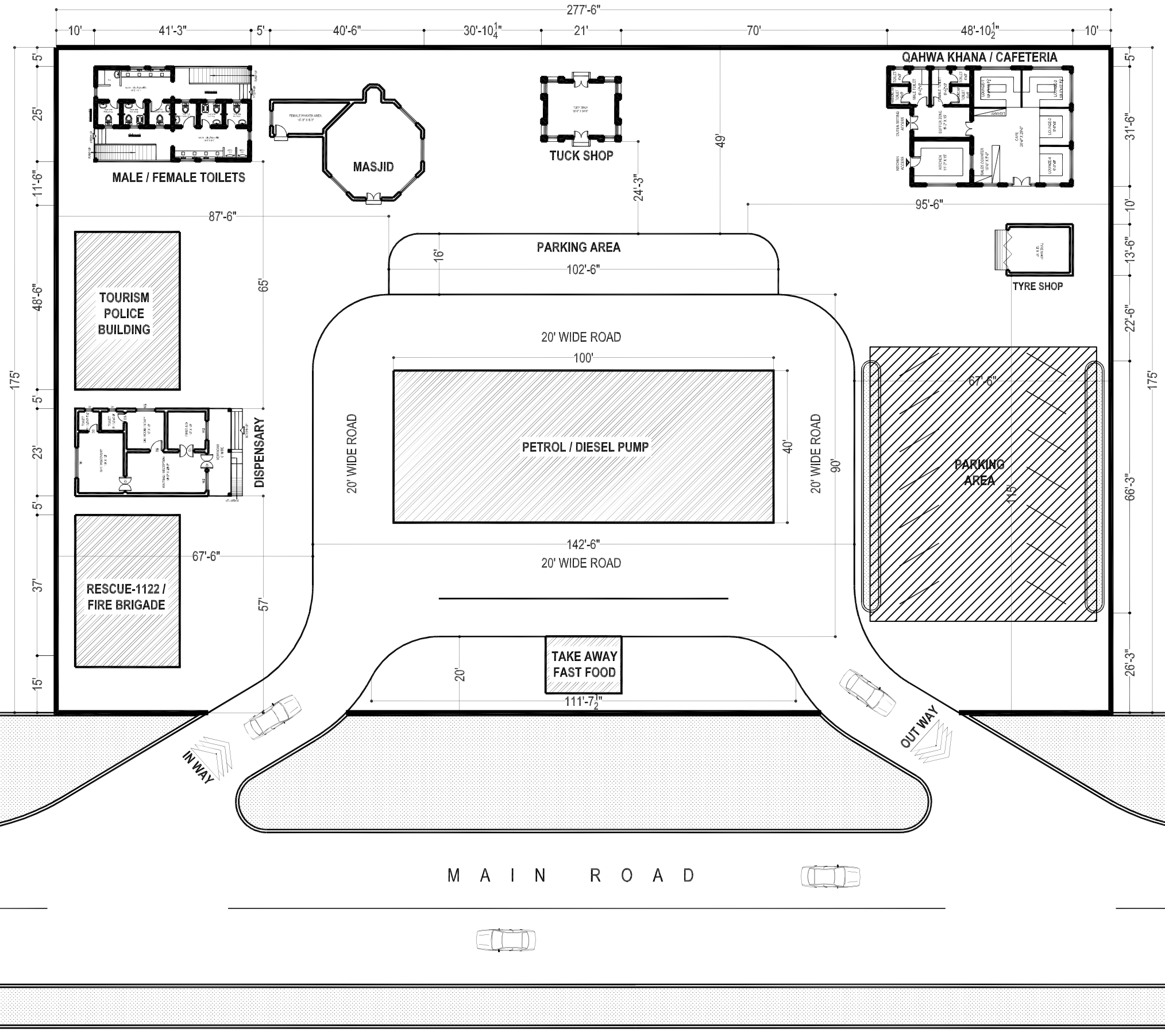
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

PROFILE
KM 12+500 ~ 13+000

SCALE 1:1000

DATE **January 2022**

DWG NO. 4169/(ii)/TD/P 026



CLIENT:	CONSULTANT:					DRAWN	PROJECT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT **PMU (KITE) C&W DEPARTMENT KP**	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM** **LOT-01: KM 0+000 ~ 13+000**
					RECOMMNED		
					CHD./VER		
		REV	DATE	DESCRIPTION	APPROVED		

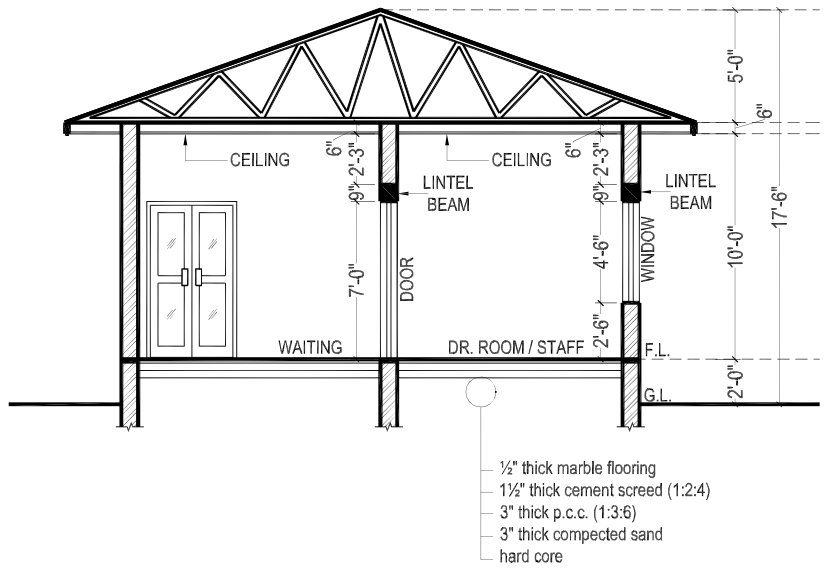
TITLE:
DESIGN OF REST AREA
LAYOUT PLAN

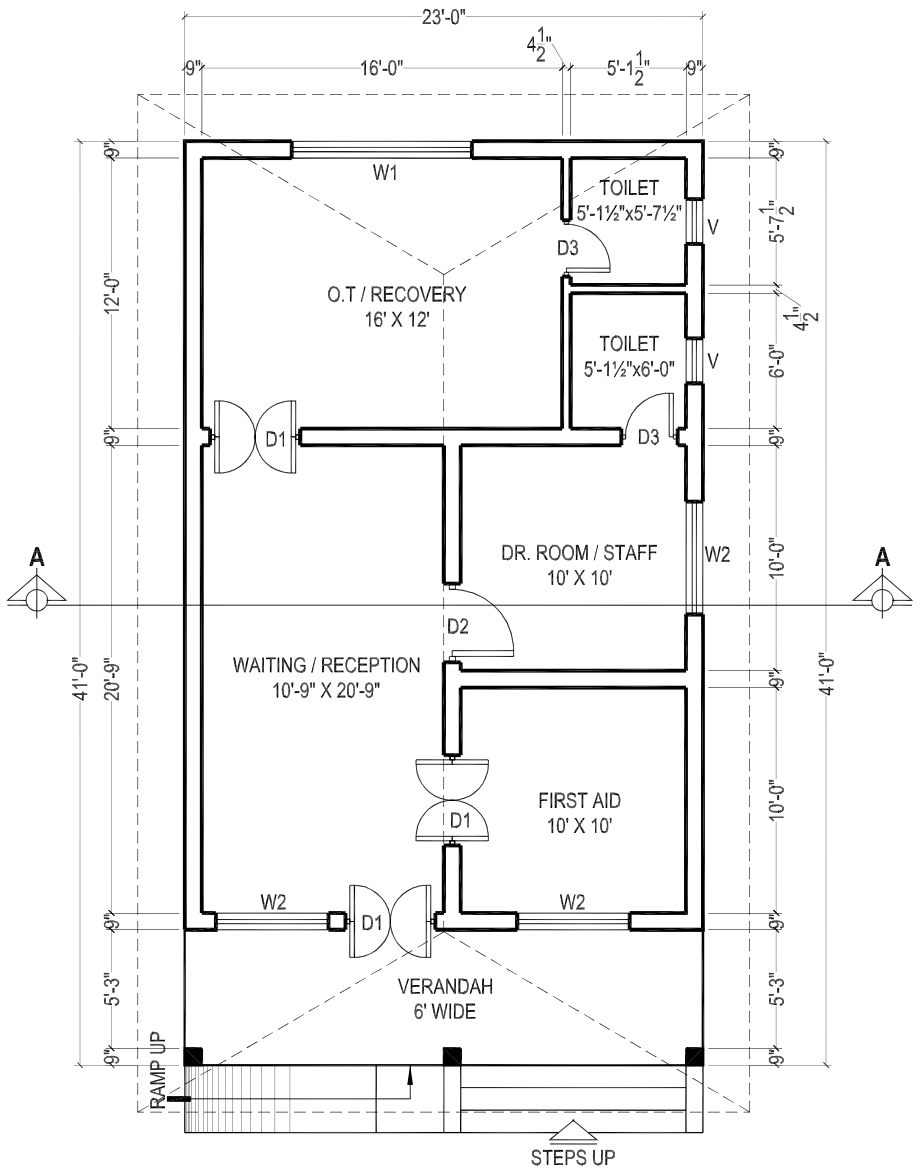
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/01



FRONT ELEVATION





DISPENSARY BLOCK

COVERED AREA = 943.00 SFT

SCHEDULE OF OPENING			
S.NO.	TYPE	SIZE	S/LEVEL
01	D1	4'-0" X 7'-0"	±0'-0"
02	D2	3'-6" X 7'-0"	±0'-0"
03	D3	2'-6" X 7'-0"	±0'-0"
04	W1	8'-0" X 4'-6"	+2'-6"
05	W2	5'-0" X 4'-6"	+2'-6"
06	V	2'-0" X 2'-0"	+5'-0"

BUILDING SPECIFICATION

* PCC (1:4:8) IN FOUNDATIONS.
* 2" THICK DPC (DAMP PROOF COURSE) IN (1:2:4) PCC WITH 2 COATS OF HOT BITUMEN WITH POLYTHENE SHEET.
* BURNT BRICK MASONRY IN 1:6 CEMENT SAND RATIO MORTAR.
* 1/2" THICK PLASTER ON WALLS IN 1:6 CEMENT SAND RATIO.
* ALL LINTELS & BEAMS IN (1:2:4) CEMENT: SAND: AGGREGATE RATIO WITH 14 DAYS CURING.
* ALL ELECTRICAL WIRING TO BE CONCEALED.
* ALL LOAD BEARING WALLS SHALL BE MINIMUM 9" THICK.
* ALL PARTITION WALLS SHALL BE 9" THICK.
* THEN 1 1/2" BRICK TILES SET IN 1:3 CEMENT SAND RATIO.
* ALL INTER FLOOR SLABS SHALL BE COVERED WITH 2" OF PCC (1:4:8) IN SLOPE THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.
* ALL GROUND FLOORS SHALL BE LAID ON COMPACTED EARTH THEN 6" OF WATERED AND RAMMED SAND THEN 4" OF (1:4:8) IN SLOPE THEN 2" (1:2:4) THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.

CLIENT:

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

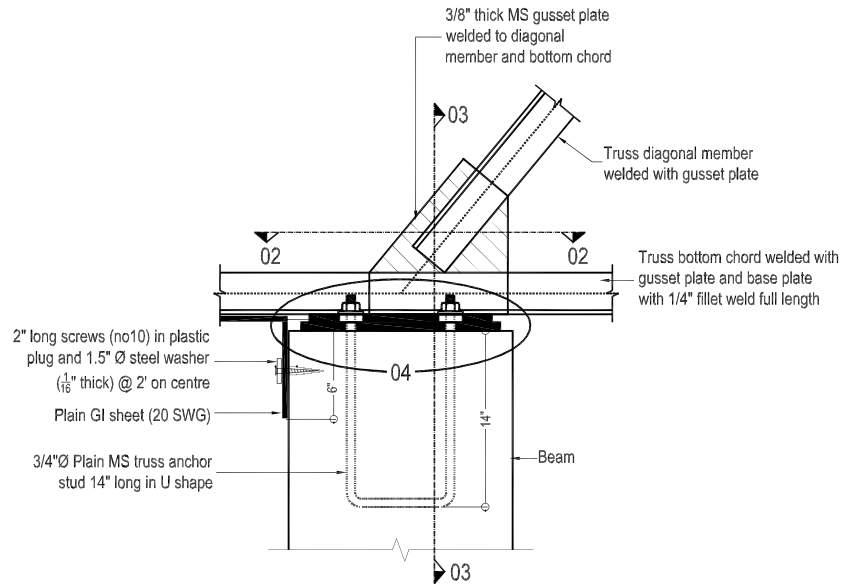
PROJECT:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000

TITLE: REST AREA DISPENSARY BLOCK

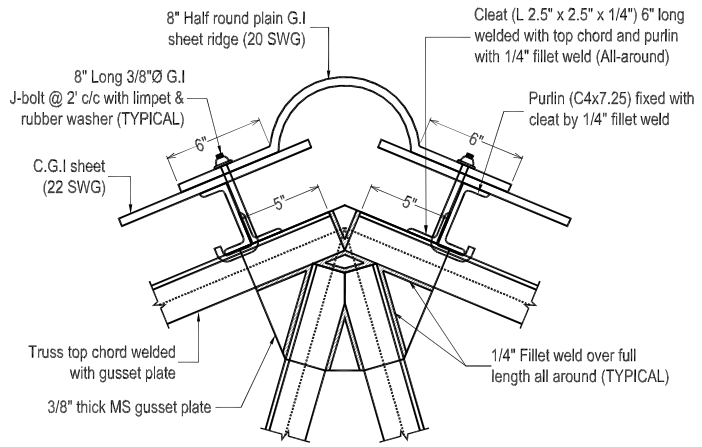
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/02

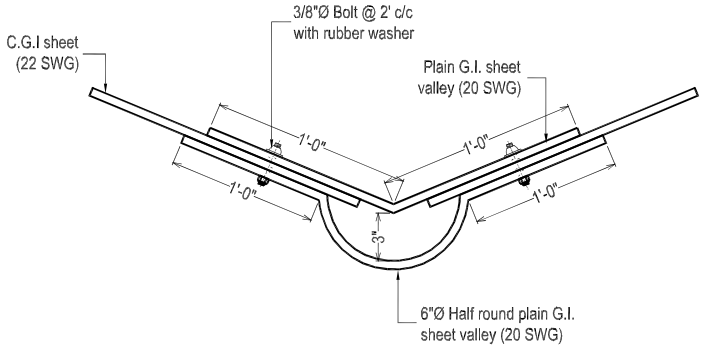


BASE PLATE DETAIL

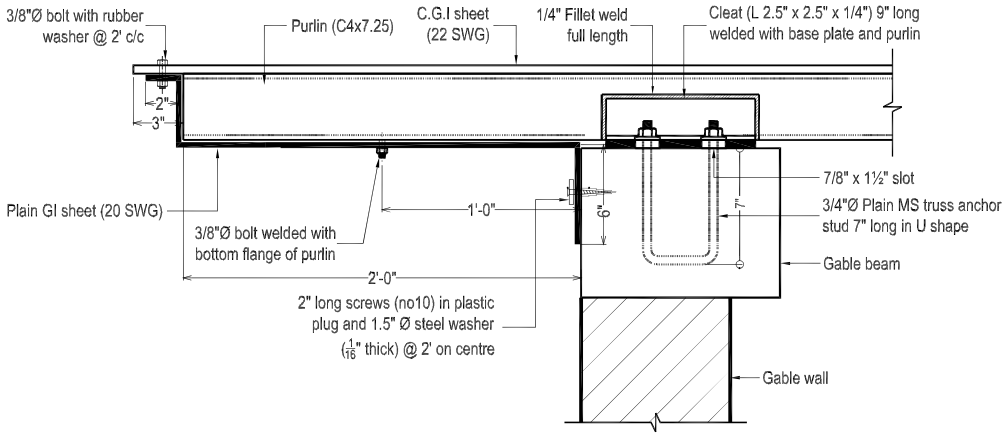
(All trusses)



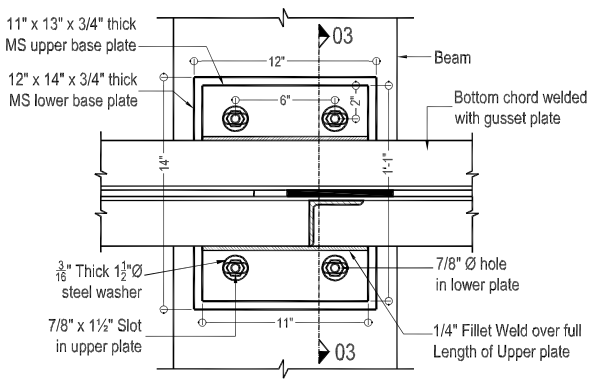
TYPICAL TOP CHORD CONNECTION DETAIL



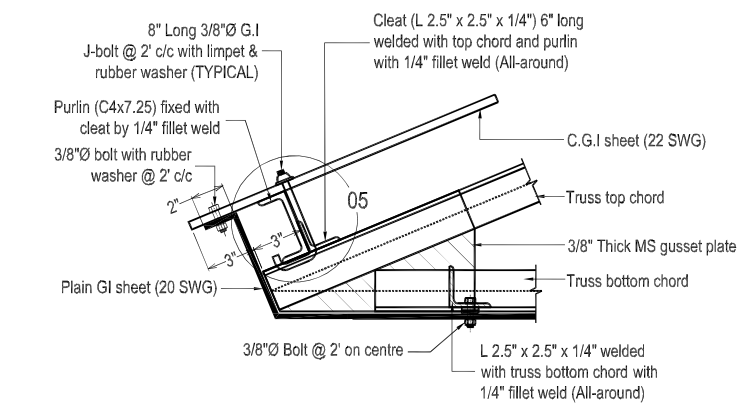
VALLEY DETAIL



PGI SHEET DETAIL AT GABLE WALL

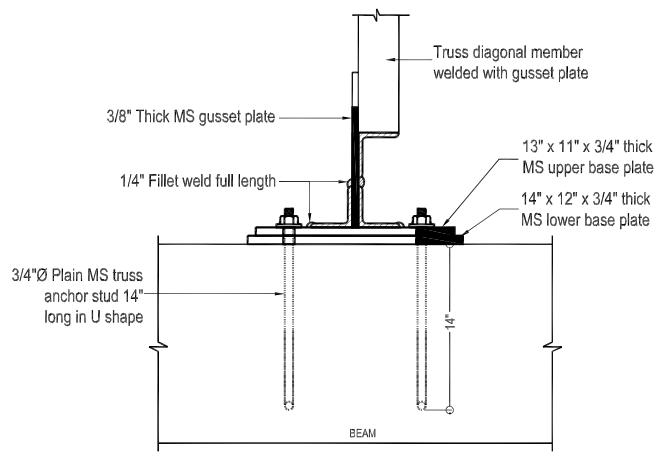


SECTION 02-02

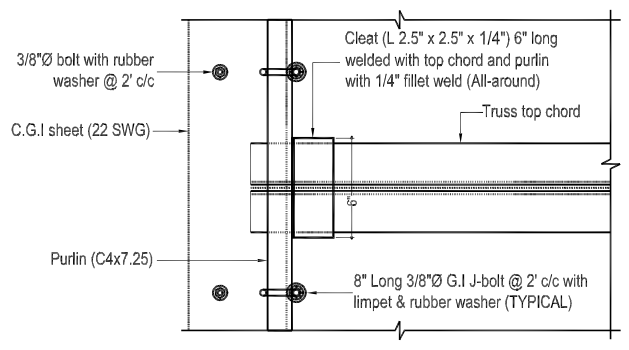


END OF TRUSS PORTION (Elevation)

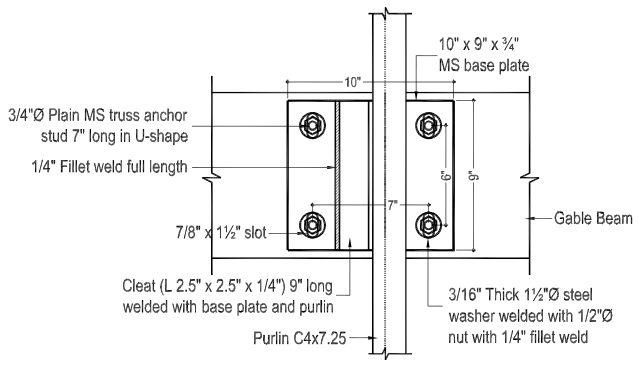
(All trusses)



SECTION 03-03



END OF TRUSS PORTION (Plan)



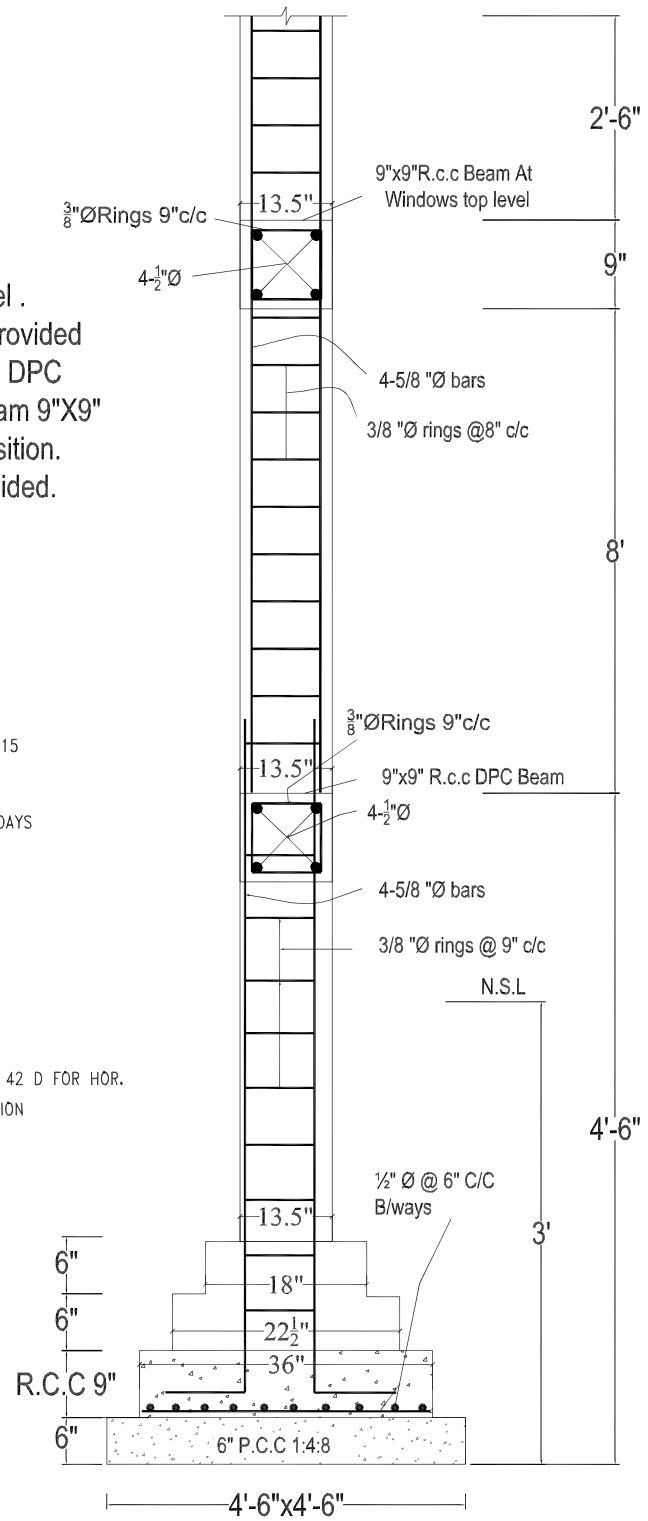
CONNECTION DETAIL
FOR PURLIN ON GABLE WALL

CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT **PMU (KITE) C&W DEPARTMENT KP**	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM** **LOT-01: KM 0+000 ~ 13+000**	**REST AREA(DISPENSARY BLOCK)** TRUSS DETAIL
					RECOMMNED			
					CHD./VER			DATE: JANUARY 2022
		REV	DATE	DESCRIPTION	APPROVED			DWG. NO 38164/102/TD/ RA/LOT-01/03

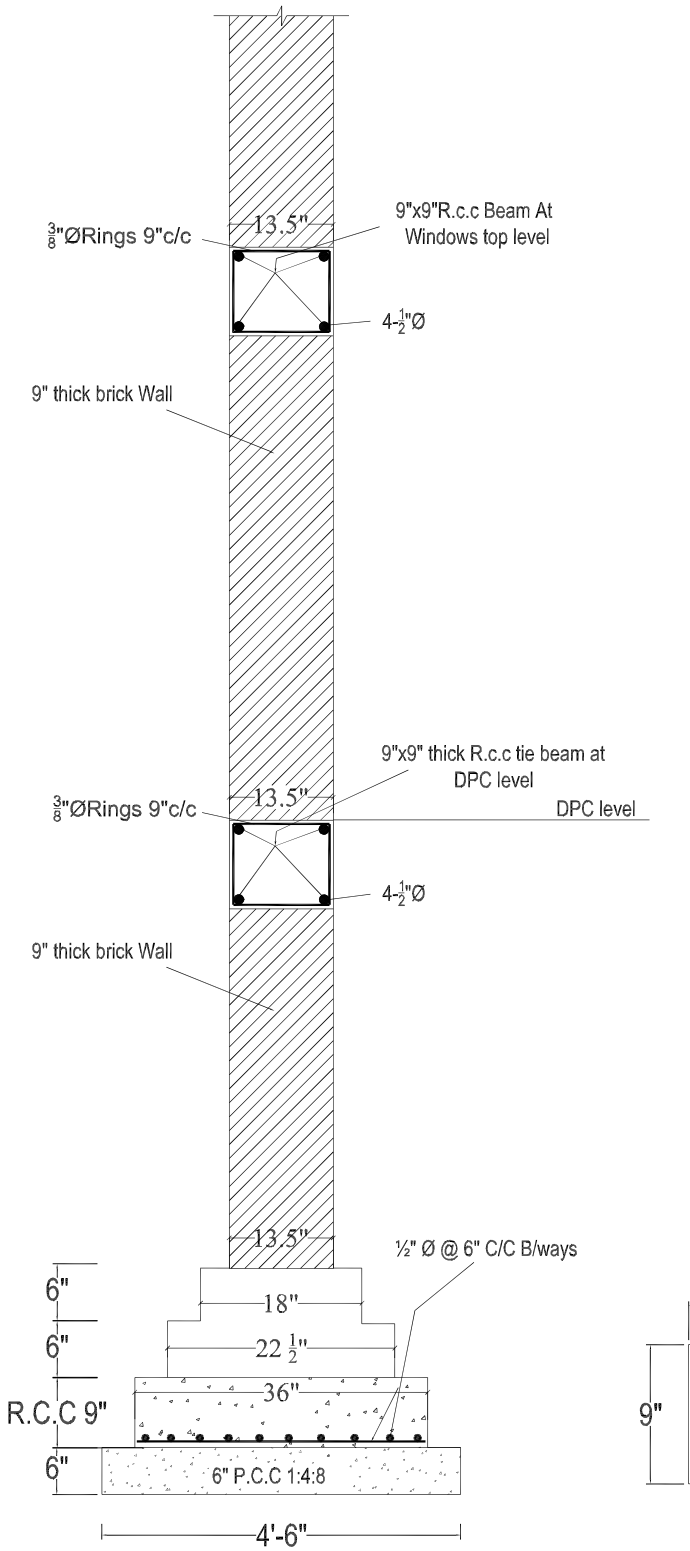
R.c.c columns upto DPC level .
At DPC 9" thick tie beam will be provided over 9" thick brick walls, no extra DPC then required.After Providing Tie beam 9"X9" on walls & columns at shown position.
Normal 9" thick brick wall is provided.

NOTES:-

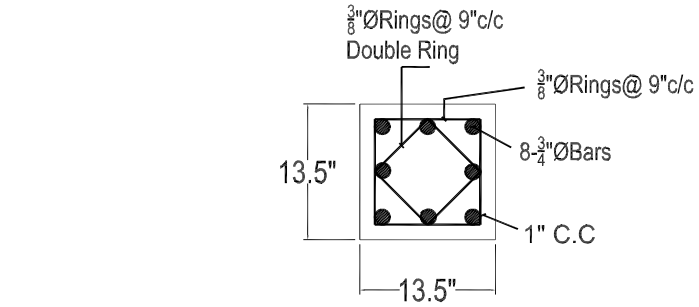
(1) ALL REINFORCING STEEL IS DEFORMED AS PER ASTM A-615 40000 PSI MIN. YIELD STRENGTH. AND MIN. ULTIMATE STRENGTH OF 65000 PSI .
(2) ALL CONCRETE IS 3000 PSI CYLINDER STRENGTH AT 28 DAYS WITH MIN. CEMENT CONTENT 400 KG/m
(3) CLEAR CONCRETE COVER TO MAIN REINFORCING BARS IS AS BELOW.
SLABS = 3/4" FOOTING ON 1:4:8 = 2"
BEAMS = 1½" COLUMNS = 1½"
(4) ALL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE RELEVENT ARCHITECTURAL AND SERVICES DRGS.
(5) LEAN IS 1000 PSI CYLINDER STRENGTH AT 28 DAYS MIN MIX 1:4:8
(6) ALL LAPS ARE 30 TIMES BAR DIAMETER FOR VERTICAL & 42 D FOR HOR.
(7) EXCAVATION INCLUDING DEWATERING, BRACING OF EXCAVATION TO SAFEGUARD THE ADJOINING PROPERTY AND LIFE AND DEWATERING PITS IN CASE OF RAIN IS CONTRACTOR RESPONSIBILITY. FOR THAT MATTER, A QUALIFIED GEO-TECHNICAL ENGINEER SHOULD BE APPOINTED ON HIS ROLE.
(8) (a) IST TIE BEAM AT FOUNDATION LEVEL.
(b) 2ND TIE BEAM AT D.P.C. LEVEL.
(C) 3RD TIE BEAM AT WINDOW LINTLE LEVEL.
(d) R.C.C COLUMN 9"x 9" AT CORNER OF BUILDING SHAULD BE PROVIDED.



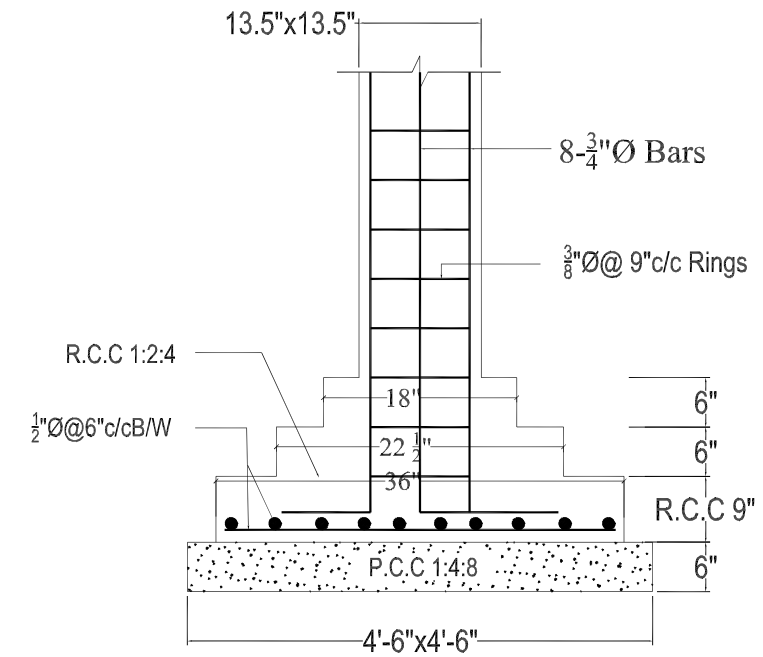
R.c.c Foundation Detail
For R.c.c Column Portion



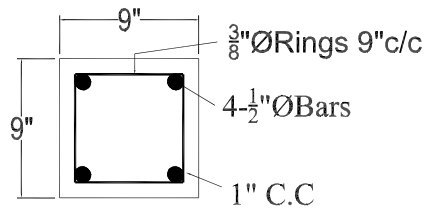
R.C.C. STRIP FOUNDATION
FOR GROUND FLOOR



VERANDAH COLUMN DETAIL
C-2

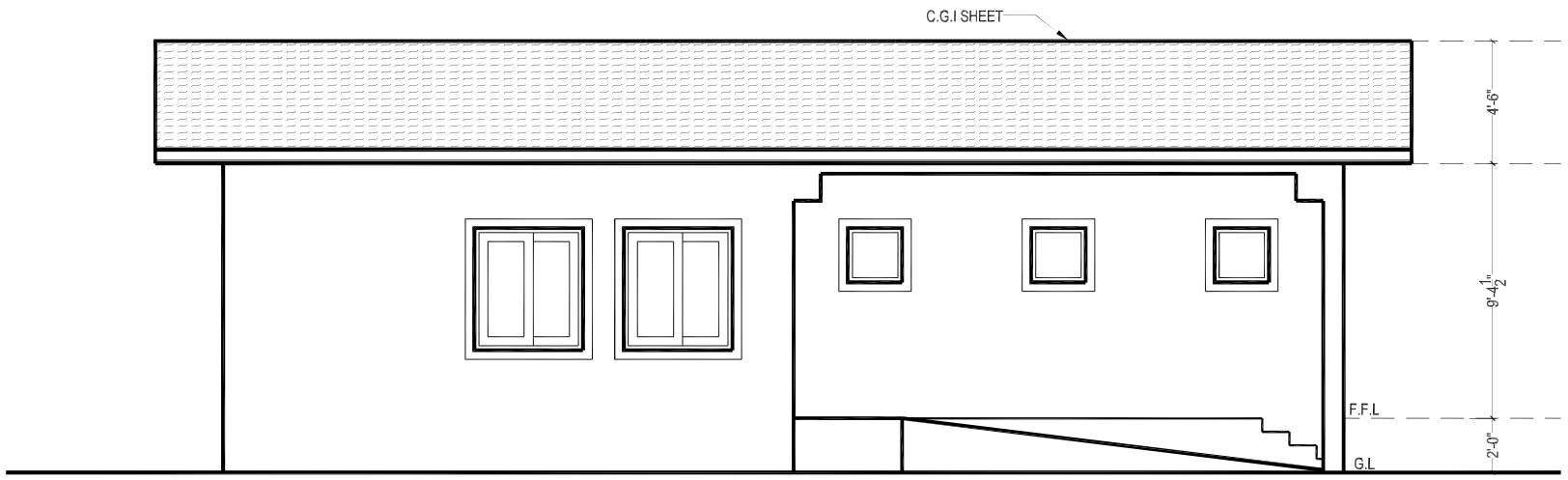


VERANDAH COLUMNS FOUNDATION DETAIL
C-1

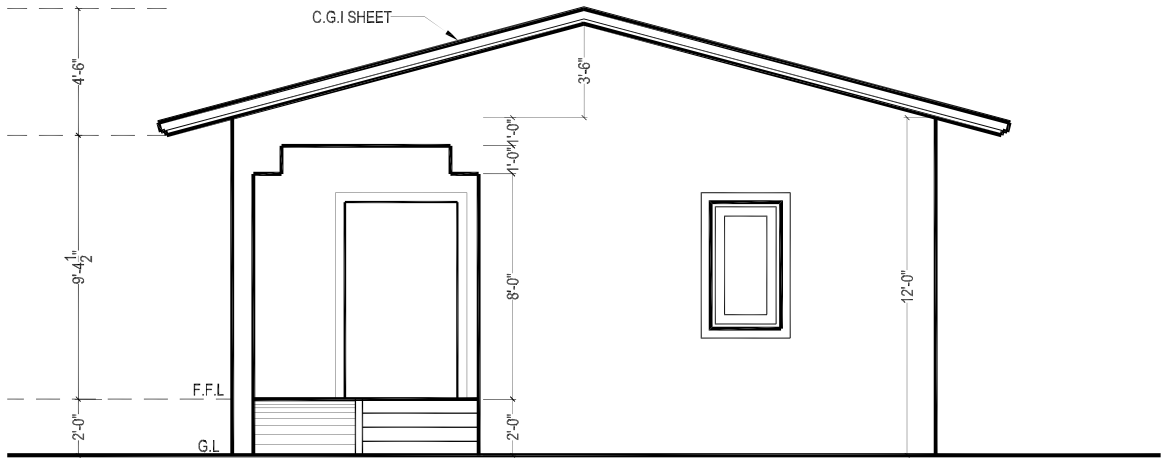


TIE BEAM

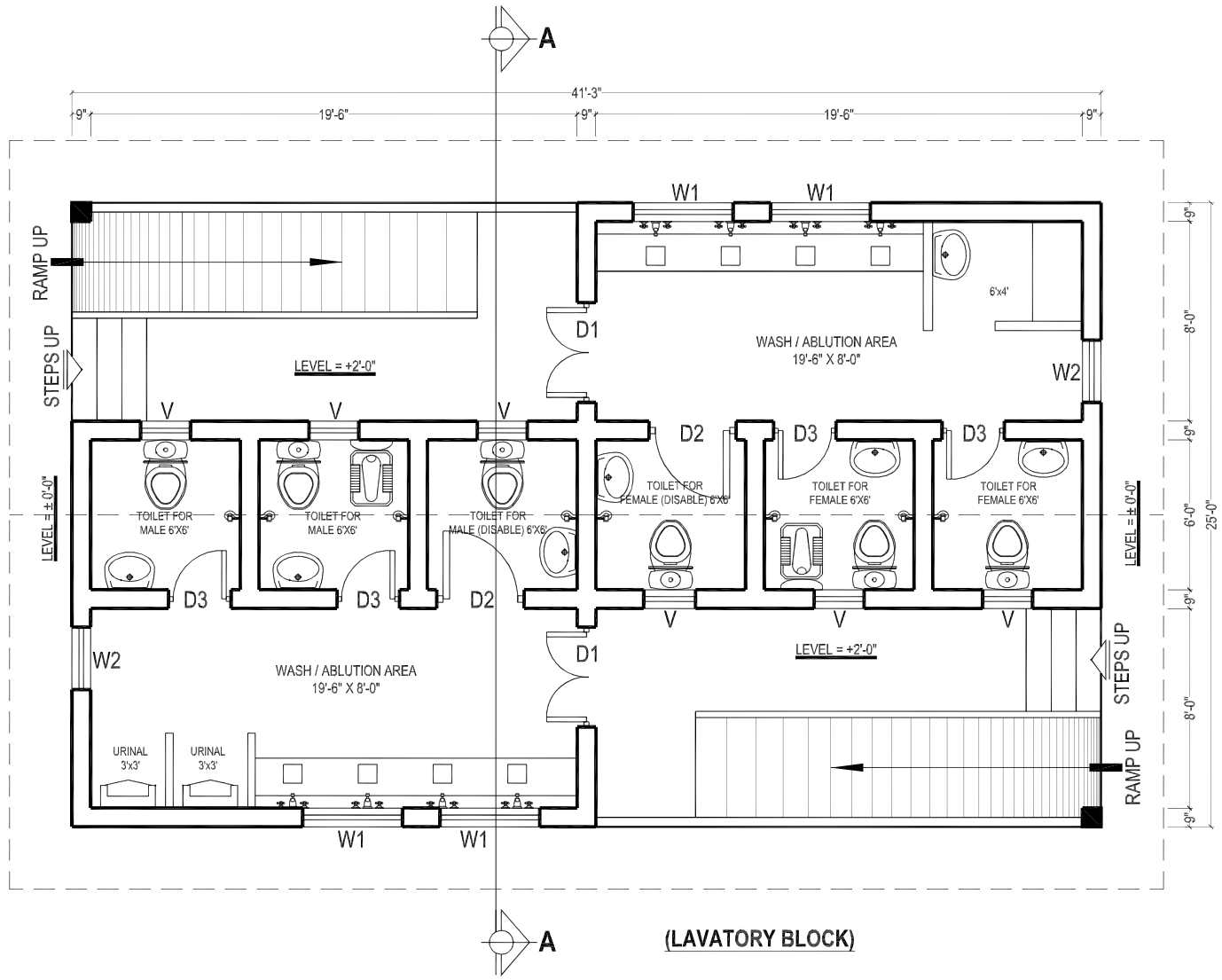
CLIENT: **KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT PMU (KITE) C&W DEPARTMENT KP**	CONSULTANT: NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	REV	DATE	DESCRIPTION	SUBMITTED / RECOMMNED / CHD./VER / APPROVED	DRAWN	PROJECT: **REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	TITLE: **REST AREA (DISPENSARY BLOCK)** FOUNDATION, COLUMNS AND WALLS DETAIL DATE: JANUARY 2022 DWG. NO 38164/102/TD/ RA/LOT-01/04



FRONT ELEVATION



RIGHT SIDE ELEVATION



(LAVATORY BLOCK)

PLAN

SCHEDULE OF OPENING			
S,NO.	TYPE	SIZE	S/LEVEL
01	D1	4'-0" X 7'-0"	±0'-0"
02	D2	3'-6" X 7'-0"	±0'-0"
03	D3	2'-6" X 7'-0"	±0'-0"
04	W1	4'-0" X 4'-6"	+2'-6"
05	W2	2'-6" X 4'-6"	+2'-6"
06	V	2'-0" X 2'-0"	+5'-0"

BUILDING SPECIFICATION

* PCC (1:4:8) IN FOUNDATIONS.
* 2" THICK DPC (DAMP PROOF COURSE) IN (1:2:4) PCC WITH 2 COATS OF HOT BITUMEN WITH POLYTHENE SHEET.
* BURNT BRICK MASONRY IN 1:6 CEMENT SAND RATIO MORTAR.
* 1/2" THICK PLASTER ON WALLS IN 1:6 CEMENT SAND RATIO.
* ALL LINTELS & BEAMS IN (1:2:4) CEMENT: SAND: AGGREGATE RATIO WITH 14 DAYS CURING.
* ALL ELECTRICAL WIRING TO BE CONCEALED.
* ALL LOAD BEARING WALLS SHALL BE MINIMUM 9" THICK.
* ALL PARTITION WALLS SHALL BE 9" THICK.
* THEN 1 1/2" BRICK TILES SET IN 1:3 CEMENT SAND RATIO.
* ALL INTER FLOOR SLABS SHALL BE COVERED WITH 2" OF PCC (1:4:8) IN SLOPE THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.
* ALL GROUND FLOORS SHALL BE LAID ON COMPACTED EARTH THEN 6" OF WATERED AND RAMMED SAND THEN 4" OF (1:4:8) IN SLOPE THEN 2" (1:2:4) THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.

CLIENT:

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

PROJECT:

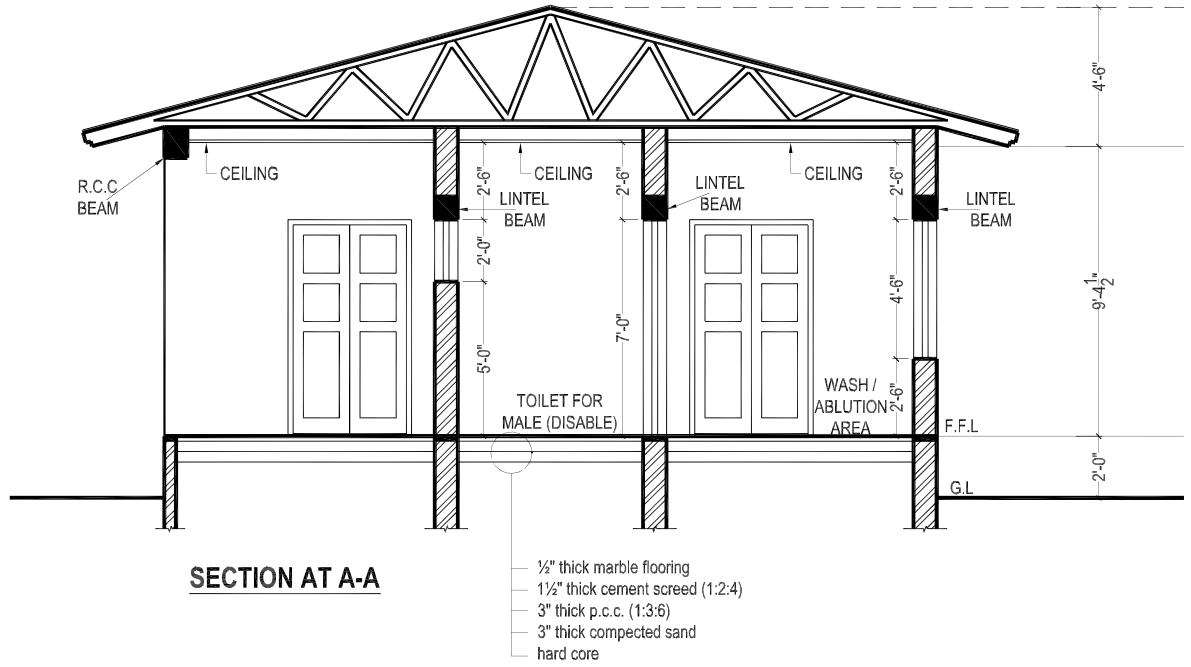
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000

TITLE:

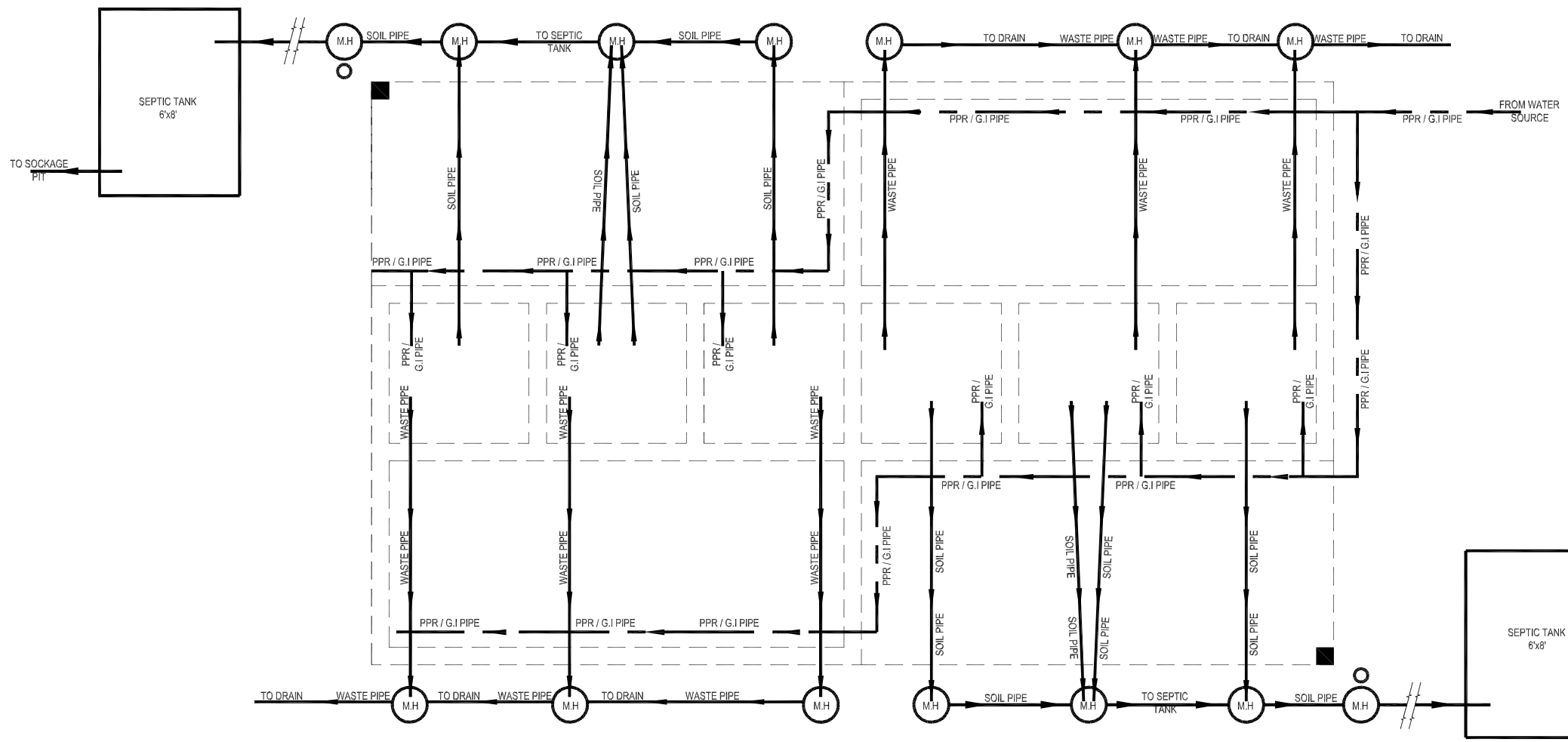
REST AREA
(LAVATORY/ PUBLIC TOILETS BLOCK)
PLAN , ELEVATION,SPECIFICATION

DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/05



SECTION AT A-A



SEWER & WATER SUPPLY PLAN

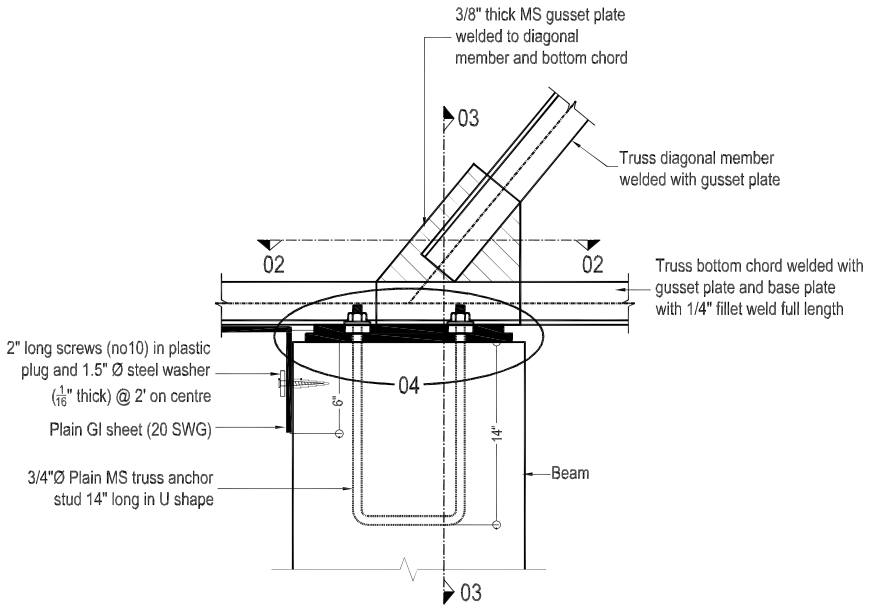
CLIENT: **KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT** **PMU (KITE) C&W DEPARTMENT KP**	CONSULTANT: **NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**					DRAWN
					SUBMITTED	
					RECOMMNED	
					CHD./VER	
		REV	DATE	DESCRIPTION	APPROVED	

PROJECT: **REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**

TITLE: REST AREA (LAVATORY / PUBLIC TOILETS BLOCK) SEWER AND WATER SUPPLY PLAN & SECTION

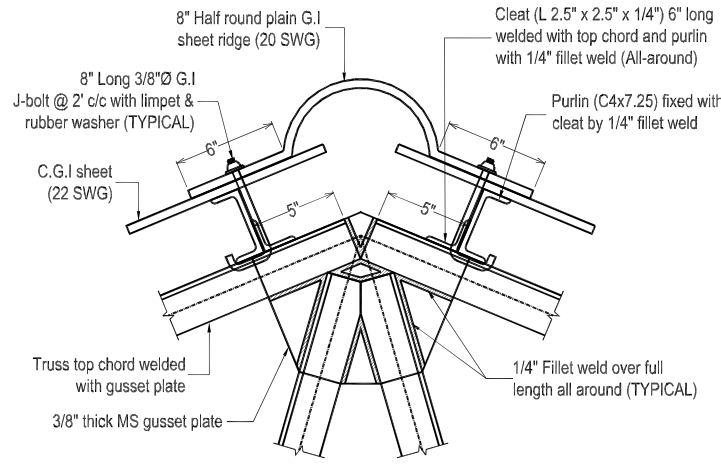
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/06

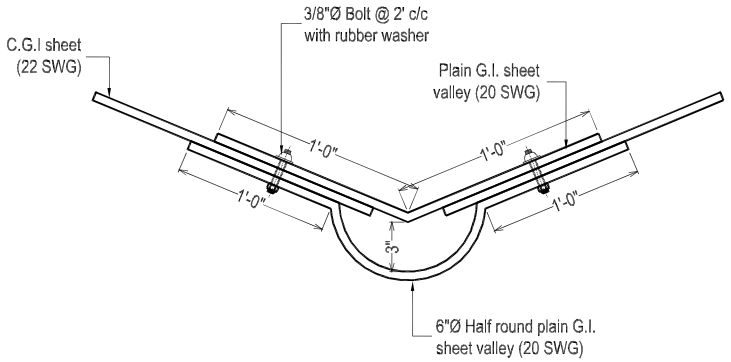


BASE PLATE DETAIL

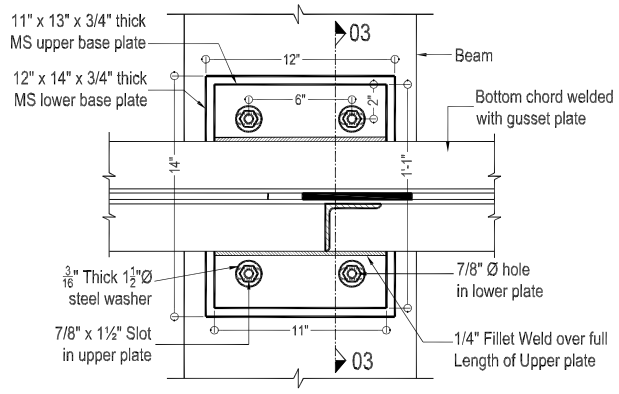
(All trusses)



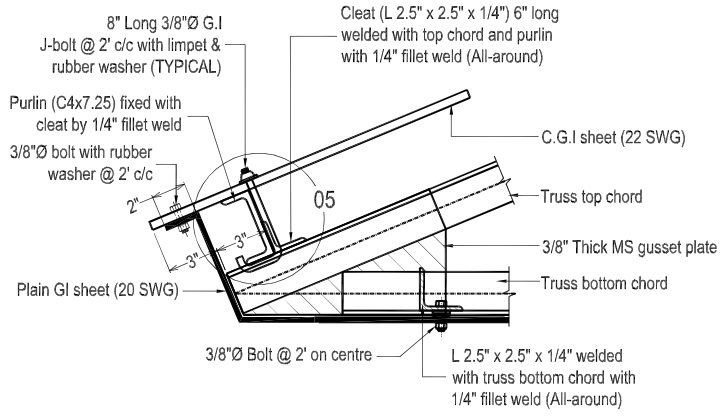
TYPICAL TOP CHORD CONNECTION DETAIL



VALLEY DETAIL

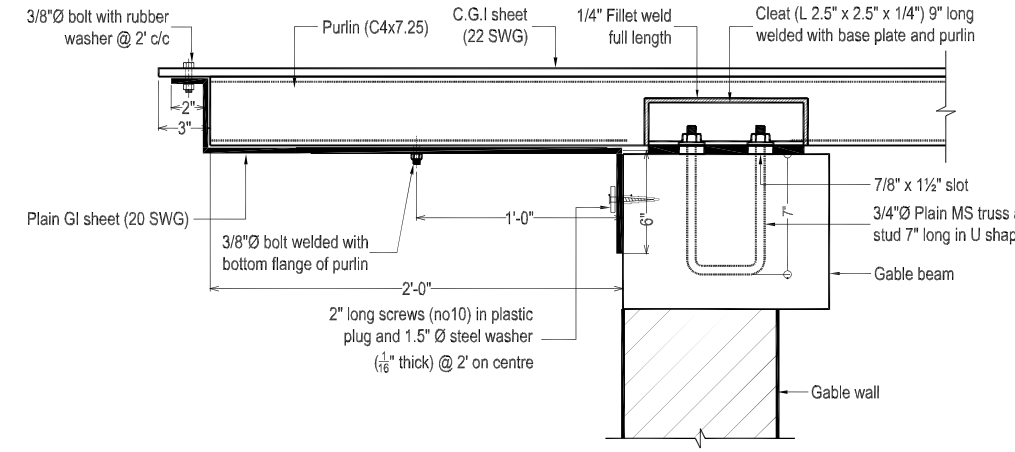


SECTION 02-02

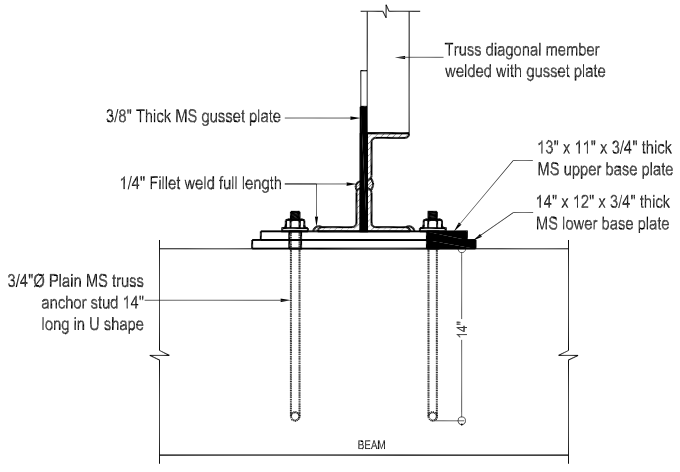


END OF TRUSS PORTION (Elevation)

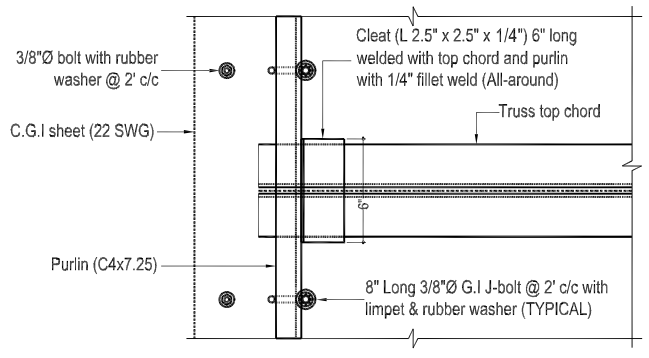
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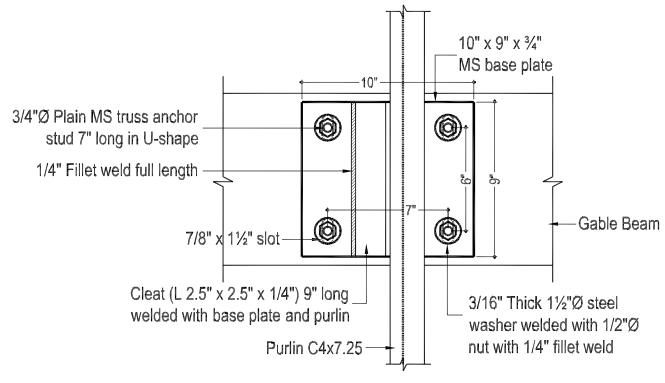
PGI SHEET DETAIL AT GABLE WALL



SECTION 03-03



END OF TRUSS PORTION (Plan)



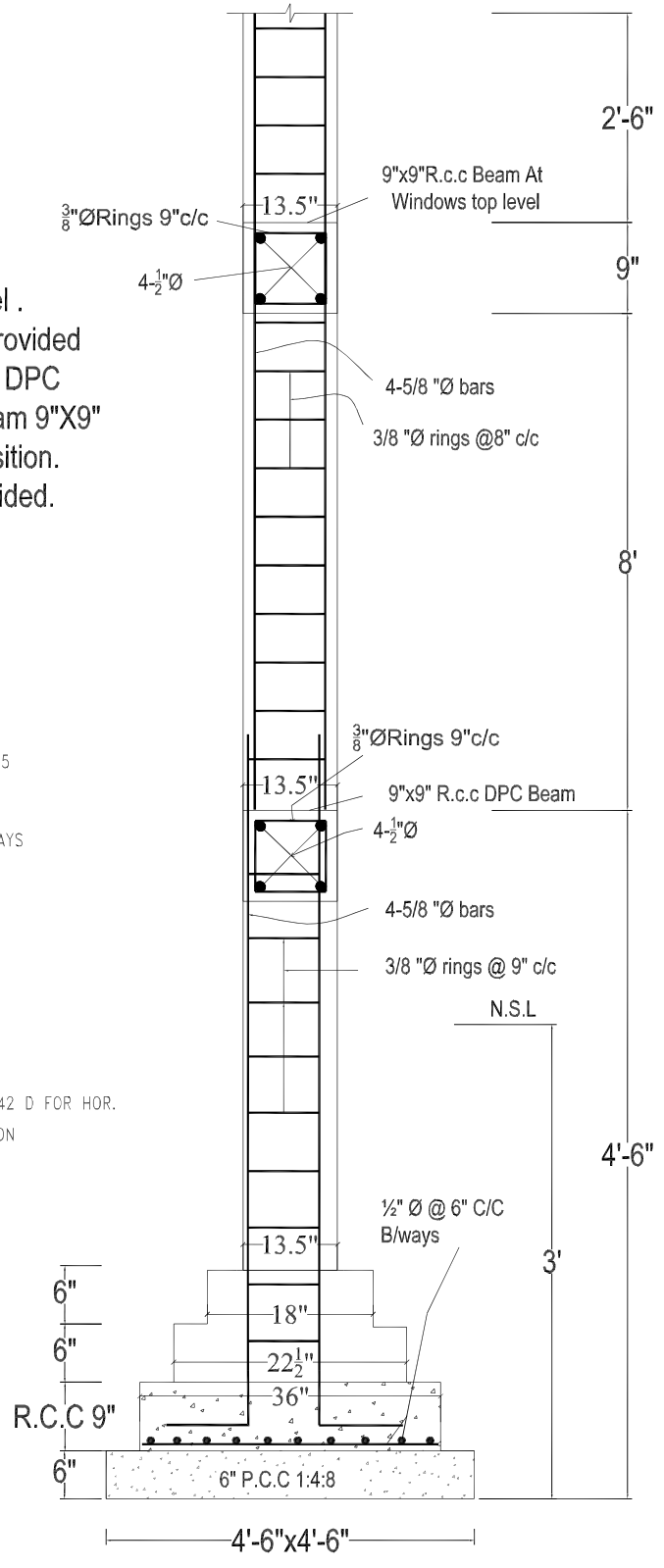
CONNECTION DETAIL
FOR PURLIN ON GABLE WALL

CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT **PMU (KITE) C&W DEPARTMENT KP**	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM** **LOT-01: KM 0+000 ~ 13+000**	REST AREA (LAVATORY/ PUBLIC TOILETS BLOCK) TRUSS DETAIL
					RECOMMNED			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RA/LOT-01/07
					CHD./VER			
		REV	DATE	DESCRIPTION	APPROVED			

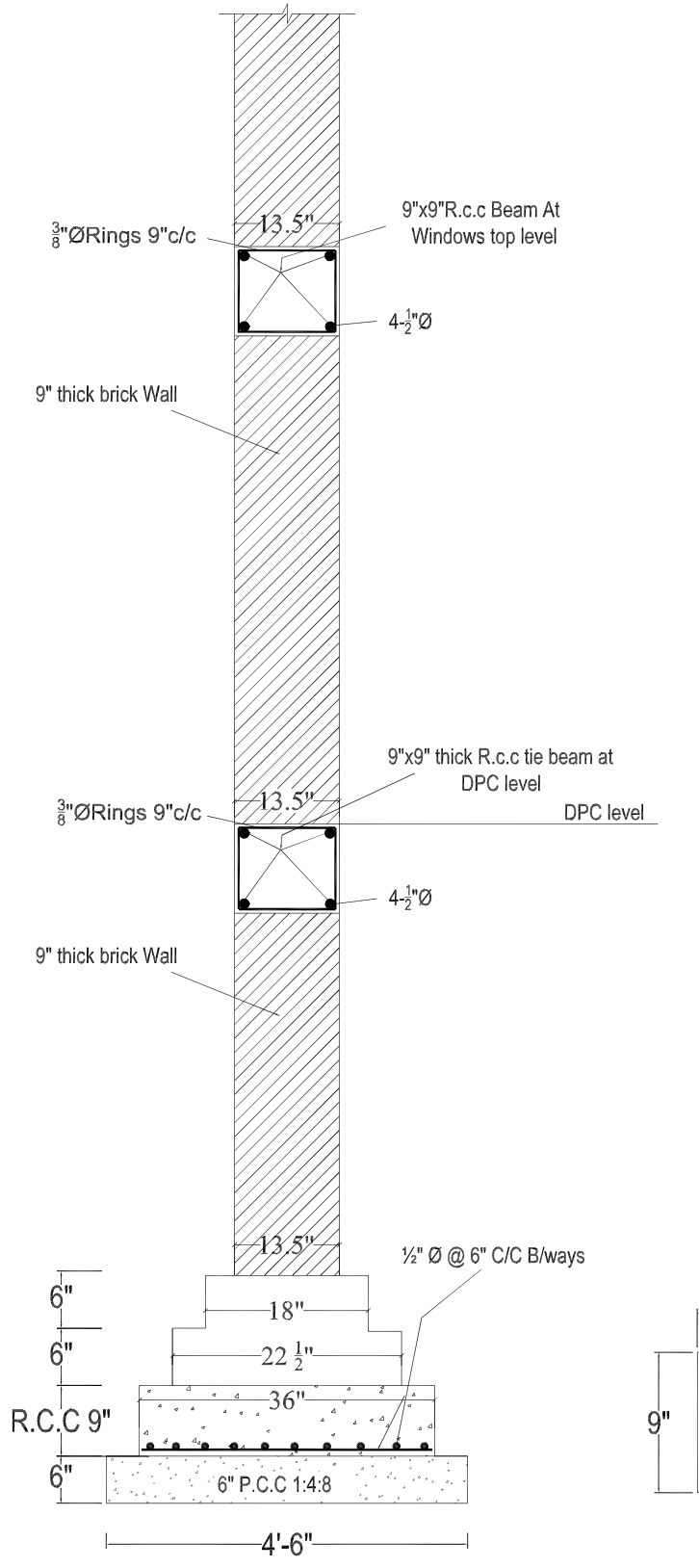
R.c.c columns upto DPC level .
At DPC 9" thick tie beam will be provided over 9" thick brick walls, no extra DPC then required.After Providing Tie beam 9"X9" on walls & columns at shown position.
Normal 9" thick brick wall is provided.

NOTES:-

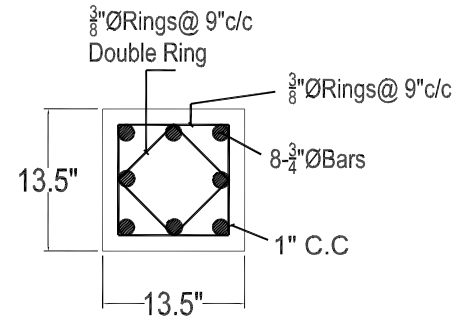
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(2) ALL CONCRETE IS 3000 PSI CYLINDER STRENGTH AT 28 DAYS WITH MIN. CEMENT CONTENT 400 KG/m
(3) CLEAR CONCRETE COVER TO MAIN REINFORCING BARS IS AS BELOW.
SLABS = 3/4" FOOTING ON 1:4:8 = 2"
BEAMS = 1½" COLUMNS = 1½"
(4) ALL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE RELEVENT ARCHITECTURAL AND SERVICES DRGS.
(5) LEAN IS 1000 PSI CYLINDER STRENGTH AT 28 DAYS MIN MIX 1:4:8
(6) ALL LAPS ARE 30 TIMES BAR DIAMETER FOR VERTICAL & 42 D FOR HOR.
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(8) (a) IST TIE BEAM AT FOUNDATION LEVEL.
(b) 2ND TIE BEAM AT D.P.C. LEVEL.
(C) 3RD TIE BEAM AT WINDOW LINTLE LEVEL.
(d) R.C.C COLUMN 9"x 9" AT CORNER OF BUILDING SHAULD BE PROVIDED.



R.c.c Foundation Detail
For R.c.c Column Portion

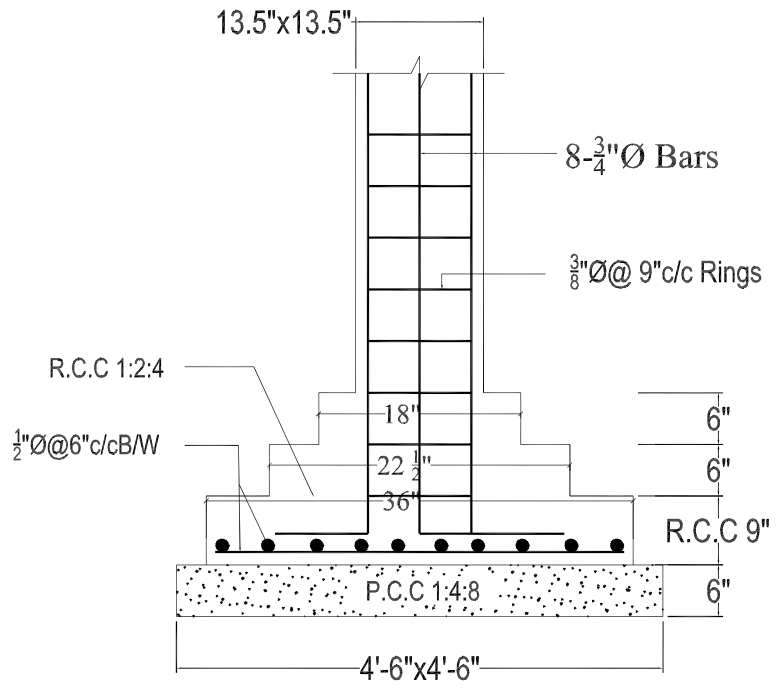


R.C.C. STRIP FOUNDATION
FOR GROUND FLOOR



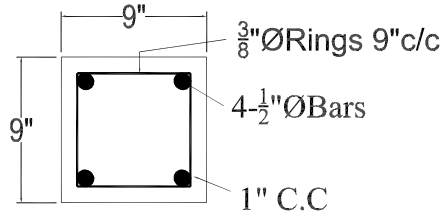
VERANDAH COLUMN DETAIL

C-2



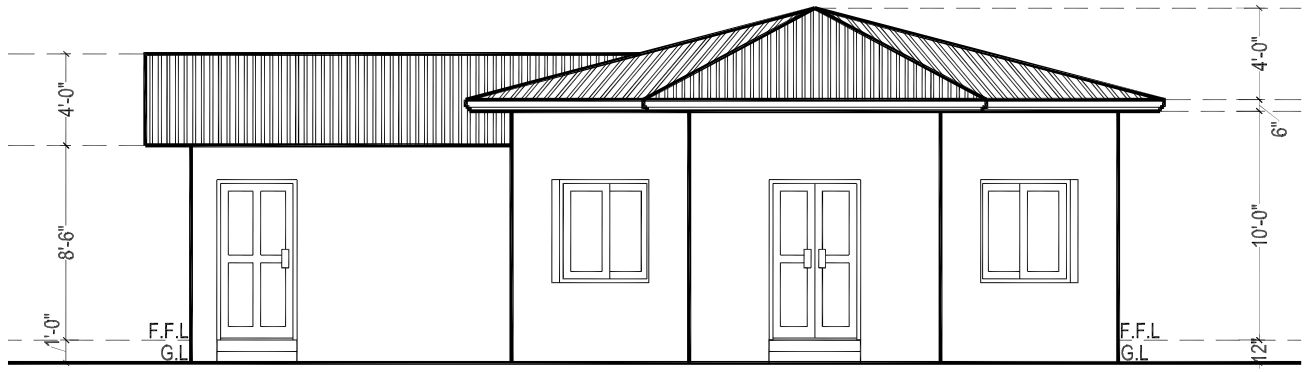
VERANDAH COLUMNS FOUNDATION DETAIL

C-1

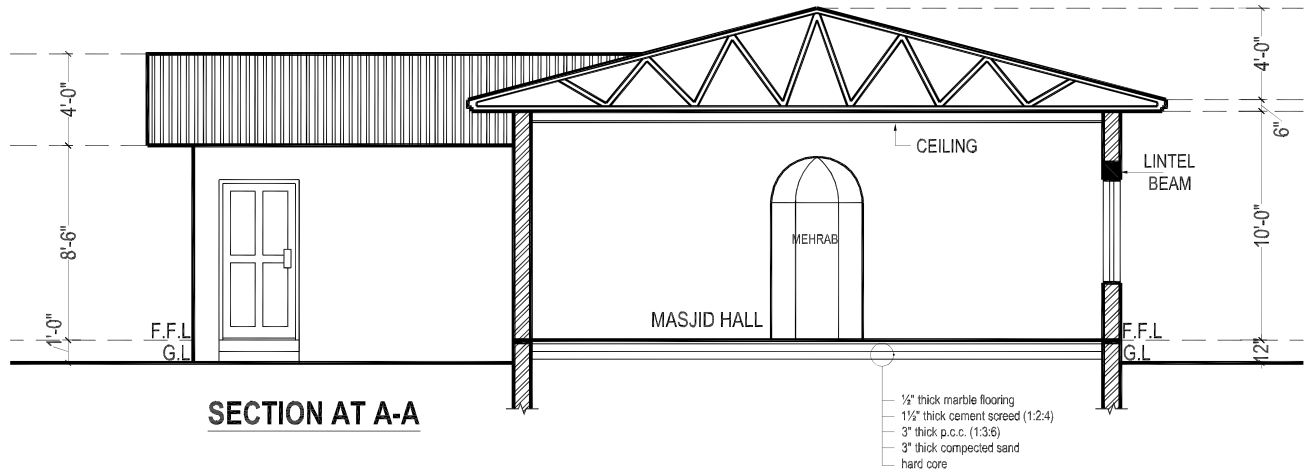


TIE BEAM

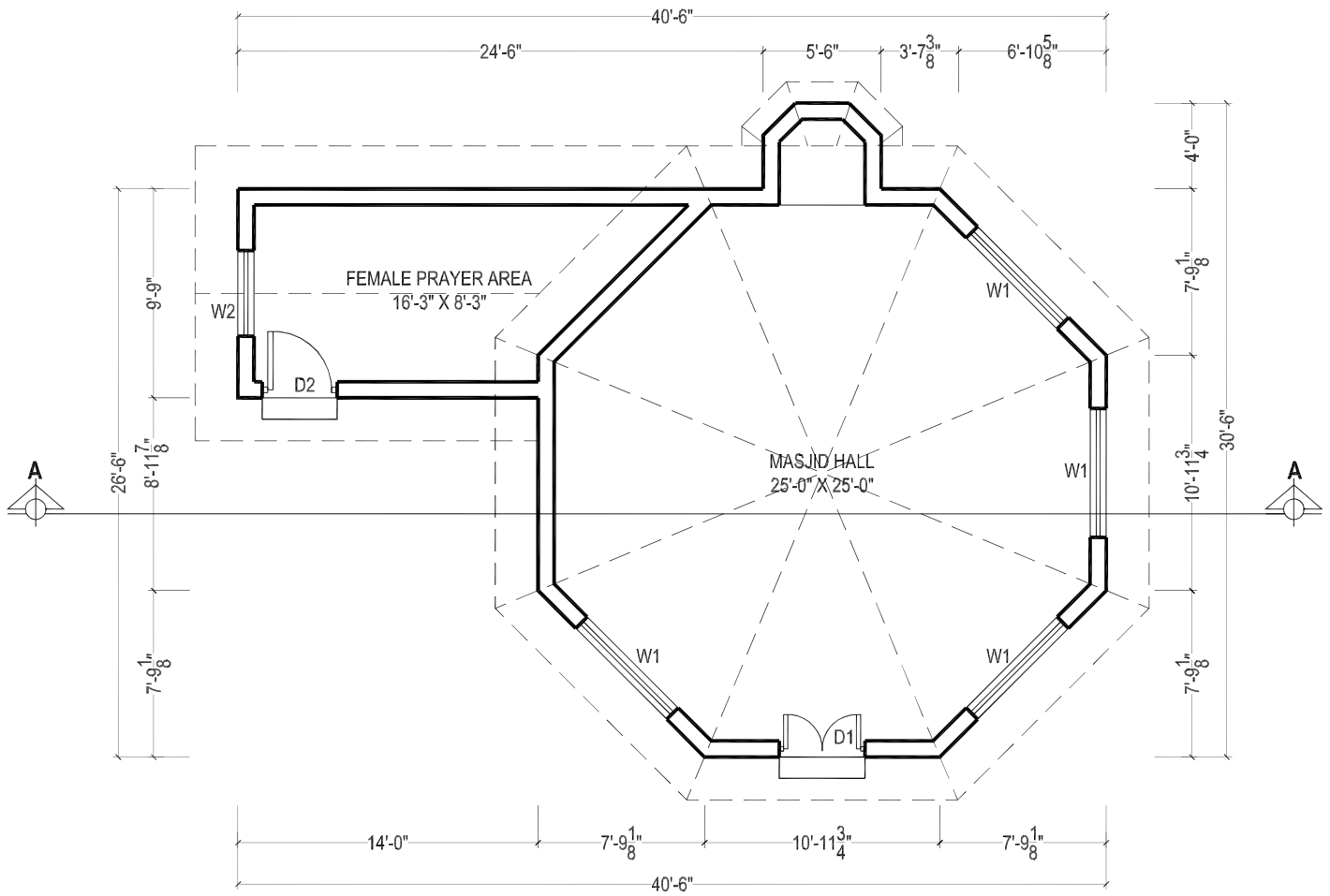
CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT PMU (KITE) C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000	REST AREA (LAVATORY / PUBLIC TOILETS BLOCK) FOUNDATION, COLUMNS AND WALLS DETAIL
					RECOMMNED			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RA/LOT-01/08
					CHD./VER			
		REV	DATE	DESCRIPTION	APPROVED			



FRONT ELEVATION



SECTION AT A-A



MASJID PLAN

COVERED AREA = 768 SFT

SCHEDULE OF OPENING			
S,NO.	TYPE	SIZE	S/LEVEL
01	D1	4'-0" X 7'-0"	±0'-0"
02	D2	3'-6" X 7'-0"	±0'-0"
04	W1	6'-0" X 4'-6"	+2'-6"
05	W2	4'-0" X 4'-6"	+2'-6"

BUILDING SPECIFICATION

* PCC (1:4:8) IN FOUNDATIONS.
* 2" THICK DPC (DAMP PROOF COURSE) IN (1:2:4) PCC WITH 2 COATS OF HOT BITUMEN WITH POLYTHENE SHEET.
* BURNT BRICK MASONRY IN 1:6 CEMENT SAND RATIO MORTAR.
* 1/2" THICK PLASTER ON WALLS IN 1:6 CEMENT SAND RATIO.
* ALL LINTELS & BEAMS IN (1:2:4) CEMENT: SAND: AGGREGATE RATIO WITH 14 DAYS CURING.
* ALL ELECTRICAL WIRING TO BE CONCEALED.
* ALL LOAD BEARING WALLS SHALL BE MINIMUM 9" THICK.
* ALL PARTITION WALLS SHALL BE 9" THICK.
* THEN 1 1/2" BRICK TILES SET IN 1:3 CEMENT SAND RATIO.
* ALL INTER FLOOR SLABS SHALL BE COVERED WITH 2" OF PCC (1:4:8) IN SLOPE THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.
* ALL GROUND FLOORS SHALL BE LAID ON COMPACTED EARTH THEN 6" OF WATERED AND RAMMED SAND THEN 4" OF (1:4:8) IN SLOPE THEN 2" (1:2:4) THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.

CLIENT:

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

PROJECT:

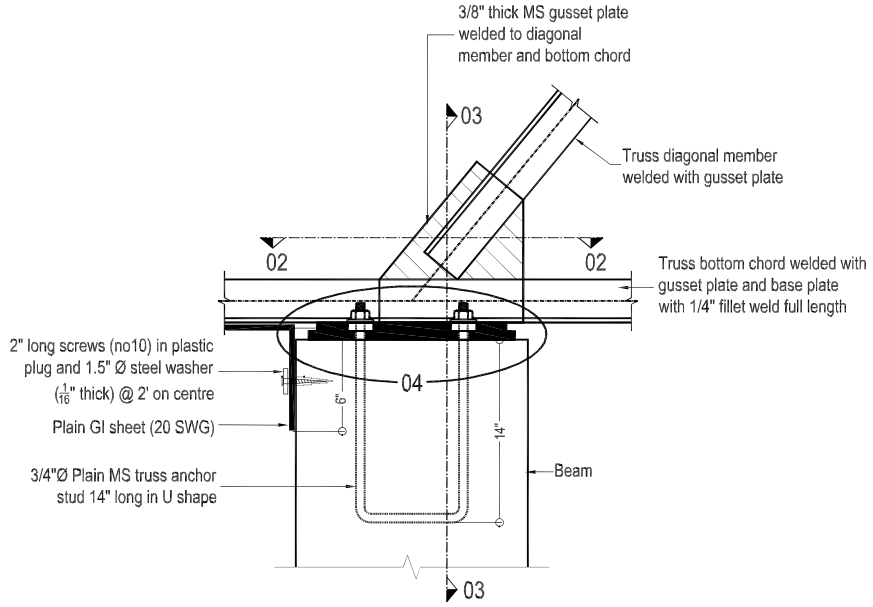
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

TITLE:

REST AREA (MASJID BLOCK)
PLAN, ELEVATION, SECTION, SPECIFICATION

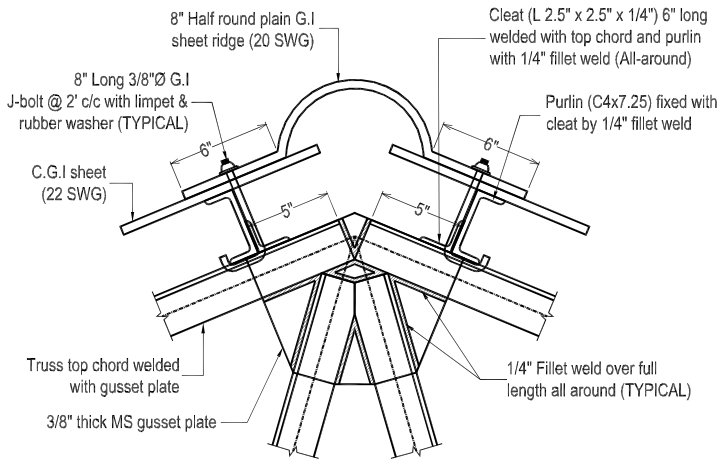
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/09

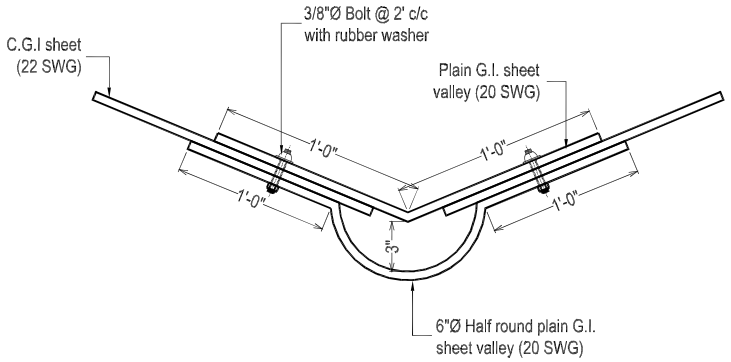


BASE PLATE DETAIL

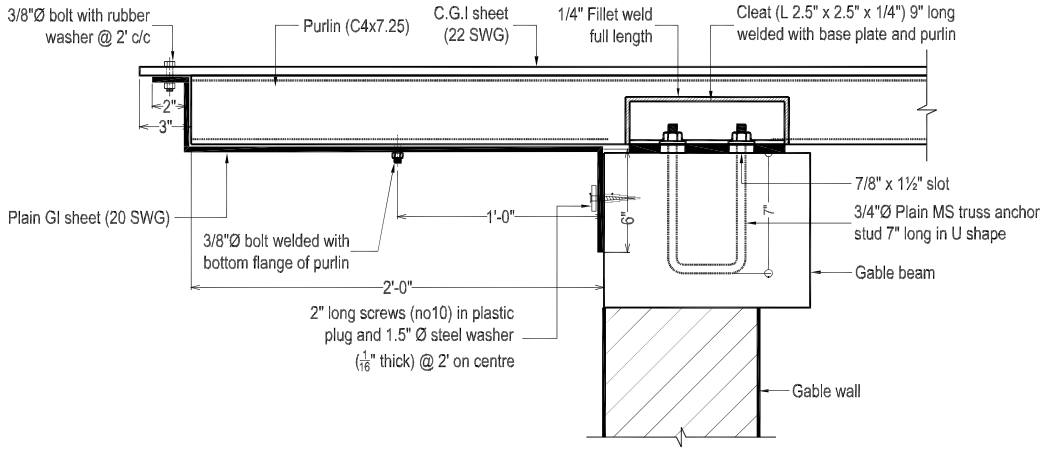
(All trusses)



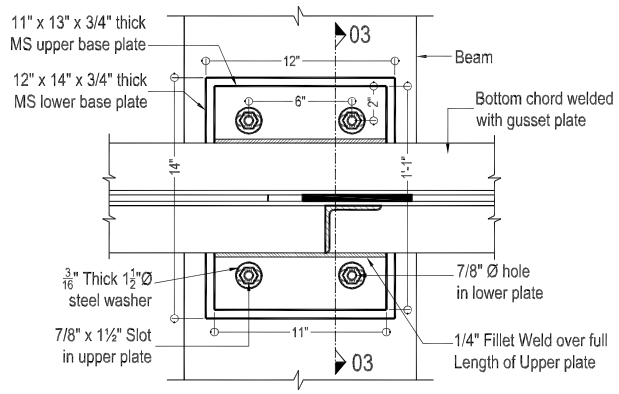
TYPICAL TOP CHORD CONNECTION DETAIL



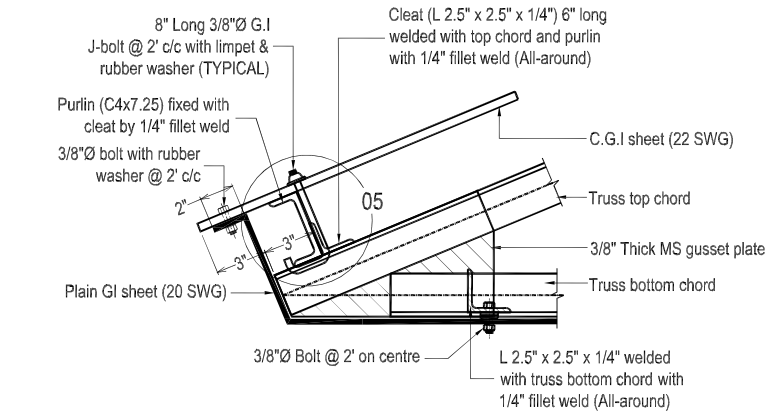
VALLEY DETAIL



PGI SHEET DETAIL AT GABLE WALL

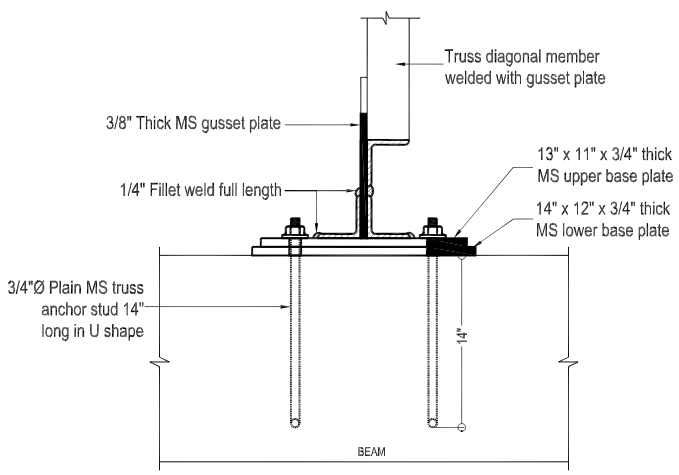


SECTION 02-02

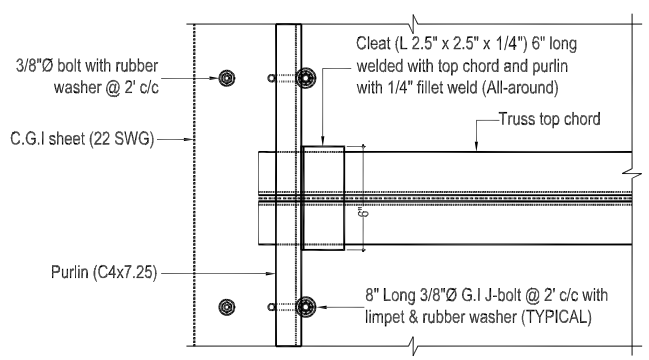


END OF TRUSS PORTION (Elevation)

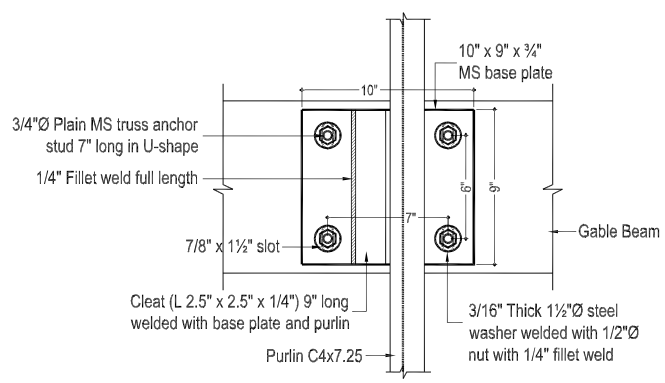
(All trusses)



SECTION 03-03



END OF TRUSS PORTION (Plan)



CONNECTION DETAIL
FOR PURLIN ON GABLE WALL

CLIENT:

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

PROJECT:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

TITLE:

REST AREA (MASJID)
TRUSS DETAIL

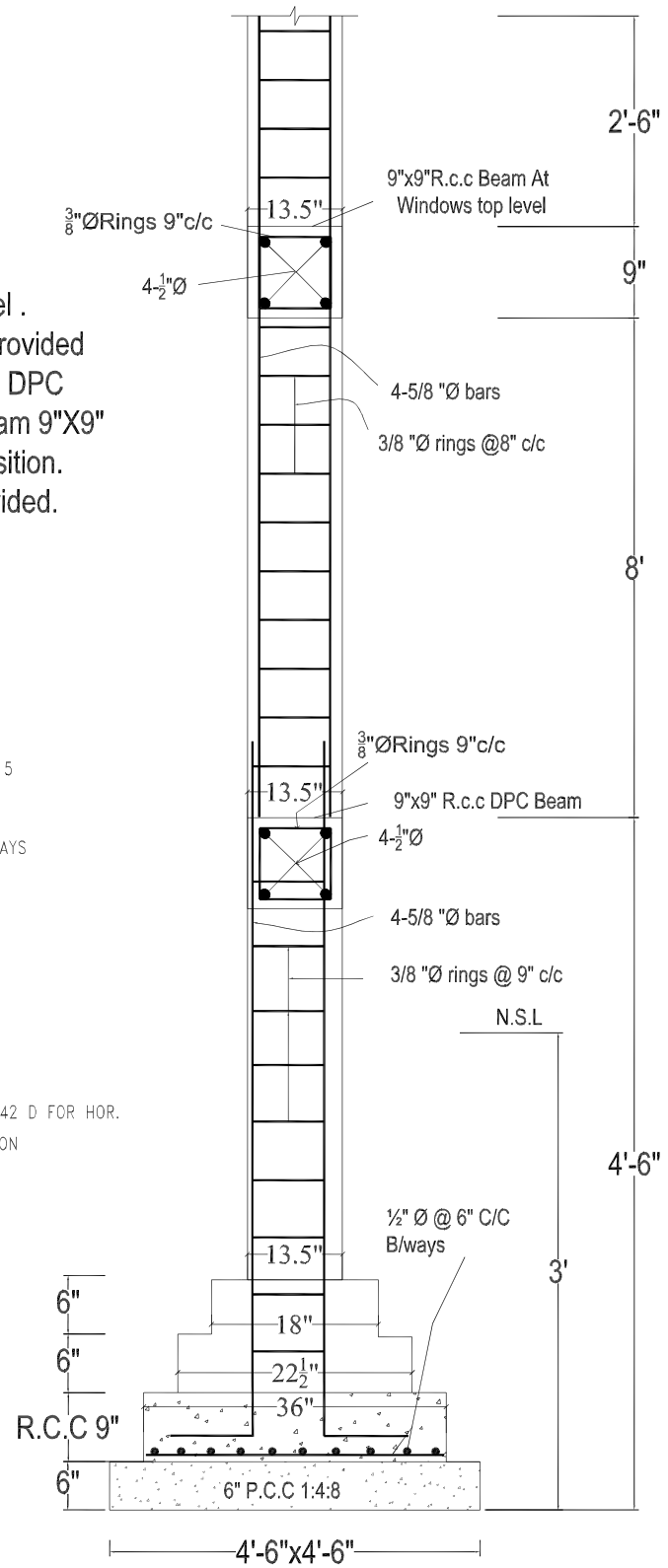
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/10

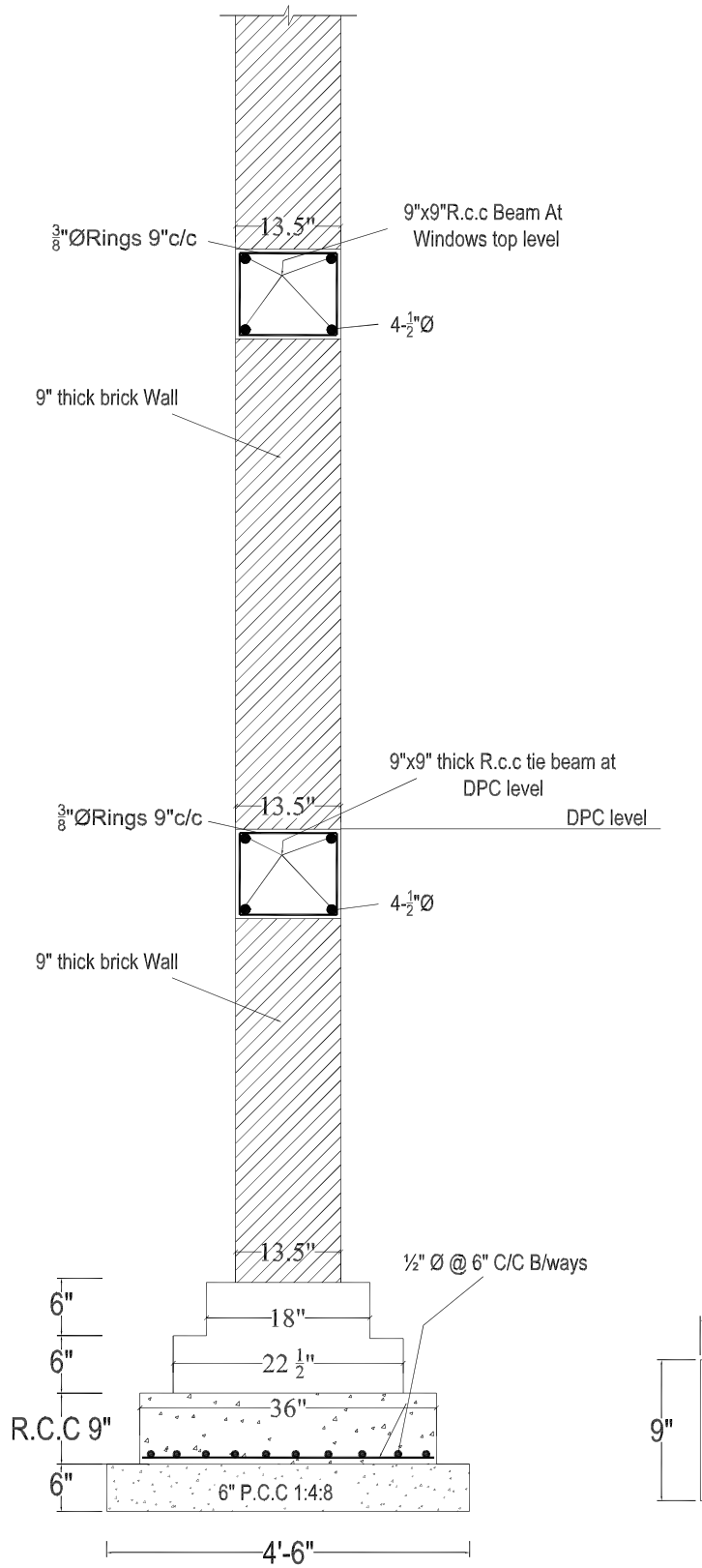
R.c.c columns upto DPC level .
At DPC 9" thick tie beam will be provided over 9" thick brick walls, no extra DPC then required.After Providing Tie beam 9"X9" on walls & columns at shown position.
Normal 9" thick brick wall is provided.

NOTES:-

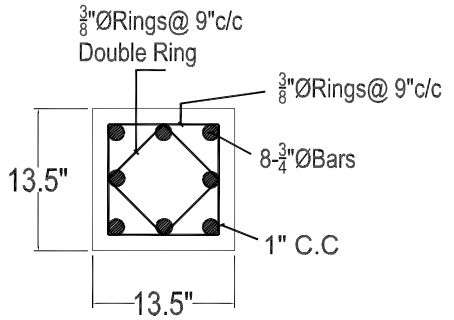
(1) ALL REINFORCING STEEL IS DEFORMED AS PER ASTM A-615 40000 PSI MIN. YIELD STRENGTH. AND MIN. ULTIMATE STRENGTH OF 65000 PSI .
(2) ALL CONCRETE IS 3000 PSI CYLINDER STRENGTH AT 28 DAYS WITH MIN. CEMENT CONTENT 400 KG/m
(3) CLEAR CONCRETE COVER TO MAIN REINFORCING BARS IS AS BELOW.
SLABS = 3/4" FOOTING ON 1:4:8 = 2"
BEAMS = 1½" COLUMNS = 1½"
(4) ALL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE RELEVENT ARCHITECTURAL AND SERVICES DRGS.
(5) LEAN IS 1000 PSI CYLINDER STRENGTH AT 28 DAYS MIN MIX 1:4:8
(6) ALL LAPS ARE 30 TIMES BAR DIAMETER FOR VERTICAL & 42 D FOR HOR.
(7) EXCAVATION INCLUDING DEWATERING, BRACING OF EXCAVATION TO SAFEGUARD THE ADJOINING PROPERTY AND LIFE AND DEWATERING PITS IN CASE OF RAIN IS CONTRACTOR RESPONSIBILITY. FOR THAT MATTER, A QUALIFIED GEO-TECHNICAL ENGINEER SHOULD BE APPOINTED ON HIS ROLE.
(8) (a) IST TIE BEAM AT FOUNDATION LEVEL.
(b) 2ND TIE BEAM AT D.P.C. LEVEL.
(C) 3RD TIE BEAM AT WINDOW LINTLE LEVEL.
(d) R.C.C COLUMN 9"x 9" AT CORNER OF BUILDING SHAULD BE PROVIDED.



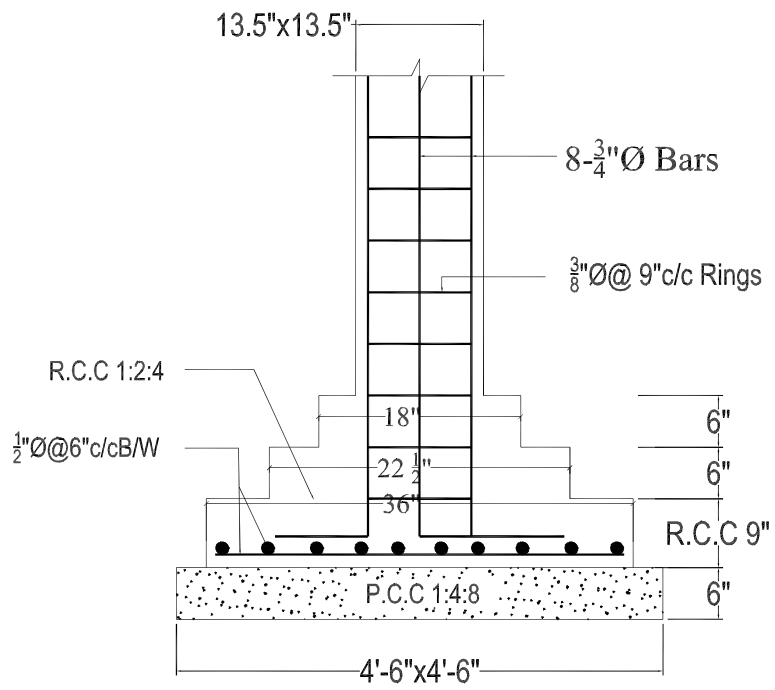
R.c.c Foundation Detail
For R.c.c Column Portion



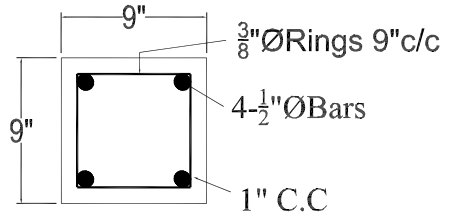
R.C.C. STRIP FOUNDATION
FOR GROUND FLOOR



VERANDAH COLUMN DETAIL
C-2



VERANDAH COLUMNS FOUNDATION DETAIL
C-1

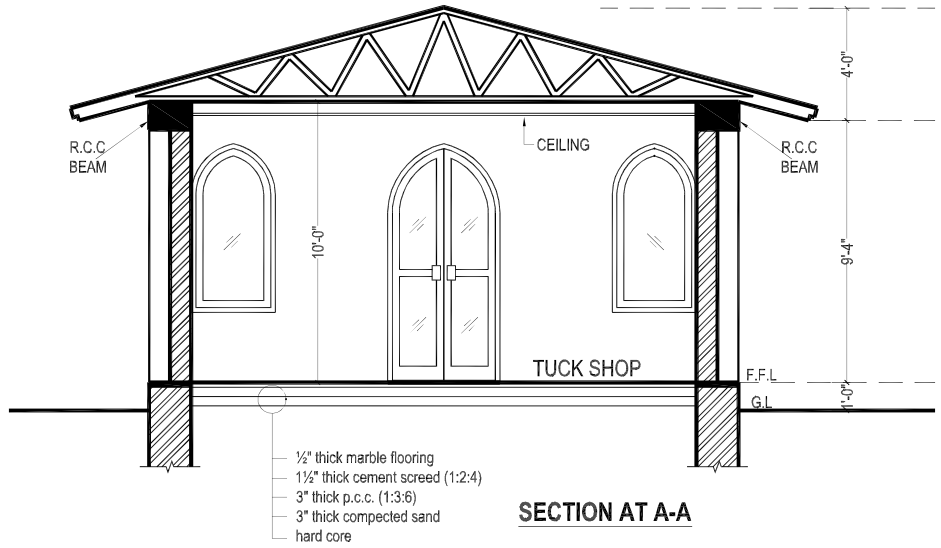


TIE BEAM

CLIENT: KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT PMU (KITE) C&W DEPARTMENT KP	CONSULTANT: NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	REV	DATE	DESCRIPTION	SUBMITTED RECOMMNED CHD./VER APPROVED	DRAWN	PROJECT: REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000	TITLE: REST AREA (MASJID) FOUNDATION, COLUMN AND WALLS DETAIL DATE: JANUARY 2022 DWG. NO 38164/102/TD/ RA/LOT-01/11

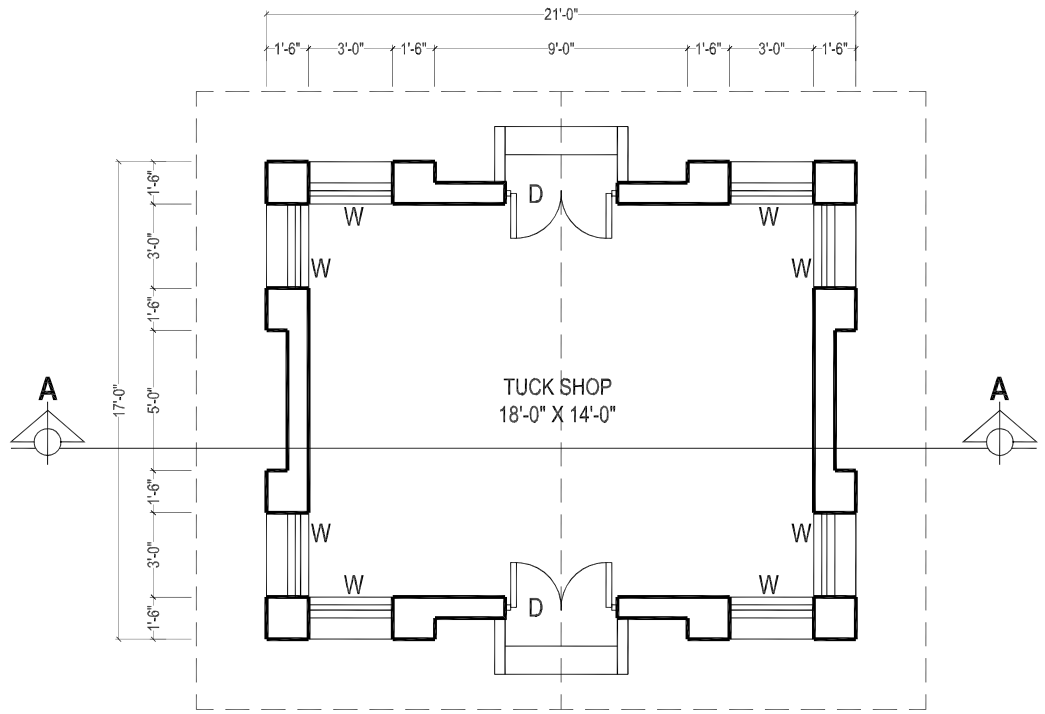


FRONT ELEVATION



SECTION AT A-A

SCHEDULE OF OPENING			
S,NO.	TYPE	SIZE	S/LEVEL
01	D	4'-0" X 8'-6"	±0'-0"
04	W	3'-0" X 6'-0"	+2'-6"



TUCK SHOP

PLAN

COVERED AREA = 357.00 SFT.

BUILDING SPECIFICATION

* PCC (1:4:8) IN FOUNDATIONS.
* 2" THICK DPC (DAMP PROOF COURSE) IN (1:2:4) PCC WITH 2 COATS OF HOT BITUMEN WITH POLYTHENE SHEET.
* BURNT BRICK MASONRY IN 1:6 CEMENT SAND RATIO MORTAR.
* 1/2" THICK PLASTER ON WALLS IN 1:6 CEMENT SAND RATIO.
* ALL LINTELS & BEAMS IN (1:2:4) CEMENT: SAND: AGGREGATE RATIO WITH 14 DAYS CURING.
* ALL ELECTRICAL WIRING TO BE CONCEALED.
* ALL LOAD BEARING WALLS SHALL BE MINIMUM 9" THICK.
* ALL PARTITION WALLS SHALL BE 9" THICK.
* THEN 1 1/2" BRICK TILES SET IN 1:3 CEMENT SAND RATIO.
* ALL INTER FLOOR SLABS SHALL BE COVERED WITH 2" OF PCC (1:4:8) IN SLOPE THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.
* ALL GROUND FLOORS SHALL BE LAID ON COMPACTED EARTH THEN 6" OF WATERED AND RAMMED SAND THEN 4" OF (1:4:8) IN SLOPE THEN 2" (1:2:4) THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.

CLIENT:

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

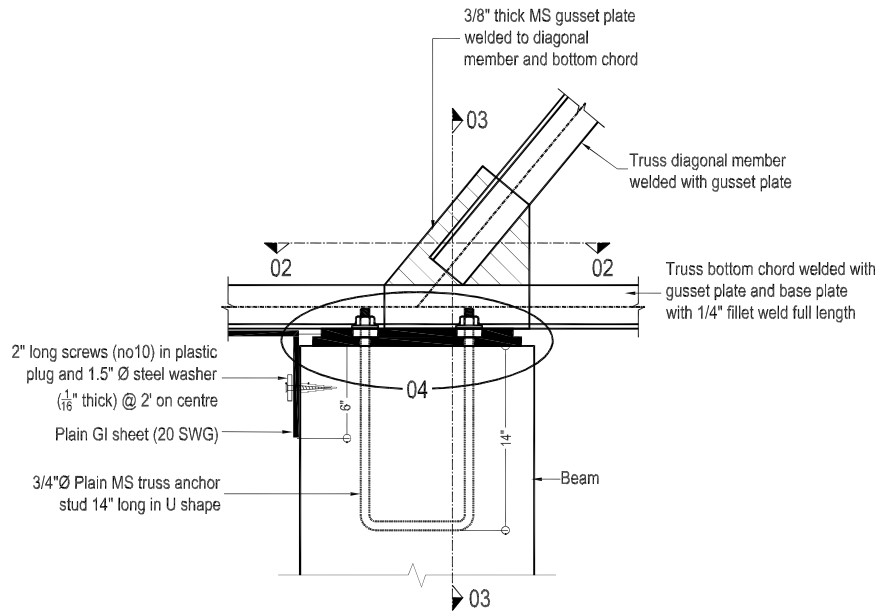
PROJECT:

REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

TITLE: REST AREA (TUCK SHOP)
PLAN, ELEVATION, SECTION, SPECIFICATION

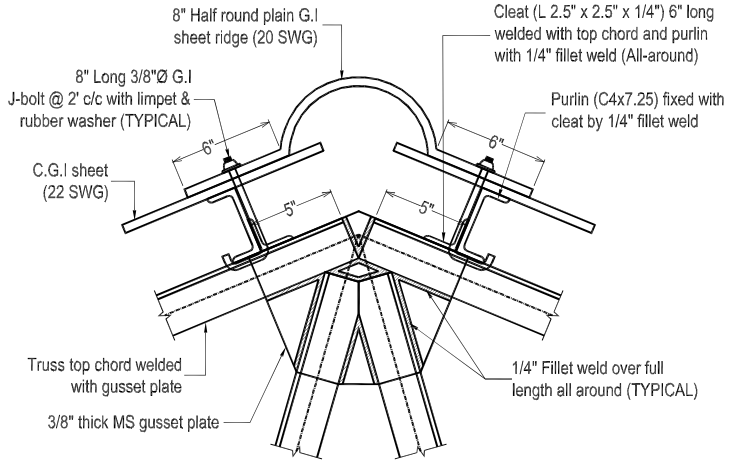
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/12

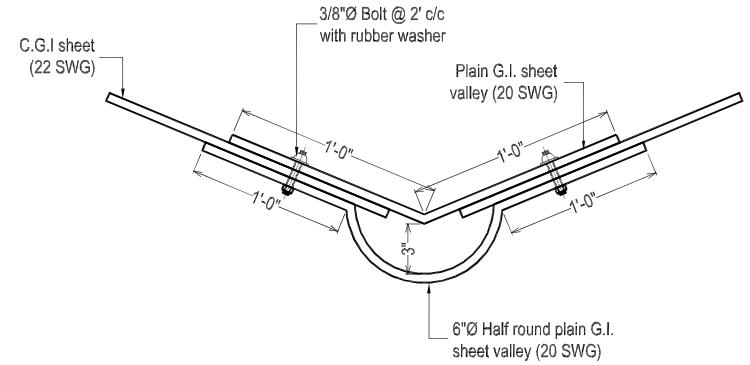


BASE PLATE DETAIL

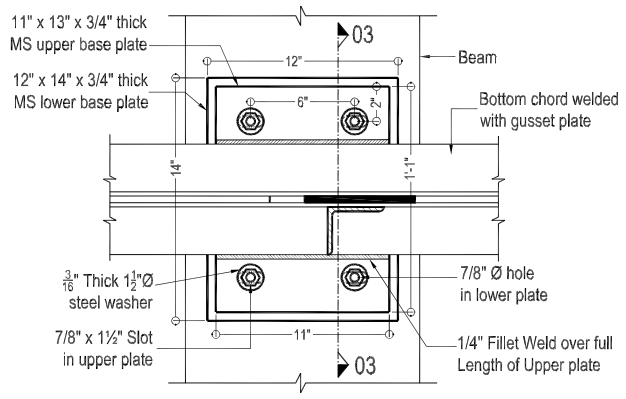
(All trusses)



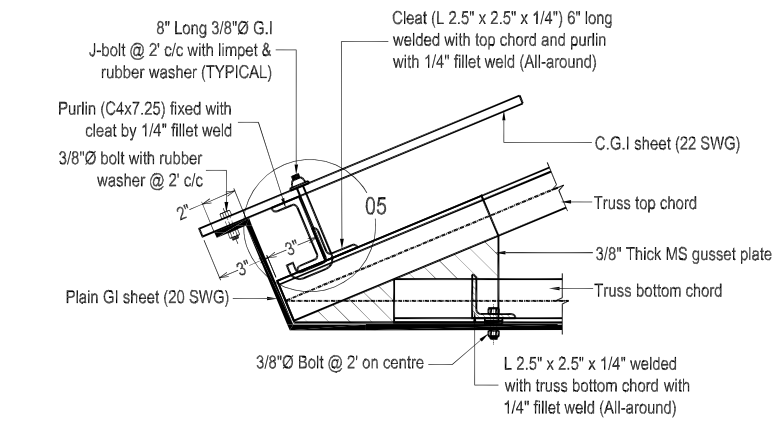
TYPICAL TOP CHORD CONNECTION DETAIL



VALLEY DETAIL

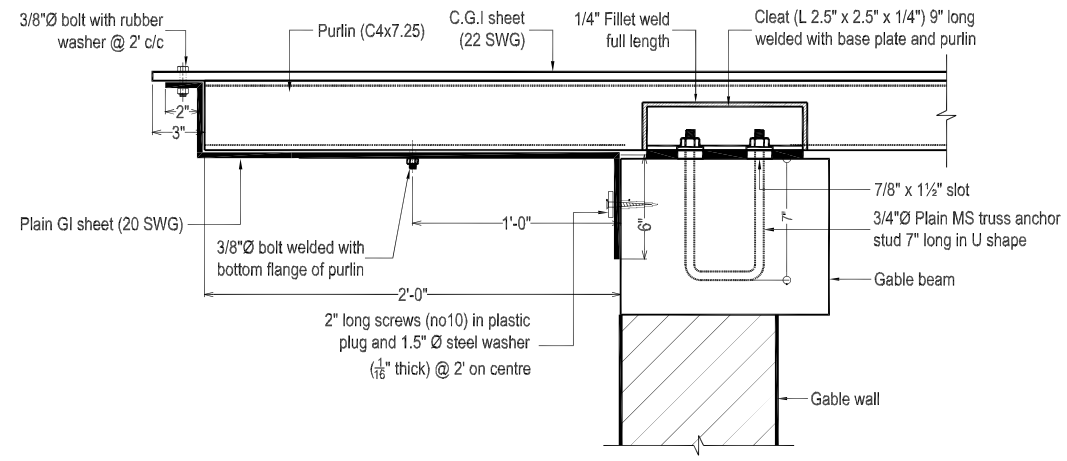


SECTION 02-02

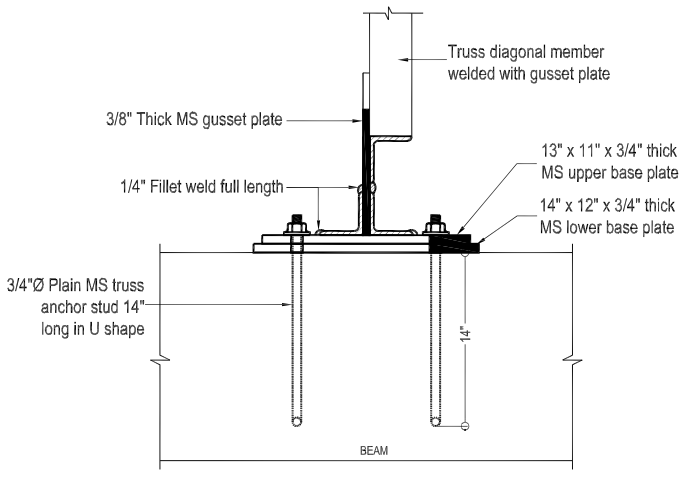


END OF TRUSS PORTION (Elevation)

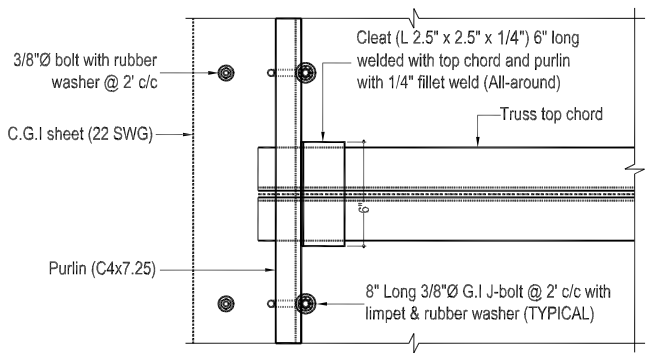
(All trusses)



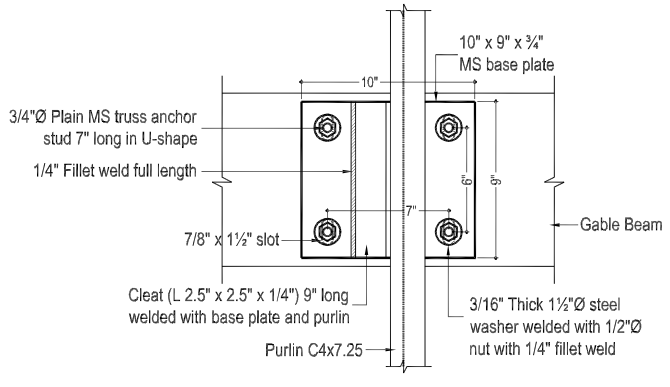
PGI SHEET DETAIL AT GABLE WALL



SECTION 03-03



END OF TRUSS PORTION (Plan)



CONNECTION DETAIL
FOR PURLIN ON GABLE WALL

CLIENT:	CONSULTANT:					DRAWN	PROJECT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT **PMU (KITE) C&W DEPARTMENT KP**	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM** **LOT-01: KM 0+000 ~ 13+000**
					RECOMMNED		
					CHD./VER		
		REV	DATE	DESCRIPTION	APPROVED		

TITLE: REST AREA (TUCK SHOP) TRUSS DETAIL

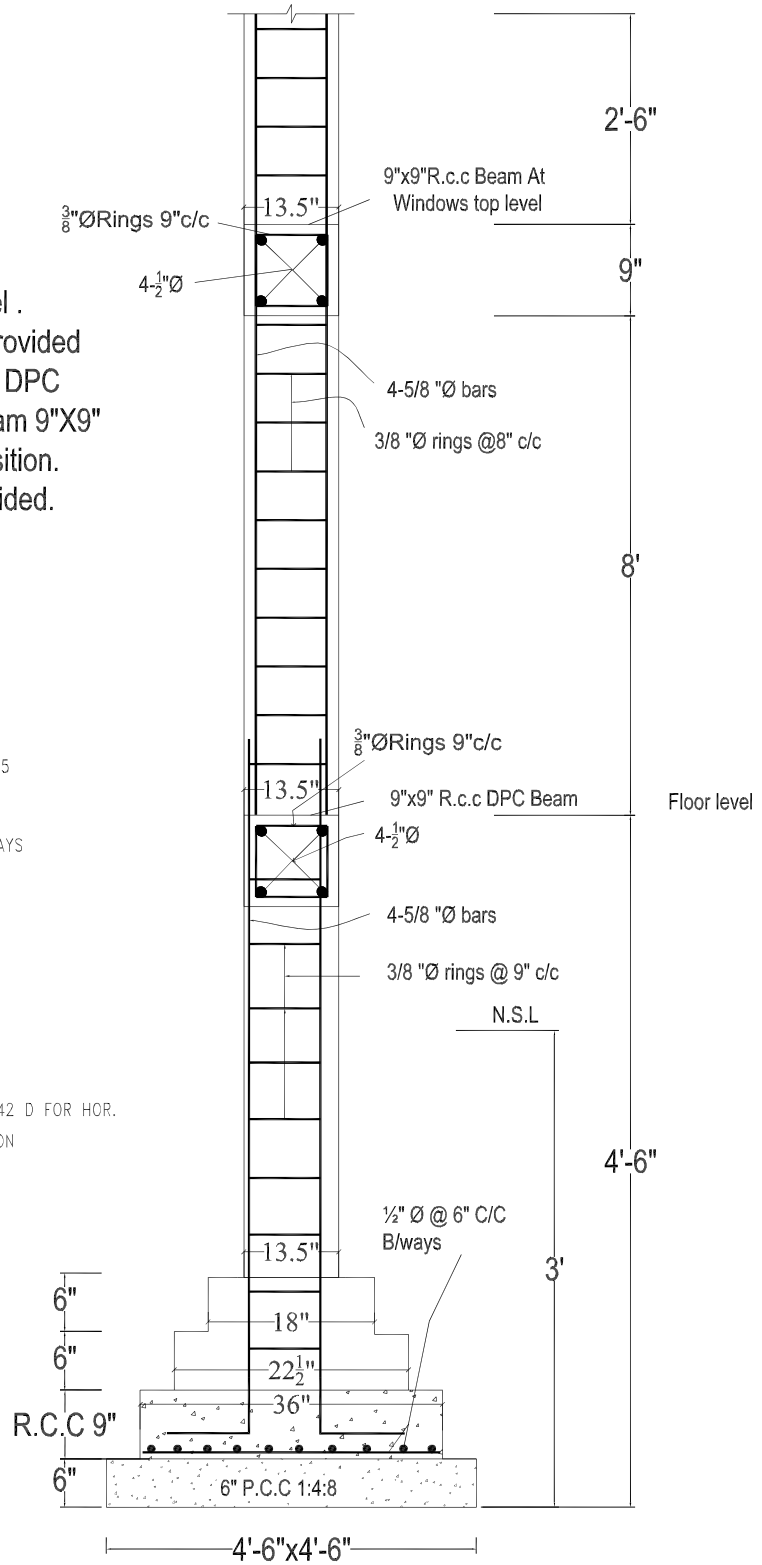
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/13

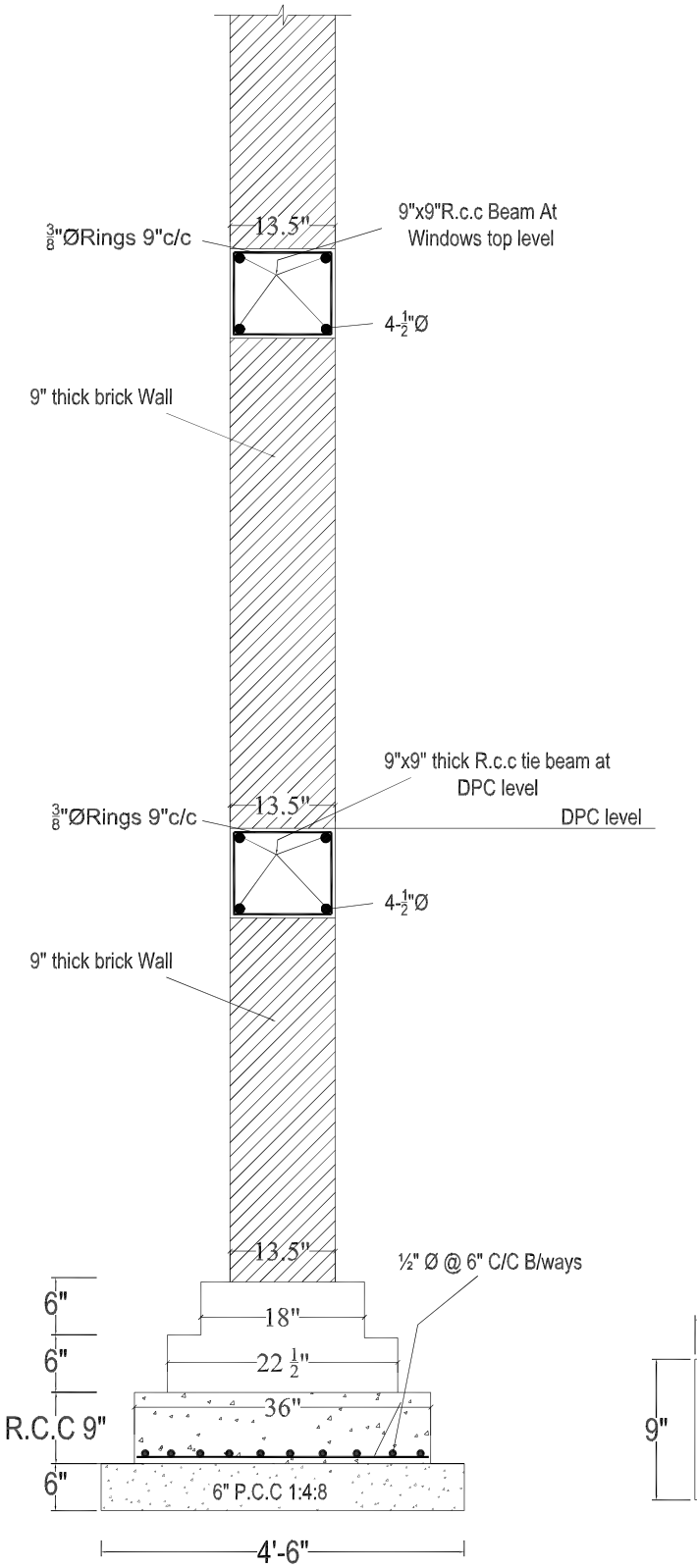
R.c.c columns upto DPC level .
At DPC 9" thick tie beam will be provided over 9" thick brick walls, no extra DPC then required.After Providing Tie beam 9"X9" on walls & columns at shown position.
Normal 9" thick brick wall is provided.

NOTES:-

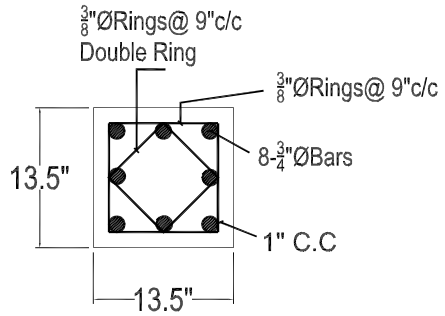
(1) ALL REINFORCING STEEL IS DEFORMED AS PER ASTM A-615 40000 PSI MIN. YIELD STRENGTH. AND MIN. ULTIMATE STRENGTH OF 65000 PSI .
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SLABS = 3/4" FOOTING ON 1:4:8 = 2"
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(d) R.C.C COLUMN 9"x 9" AT CORNER OF BUILDING SHAULD BE PROVIDED.



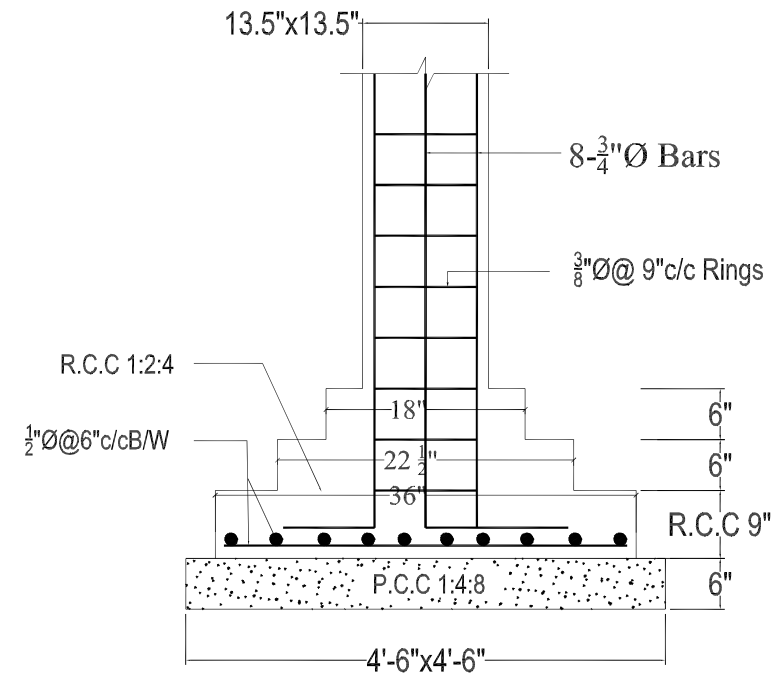
R.c.c Foundation Detail
For R.c.c Column Portion



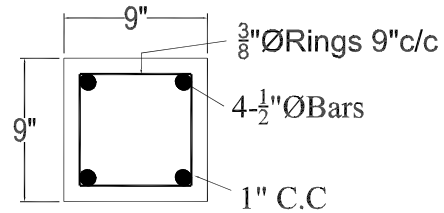
R.C.C. STRIP FOUNDATION
FOR GROUND FLOOR



VERANDAH COLUMN DETAIL
C-2



VERANDAH COLUMNS FOUNDATION DETAIL
C-1



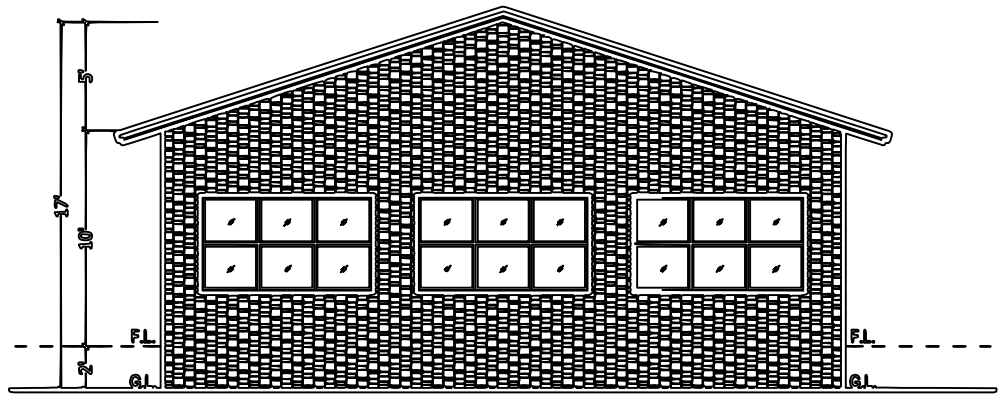
TIE BEAM

CLIENT:	CONSULTANT:					DRAWN	PROJECT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT **PMU (KITE) C&W DEPARTMENT KP**	**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**				SUBMITTED		**REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM** **LOT-01: KM 0+000 ~ 13+000**
					RECOMMNED		
					CHD./VER		
		REV	DATE	DESCRIPTION	APPROVED		

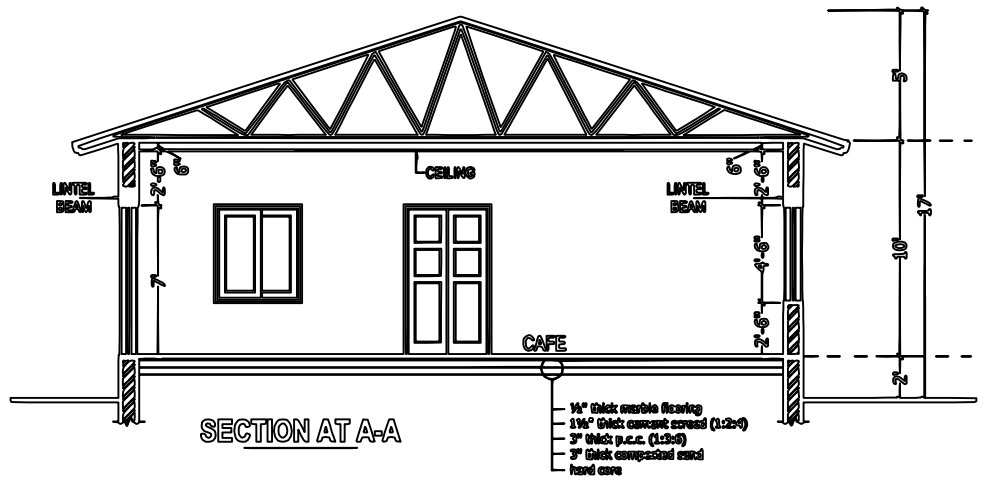
TITLE: REST AREA (TUCK SHOP)
FOUNDATION, COLUMNS AND WALLS DETAIL

DATE: JANUARY 2022

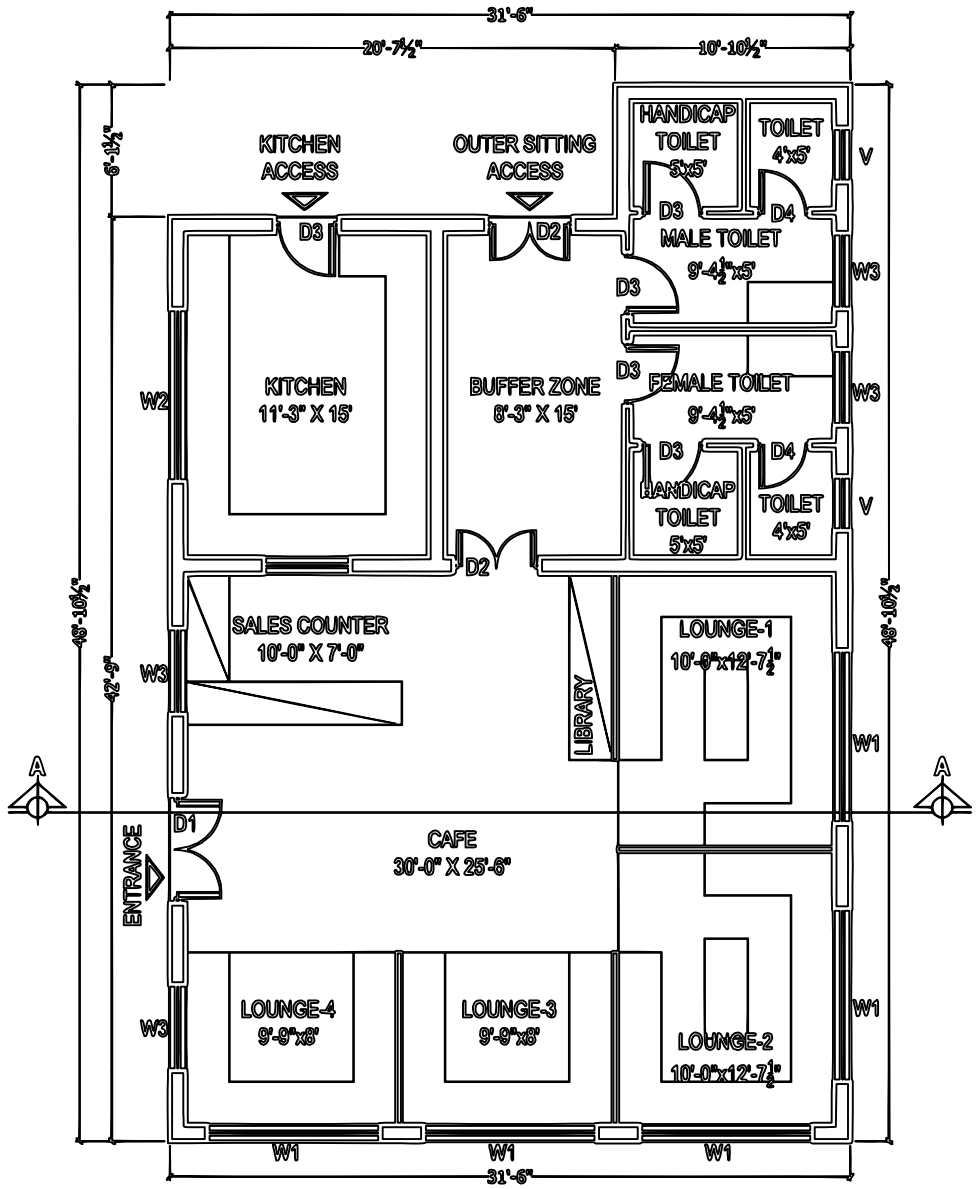
DWG. NO 38164/102/TD/ RA/LOT-01/14



FRONT ELEVATION



SECTION AT A-A



CAFE / KHAWA KHANA

COVERED AREA = 1415 SFT.

SCHEDULE OF OPENING			
S.NO.	TYPE	SIZE	S/LEVEL
01	D1	5'-0" X 7'-0"	±0'-0"
02	D1	4'-0" X 7'-0"	±0'-0"
03	D2	3'-0" X 7'-0"	±0'-0"
04	D3	2'-6" X 7'-0"	±0'-0"
05	W1	6'-0" X 4'-6"	+2'-6"
06	W2	6'-0" X 4'-0"	+3'-0"
07	W3	3'-6" X 4'-6"	+2'-6"
08	V	2'-0" X 2'-0"	+5'-0"

BUILDING SPECIFICATION

* PCC (1:4:8) IN FOUNDATIONS.
* 2" THICK DPC (DAMP PROOF COURSE) IN (1:2:4) PCC WITH 2 COATS OF HOT BITUMEN WITH POLYTHENE SHEET.
* BURNT BRICK MASONRY IN 1:6 CEMENT SAND RATIO MORTAR.
* 1/2" THICK PLASTER ON WALLS IN 1:6 CEMENT SAND RATIO.
* ALL LINTELS & BEAMS IN (1:2:4) CEMENT: SAND: AGGREGATE RATIO WITH 14 DAYS CURING.
* ALL ELECTRICAL WIRING TO BE CONCEALED.
* ALL LOAD BEARING WALLS SHALL BE MINIMUM 9" THICK.
* ALL PARTITION WALLS SHALL BE 9" THICK.
* THEN 1 1/2" BRICK TILES SET IN 1:3 CEMENT SAND RATIO.
* ALL INTER FLOOR SLABS SHALL BE COVERED WITH 2" OF PCC (1:4:8) IN SLOPE THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.
* ALL GROUND FLOORS SHALL BE LAID ON COMPACTED EARTH THEN 6" OF WATERED AND RAMMED SAND THEN 4" OF (1:4:8) IN SLOPE THEN 2" (1:2:4) THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.

CLIENT:

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

PROJECT:

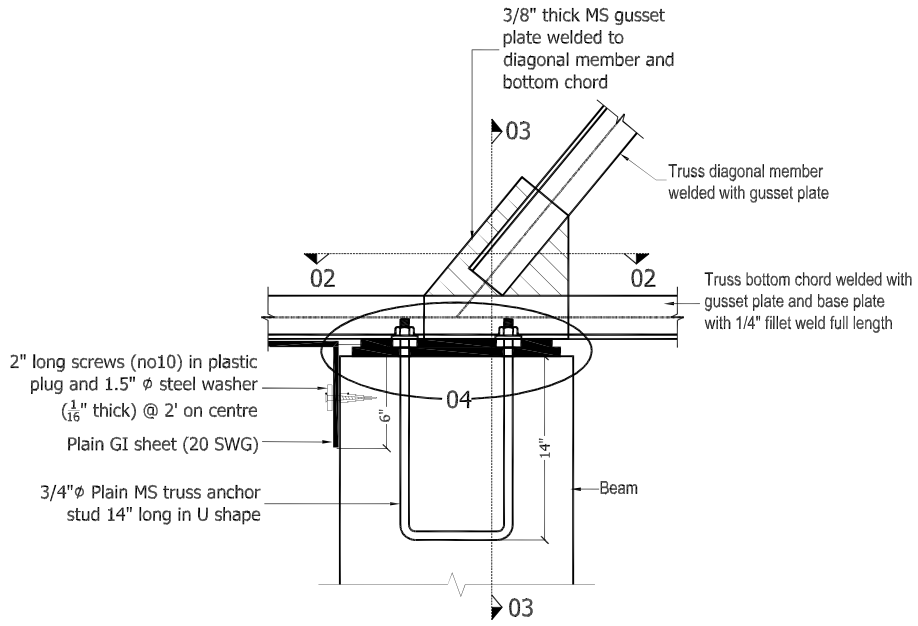
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

TITLE:

REST AREA (CAFE / KEHWA KHANA)
PLAN, ELEVATION, SECTION, SPECIFICATION

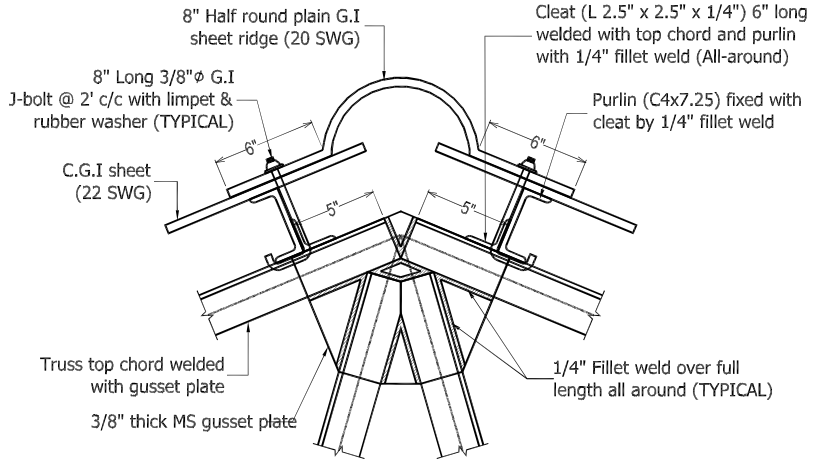
DATE: JANUARY 2022

DWG. NO 38164/102/TD/ RA/LOT-01/15

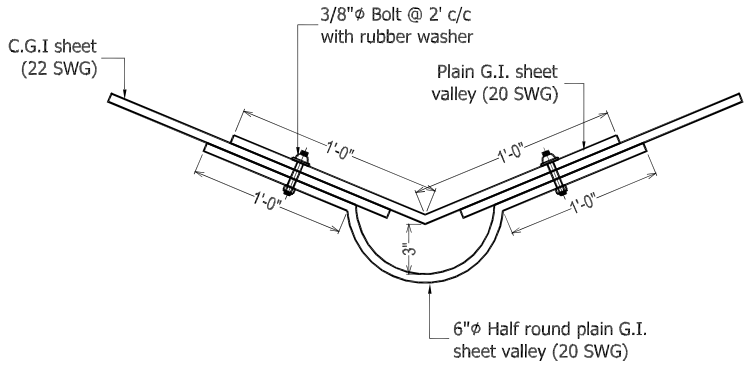


BASE PLATE DETAIL

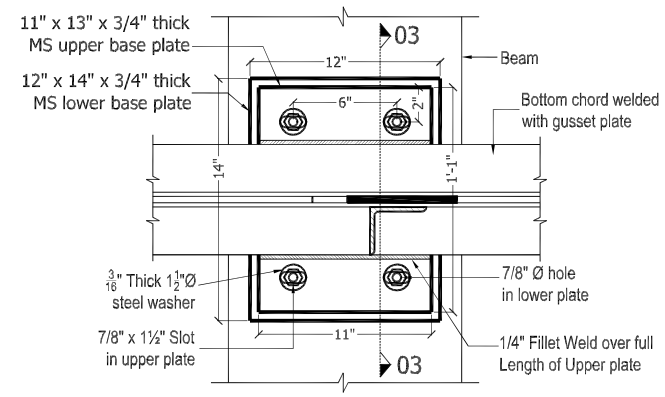
(All trusses)



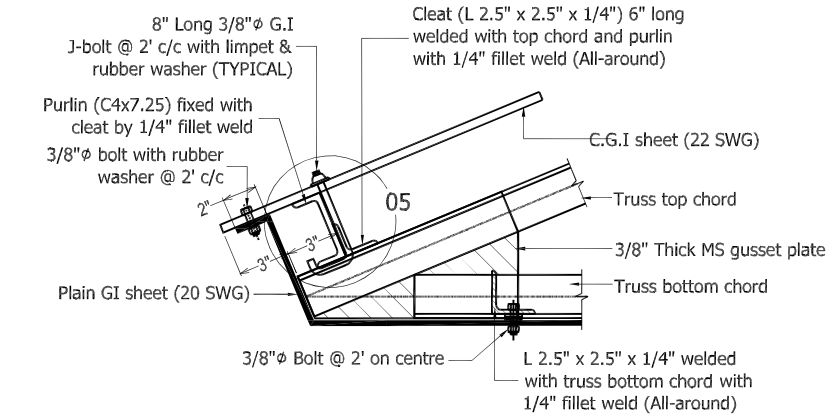
TYPICAL TOP CHORD CONNECTION DETAIL



VALLEY DETAIL

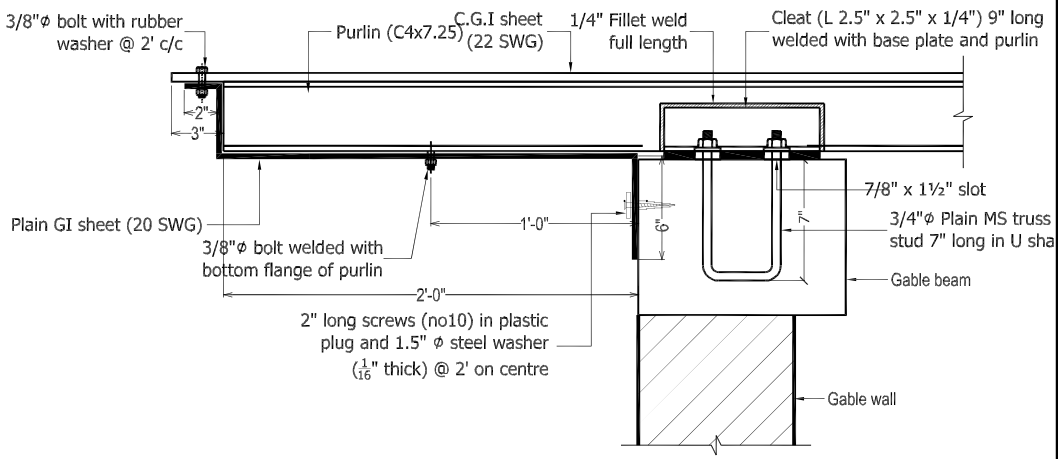


SECTION 02-02

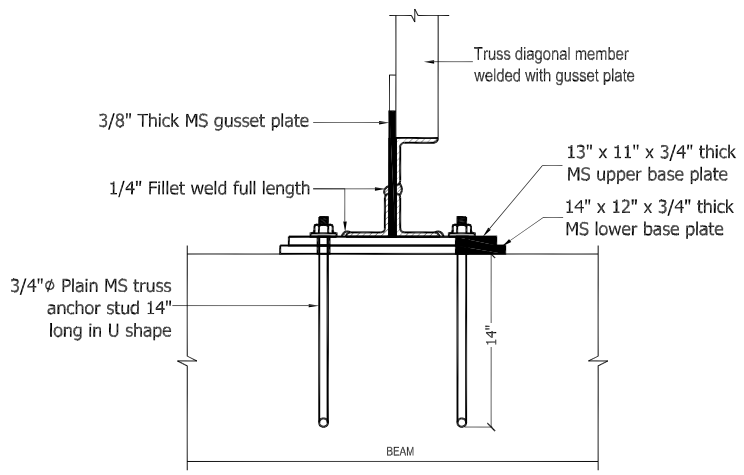


END OF TRUSS PORTION (Elevation)

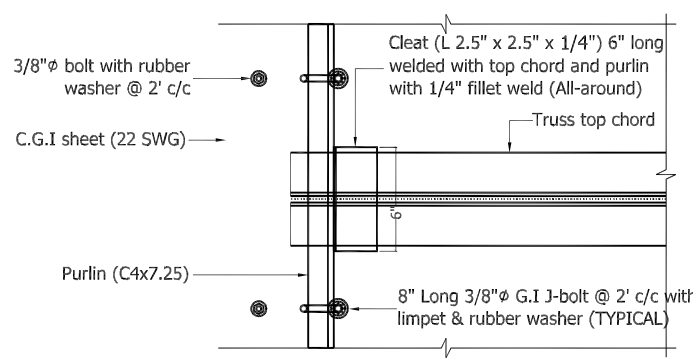
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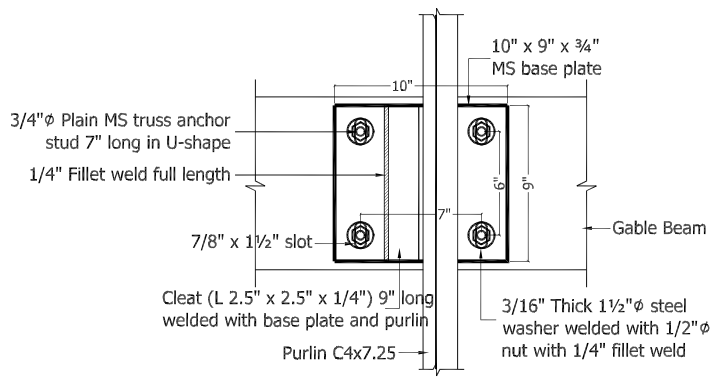
PGI SHEET DETAIL AT GABLE WALL



SECTION 03-03



END OF TRUSS PORTION (Plan)



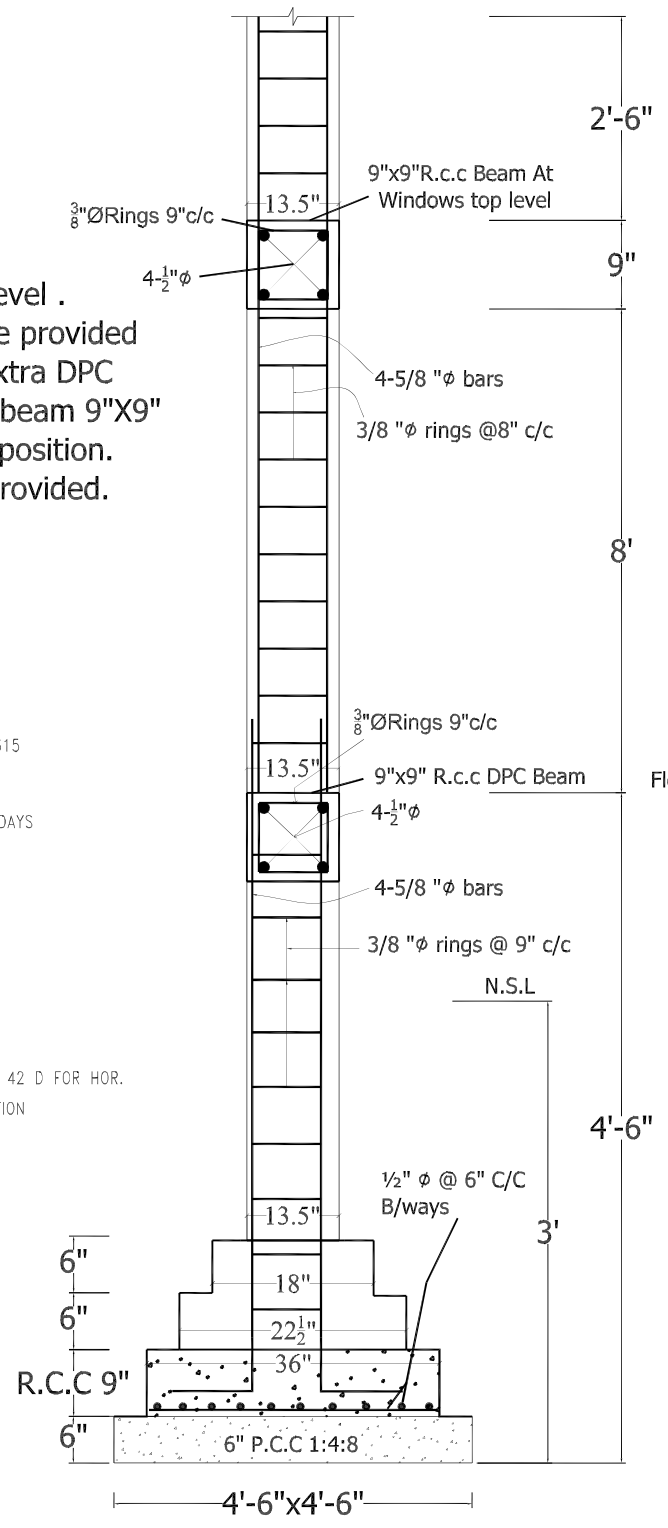
CONNECTION DETAIL
FOR PURLIN ON GABLE WALL

CLIENT: **KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT** **PMU (KITE) C&W DEPARTMENT KP**	CONSULTANT: **NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.**					DRAWN	PROJECT: **REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000**	TITLE: REST AREA (CAFE/ KEHWA KHANA) TRUSS DETAIL
					SUBMITTED			DATE: JANUARY 2022
					RECOMMNED			DWG. NO 38164/102/TD/ RA/LOT-01/16
					CHD./VER			
		REV	DATE	DESCRIPTION	APPROVED			

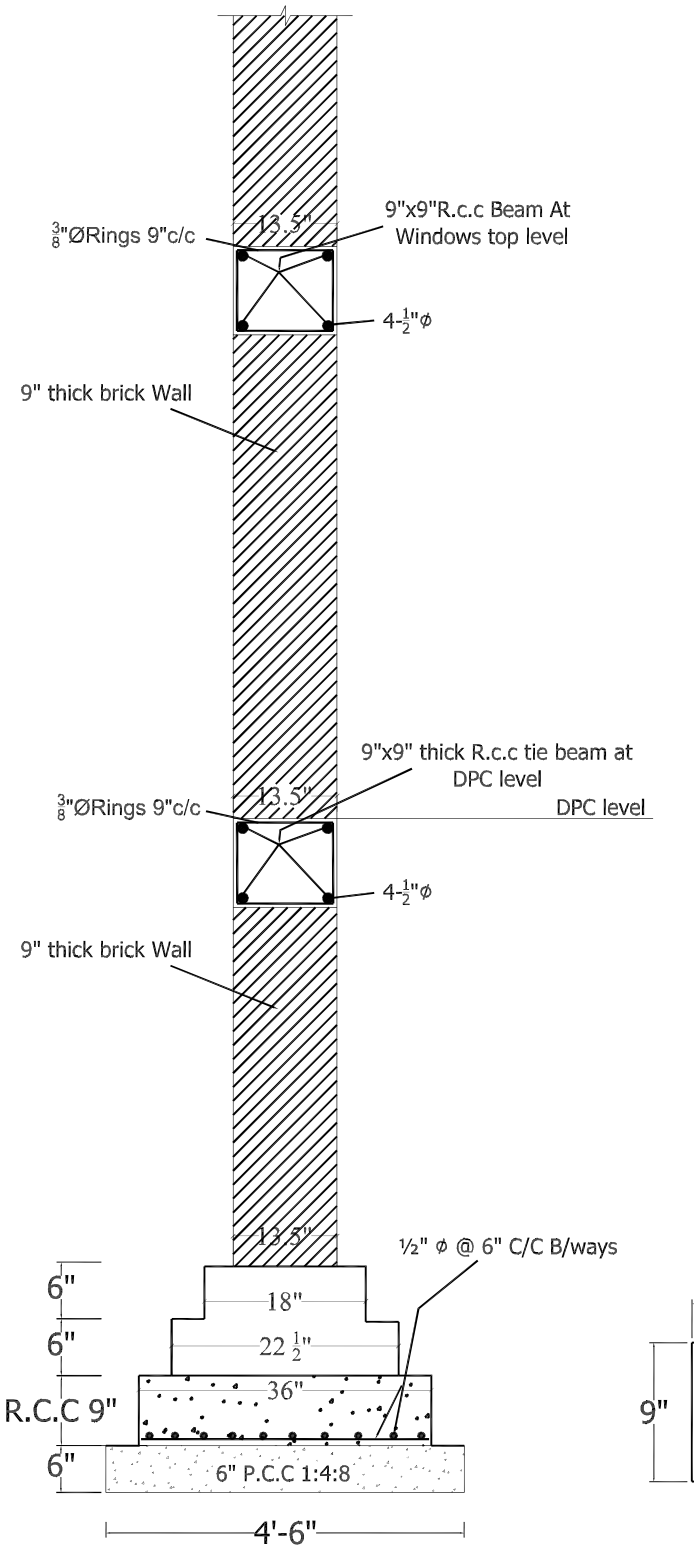
R.c.c columns upto DPC level .
At DPC 9" thick tie beam will be provided over 9" thick brick walls, no extra DPC then required.After Providing Tie beam 9"X9" on walls & columns at shown position.
Normal 9" thick brick wall is provided.

NOTES:-

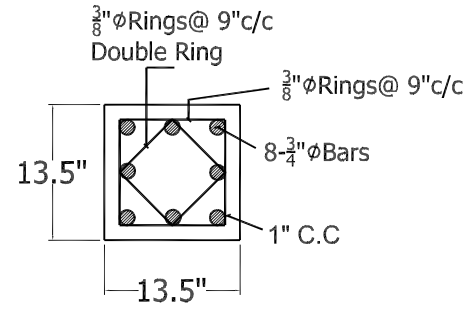
(1) ALL REINFORCING STEEL IS DEFORMED AS PER ASTM A-615 40000 PSI MIN. YIELD STRENGTH. AND MIN. ULTIMATE STRENGTH OF 65000 PSI .
(2) ALL CONCRETE IS 3000 PSI CYLINDER STRENGTH AT 28 DAYS WITH MIN. CEMENT CONTENT 400 KG/m
(3) CLEAR CONCRETE COVER TO MAIN REINFORCING BARS IS AS BELOW.
SLABS = 3/4" FOOTING ON 1:4:8 = 2"
BEAMS = 1½" COLUMNS = 1½"
(4) ALL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH THE RELEVENT ARCHITECTURAL AND SERVICES DRGS.
(5) LEAN IS 1000 PSI CYLINDER STRENGTH AT 28 DAYS MIN MIX 1:4:8
(6) ALL LAPS ARE 30 TIMES BAR DIAMETER FOR VERTICAL & 42 D FOR HOR.
(7) EXCAVATION INCLUDING DEWATERING, BRACING OF EXCAVATION TO SAFEGUARD THE ADJOINING PROPERTY AND LIFE AND DEWATERING PITS IN CASE OF RAIN IS CONTRACTOR RESPONSIBILITY. FOR THAT MATTER, A QUALIFIED GEO-TECHNICAL ENGINEER SHOULD BE APPOINTED ON HIS ROLE.
(8) (a) IST TIE BEAM AT FOUNDATION LEVEL.
(b) 2ND TIE BEAM AT D.P.C. LEVEL.
(C) 3RD TIE BEAM AT WINDOW LINTLE LEVEL.
(d) R.C.C COLUMN 9"x 9" AT CORNER OF BUILDING SHAULD BE PROVIDED.



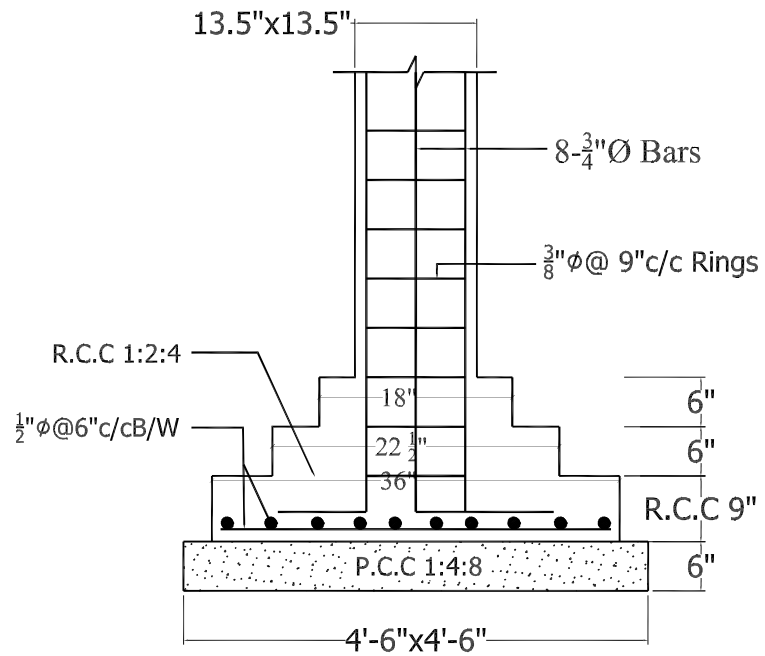
R.c.c Foundation Detail
For R.c.c Column Portion



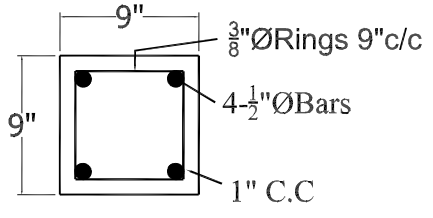
R.C.C. STRIP FOUNDATION
FOR GROUND FLOOR



VERANDAH COLUMN DETAIL
C-2

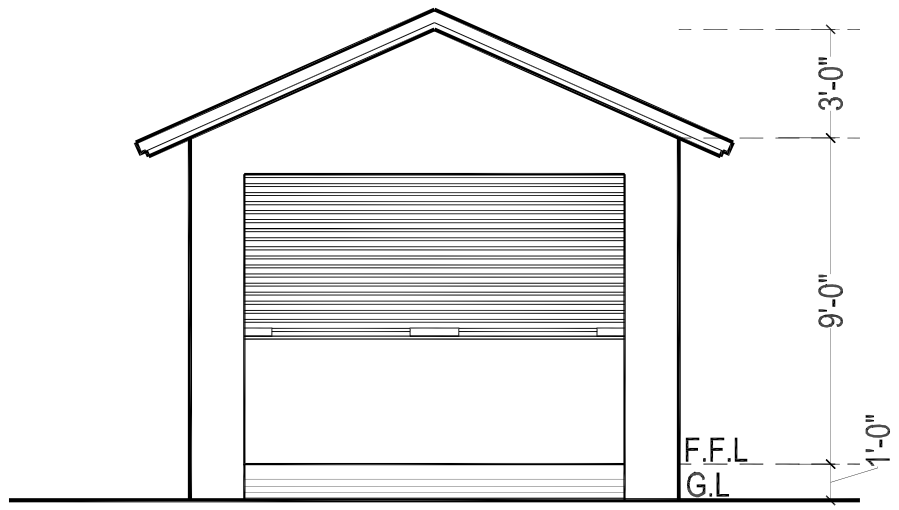


VERANDAH COLUMNS FOUNDATION DETAIL
C-1

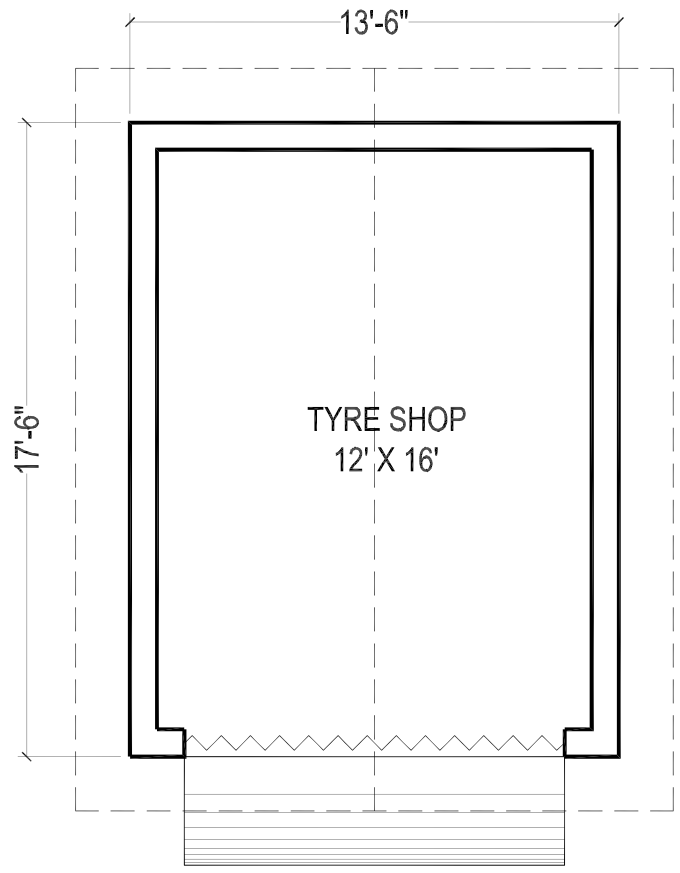


TIE BEAM

CLIENT:	CONSULTANT:					DRAWN	PROJECT:	TITLE:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT PMU (KITE) C&W DEPARTMENT KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				SUBMITTED		REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01: KM 0+000 ~ 13+000	REST AREA (CAFE/ KEHWA KHANA) FOUNDATION, COLUMNS AND WALLS DETAIL
					RECOMMNED			DATE: JANUARY 2022 / DWG. NO 38164/102/TD/ RA/LOT-01/17
					CHD./VER			
		REV	DATE	DESCRIPTION	APPROVED			



FRONT ELEVATION



TYRE SHOP

COVERED AREA = 236 SFT

BUILDING SPECIFICATION

* PCC (1:4:8) IN FOUNDATIONS.
* 2" THICK DPC (DAMP PROOF COURSE) IN (1:2:4) PCC WITH 2 COATS OF HOT BITUMEN WITH POLYTHENE SHEET.
* BURNT BRICK MASONRY IN 1:6 CEMENT SAND RATIO MORTAR.
* 1/2" THICK PLASTER ON WALLS IN 1:6 CEMENT SAND RATIO.
* ALL LINTELS & BEAMS IN (1:2:4) CEMENT: SAND: AGGREGATE RATIO WITH 14 DAYS CURING.
* ALL ELECTRICAL WIRING TO BE CONCEALED.
* ALL LOAD BEARING WALLS SHALL BE MINIMUM 9" THICK.
* ALL PARTITION WALLS SHALL BE 9" THICK.
* THEN 1 1/2" BRICK TILES SET IN 1:3 CEMENT SAND RATIO.
* ALL INTER FLOOR SLABS SHALL BE COVERED WITH 2" OF PCC (1:4:8) IN SLOPE THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.
* ALL GROUND FLOORS SHALL BE LAID ON COMPACTED EARTH THEN 6" OF WATERED AND RAMMED SAND THEN 4" OF (1:4:8) IN SLOPE THEN 2" (1:2:4) THEN 24" X 24" IMPORTED CERAMIC TILES AS APPROVED BY THE ENGINEER.

CLIENT:
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
PMU (KITE) C&W DEPARTMENT KP

CONSULTANT:
NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV	DATE	DESCRIPTION		DRAWN
			SUBMITTED	
			RECOMMNED	
			CHD./VER	
			APPROVED	

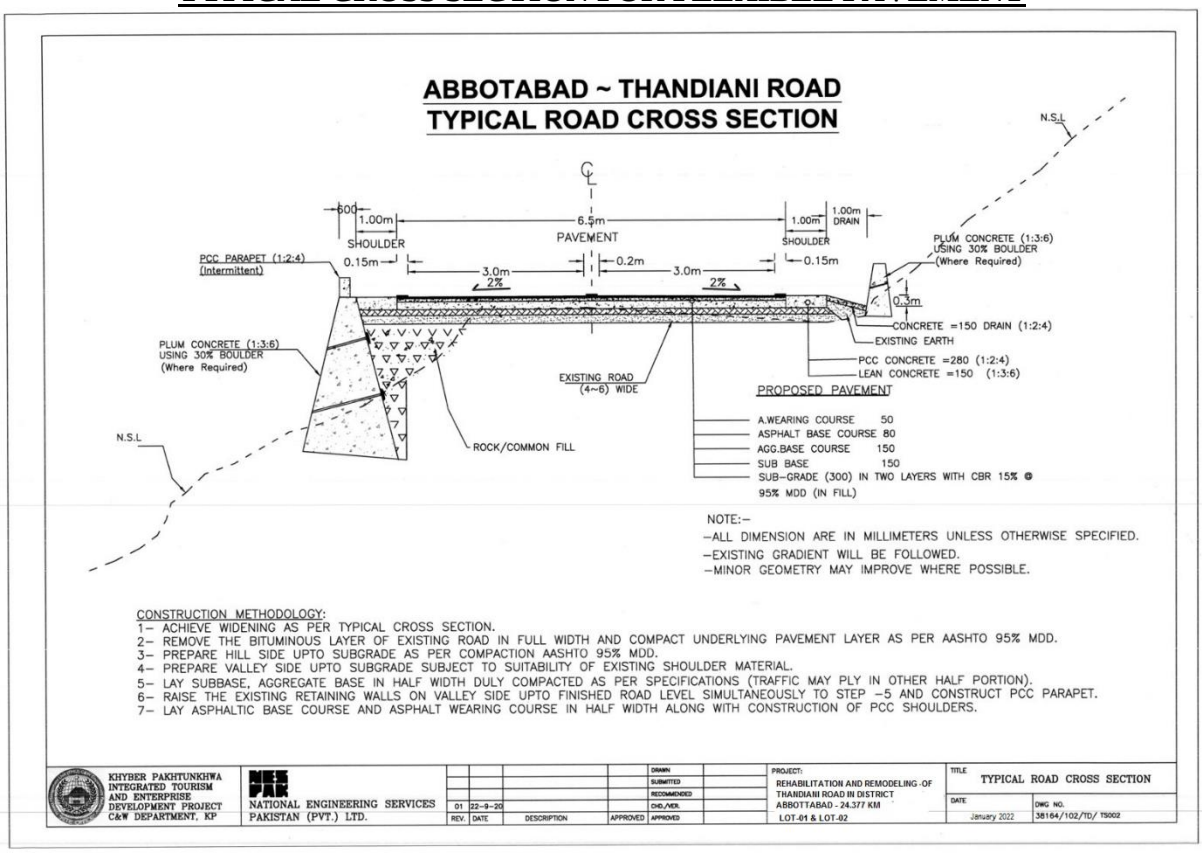
PROJECT:
REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM
LOT-01: KM 0+000 ~ 13+000

TITLE:
REST AREA (TYRE SHOP)
PLAN, ELEVATION,SPECIFICATION

DATE: JANUARY 2022

DWG. NO
38164/102/TD/ RA/LOT-01/18

TYPICAL CROSS SECTION FOR FLEXIBLE PAVEMENT

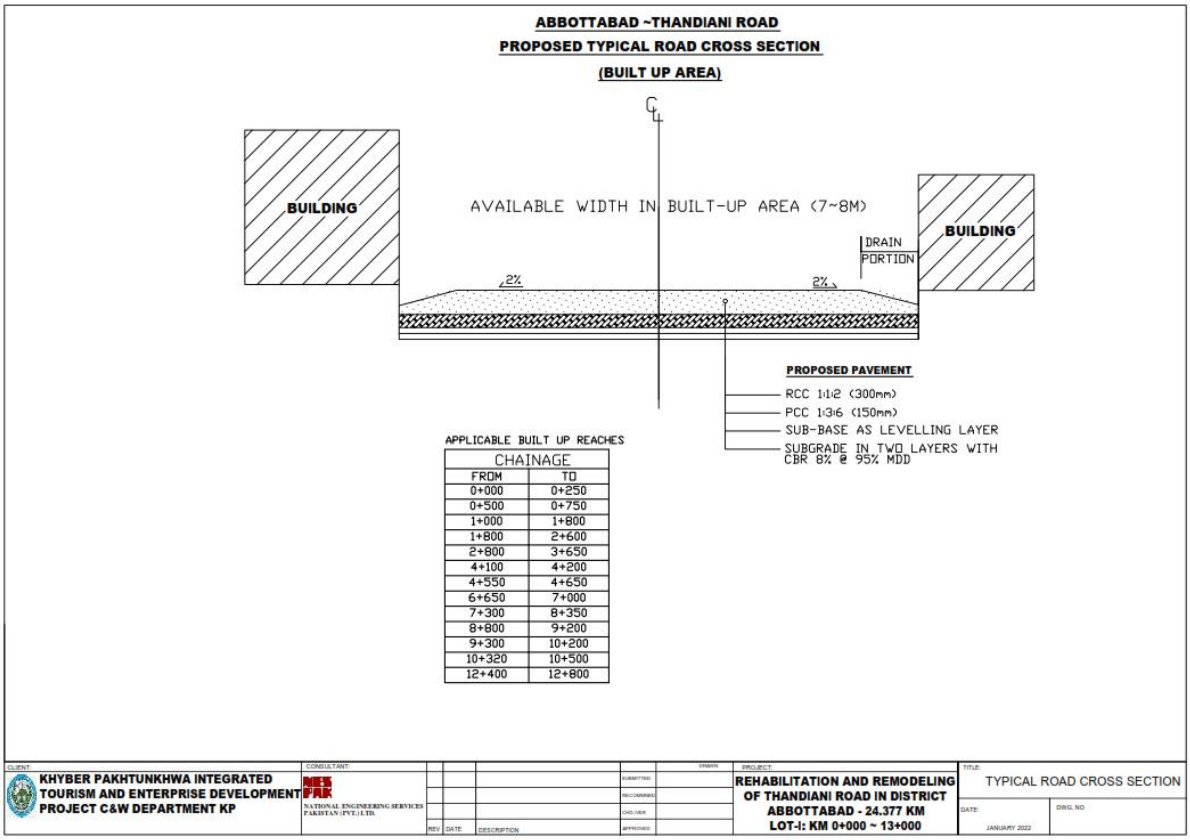


CONSTRUCTION METHODOLOGY:

1- ACHIEVE WIDENING AS PER TYPICAL CROSS SECTION.
2- REMOVE THE BITUMINOUS LAYER OF EXISTING ROAD IN FULL WIDTH AND COMPACT UNDERLYING PAVEMENT LAYER AS PER AASHTO 95% MDD.
3- PREPARE HILL SIDE UPTO SUBGRADE AS PER COMPACTION AASHTO 95% MDD.
4- PREPARE VALLEY SIDE UPTO SUBGRADE SUBJECT TO SUITABILITY OF EXISTING SHOULDER MATERIAL.
5- LAY SUBBASE, AGGREGATE BASE IN HALF WIDTH DULY COMPACTED AS PER SPECIFICATIONS (TRAFFIC MAY PLY IN OTHER HALF PORTION).
6- RAISE THE EXISTING RETAINING WALLS ON VALLEY SIDE UPTO FINISHED ROAD LEVEL SIMULTANEOUSLY TO STEP -5 AND CONSTRUCT PCC PARAPET.
7- LAY ASPHALTIC BASE COURSE AND ASPHALT WEARING COURSE IN HALF WIDTH ALONG WITH CONSTRUCTION OF PCC SHOULDERS.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.					DRAWN		PROJECT: REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-01 & LOT-02	TITLE: TYPICAL ROAD CROSS SECTION
						SUBMITTED			
						RECOMMENDED			DATE: January 2022
		01	22-9-20			CHD./VER.			DWG NO. 38164/102/TD/ TS002
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED			

TYPICAL CROSS SECTION FOR RIGID PAVEMENT



APPLICABLE BUILT UP REACHES

CHAINAGE	
FROM	TO
0+000	0+250
0+500	0+750
1+000	1+800
1+800	2+600
2+800	3+650
4+100	4+200
4+550	4+650
6+650	7+000
7+300	8+350
8+800	9+200
9+300	10+200
10+320	10+500
12+400	12+800

CLIENT: KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT KP

CONSULTANT: NESPAK — NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV. | DATE | DESCRIPTION | DRAWN | SUBMITTED | RECOMMEND | CHECKED | APPROVED

PROJECT: REHABILITATION AND REMODELING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.377 KM LOT-I: KM 0+000 ~ 13+000

TITLE: TYPICAL ROAD CROSS SECTION

DATE: JANUARY 2022 | DWG. NO

GOVERNMENT OF KHYBER PAKHTUNKHWA
C & W DEPARTMENT

REHABILITATION AND REMODELINGOF THANDIANI ROAD IN DISTRICT ABBOTTABAD
(24.377 KM)
LOT-01: KM 0+000 ~ 13+000

TENDER DRAWINGS

JANUARY 2022

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED.
NESPAK HOUSE 2nd Floor Attaturk Avenue, Sector G-5/2 Islamabad- Pakistan.

LIST OF DRAWINGS

Sr.No.	TITLE OF DRAWING	DRAWING No.	TOTAL NO OF SHEETS
1	LIST OF DRAWINGS AND GENERAL NOTES	38164/102/TD/LDG001	01
2	KEY MAP	38164/102/TD/KM002	01
3	SYMBOLS AND ABBREVIATIONS	38164/102/TD/SA002A	01
4	ROUTE LOCATION PLAN	38164/102/TD/RLP 01~32	32
5	TYPICAL CROSS SECTIONS	38164/102/TD/TS001,TS002	02
6	SCHEDULE OF STRUCTURES	38164/102/TD/SS003,004	02
7	TRAVERSE STATION DATA	38164/102/TD/TS005,006	02
8	SLAB CULVERT DETAILS (SINGLE CELL)	38164/102/TD/SC007	01
9	TYPICAL CULVERT DETAILS (MULTI CELL)	38164/102/TD/SC008	01
10	TYPICAL SLAB CULVERT REINFORCEMENT DETAILS	38164/102/TD/SC009	01
11	TYPICAL PIPE CULVERT DETAILS	38164/102/TD/PC001,002	02
12	TYPICAL STONE MASONRY RETAINING WALL DETAILS	38164/102/TD/RW011	01
13	GENERAL NOTES FOR STRUCTURES	38164/102/TD/GNS0012	01
14	REBAR SHAPE CODE	38164/102/TD/RS0013	01
15	MISCELLANEOUS PROTECTION DETAIL	38164/102/TD/0014	01
16	TYPICAL DRAIN DETAIL	38164/102/TD/D0015	01
17	TYP DETAIL OF SERVICE DUCTS	38164/102/TD/D0016	01
18	TYPICAL SUPERELEVATION DETAILS	38164/102/TD/TS0018	01
19	TYPICAL ROAD SIGN DETAILS	38164/102/TD/RS0019~28	09
20	PAVEMENT MARKING AND ROAD STUDS	38164/102/TD/PMS0029	01
21	METAL GUARD RAIL	38164/102/TD/GR030,031	02
22	PI STATION DATA	38164/102/TD/PD00	04
23	LIST OF SUPERELEVATION	38164/102/TD/PD0010B~10I	17
24	DETAIL PLAN & PROFILE DRAWINGS	4169/(ii)/TD/P 001~051	51

GENERAL NOTES

1. ALL DIMENSIONS SHOWN ON PLAN AND PROFILE DRAWINGS ARE IN METERS WHEREAS ANGULAR MEASUREMENTS ARE IN DEGREES, MINUTES AND SECONDS (360° TO A CIRCLE).
2. EACH DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER DRAWINGS.
3. GRID CO-ORDINATES AND ELEVATIONS ARE BASED ON UTM ZONE 42-N.
4. MINOR CHANGES IN HORIZONTAL/VERTICAL ALIGNMENT MAY BE CARRIED OUT AT SITE WITH PRIOR APPROVAL OF THE ENGINEER.
5. STRUCTURES SHOWN ON PLAN/PROFILE ARE SYMBOLIC. FOR DETAIL OF STRUCTURES AND PROTECTION WORKS SEE RELEVANT DRAWING. HOWEVER DETAILED INVENTORY OF STRUCTURES SHALL BE PREPARED AS PER SITE CONDITION/REQUIREMENTS AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF CONSTRACTION ACTIVITES AT SITE.
6. FOR PAVEMENT MARKING AND ROAD SIGNS, CONTRACTOR SHALL SUBMIT DETAILED PLANS DRAWINGS FOR APPROVAL OF THE ENGINEER.
7. LOCATION OF UNDER GROUND CABLES/UTILITIES SHOWN ON PLANS ARE APPROXIMATE. EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR AT HIS OWN COST.
8. ANY DAMAGE DONE TO THE UTILITIES DURING EXCAVATION/EXECUTION OF WORKS SHALL BE IMMEDIATELY REPAIRED BY THE CONTRACTOR AT HIS OWN COST TO THE SATISFACTION OF CONCERNED DEPARTMENTS.
9. THE SUBGRADE MATERIAL SHALL HAVE A MINIMUM SOAKED C.B.R. OF 08% AT 95% M.D.D. AASHTO T-180 FOR BOTH FILL AND CUT SECTIONS.
10. THE LENGTHS, SIZES, SLOPES, INVERT LEVELS AND OTHERS GIVEN DETAILS REGARDING CULVERTS, AS SHOWN IN SCHEDULE OF STRUCTURES ARE TENTATIVE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS OF EACH CULVERT LOCATIONS WITH THE REQUIRED SKEW ANGLE AS PER SITE REQUIREMENTS AND SHALL SUBMIT THE SAME TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION EXECUTION.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO CATER FOR ALL TEMPORARY TRAFFIC DIVERSIONS BEFORE START OF CONSTRUCTION OF THE ROAD TO THE ENTIRE SATISFACTION OF THE ENGINEER INCLUDING DETOUR ROAD IF REQUIRED AND ITS MAINTENANCE, SPRINKLING OF WATER, GRADING AND COMPACTION WHEN AND WHERE REQUIRED AT HIS OWN COST.
12. RETAINING/BREAST/TOE WALL, GUARD RAIL, CONCRETE CURB STONES, FOOTPATH, ROAD SIGNS, GANTRY SIGNS, PAVEMENT STUDS AND OTHER ANCILLARY ITEMS SHALL BE PROVIDED AS PER THE BOQ ITEMS , AS PER SITE REQUIREMENT OR AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL PREPARE THE SHOP DRAWINGS FOR EACH ACTIVITY/ LOCATION ALONG WITH METHODOLOGY AND SHALL SUBMIT FOR APPROVAL TO THE ENGINEER PRIOR TO START OF CONSTRUCTION.
13. TWO COATS OF BITUMEN PAINT SHALL BE APPLIED ON CONCRETE FACES IN CONTACT WITH THE SOIL. COST OF THIS ITEM IS DEEMED TO BE INCLUDED IN THE RELEVENT BOQ ITEM RATES AND NO SEPERATE PAYMENT SHALL BE MADE FOR THIS ITEM OF WORK.
14. RETAINING/DRAINAGE STRUCTURES FOUNDATION SHALL BE PLACED ON FIRM,HARD AND ROCKY STRATA, OR AS DIRECTED BY ENGINEER.
15. ROADWAY EXCAVATION MATERIAL SHELL BE UTILIZED IN MOST EFFECTIVE MANNER IN THE EMBANKMENT EVEN WITH BLENDING /MIXING WITH THE SUPERIOR MATERIALS (IF REQUIRED, WITHOUT AT ANY EXTRA COST). ROADWAY EXCAVATION SHALL NOT BE DISPOSED OFF OUTSIDE RIGHT OF WAY.
16. ALL SHARP BENDS/CARVES SHALL BE WIDENED AS PER AAHSTO STANDARDS.
17. NSL PROVIDED IN ROAD PROFILE DRAWING IS GENERATED USING TIN, WHICH MAY HAVE SLIGHT VARIATION FROM ACTUAL NSL AT SITE. PRIOR TO EXECUTION, JOINT CROSS SECTION / ACTUAL NSL OF DESIGN CENTER LINE WILL BE PROVIDED TO M/S NESPAK TO FINALIZE THE ROAD PROFILE PRIOR TO COMMENCE CONSTRUCTION ACTIVITIES AT SITE.
18. PCC PARAPET SHALL BE PROVIDED THROUGH OUT PROJECT LENGTH ON VALLEY SIDE WITH INTERMITTENT GAPS AS PER DRAWING 38164/102/TD/RW011
19. RETAINING WALL/BREAST WALL MADE WITH R.R MASONRY SHALL BE PROVIDED KEEPING IN VIEW THE SITE REQUIREMENT AS PER THE ENGINEER APPROVAL.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: LIST OF DRAWINGS & GENERAL NOTES

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/LDG001

SYMBOLS

DESIGN CENTER LINE

AGRICULTURE LAND

LAND ACQUISITION

TREES

BUSHES

MOSQUE

PERMANENT HOUSE / TEMPORARY

GRAVES / GRAVE YARD

TELEPHONE POLE

ELECTRIC & T&T LINE

DIRT TRACK — D.TRACK

METALLED ROAD

ELECTRIC POLE

HIGH TENSION LINE PYLON

HORIZONTAL CURVE DATA — CH= R= L= Δ= E= N=

GRID NORTH — N

TRAVERSE /BM POINTS — TP

POINT OF INTERSECTION — P.I #

FENCE

SUI GAS & WATER PIPE LINE

TUBE WELL

BOUNDARY LINE

MANHOLE

NULLAH

CULVERT / BRIDGE

T&T BOX — T&T

HAND PUMP — HP

CANAL / DRAIN

LINED WATER COURSE

UNLINED WATER COURSE

SPUR STRUCTURE

GRID LINE — N= E=

SPOT LEVEL (TYP.) — 100.00

ROAD SIGN (IN PLAN) — ROAD SIGN NUMBER (10)

EXISTING GROUND LEVEL (PROFILE)

FINISHED GRADE LINE

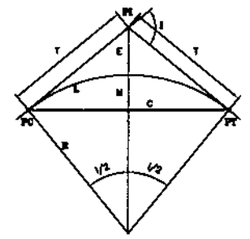
C/WAYS IN PROFILE

CULVERT IN PROFILE

C/WAYS IN PLAN

ABBREVIATIONS

A	AREA
ALIG.	ALIGNMENT
B	BREADTH
BC	BOX CULVERT
B.M	BENCH MARK
BOP	BEGINNING OF PROJECT
C	CHORD LENGTH
C.B.R	CALIFORNIA BEARING RATIO
C/C	CENTER TO CENTER
CHD.	CHECKED
C/L, ℄	CENTER LINE
CM/cm	CENTIMETER
CONC.	CONCRETE
CONST/JT	CONSTRUCTION JOINT
CS	CURVE TO SPIRAL
CUL	CULVERT
Cu.m	CUBIC METER
CURVE LEN	VERTICAL CURVE LENGTH
DC	DEPTH OF CUT
Da	DEGREE OF CURVE (BY ARC)
Dc	DEGREE OF CURVE (BY CHORD)
DEG	DEGREE
DIA.	DIAMETER
DIM.	DIMENSION
D/S	DOWNSTREAM
D.S.T	DOUBLE SURFACE TREATMENT
DRG.	DRAWING
E	EASTING , EAST , EXTERNAL DISTANCE (SHIFT)
ELEV./EL	ELEVATION
EOP	END OF PROJECT
EXP/JT	EXPANSION JOINT
G.I	GALVANIZED IRON
H/HOR.	HORIZONTAL
H.T/L.T	HIGH TENSION/LOW TENSION
HF	HEIGHT OF FILL
HFL	HIGH FLOOD LEVEL
HWY.	HIGHWAY
I	DEFLECTION ANGLE (HORIZONTAL CURVE)
Ic	CIRCULAR DEFLECTION ANGLE
I.L	INVERT LEVEL
K	SMOOTHNESS FACTOR (IN CASE OF VERTICAL CURVE)
Kg.	KILOGRAM
KM/Km	KILOMETER
L	LENGTH OF HORIZONTAL CURVE/SPIRAL
LIN.M	LINEAR METER
LHS.	LEFT HAND SIDE
LT.	LEFT
LT	LONG TANGENT
M/m	METER
M	MIDDLE ORDINATE
MAX.	MAXIMUM
M.H	MAN HOLE
MIN.	MINIMUM
mm	MILLIMETER
N.S.L	NATURAL SURFACE LEVEL (E.G.L)
N	NORTHING, NORTH
NO.	NUMBER
N.T.S	NOT TO SCALE
P	OFFSET OF TANGENT LINE TO PC OF SHIFTED CIRCLE CURVE
PC	POINT OF HORIZONTAL CURVATURE (START OF HORIZONTAL CURVE)
P.C.	REINFORCED CONCRETE PIPE CULVERT
PGL	PROFILE GRADE LINE
P.I.	PLASTICITY INDEX
PI	POINT OF HORIZONTAL INTERSECTION
PR	POINT OF ROTATION
PT	POINT OF HORIZONTAL TANGENCY (END OF HORIZONTAL CURVE)
R	RADIUS OF HORIZONTAL CURVE
R.C	REINFORCED CONCRETE
REINF.	REINFORCEMENT
REV.	REVISION
RHS.	RIGHT HAND SIDE
R.O.W.	RIGHT OF WAY
RT.	RIGHT
R/W	RETAINING WALL
RWC	RELOCATED WATER COURSE
S	SLOPE GRADIENT (PERCENT)
SE	SUPERELEVATION
S.B.P	SHOULDER BREAK POINT
S.C.	SLAB CULVERT
SC	SPIRAL TO CURVE, SLAB CULVERT
SHLD	SHOULDER
Sq.m	SQUARE METER
S.T.	SHORT TANGENT
ST	SPIRAL TO TANGENT
STA./STA	STATION (CHAINAGE)
STRUCT	STRUCTURE
SUPEREL.	SUPERELEVATION
S'WALK	SIDE WALK
T	TANGENT LENGTH OF HORIZONTAL CURVE
TS	TANGENT TO SPIRAL
T.S.T	TRIPPLE SURFACE TREATMENT
TAN.	TANGENT
TH	THICKNESS
TR	TRANSITION
TYP.	TYPICAL
U/S	UPSTREAM
V	VERTICAL
VAR.	VARIABLE
VER.	VERIFIED
VPC	VERTICAL POINT OF CURVATURE (START OF VERTICAL CURVE)
VPI	VERTICAL POINT OF INTERSECTION OF PROFILE GRADE.
VPT	VERTICAL POINT OF TANGENCY (END OF VERTICAL CURVE)
W.	WEST, WIDTH OF ROADWAY
W.B.M	WATER BOUND MACADAM
WC	WATER COURSE
X	DISTANCE, PERPENDICULAR TO THE TANGENT, FROM BEGINNING TO THE END OF SPIRAL
Y	DISTANCE, PERPENDICULAR TO THE TANGENT, FROM BEGINNING TO THE END OF SPIRAL
Θ	SKEW ANGLE



CIRCULAR CURVE PARAMETERS

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: SYMBOLS AND ABBREVIATIONS

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/SA002A

LIST OF STRUCTURE

PROPOSED SCHEDULE OF STRUCTURES

Sr.No	Chainage	Proposed Structure Span x Height	Skew	Remarks
1	0+050	1(2X1)	-	SLAB CULVERT
2	0+200	1(2X1)	-	SLAB CULVERT
3	0+390	1(2X1)	-	SLAB CULVERT
4	0+865	1(2X1)	-	SLAB CULVERT
5	1+800	1(2X1)	-	SLAB CULVERT
6	2+010	DIA 0.90	-	PIPE CULVERT
7	2+490	1(2X1)	-	SLAB CULVERT
8	2+550	1(2X1)	-	SLAB CULVERT
9	2+710	DIA 0.90	-	PIPE CULVERT
10	4+030	DIA 0.90	-	PIPE CULVERT
11	5+460	DIA 0.90	-	PIPE CULVERT
12	5+590	DIA 0.90	-	PIPE CULVERT
13	5+850	DIA 0.90	-	PIPE CULVERT
14	6+030	DIA 0.90	-	PIPE CULVERT
15	6+710	DIA 0.90	-	PIPE CULVERT
16	7+980	DIA 0.90	-	PIPE CULVERT
17	8+130	DIA 0.90	-	PIPE CULVERT
18	8+560	DIA 0.90	-	PIPE CULVERT
19	9+190	DIA 0.90	-	PIPE CULVERT
20	9+350	1(2X1)	-	SLAB CULVERT
21	9+610	DIA 0.90	-	PIPE CULVERT
22	9+870	1(2X1)	-	SLAB CULVERT
23	10+340	1(2X1)	-	SLAB CULVERT
24	10+790	DIA 0.90	-	PIPE CULVERT

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: SCHEDULE OF STRUCTURES

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/SS003

PROPOSED SCHEDULE OF STRUCTURES

Sr.No	Chainage	Proposed Structure Span x Height	Skew	Remarks
25	10+920	DIA 0.90	-	PIPE CULVERT
26	12+475	1(2X1)	-	SLAB CULVERT
27	12+890	DIA 0.90	-	PIPE CULVERT
28	12+980	DIA 0.90	-	PIPE CULVERT
29	13+730	DIA 0.90 2 NO	-	PIPE CULVERT
30	14+190	1(2X1)	-	SLAB CULVERT
31	14+290	DIA 0.90 2 NO	-	PIPE CULVERT
32	14+440	DIA 0.90	-	PIPE CULVERT
33	15+725	1(2X1)	-	SLAB CULVERT
34	16+370	1(2X1)	-	SLAB CULVERT
35	17+790	1(2X1)	-	SLAB CULVERT
36	20+130	DIA 0.90	-	PIPE CULVERT
37	20+300	1(2X1)	-	SLAB CULVERT CHOKED
38	21+080	1(2X1)	-	SLAB CULVERT CHOKED
39	21+160	DIA 0.90	-	PIPE CULVERT
40	22+140	1(2X1)	-	SLAB CULVERT
41	22+640	1(2X1)	-	SLAB CULVERT
42	22+790	DIA 0.90	-	PIPE CULVERT
43	23+370	1(2X1)	-	SLAB CULVERT
44	23+315	1(2X1)	-	SLAB CULVERT
45	23+430	DIA 0.90	-	PIPE CULVERT
46	24+015	1(2X1)		SLAB CULVERT

NOTE

ADDITIONAL STRUCTURE (IF REQUIRED) SHALL BE PROVIDED AS PER SITE REQUIREMENT OR AS PER THE DIRECTION OF THE ENGINEER.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN | SUBMITTED | RECOMMENDED | CHD./VER. | APPROVED

PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: SCHEDULE OF STRUCTURES

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ SS004

TRAVERSE STATION

SUMMARY OF SURVEY CONTROL POINTS

SR. No.	Easting (m)	Northing (m)	Elevation (m)	Code
1	340166.386	3780810.430	1180.423	T1
2	340242.323	3780536.788	1161.672	T2
3	340960.923	3781384.604	1248.005	T3
4	341027.166	3781375.961	1250.902	T4
5	341145.837	3781398.212	1255.922	T5
8	341794.766	3782120.216	1387.125	T8
9	341811.597	3781899.898	1413.794	T9
10	342255.853	3782399.757	1491.095	T10
11	342491.221	3782399.501	1521.207	T11
12	342762.724	3782339.214	1565.016	T12
13	343474.060	3783725.345	1707.589	T13
14	343691.822	3783760.615	1687.852	T14
15	344543.505	3784566.602	1618.183	T15
16	344702.980	3784534.180	1615.340	T16
17	345141.254	3785068.647	1614.667	T17
18	345379.754	3785399.507	1635.673	T18
19	346208.581	3786452.860	1750.664	T19
20	346218.235	3786544.732	1741.488	T20
21	346281.478	3787211.824	1798.683	T21

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

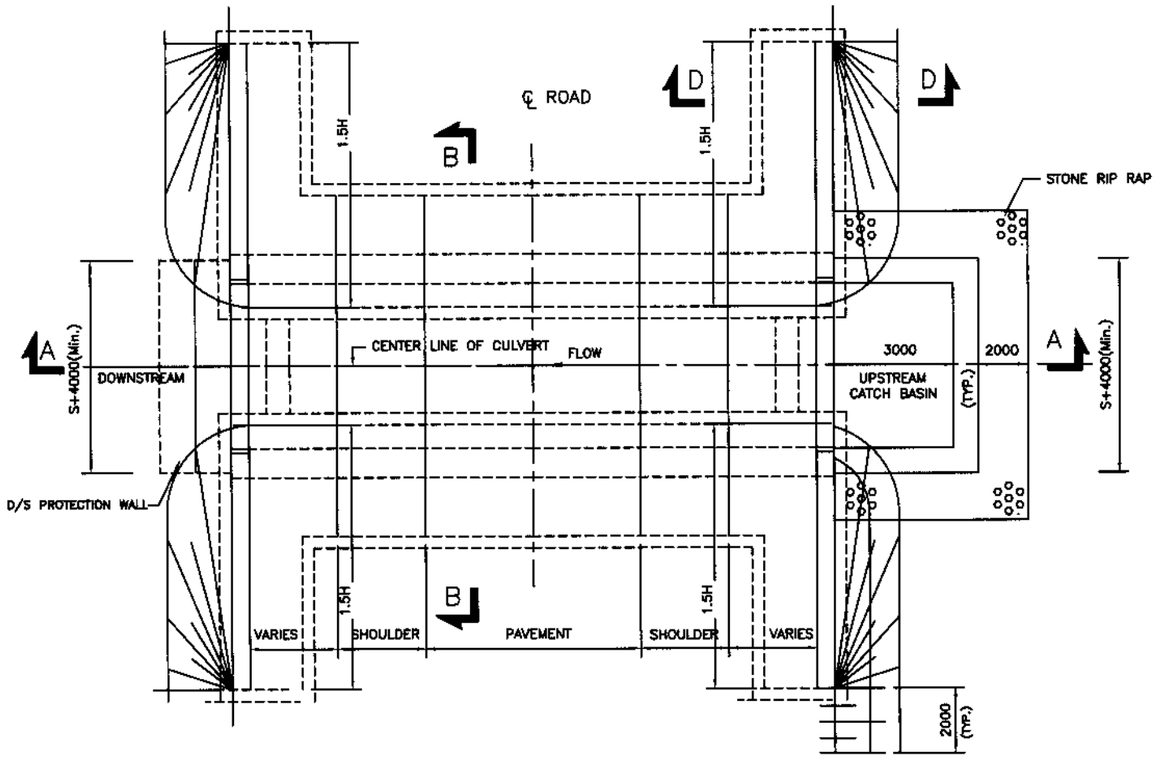
TITLE: TRAVERSE STATIONS

DATE: JANUARY, 2021

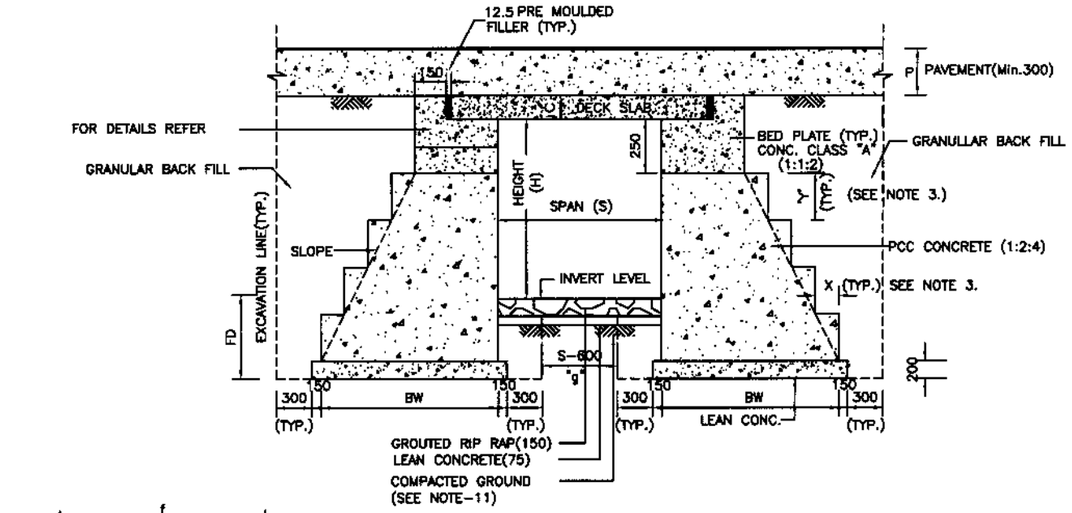
DWG NO.: 38164/102/TD/ TS005

SUMMARY OF SURVEY CONTROL POINTS

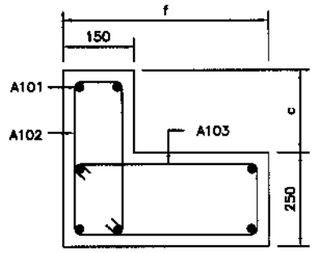
SR. No.	Easting (m)	Northing (m)	Elevation (m)	Code
22	346242.809	3787375.640	1834.170	T22
23	346274.124	3788097.633	1917.870	T23
24	346290.659	3788187.973	1924.281	T24
25	346401.741	3788316.581	1945.267	T25
26	346467.430	3788160.029	1996.124	T26
27	346646.057	3788213.334	2033.633	T27
28	346764.332	3787828.613	2095.273	T28
29	346852.353	3787797.837	2101.640	T29
30	347313.481	3787502.129	2242.225	T30
31	347278.461	3787613.843	2251.131	T31
32	347453.859	3787885.602	2359.085	T32
33	347488.264	3788014.138	2373.200	T33
34	348062.037	3787642.707	2468.926	T34
35	347996.180	3788052.438	2505.764	T35
36	347890.702	3788178.558	2523.215	T36
37	347937.844	3788657.089	2571.773	T37
38	348106.014	3789250.925	2604.534	T38
39	348192.614	3789308.286	2609.927	T39
40	348643.108	3789479.590	2640.932	T40
41	348619.166	3789348.831	2650.075	T41



PLAN OF CULVERT



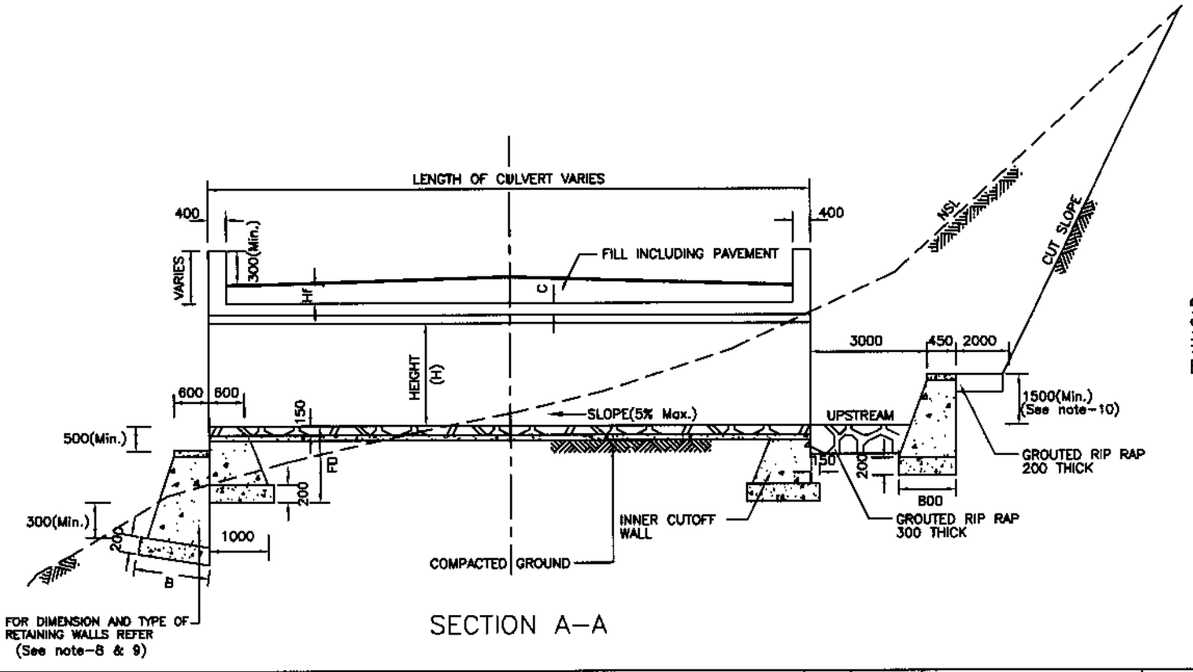
SECTION B-B



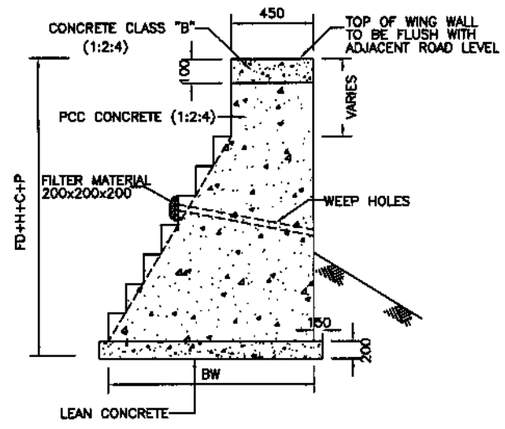
REINFORCEMENT
DETAIL OF BED PLATE
FOR ABUTMENT

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. READ THIS DWG. IN CONJUNCTION WITH DWG. No 38164/102/TD/009.
3. DIMENSION 'X' & 'Y' SHALL BE FIXED FOR EACH INDIVIDUAL CASE DEPENDING UPON SLOPE OF THE MASONARY WALL.
4. FOR DIMENSION BW,c,f,FD,H AND S REFER TABLES ON DWG. No. 38164/102/TD/008
5. EXPANSION JOINT BETWEEN DECK SLAB AND BED PLATE SHALL NOT BE PAID SEPERATELY.
6. FOR DETAILS OF REINFORCEMENT IN BED PLATE REFER DWG.No.38164/102/TD/007
7. FOR DECK SLAB AND EDGE BEAM REINFORCEMENT, SEE DETAILS ON DWG.
8. A MINUMUM OF 1500 mm HIGH RETAINING WALL TYPE RW-1 SHALL BE CONSTRUCTED AT D/S OF ALL THOSE CULVERTS WHOSE INTRUSION OF CULVERT ABUTMENT INTO NATURAL GROUND IS LESS THAN 1000 AT D/S OF CVULVERT. THIS HEIGHT MAY BE INCREASED DEPENDING UPON D/S SLOPE WITH PRIOR APPROVAL OF THE ENGINEER.
9. IN CASE OF MILD SLOPES AT D/S, CUTOFF WALL MAY BE CONSTRUCTED AT AN HORIZONTAL OFFSET (MAX. UPTO 2000) AWAY FROM THE ABUTMENT. IN SUCH CASES, SPACE BETWEEN THE ABUTMENT AND D/S CUTOFF WALL SHALL BE LINED WITH 300 THICK GROUTED RIPRAP.
10. HEIGHT OF WALL ALONG U/S CATCH BASIN MAY VARY DEPENDING UPON SITE CONDITION WITH PRIOR APPROVAL OF THE ENGINEER.
11. IN CASE DIMENSION 'g' IS LESS THAN 1000, THE EARTHEN WEDGE SHALL BE REMOVED AND REPLACED WITH APPROVED BACKFILL MATERIAL.
12. WEEP HOLES SHALL BE PROVIDED ALONG OUTLET WING WALL AT A LEVEL FLUSH WITH CULVERT INLET AT @2.0m C/C .

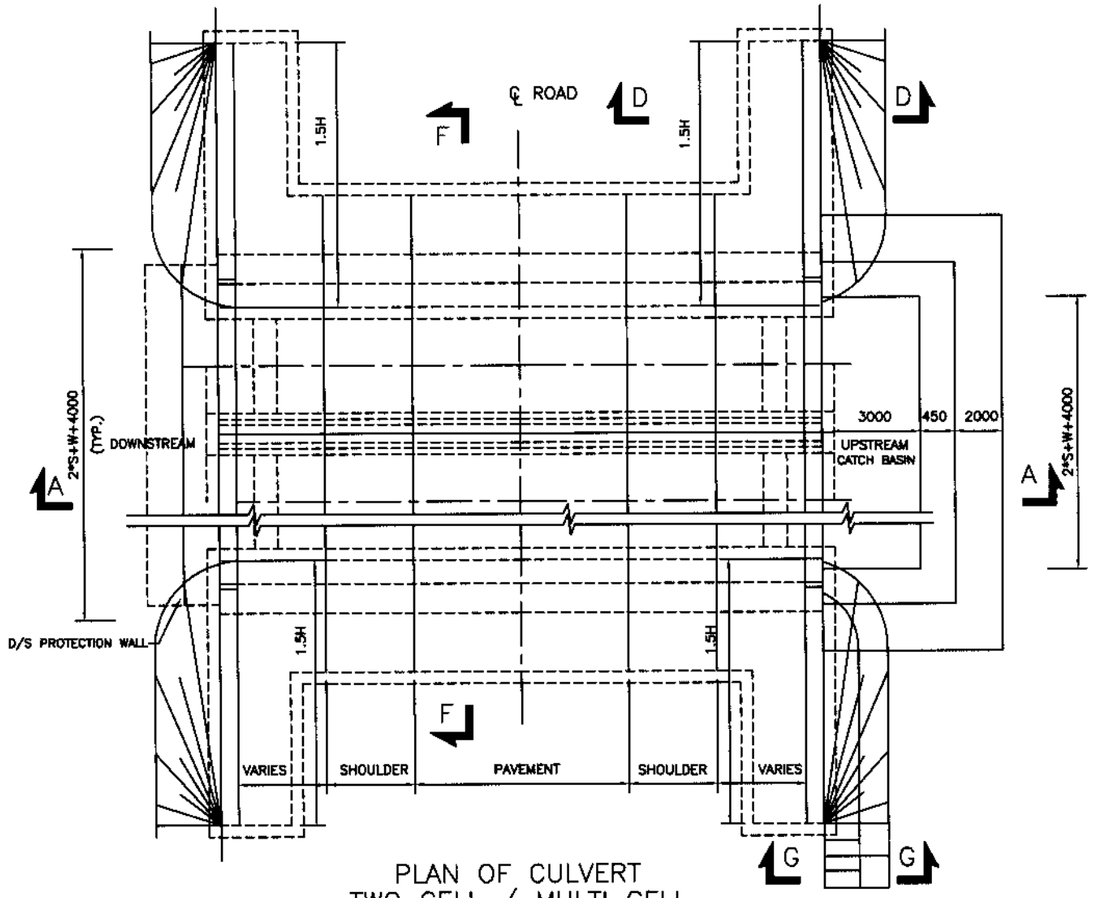


SECTION A-A

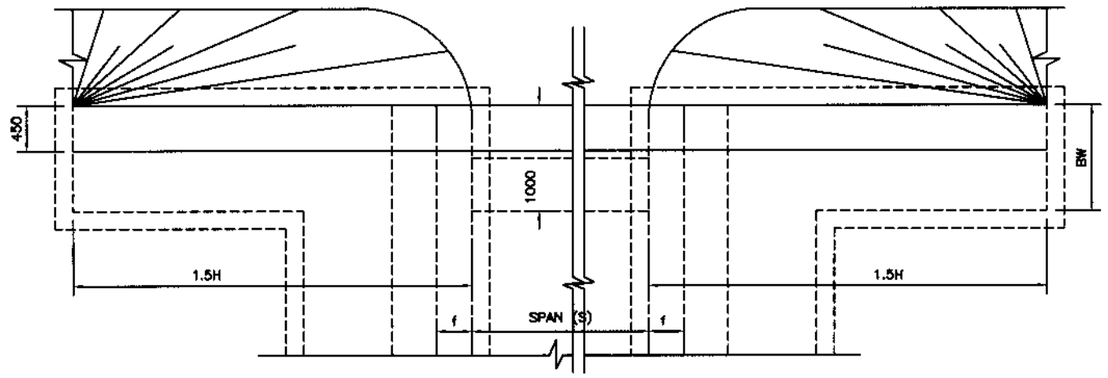


WING WALL
SECTION D-D

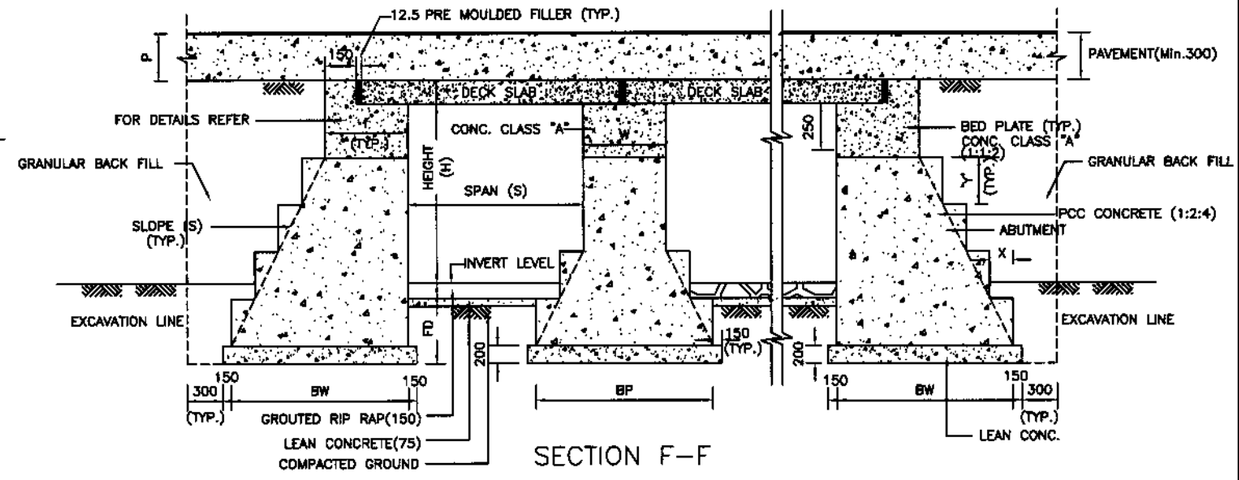
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				DRAWN		PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM	TITLE: TYPICAL CULVERT DETAILS (SINGLE CELL)
					SUBMITTED			
					RECOMMENDED			
					CHD./VER.			DATE: JANUARY, 2021
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED		DWG NO. 38164/102/TD/ SC007



PLAN OF CULVERT
TWO CELL / MULTI CELL



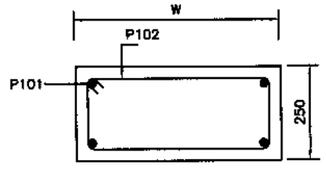
TYPICAL ENLARGED PART PLAN OF CULVERT
AT INLET AND OUTLET



SECTION F–F

BED PLATE REINFORCEMENT

ABUTMENT							PIER					
SPAN (m)	BAR MARK	DIA mm	NOS.	BAR MARK	DIA mm	SPACING	BAR MARK	DIA mm	NOS.	BAR MARK	DIA mm	SPACING
0.6	A101	13	7	A102, A103	10	200	–	–	–	–	–	–
1.0	〃	13	〃	〃	10	〃	–	–	–	–	–	–
1.5	〃	13	〃	〃	10	〃	–	–	–	–	–	–
2.0	〃	13	〃	〃	10	〃	–	–	–	–	–	–
2.5	〃	16	〃	〃	10	〃	–	–	–	–	–	–
3.0	〃	16	〃	〃	10	〃	–	–	–	–	–	–
3.5	〃	16	〃	〃	10	〃	P101	16	4	P102	10	200
4.0	〃	16	〃	〃	10	〃	P101	16	4	P102	10	200
4.5	〃	19	〃	〃	13	〃	〃	19	〃	〃	13	〃
5.0	〃	19	〃	〃	13	〃	〃	〃	〃	〃	〃	〃
5.5	〃	19	〃	〃	13	〃	〃	〃	〃	〃	〃	〃
6.0	〃	19	〃	〃	13	〃	〃	〃	〃	〃	〃	〃
6.5	〃	19	〃	〃	13	〃	〃	〃	〃	〃	〃	〃
7.0	〃	19	〃	〃	13	〃	〃	〃	〃	〃	〃	〃



REINFORCEMENT
DETAIL OF BED PLATE
FOR PIER

ABUTMENT BED PLATE DIMENSIONS

SPAN (m)	c mm	f mm
0.6	200	450
1.0	200	450
1.5	200	450
2.0	250	450
2.5	250	450
3.0	300	600
3.5	300	600
4.0	350	600
4.5	350	600
5.0	400	600
5.5	400	600
6.0	450	650
6.5	450	650
7.0	500	700

ABUTMENT AND PIER DIMENSIONS (WITHOUT FILL)

HEIGHT (m) H	FD mm	BW mm	W mm	BP mm
0.6	1120	1204	–	–
1.0	1200	1540	–	–
1.5	1300	1960	–	–
2.0	1400	2380	–	–
2.5	1500	2800	600	3950
3.0	1600	3220	600	3950
3.5	1700	3640	750	4150
4.0	1800	4060	750	4350
4.5	1900	4480	750	4550
5.0	2000	4900	900	4900
5.5	2100	5320	900	5100
6.0	2200	5740	1000	5400
6.5	2300	6160	1000	5600
7.0	2400	6580	1000	5800

FD = FOUNDATION DEPTH
BW = BASE WIDTH OF ABUTMENT AND BASE WIDTH OF CUT–OFF WALL
W = WIDTH OF PIER
BP = BASE WIDTH OF PIER
f = WIDTH OF ABUTMENT BED PLATE
S = SPAN

NOTE:–
1. FOR NOTES REFER DWG. NO.38164/102/TD/SC008

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

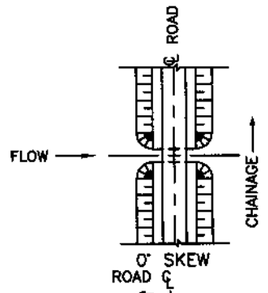
REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

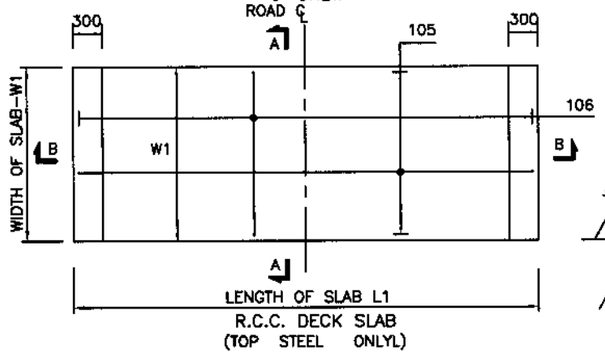
TITLE: TYPICAL CULVERT DETAILS (MULTI CELL)

DATE: JANUARY, 2021

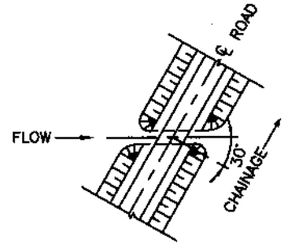
DWG NO.: 38164/102/TD/ SC009



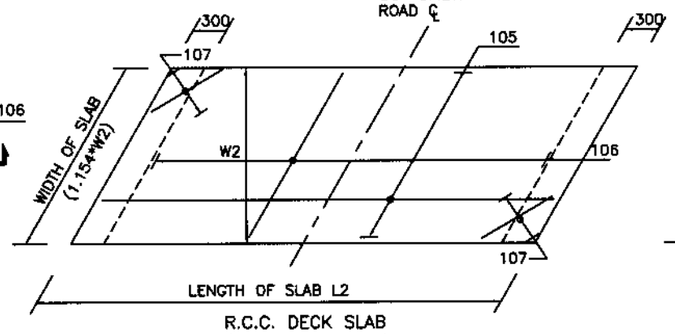
0° SKEW



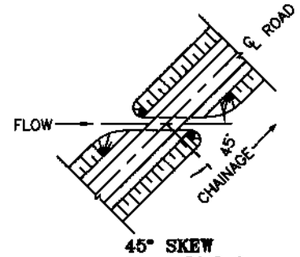
R.C.C. DECK SLAB
(TOP STEEL ONLYL)



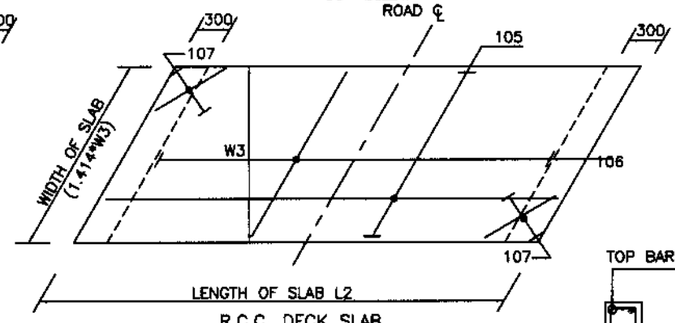
30° SKEW



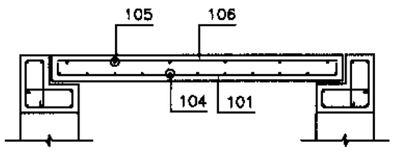
R.C.C. DECK SLAB
(TOP STEEL ONLY)



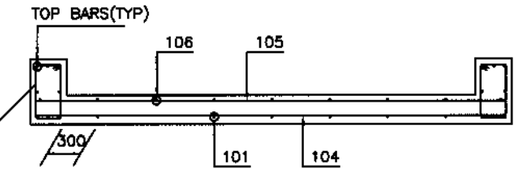
45° SKEW



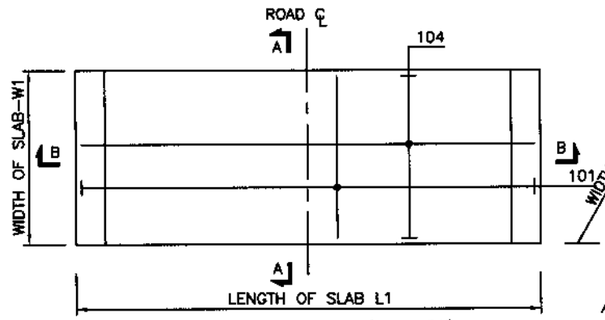
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(TOP STEEL ONLY)



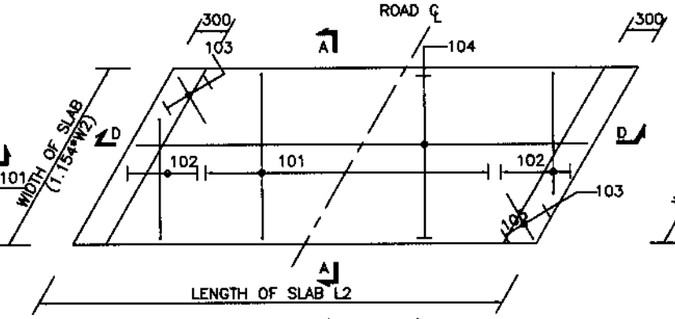
SECTION A–A



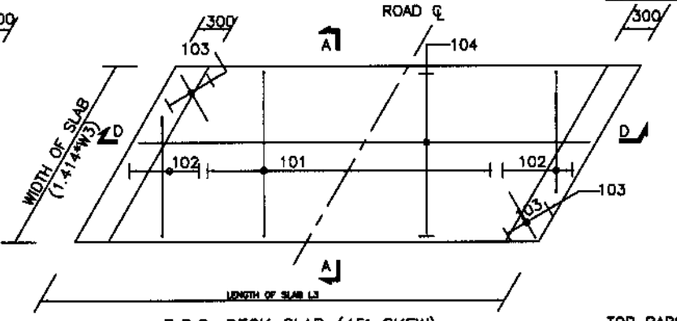
SECTION B–B



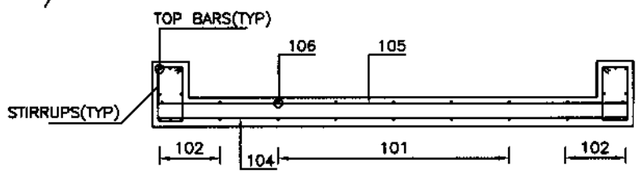
R.C.C. DECK SLAB (0° SKEW)
(BOTTOM STEEL ONLY)



R.C.C. DECK SLAB (30° SKEW)
(BOTTOM STEEL ONLY)



R.C.C. DECK SLAB (45° SKEW)
(BOTTOM STEEL ONLY)



SECTION D–D

T A B L E

DECK SLAB REINFORCEMENT																						EDGE BEAM REINFORCEMENT													
																						NORMAL				SKEW 60°				SKEW 45°				TOP BARS	
																						LONG BARS		STIRRUPS		LONG BARS		STIRRUPS		LONG BARS		STIRRUPS			
SPAN	MARK	DIA. mm	SPAC. mm	MARK	DIA. mm	SPAC. mm	MARK	DIA. mm	SPAC. mm	MIN. NOS	L m	MARK	DIA. mm	SPAC. mm	MARK	DIA. mm	SPAC. mm	MARK	DIA. mm	SPAC. mm	MARK	DIA. mm	SPAC. mm	MIN. NOS.	DIA	NO.	DIA	SPACE	DIA	NO.	DIA	SPACE	DIA	NO.	DIA	SPACE	DIA mm	NOS.
0.60	101	13	160	102	13	160	103	13	200	3	0.75	104	13	200	105	13	300	106	13	300	107	13	300	2	13	4	10	300	13	6	10	300	13	8	10	300	13	4
1.00	101	16	160	102	16	160	103	13	200	4	0.75	104	13	200	105	13	300	106	13	300	107	13	300	2	16	4	10	300	16	6	10	300	16	8	10	300	14	4
1.50	101	16	110	102	16	110	103	13	170	6	1.00	104	13	170	105	13	300	106	13	300	107	13	300	2	16	4	10	250	16	6	10	250	16	8	13	250	16	4
2.00	101	19	150	102	19	150	103	13	170	7	1.25	104	13	170	105	13	300	106	13	300	107	13	300	3	19	4	13	300	19	6	13	250	19	8	13	250	19	4
2.50	101	19	120	102	19	120	103	16	250	7	1.50	104	16	250	105	13	300	106	13	300	107	13	300	3	19	4	13	300	19	6	13	250	19	8	13	200	19	4
3.00	101	19	110	102	19	110	103	16	250	9	1.75	104	16	250	105	13	300	106	13	300	107	13	300	3	19	4	13	300	19	6	13	250	19	8	13	200	19	4
3.50	101	25	150	102	25	150	103	16	220	10	1.75	104	16	220	105	13	300	106	16	300	107	16	300	3	25	4	13	300	25	6	13	300	25	8	13	300	19	4
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5.00	101	25	130	102	25	130	103	16	200	14	2.25	104	16	200	105	16	300	106	16	300	107	16	300	4	25	4	13	300	25	6	13	300	25	8	13	300	19	4
5.50	101	25	110	102	25	110	103	16	200	15	2.25	104	16	200	105	16	300	106	16	300	107	16	300	4	25	4	13	300	25	6	13	300	25	8	13	300	19	4
6.00	101	32	180	102	32	180	103	16	200	16	2.50	104	16	200	105	16	300	106	16	300	107	16	300	4	32	4	13	250	32	6	13	250	32	8	13	250	19	4
6.50	101	32	160	102	32	160	103	16	200	18	2.75	104	16	200	105	16	300	106	16	300	107	16	300	4	32	4	13	250	32	6	13	250	32	8	13	250	19	4
7.00	101	32	140	102	32	140	103	16	200	18	2.75	104	16	200	105	16	300	106	16	300	107	16	300	4	32	4	13	250	32	6	13	250	32	8	13	250	19	4

SHAPE OF BARS

BARS	SHAPE
101	
102	
103	
104	
105	
106	
107	

NOTE :-
1- ALL CONCRETE SHALL BE CLASS 'A' WHERE AS REINFORCEMENT BARS SHALL BE GRADE 40'.
2- CLEAR COVER TO ALL REINFORCEMENT SHALL BE 40 mm.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

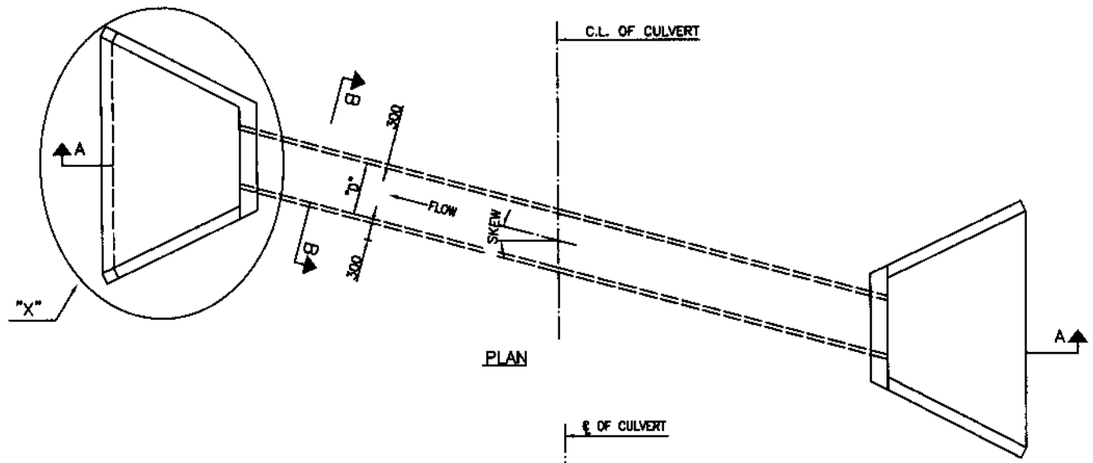
DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

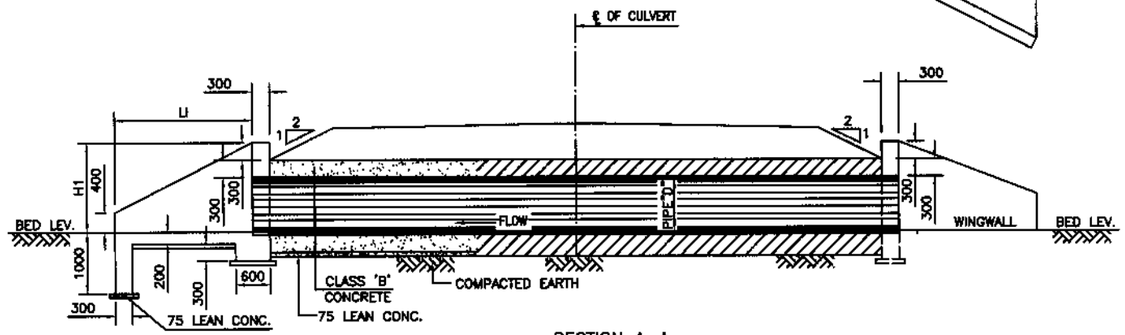
TITLE: TYPICAL SLAB CULVERT REINFORCEMENT DETAILS

DATE: JANUARY, 2021

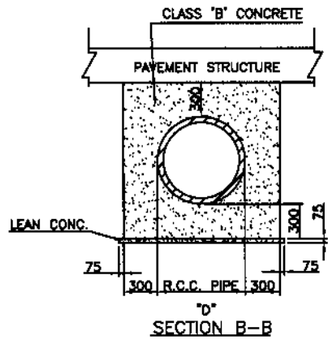
DWG NO. 38164/102/TD/ SC009



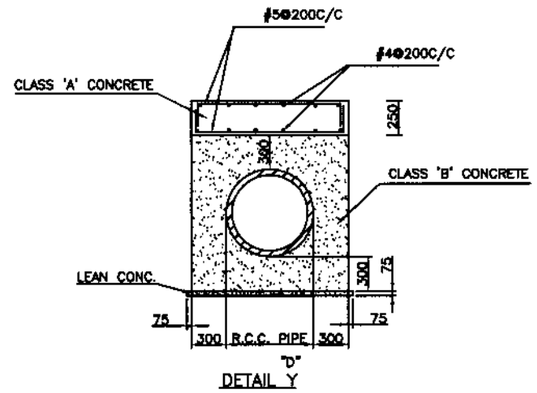
PLAN



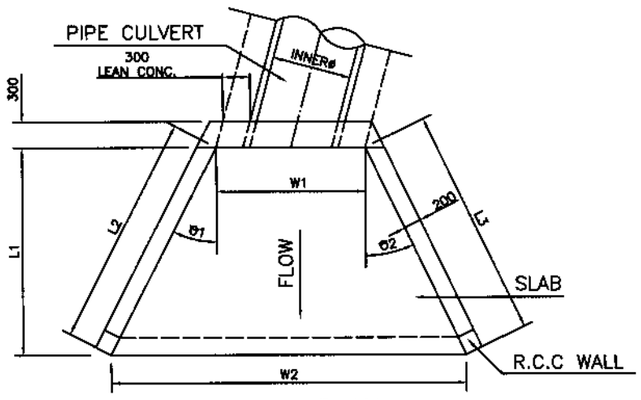
SECTION A–A



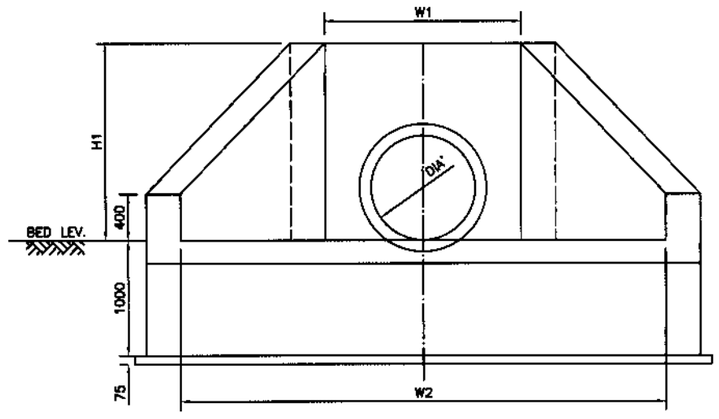
SECTION B–B



DETAIL Y



WINGWALL PLAN
DETAIL 'X'



ELEVATION

* EXACT EXTENDED LENGTH OF THE STRUCTURES WILL BE DECIDED BY THE ENGINEER AS PER SITE CONDITIONS AND GEOMETRY OF THE ROAD.
* WING WALLS ANGLE AND LENGTHS ARE WILL BE ADJUSTED AS PER SITE CONDITION.

NOTES:–

* THE CULVERTS HAS BEEN DESIGNED FOR A BEARING CAPACITY OF 1.00 TON/SQFT.
* REINFORCED CONCRETE PIPE SHALL BE MANUFACTURED & TESTED IN ACCORDANCE WITH AASHTO DESIGNATION M–170.
* ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
* IN CASE HEIGHT OF FILL ABOVE CULVERT IS LESS THAN 500mm FOLLOW DETAIL Y.

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NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

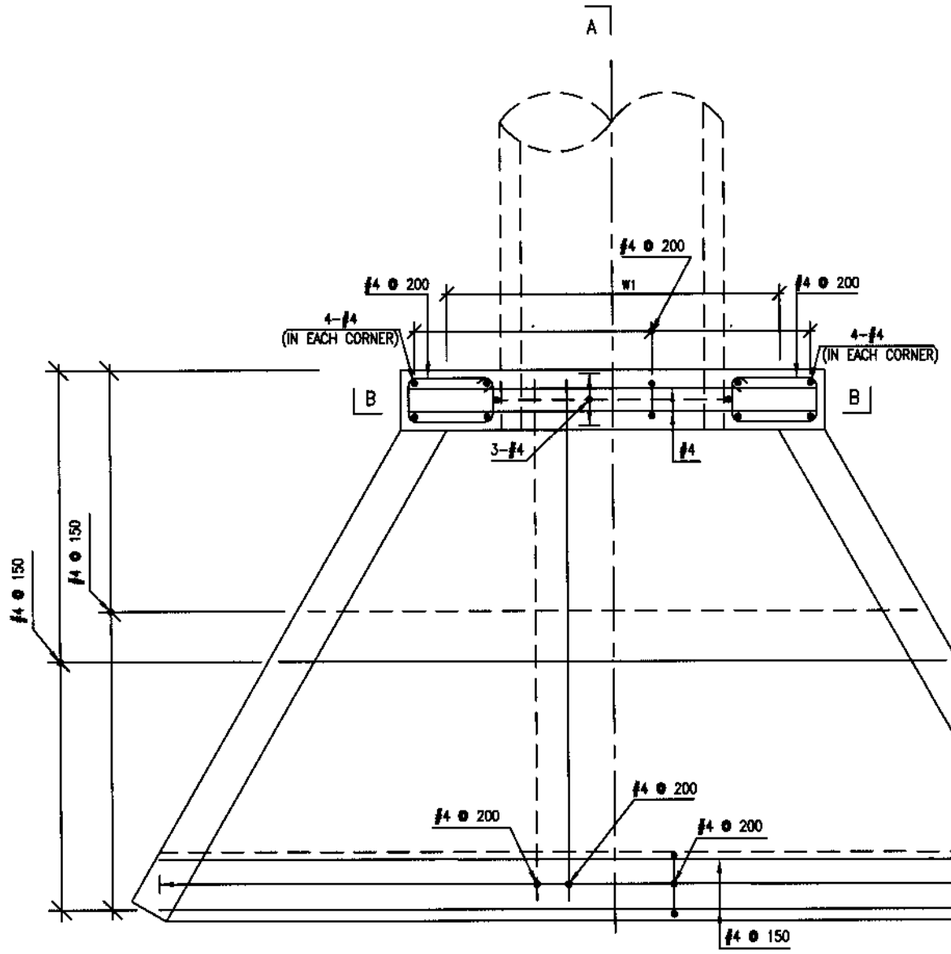
REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.000 KM

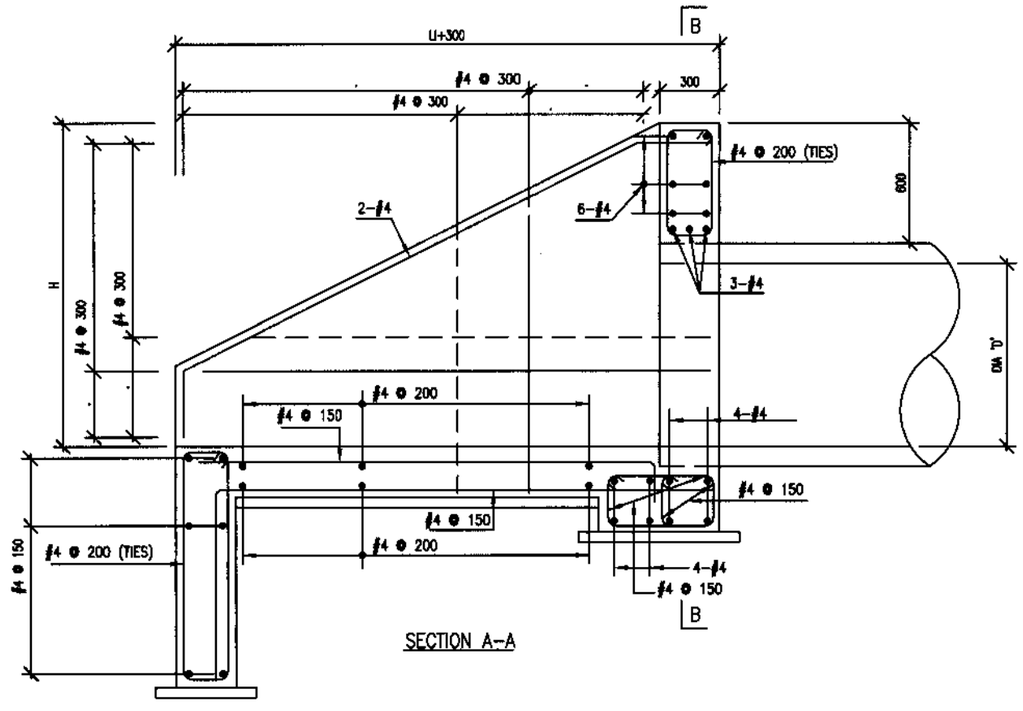
TITLE: TYPICAL R.C.C PIPE CULVERT GENERAL ARRANGEMENT CONCRETE OUTLINE

DATE: JANUARY, 2021

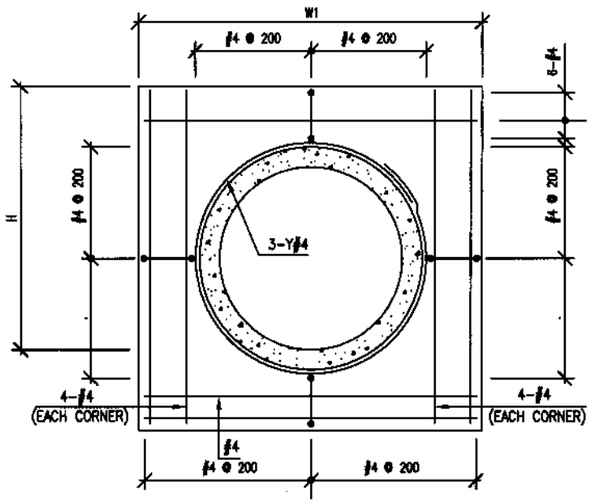
DWG NO. 38164/102/TD/ PC001



PLAN BASE SLAB



SECTION A-A



SECTION B-B

NOTES:-

* THE CULVERTS HAS BEEN DESIGNED FOR A BEARING CAPACITY OF 1.00 TON/SQFT.
* REINFORCED CONCRETE PIPE CLASS II SHALL BE MANUFACTURED & TESTED IN ACCORDANCE WITH AASHTO DESIGNATION M-170.
* ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

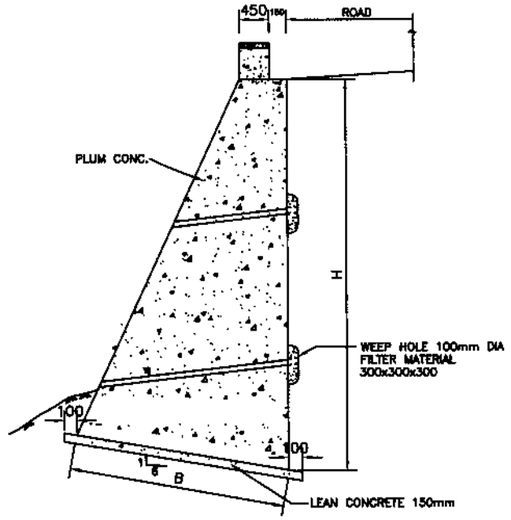
REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.000 KM

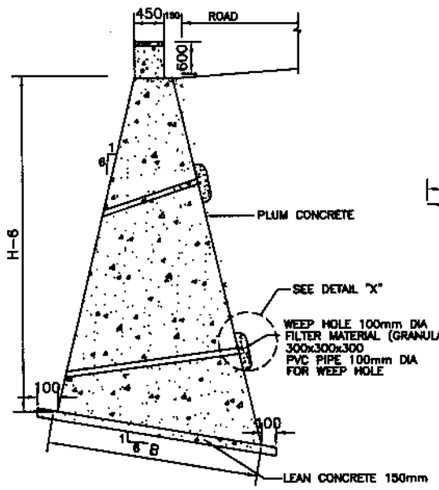
TITLE: R.C.C WING WALL REINFORCEMENT DETAIL (SINGLE CELL)

DATE: JANUARY, 2021

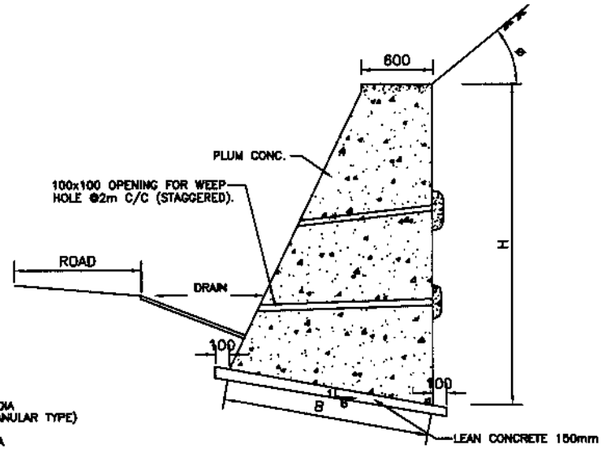
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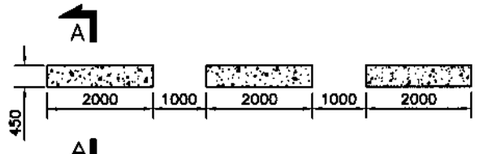
TYPICAL SECTION OF PLUM CONCRETE
RETAINING WALL TYPE 1



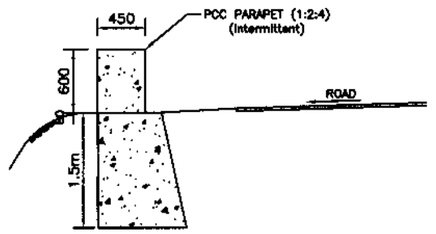
TYPICAL SECTION OF PLUM CONCRETE
RETAINING WALL TYPE 2



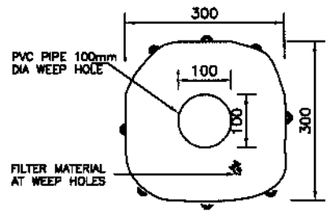
TYPICAL SECTION OF PLUM CONCRETE
RETAINING/BREAST WALL TYPE 3



TYPICAL PLAN OF PARAPET WALL



APPLICABLE WHERE NO RETAINAING WALL EXISTS
SECTION A–A



DETAIL "X"

TABLE:-

TYPE–1

H (m)	B (m)
1.50	0.60
2.00	0.80
2.50	1.00
3.00	1.20
3.50	1.50
4.00	1.80
4.50	2.00
5.00	2.30
5.50	2.60
6.00	2.90
7.00	3.40
8.00	3.90

TYPE–2

H (m)	B (m)
1.50	0.80
2.00	1.05
2.50	1.40
3.00	1.70
3.50	2.10
4.00	2.40
4.50	2.70
5.00	3.00
5.50	3.30
6.00	4.00
7.00	4.70
8.00	5.50
9.00	6.00
10.00	6.60
11.00	7.20
12.00	7.80

TYPE–3
$\theta < 40°$

H (m)	B (m)
1.50	0.80
2.00	1.00
2.50	1.40
3.00	1.70
3.50	2.00
4.00	2.40
4.50	2.70
5.00	3.00
5.50	3.30
6.00	3.70
6.50	4.00
7.00	4.40
7.50	4.70
8.00	5.00

TYPE–3
$\theta \geq 40°$

H (m)	B (m)
1.50	1.10
2.00	1.40
2.50	1.70
3.00	2.00
3.50	2.30
4.00	2.70
4.50	3.00
5.00	3.60
5.50	3.90
6.00	4.30
6.50	4.70
7.00	5.00

NOTES

1– ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
2– WEEP HOLES PVC PIPE 100mm DIA SHALL BE STAGGERED AT AN INTERVAL OF 2m VERTICAL AND HORIZONTAL AND AS ADDITIONALLY DIRECTED BY THE ENGINEER.
3– THE SLOPE OF WEEP HOLE SHALL BE 1 IN 8 FROM BACK OF THE WALL TO THE OUTER FACE OR AS DIRECTED BY THE ENGINEER.
4– TYPE OF RETAINING WALL SHALL BE DECIDED BY THE ENGINEER AS PER SITE CONDITIONS KEEPING FOLLOWING IN VIEW.
5– PLUM CONCRETE (70% CONCRETE & 30% ROCK FILL MATERIAL HAVING STONE SIZE RANGING BETWEEN 200~300) BE UTILIZED.
6– TYPE 1 RETAINING WALL SHALL BE PROVIDED WHERE THE ROAD IS WELL AWAY FROM THE NALLAH, RIVER/RIVINE.
7– TYPE 2 RETAINING WALL SHALL BE PROVIDED WHERE THE ROAD IS IN CLOSE VICINITY OF THE RIVER/RIVINE OR CLIFF FACE.
8– TYPE 3 RETAINING WALL SHALL BE PROVIDED TO RETAIN THE SCREED MATERIAL (BREAST WALL).
9– PCC PARAPET SHALL BE PROVIDED AT TOP OF RETAINING WALL AND AT OTHER HAZARDOUS LOCATIONS. GUARD RAIL SHALL BE PROVIDED OVER 4m HIGH FILL OR AS DIRECTED BY THE ENGINEER.
10– VERTICAL SLOPE TO THE OUTER FACE OF THE RETAINING WALL TYPE 2 CAN BE CHANGE UP TO 1 IN 10.
11– PAYMENT FOR WEEP HOLES AND FILTER MATERIAL IS INCLUDED IN THE COST OF OTHER ITEMS AND SHALL NOT BE PAID SEPARATELY.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
TYPICAL PLUM CONC. RETAINING WALL DETAILS

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/RWP011

1. GENERAL:

1.1 SPECIFIC TO PROJECT ONLY AND SHOULD BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS, STRUCTURAL ENGINEERING DRAWINGS, RELEVANT CONTRACT CONDITINS AND ENGINEER'S INSTRUCTIONS.

1.2 ALL DRAWINGS SHALL BE CO-ORDINATED WITH OTHER SPECIALTY DRAWINGS / DETAILS. ANY DISCREPANCY, ERROR OR RECTIFICATION IF REQUIRED, SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR NECESSARY APPROVAL.

1.3 ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES. UNLESS SPECIFIED OTHERWISE.

1.4 ALL ELEVATIONS SHOWN ON DRAWINGS ARE FINISHED SURFACE LEVELS UNLESS NOTED OTHERWISE.

1.5 ALL EXPOSED CONCRETE CORNERS, EDGES AND ANGLES SHALL BE CHAMFERED OR FILLETED 20mm x 20 mm UNLESS SPECIFIED OTHERWISE.

1.6 THE CONTRACTOR SHALL SUBMIT, COMPLETE METHODOLOGY FOR DIFFERENT WORK ITEMS LIKE EXCAVATION/BACKFILLING, DEWATERING/DRAINAGE, CONCRETING, JOINTS ETC FOR APPROVAL OF ENGINEER.

1.7 ALL EXPOSED SURFACES SHALL HAVE CLASS 1 SURFACE FORM FINISH UNLESS SPECIFIED OTHERWISE.

2. MATERIALS:

2.1 ALL THE MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE AASHTO SPECIFICATIONS AND ASTM STANDARDS EXCEPT WHERE MODIFIED BELOW, OR IN "PARTICULAR SPECIFICATIONS AND SPECIAL PROVISIONS" OF TENDER DOCUMENTS.

2.2 CONCRETE

CONCRETE CLASSIFICATION AND STRENGTHS SHALL BE AS PER TABLE GIVEN BELOW:

CONCRETE	CLASS	28 DAYS (15Cm X 30 Cm) CYLINDER STRENGTH Kg/Sq.Cm
CULVERT (TOP SLAB), BOTTOM SLAB, WALLS WINGWALL	1 : 1 : 2	(4000 psi)
APPROACH SLAB, CUTOFF WALL	1 : 2 :4	(3000 psi)
LEAN	1 : 3 : 6	(1,500 psi)

2.3 REINFORCEMENT

REINFORCING STEEL SHALL BE DEFORMED ROUND BARS OF INTERMEDIATE GRADE (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000 Psi).

3. CONCRETE COVER:

THE MINIMUM COVER TO REINFORCEMENT SHALL BE AS UNDER UNLESS SPECIFIED OTHERWISE.

- TOP SLAB
  - TOP ..... 40 mm
  - BOTTOM ..... 25 mm
- APPROACH SLAB
  - BOTTOM ..... 50 mm
  - TOP ..... 75 mm
- WALLS
  - EARTH SIDE ..... 50 mm
  - OTHER SIDE ..... 40 mm

4. FOUNDATIONS:

4.1 ALL THE EXCAVATION FOR OPEN FOUNDATIONS / BOX CULVERTS SHALL BE SUBJECTED TO INSPECTION BY THE ENGINEER PRIOR TO POURING OF CONCRETE.

4.2 BEHIND THE ABUTMENT AND WING WALLS, COMPACTED GRANULAR BACKFILL SHALL BE PLACED IN LAYERS OF THICKNESS APPROPRIATE TO THE COMPACTION EQUIPMENT ENSURING A MINIMUM IN SITU COMPACTION OF 95% MODIFIED PROCTOR.

5. JOINTS:

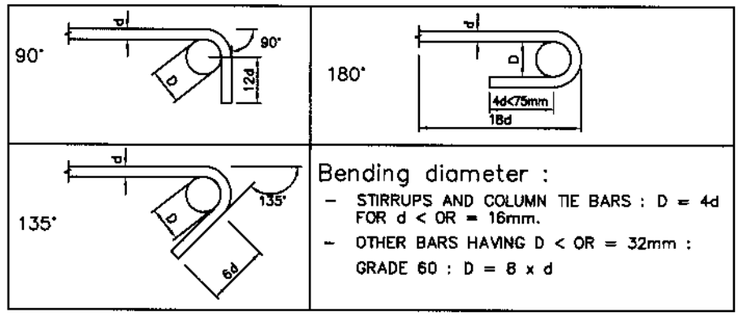
5.1 THE CONTRACTOR SHALL SUBMIT COMPLETE LAYOUT AND DETAILS OF ALL CONSTRUCTION JOINTS FOR APPROVAL OF THE ENGINEER.

5.2 CONCRETE IN DECK SLAB SHALL BE PLACED IN FULL WIDTH. NO CONSTRUCTION JOINT SHALL BE PERMITTED. DIAPHRAGMS AND DECK SLAB SHALL BE CAST MONOLITHICALLY, EXCEPT AS SHOWN ON DRAWING AT LOCATION FOR INSTALLATION OF EXPANSION JOINTS.

5.3 CONCRETE FOR THE BARRIERS AND SIDEWALKS SHALL BE PLACED NO SOONER THAN 20 DAYS AFTER PLACING OF CONCRETE.

6. BAR BENDING SCHEDULE

DETAILED BAR BENDING SCHEDULE SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED FOR ENGINEER'S APPROVAL. LAP LENGTHS AND STANDARD HOOKS SHALL BE AS GIVEN BELOW:



7. TENDER DOCUMENTS, DRAWINGS & CONSTRUCTION DRAWINGS:

7.1 TENDER DRAWINGS ISSUED WITH TENDER DOCUMENTS ARE TO APPRAISE THE BIDDERS OF THE GENERAL NATURE & FAIR IDEA OF THE WORK TO PREPARE BOQ & TENDER DOCUMENTS. ENGINEER SHALL ISSUE THE DETAILED CONSTRUCTION DRAWINGS & SUCH FIELD SKETCHES FROM TIME TO TIME AS NECESSARY FOR THE EASE OF CONSTRUCTION.

7.2 THE CONTRACTOR SHALL CHECK ALL CONSTRUCTION DRAWINGS AND CONTRACT DOCUMENTS CAREFULLY AS SOON AS PRACTICABLE AFTER RECEIPT THERE OF, AND SHALL PROMPTLY ADVICE THE ENGINEER'S REP OF ANY ERRORS OR OMISSIONS THERE IN PRIOR TO START OF ANY CONSTRUCTION ACTIVITIES.

8. SCAFFOLDING:

ALL SCAFFOLDING SHALL BE DESIGNED BY THE CONTRACTOR & THE TRAFFIC MOVEMENT UNDERNEATH SUCH SCAFFOLDING MAY REMAIN UNOBSTRUCTED.

9. LIST OF SYMBOLS AND ABBREVIATIONS:

B	=	BOTTOM
◯B.H	=	BORE HOLE
C. JT.	=	CONSTRUCTION JOINT
℄	=	CENTRELINE
C/C	=	CENTER TO CENTER
DIA.	=	DIAMETER
EXP. JT.	=	EXPANSION JOINT
E.F	=	EACH FACE
ELE.	=	ELEVATION
F.F	=	FAR FACE
G.I	=	GALVANIZED IRON
ID	=	INTERNAL DIAMETER
I.F	=	INNER FACE
m	=	METER
mm	=	MILLIMETER
N.F	=	NEAR FACE
N.S.L	=	NATURAL SURFACE LEVEL
P.G.L	=	PROFILE GRADE LEVEL
SYM.	=	SYMMETRICAL
T	=	TOP
TH.	=	THICK
TYP.	=	TYPICAL
θ	=	SKEW ANGLE IN DEGREES

TABLE NO.1

(i) SPLICE LENGTH IN TENSION

(a) TOP BARS

Bar Size / fc' Kg/cm²	SPLICE LENGTH mm								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
210	710	945	1180	1410	2060	2355	2645	2940	3240
280	610	820	1020	1225	1780	2040	2995	2550	2805
350	425	565	705	845	1215	1390	1565	1765	1960

(b) OTHER BARS

Bar Size / fc' Kg/cm²	SPLICE LENGTH mm								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
210	550	730	905	1085	1590	1815	2035	2265	2490
280	475	630	790	945	1375	1570	1765	1960	2160
350	325	435	540	650	935	1070	1205	1360	1505

(ii) SPLICE LENGTH IN COMPRESSION

SPLICE LENGTH (mm) IN COMPRESSION (Fy=4220Kg/cm²)									
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11
Splice Length	300	380	480	575	670	765	860	955	1050

(iii) EMBEDMENT LENGTH IN TENSION

(a) TOP BARS

Bar Size / fc' Kg/cm²	SPLICE LENGTH mm								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
210	545	730	910	1090	1590	1820	2050	2310	2565
280	475	630	785	945	1360	1555	1755	1975	2190
350	425	565	705	845	1215	1390	1565	1765	1960

(b) OTHER BARS

Bar Size / fc' Kg/cm²	SPLICE LENGTH mm								
	#3	#4	#5	#6	#7	#8	#9	#10	#11
210	420	560	700	840	1225	1400	1580	1775	1970
280	365	485	605	725	1045	1195	1350	1520	1685
350	325	435	540	650	935	1070	1205	1360	1505

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

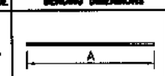
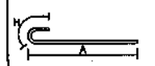
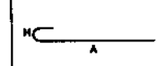
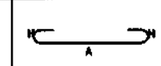
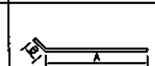
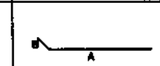
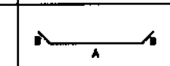
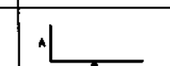
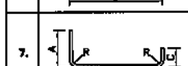
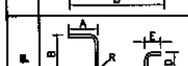
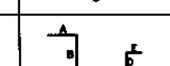
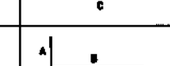
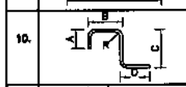
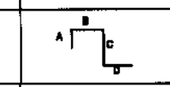
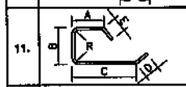
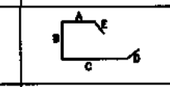
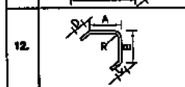
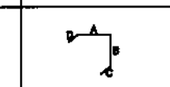
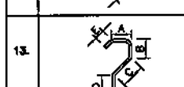
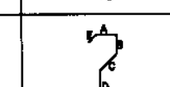
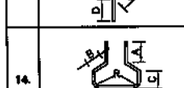
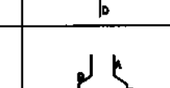
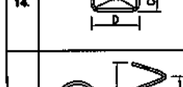
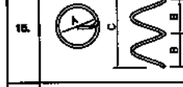
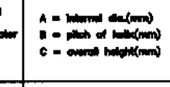
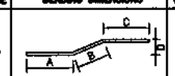
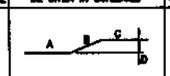
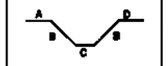
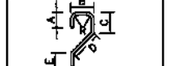
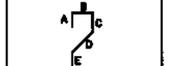
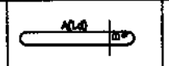
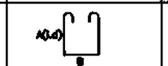
PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: GENERAL NOTES FOR STRUCTURES

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/GNS0012

SHAPE CODE	METHOD OF MEASUREMENT OF BENDING DIMENSIONS	TOTAL LENGTH OF BAR (L) MEASURED ALONG CENTERLINE	SKETCH AND DIMENSIONS TO BE GIVEN IN SCHEDULE
1.		A	Straight
2.		A+H	
3.		A+2H	
4.		A+B	
5.		A+2B	
6.		A+B−½R−d	
7.		A+B+C−R−2d	
8.		A+B+C+D+E−2R−4d	
9.		A+B+C−R−2d	
10.		A+B+C+D−1½R−3d	
11.		A+B+C+D+E−R−3d	
12.		A+B+C+D−½R−d	
13.		A+B+C+D+E−½R−d	
14.		2(A+B+C)+D−R−2d	
15.		(C/E)*3.14*(A+d)+6d Where, E is not greater than A/3. d = dia of bar.	HELIX A = Internal dia.(mm) B = pitch of helix(mm) C = overall height(mm)
16.		A+B	
17.		A+B+C Where D is at least 2 diameters	
18.		A+2B+C+E If angle with horizontal is 45° or less	
19.		A+B+C+D+E−R−2d	
20.		2A+1.14B	
21.		2A+B+2Dd	
22.		A+B+C+D+E−2R−4d	
23.		A+2B+C+10d	
24.		A+top	
25.		2A+2B+22d	
26.		A+B+0.57C+D−½R−2.57d	
27.		2A+B+20d	
28.		2A+2B+C+20d	
29.		A+B+C+10d	
30.		πA+2Dd	
31.		A+B+C+D−½R−d	
32.		2(A+B+C)+D−R−2d	
33.		A+0.57B+C	
34.		A+B+C+D If angle with horizontal is 45° or less	
35.		A+B+C−½R−d	
36.		A+B+C If angle with horizontal is 45° or less	
37.		A+B+C+D−1½R−3d	
38.		A+B+C+D+3E If angle with horizontal is 45° or less	
39.		A	
40.		A+B+C+D+E+F−½R−d	
41.		A+B+C	
42.		A+2B+2C−2R−4d	
43.		A+2B+2C−2R−4d	
44.		A+2B+2C−R−2d	
45.		A+2(B+C+D)−R−2d	
46.		2(A+B+C)+D−R−2d	
47.		A+B+C+D+E−2R−4d	
48.		A+B+C−½R−d	
49.		A	
50.		A+B	
51.		A+2B+2C−2R−4d	
52.		A+2B−R−2d	
53.		A+B+C	
54.		A+B+C+D−1½R−3d	
55.		A+B+C+D+E	
56.		A+B+C+D−½R−d	
57.		A+B+C+D+E−2½R−3d	
58.		A+B+C+D−R+3.5d	
59.		A+B+C−½R−d	
60.		2(A+B)+C−R−2d	
61.		A+2B+C+D−R−2d	

NOTES:

1- "d" AND "d" ARE THE DIAMETER OF REINFORCEMENTS.
2- "R" IS THE RADIUS OF BEND IN RADIANS.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

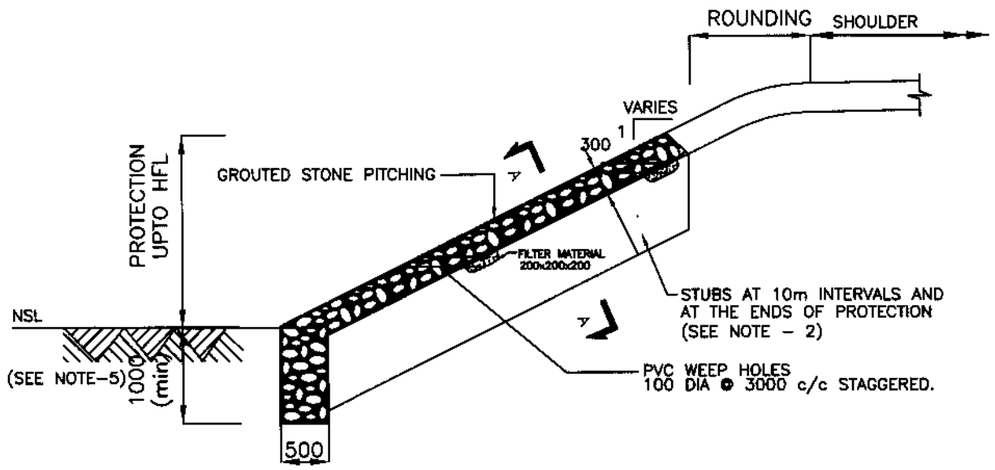
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

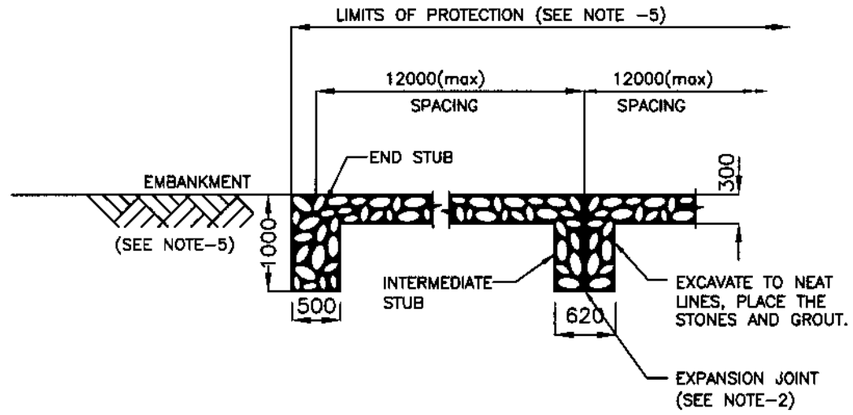
REBAR SHAPE CODE

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/RS0013



EMBANKMENT PROTECTION



SECTION A – A

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. EXPANSION JOINT IN MORTARED RIPRAP SHALL BE PROVIDED AT AN MAXIMUM INTERVAL OF 10m. TYPE OF MATERIAL TO BE USED SHALL BE AS APPROVED BY THE ENGINEER. NO SEPRATE PAYMENT SHALL BE MADE FOR PROVISION AND FIXATION OF EXPANSION JOINTS AND WEEP HOLES.
3. SUPPLY AND ERECTION OF STEEL ANGLE STAKES SHALL BE PROVIDED AS SHOWN ON DRAWINGS AT NO EXTRA COST TO THE EMPLOYER.
4. IN CASE ROCK IS ENCOUNTERED DEPTH OF PROTECTION WORKS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER (MINIMUM DEPTH IN ROCK SHALL BE KEPT 300MM)
5. LOCATION & HEIGHT OF PROTECTION WORKS SHALL BE DECIDED BY THE ENGINEER ON COMPLETION OF EMBANKMENT WORKS.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

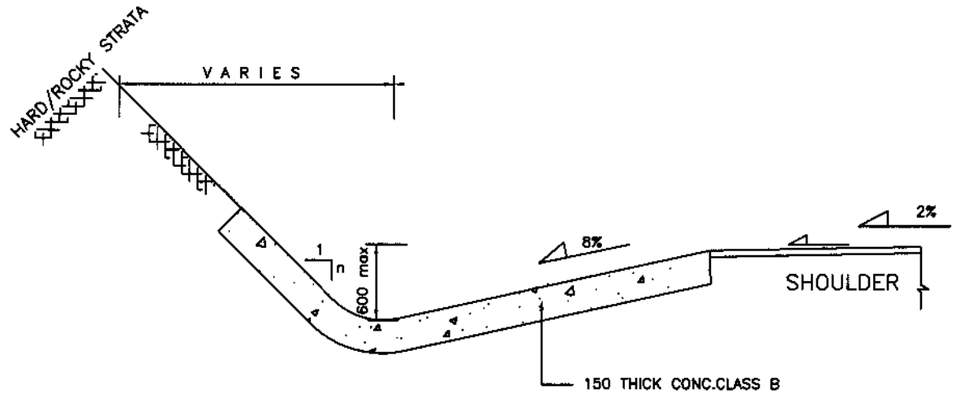
DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

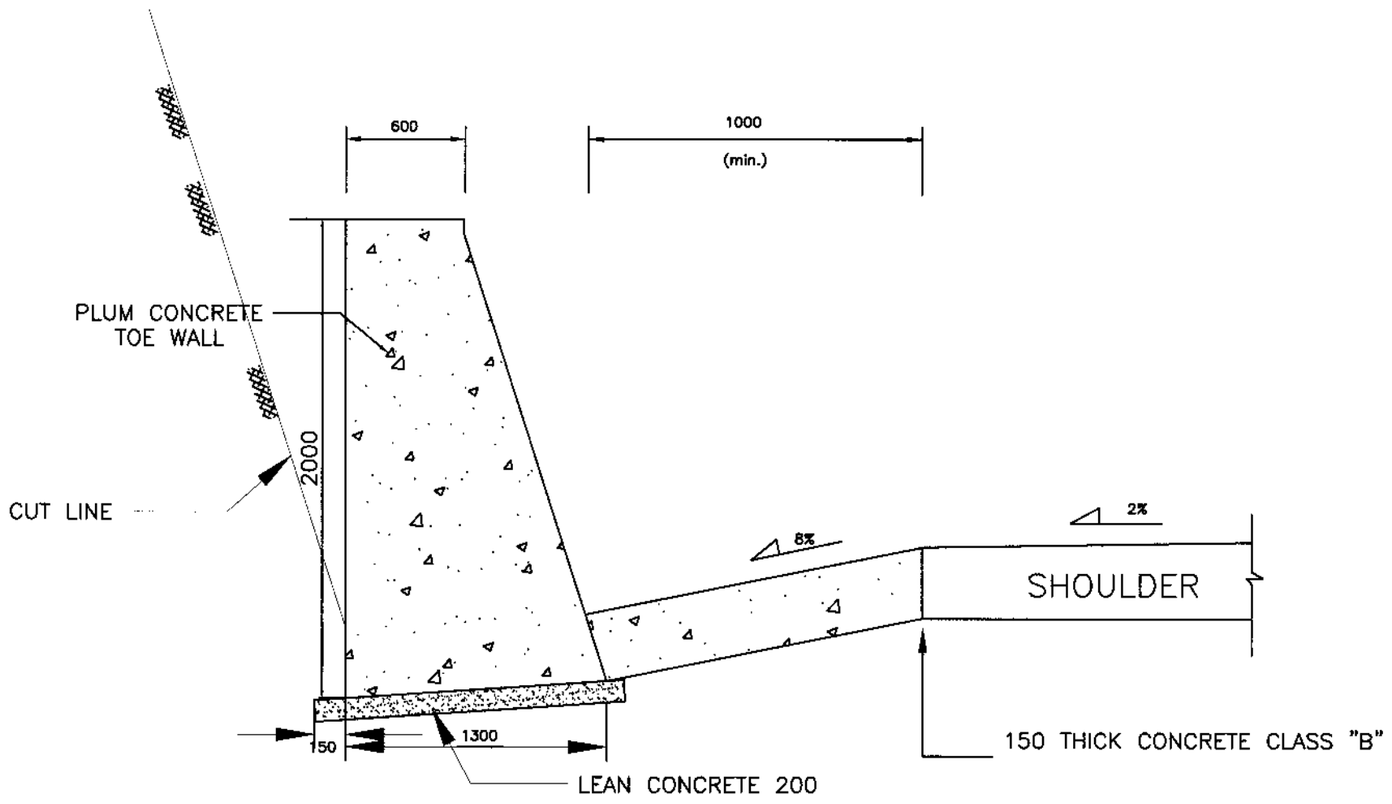
TITLE
MISCELLANEOUS PROTECTION DETAILS

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/0014



TYPE(Ia)



TYPE(Ib)
(In Common Material)

NOTES: –

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. INVERT LEVEL OF DRAIN SHALL GENERALLY FOLLOW PROFILE GRADE AND SHALL BE CONNECTED TO ADJOINING CULVERTS/CHUTES.
3. ACTUAL TYPE ,LOCATION, LENGTH, SLOPE AND INVERT LEVEL OF DRAIN SHALL BE AS APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION AT SITE.
4. TOE WALL ALONG DRAIN TYPE(1b) SHALL BE PROVIDED WITH R.R MASONRY. WHERE CUT HEIGHT EXCEEDING 2M, OR AS PER SITE REQUIREMENT AECORDING TO THE ENGINEER DECISION APPROVAL THE BASE SHOULD BE FOLLOWED AS PERDWG 38164/102/TD/ RW011.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

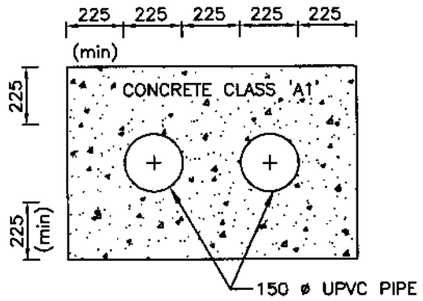
REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

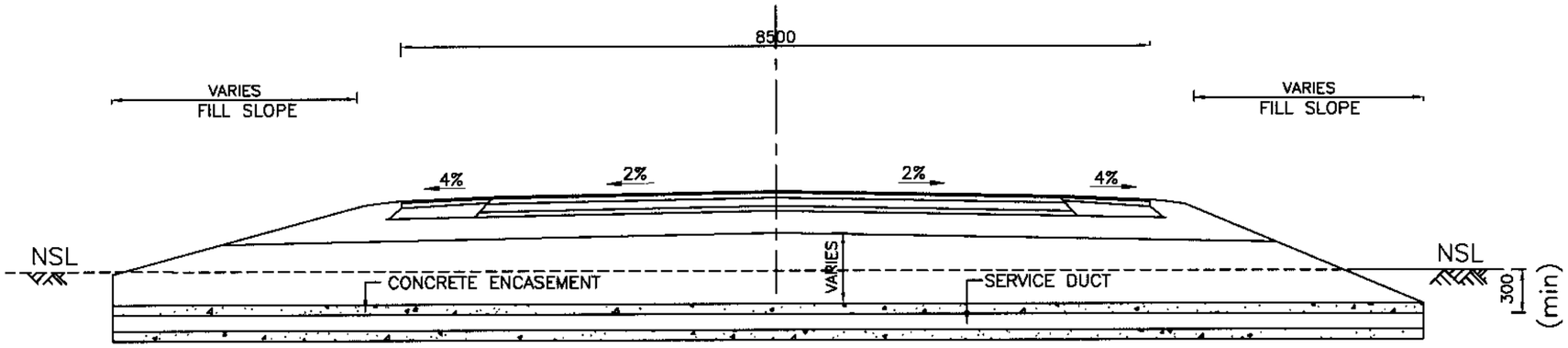
TITLE
TYPICAL DRAIN DETAIL

DATE
JANUARY, 2021

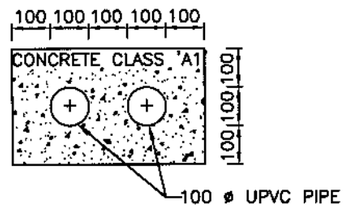
DWG NO.
38164/102/TD/D0015



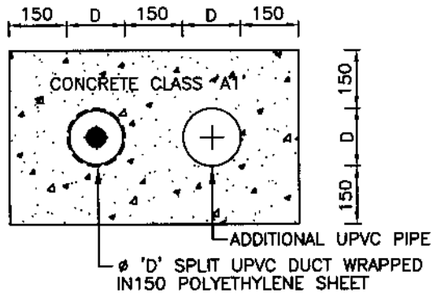
(FUTURE DUCTS FOR ELECTRICAL CABLES)



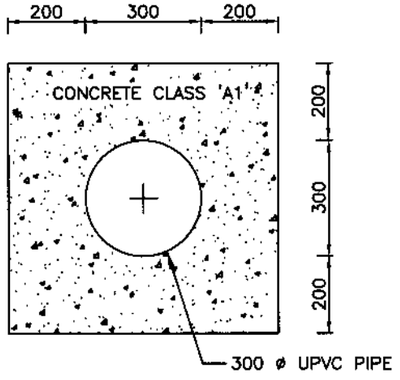
TYPICAL CROSS SECTION OF SERVICE DUCTS ACROSS



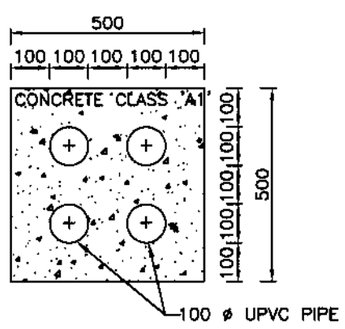
(FUTURE DUCTS FOR TELEPHONE CABLES TWO WAY)



DUCT FOR PROTECTION OF EXISTING SERVICES



(FUTURE DUCTS FOR WATER LINES)



(FUTURE DUCTS FOR TELEPHONE CABLES 4 WAY)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS NOTED OTHERWISE.
2. SERVICE DUCTS WILL BE PROVIDED AS PER SITE REQUIREMENT. POSITION OF SERVICE DUCTS SHALL BE COORDINATED BY THE CONTRACTOR WITH THE CONCERNED AUTHORITY DURING CONSTRUCTION WITH APPROVAL OF THE ENGINEER'S REPRESENTATIVE.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

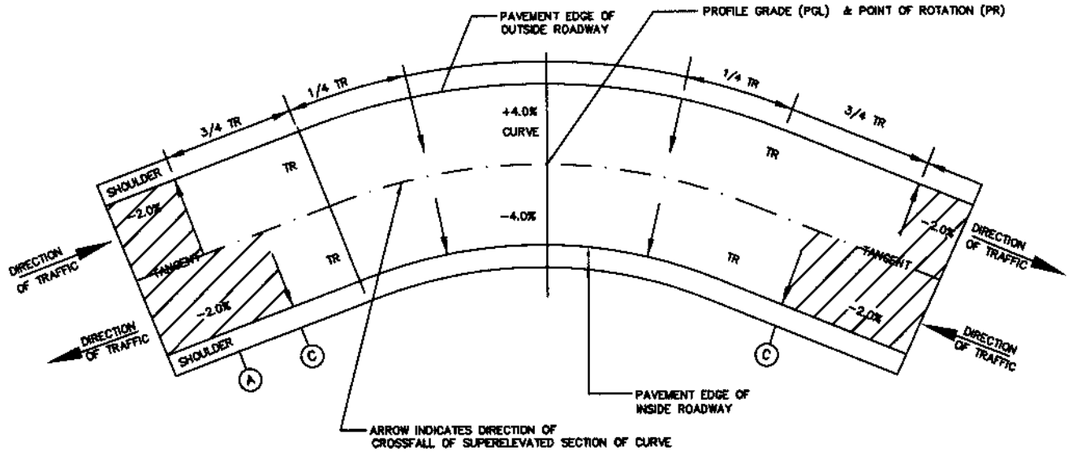
DRAWN | SUBMITTED | RECOMMENDED | CHD./VER. | APPROVED

PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: DETAILS OF SERVICE DUCTS

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/D0016



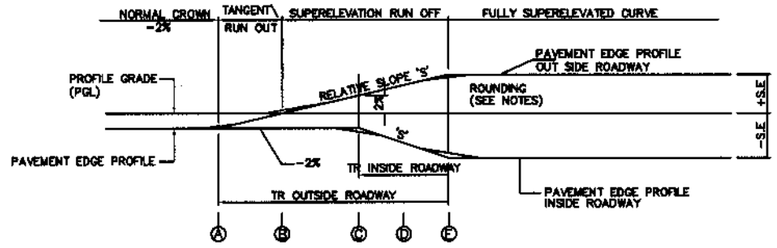
PLAN OF TYPICAL SUPERELEVATION TRANSITION

TABLE–I

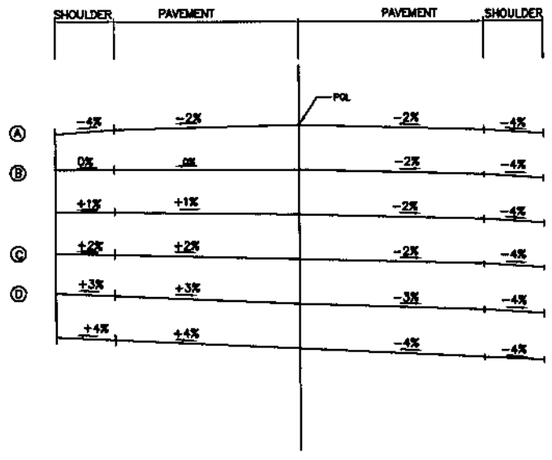
RELATIVE SLOPE FOR SUPERELEVATED EDGE (S%)

DESIGN SPEED "Km / Hr"	2 LANE ROAD	1 LANE RAMP	2 LANE RAMP
50	0.67	0.80	1.00
80	0.80		
100	0.45		
120 *	0.40		

* VALUE TO BE ADOPTED FOR THIS PROJECT.



PROFILE OF TYPICAL EDGE SUPERELEVATION TRANSITIONS



SECTIONS OF TYPICAL DISTRIBUTION OF SUPERELEVATION

NOTES :–

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
2. ALL SUPERELEVATION RATES ARE EXPRESSED IN UNITS PER HUNDRED (%).
3. PROFILE GRADE LINE (PGL) AND POINT OF ROTATION (PR) SHALL BE AS SHOWN IN THE TYPICAL CROSS SECTION.
4. FOLLOWING SIGN CONVENTION FOR SUPERELEVATION RATE ARE APPLICABLE
   (–) WHEN LEFT EDGE OF PAVEMENT OR SHOULDER, IN DIRECTION OF TRAFFIC IS LOWER THAN RIGHT EDGE.
   (+) WHEN LEFT EDGE OF PAVEMENT OR SHOULDER, IN DIRECTION OF TRAFFIC, IS HIGHER THAN RIGHT EDGE.
5. EDGE PROFILES OF SUPERELEVATED PAVEMENT AND SHOULDERS SHALL BE FREE FROM IRREGULARITIES, ROUNDING AT POINTS A,C & E SHALL BE ACHIEVED USING A 20 METER MINIMUM VERTICAL CURVE.
6. THE FORMULAE USED FOR CALCULATION OF INNER & OUTER TRs ARE AS UNDER:–
   (I). LENGTH OF TR = $\frac{\text{REQUIRED S.E+CROSS SLOPE}}{\text{S FACTOR}}$ x PAVEMENT WIDTH TO BE ROTATED
   (II). 'S' FACTOR IS TAKEN FROM TABLE–I. THE LENGTH OF TRs ARE INDICATED ON PLAN & PROFILE SHEETS, WHICH MAY BE ADJUSTED AS PER SITE CONDITIONS AND/OR AS APPROVED BY THE ENGINEER'S REPRESENTATIVE.
7. THE RATE OF SUPERELEVATION (S.E) IS RESTRICTED TO A MAXIMUM OF 6%.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

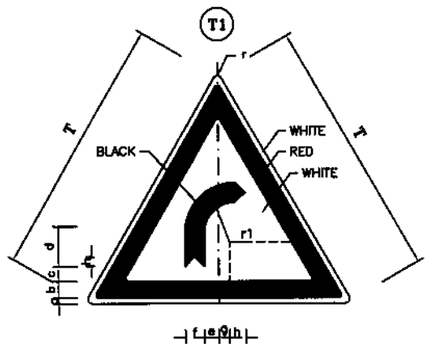
PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
TYPICAL SUPERELEVATION DETAILS

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/ TS0018

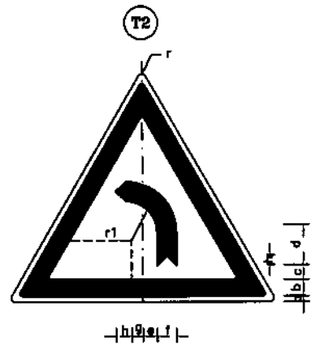
T1



RIGHT BEND
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.0	5.3
d	11.5	15.3
e	8.5	11.3
f	7.0	9.3
g	6.0	8.0
h	3.5	4.7
r1	12.5	16.7

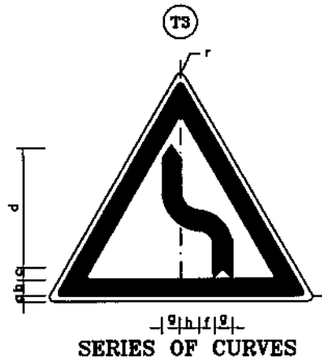
T2



LEFT BEND
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.0	5.3
d	11.5	15.3
e	8.5	11.3
f	7.0	9.3
g	6.0	8.0
h	3.5	4.7
r1	12.5	16.7

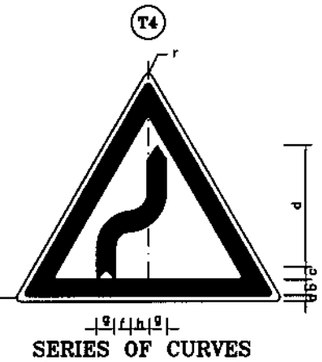
T3



SERIES OF CURVES
(FIRST TO LEFT)
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	33.0	44.0
e	14.0	18.7
f	8.0	10.7
g	7.0	9.3
h	2.0	2.7
i	3.5	4.7
r1	4.5	6.0

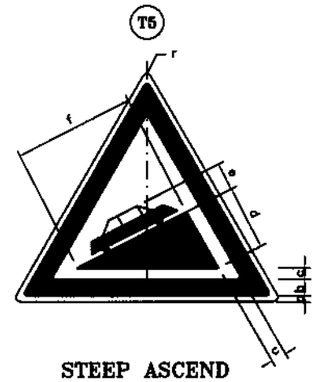
T4



SERIES OF CURVES
(FIRST TO RIGHT)
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	33.0	44.0
e	14.0	18.7
f	8.0	10.7
g	7.0	9.3
h	2.0	2.7
i	3.5	4.7
r1	4.5	6.0

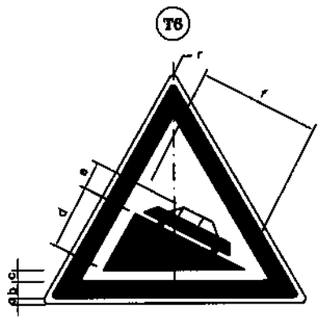
T5



STEEP ASCEND
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	23.5	31.3
e	11.5	15.3
f	33.0	44.0

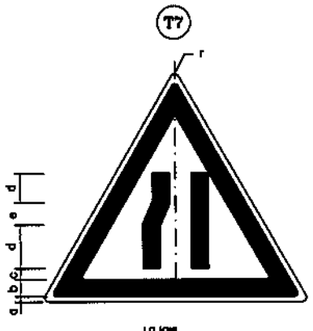
T6



STEEP DESCEND
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	23.5	31.3
e	11.5	15.3
f	33.0	44.0

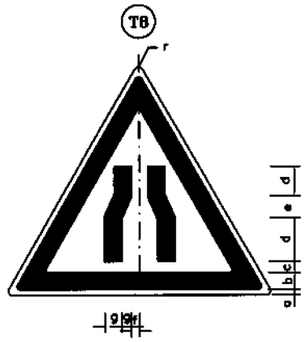
T7



ROADWAY NARROWS
(FROM LEFT)
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	10.0	13.3
e	14.0	18.7
f	2.5	3.3
g	5.0	6.7

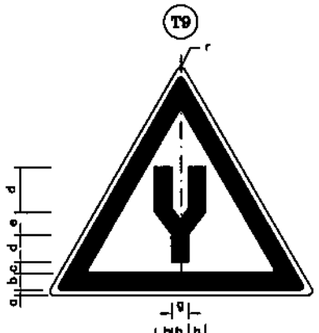
T8



ROADWAY NARROWS
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	10.0	13.3
e	14.0	18.7
f	2.5	3.3
g	5.0	6.7

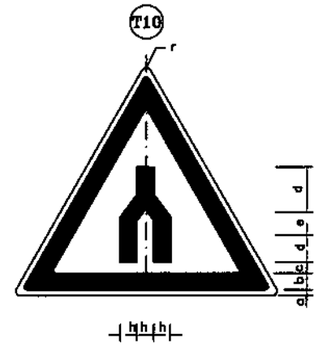
T9



DUAL CARRIAGEWAY STARTS
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.5	6.0
d	15.0	20.0
e	9.0	12.0
f	12.0	16.0
g	9.0	12.0
h	7.0	9.3

T10



DUAL CARRIAGEWAY ENDS
DIMENSION(cm)

PARTS	SIGN SIZE	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.0	5.30
d	15.0	20.0
e	9.0	12.0
f	12.0	16.0
g	9.0	12.0
h	7.0	9.3

NOTE:–
CONTRACTOR SHALL PREPARE DETAILED TRAFFIC SIGNAGE PLAN PRIOR TO EXECUTION AS PER SITE REQUIREMENT.
SAME SHALL BE APPROVED BY THE ENGINEER AFTER SITE VERIFICATION AND SHALL BE ISSUED FOR CONSTRUCTION.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

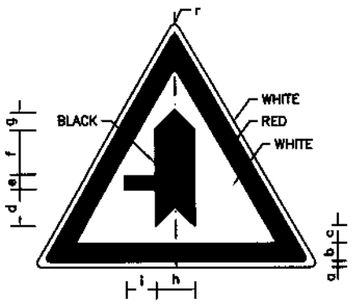
PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: ROAD SIGNS (1)
(INFORMATORY SIGN)

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/ RS0019

T11

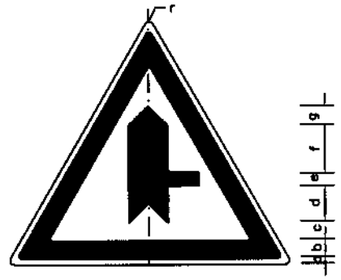


MINOR ROAD FROM LEFT

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	13.5	18.0
e	5.5	7.3
f	15.0	20.0
g	7.0	9.3
h	14.0	18.7
i	10.5	14.0

T12

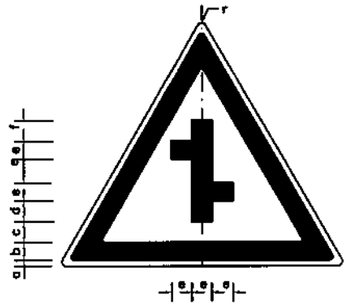


MINOR ROAD FROM RIGHT

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	13.5	18.0
e	5.5	7.3
f	15.0	20.0
g	7.0	9.3
h	14.0	18.7
i	10.5	14.0

T13

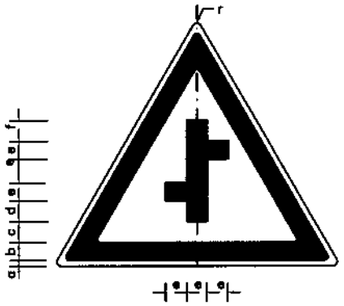


MINOR ROAD CROSSING WITH AN OFFSET

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	2.5	3.3
d	8.0	10.7
e	7.5	10.0
f	9.0	12.0

T14

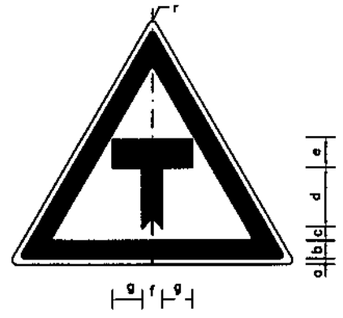


MINOR ROAD CROSSING WITH AN OFFSET

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	2.5	3.3
d	8.0	10.7
e	7.5	10.0
f	9.0	12.0

T15

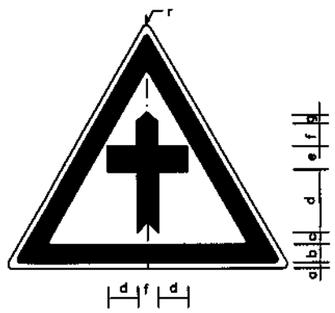


T- JUNCTION AHEAD

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	15.5	20.7
e	7.0	9.3
f	5.0	6.7
g	11.0	14.7
h	2.5	3.3

T16

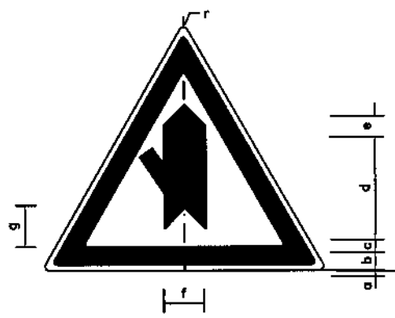


CROSS ROAD AHEAD

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	13.0	17.3
e	7.0	9.3
f	10.0	13.3
g	2.5	3.3
i	5.0	6.7

T17

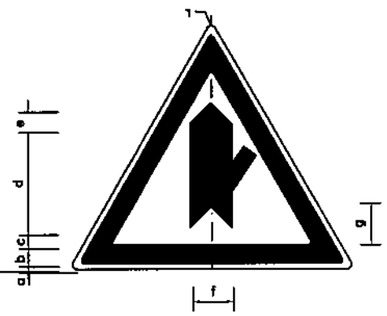


MINOR ROAD FROM LEFT

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	33.0	44.0
e	7.0	9.3
f	14.0	18.7
g	15.0	20.0
h	3.0	4.0
i	5.5	7.3

T18

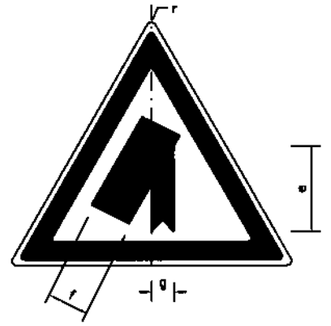


MINOR ROAD FROM RIGHT

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	33.0	44.0
e	7.0	9.3
f	14.0	18.7
g	15.0	20.0
h	3.0	4.0
i	5.5	7.3

T19

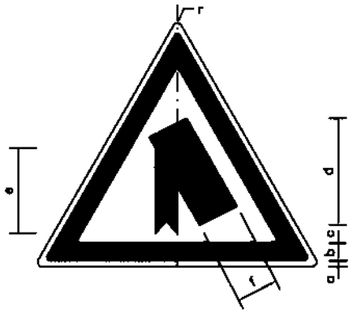


MAIN ROAD (ON LEFT)

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	2.5	3.3
d	39.0	52.0
e	27.0	36.0
f	13.0	17.3
g	5.0	6.7

T20



MAIN ROAD (ON RIGHT)

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	2.5	3.3
d	39.0	52.0
e	27.0	36.0
f	13.0	17.3
g	5.0	6.7

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

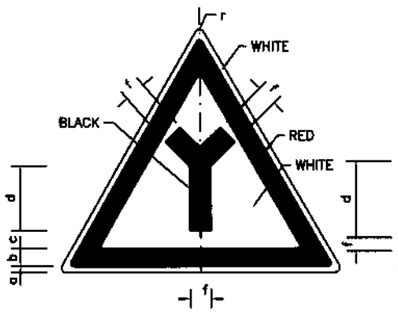
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: ROAD SIGNS (2) (INFORMATORY SIGN)

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/ RS0020

T21

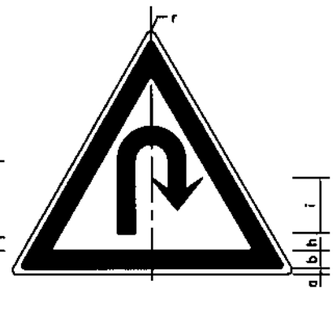


Y-JUNCTION

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.0	4.0
d	17.0	22.7
e	13.0	17.3
f	7.0	9.3

T22

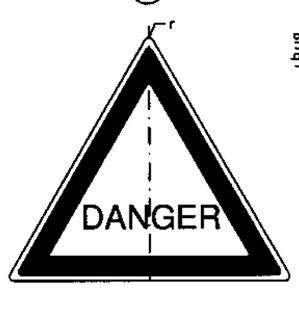


U-TURN

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	5.5	7.3
d	7.0	9.3
e	5.0	6.7
f	2.5	3.3
g	23.0	30.7
h	7.5	10.0
i	12.0	16.0

T23

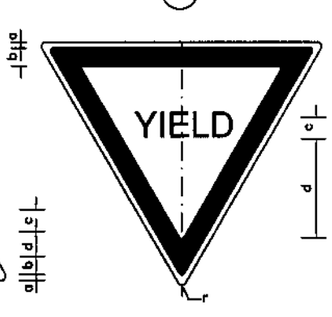


DANGER WARNING

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	6.5	8.7
d	7.0	9.5

T24

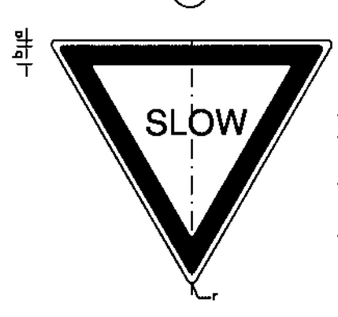


GIVE WAY

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	6.5	8.7
d	16.0	21.3

T25

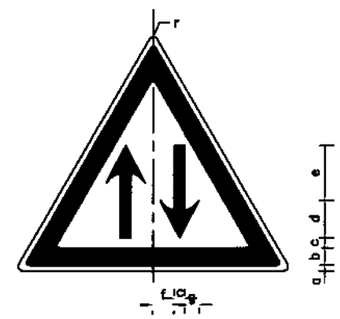


SLOW

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	6.5	8.7
d	16.0	21.3

T26

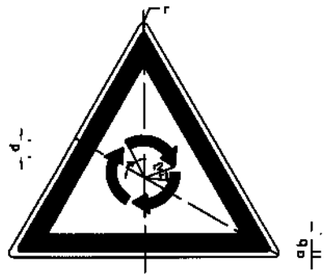


TWO WAY TRAFFIC

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	4.0	8.7
d	9.0	21.3
e	19.0	21.3
f	5.0	21.3
g	3.5	21.3

T27

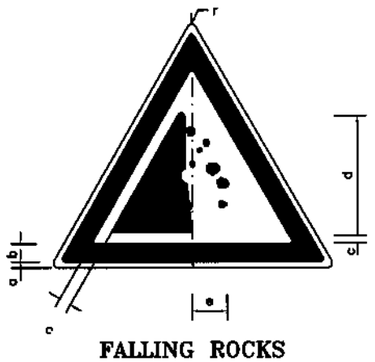


ROUNDABOUT

DIMENSION(cm)

PARTS	Sign Size	
	90cm	
r	3.5	120
a	1.0	-
b	6.5	-
c	3.0	-
d	9.0	-
r1	12.0	-
r2	16.0	-

T28



FALLING ROCKS

DIMENSION(cm)

PARTS	Sign Size	
	90cm	120cm
r	3.5	4.7
a	1.0	1.3
b	6.5	8.7
c	3.5	4.7
d	36.0	50.7
e	12.0	16.0

T29



Entry to 30KM/h zone



END OF SPEED LIMIT IMPOSED



END OF PROHIBITION OF OVFERTAKING

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

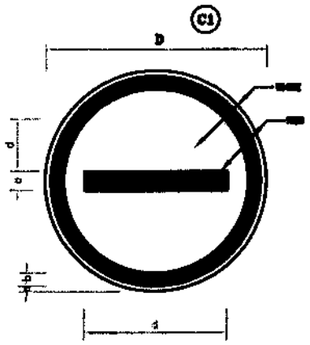
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.00 KM

TITLE: ROAD SIGNS (3) (WARNING SIGN)

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/RS0021

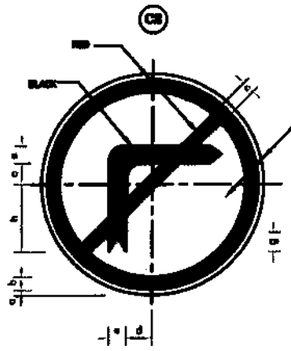
C1



NO ENTRY
DIMENSION(cm)

PARTS	Sign Size	
	60cm	120cm
a	1.5	1.5
b	6.5	6.7
c	9.0	10.7
d	24.0	25.3

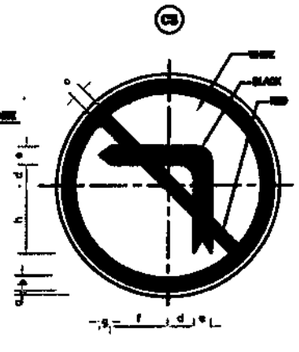
C2



NO RIGHT TURN
DIMENSION(cm)

PARTS	Sign Size	
	60cm	120cm
a	1.5	1.5
b	6.5	6.7
c	9.5	7.5
d	6.0	6.5
e	10.5	12.5
f	25.0	28.3
g	6.5	6.7
h	25.0	49.6

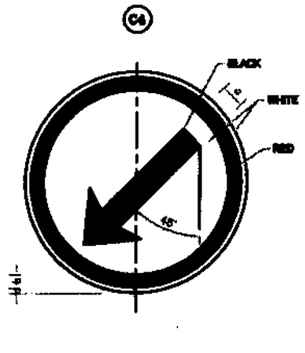
C3



NO LEFT TURN
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	9.5	7.5
d	6.0	6.5
e	10.5	12.5
f	25.0	28.3
g	6.5	6.7
h	25.0	49.6

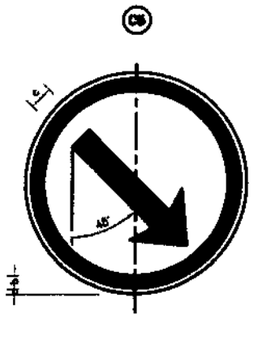
C4



KEEP LEFT
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	4.5	5.3
c	9.5	10.7
d	9.5	12.5
e	25.0	49.7
f	25.0	29.7
g	4.5	5.5

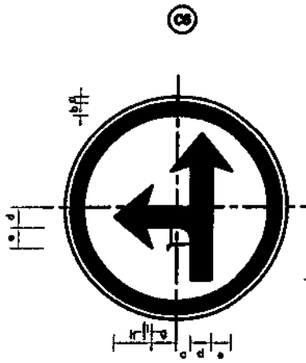
C5



KEEP RIGHT
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	4.5	5.3
c	9.5	10.7
d	9.5	12.5
e	25.0	49.7
f	25.0	29.7
g	4.5	5.5

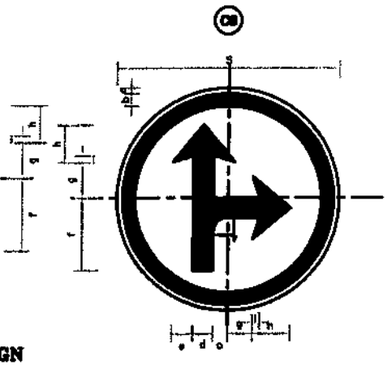
C6



STRAIGHT OR LEFT ONLY SIGN
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	10.0	13.3
d	9.5	10.7
e	9.5	12.5
f	34.5	46.3
g	10.5	14.0
h	25.5	31.3
i	4.5	5.5
j	9.5	10.7

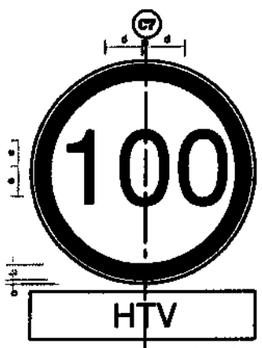
C8



STRAIGHT OR RIGHT ONLY SIGN
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	10.0	13.3
d	9.5	10.7
e	9.5	12.5
f	34.5	46.3
g	10.5	14.0
h	25.5	31.3
i	4.5	5.5
j	9.5	10.7

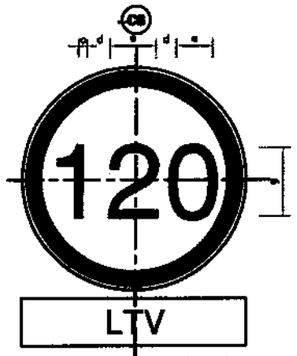
C7



SPEED LIMIT (100)
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	3.5	4.0
d	22.5	25.7
e	25.0	28.7

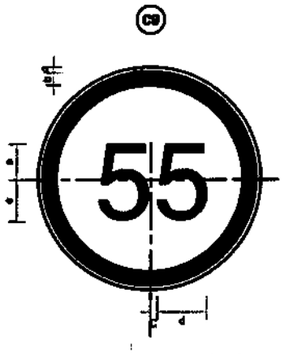
C8



SPEED LIMIT (120)
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	3.5	3.33
d	6.0	6.5
e	11.33	16.33
f	25.0	47.0
g	43.0	52.5

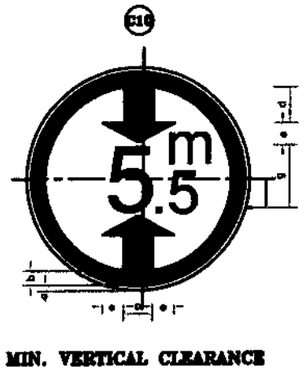
C9



SPEED LIMIT (55)
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	3.5	4.0
d	22.5	25.7
e	25.0	28.7

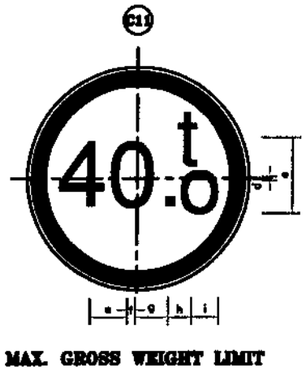
C10



MIN. VERTICAL CLEARANCE
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.7
c	12.5	16.0
d	12.5	17.0
e	6.5	11.5
f	31.0	41.0
g	34.5	32.5
h	12.5	14.5

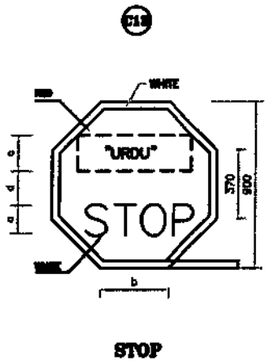
C11



MAX. GROSS WEIGHT LIMIT
DIMENSION(cm)

PARTS		
a	1.5	1.5
b	6.5	6.67
c	25.5	46.33
d	9.5	3.33
e	17.5	23.33
f	1.5	2.5
g	17.5	23.33
h	3.5	4.33
i	10.0	13.33

C12



STOP
DIMENSION(cm)

PARTS		
a	1.5	1.33
b	37.5	49.5
c	25.5	33.5
d	16.5	22.0
e	25.5	33.5
f	62.5	165.5

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W LEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

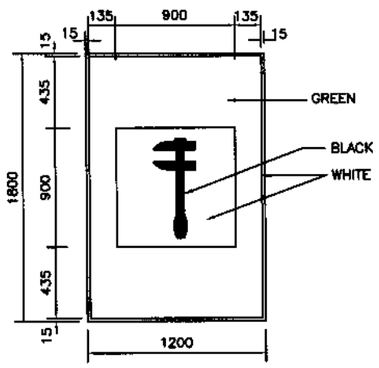
PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.00 KM

TITLE
ROAD SIGNS (4)
(REGULATORY SIGN)

DATE
JANUARY, 2021

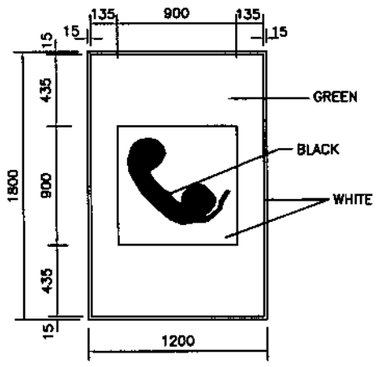
DWG NO.
38164/102/TD/RS0022

R1



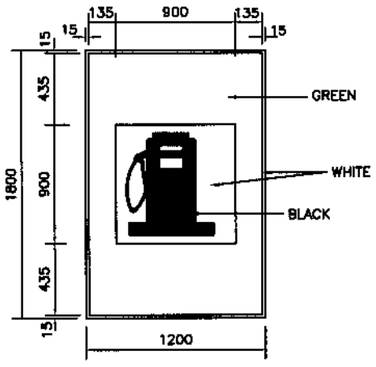
BREAKDOWN SERVICE

R2



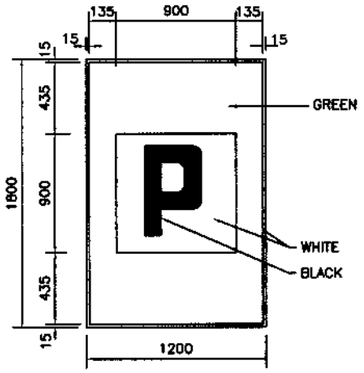
TELEPHONE

R3



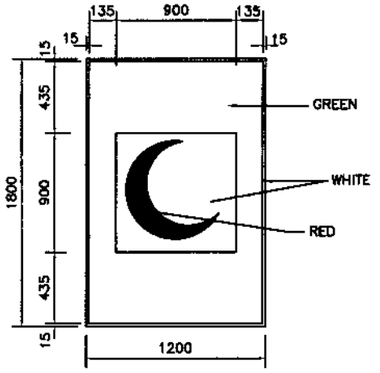
FILLING STATION

R4



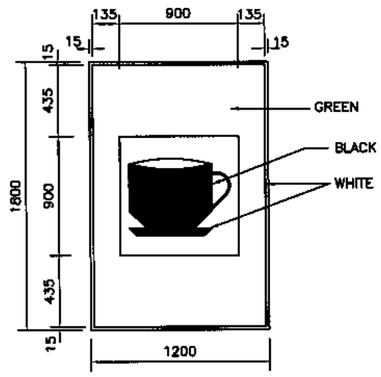
PARKING

R5



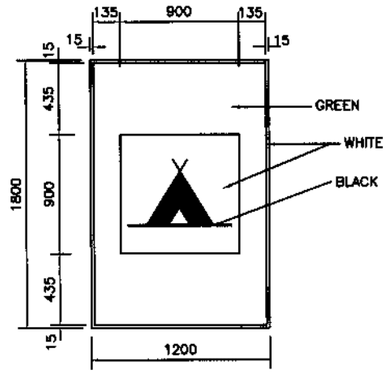
FIRST AID STATION

R6



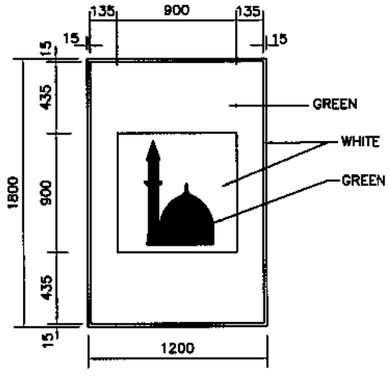
REFRESHMENT/CAFETERIA

R7



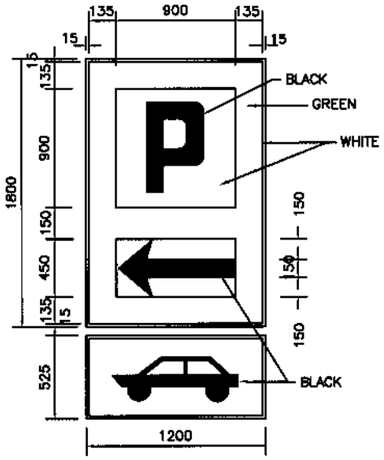
CAMPING SITE

R8



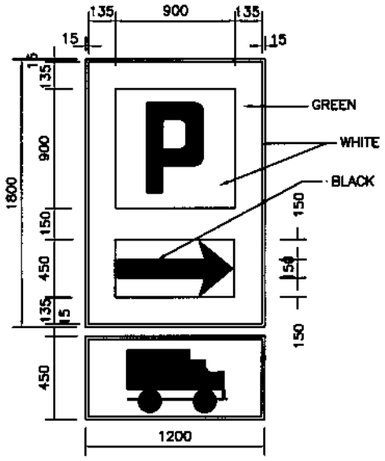
MOSQUE

R9



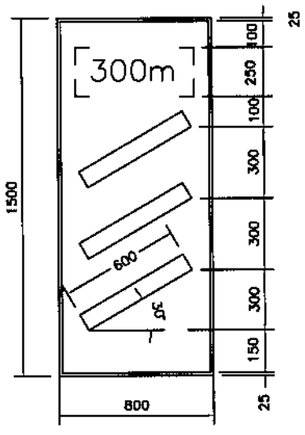
PARKING ON LEFT
(FOR CARS)

R10

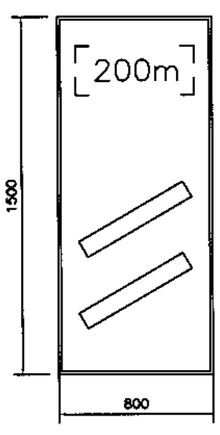


PARKING ON RIGHT
(FOR BUS/TRUCK)

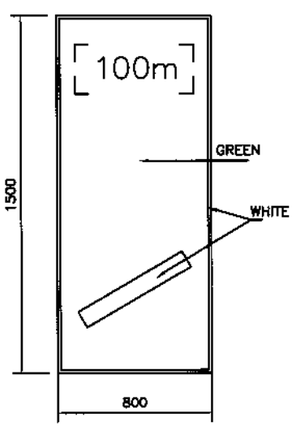
R11



R12

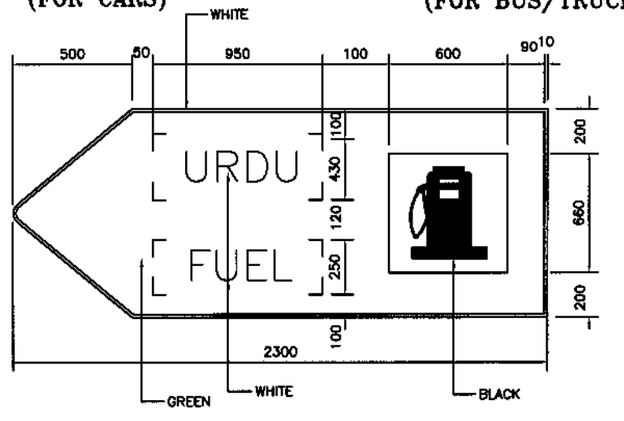


R13



COUNT DOWN MARKERS

M1



FILLING STATION ON LEFT

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

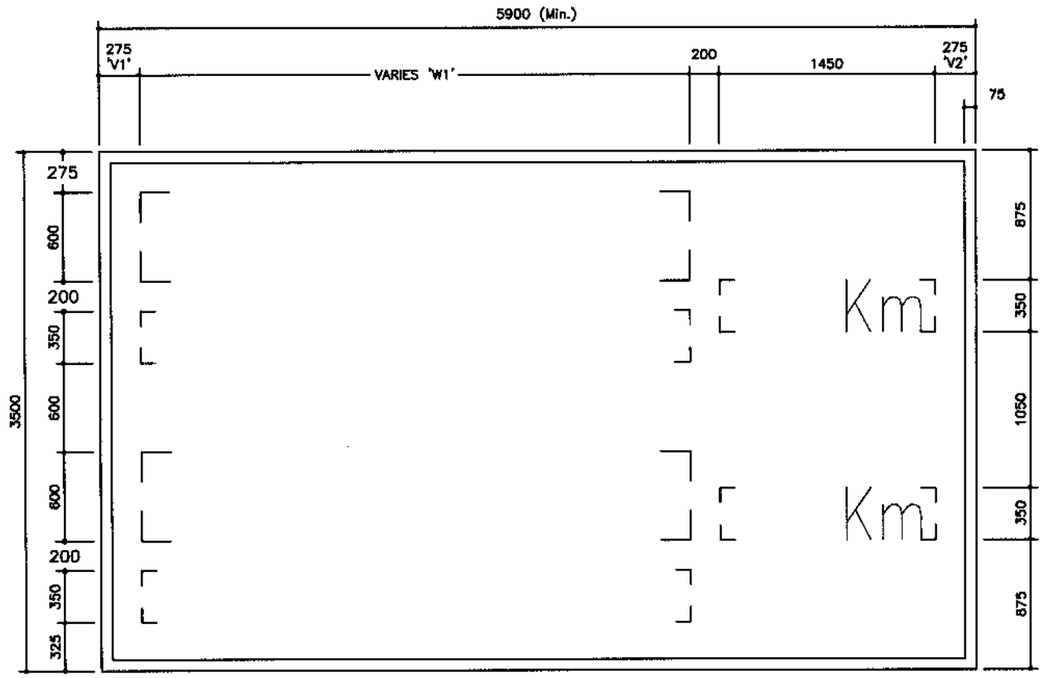
REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
ROAD SIGNS (5)
(INFORMATORY SIGN)

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/RS0023



R21

DISTANCE SIGN

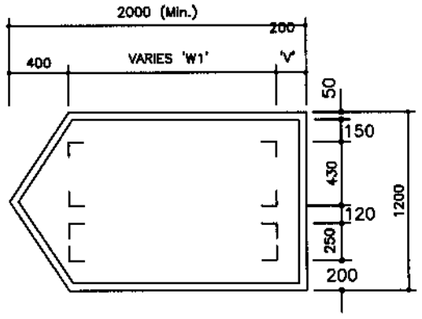
(After the junction)



(Beginning of built up area)



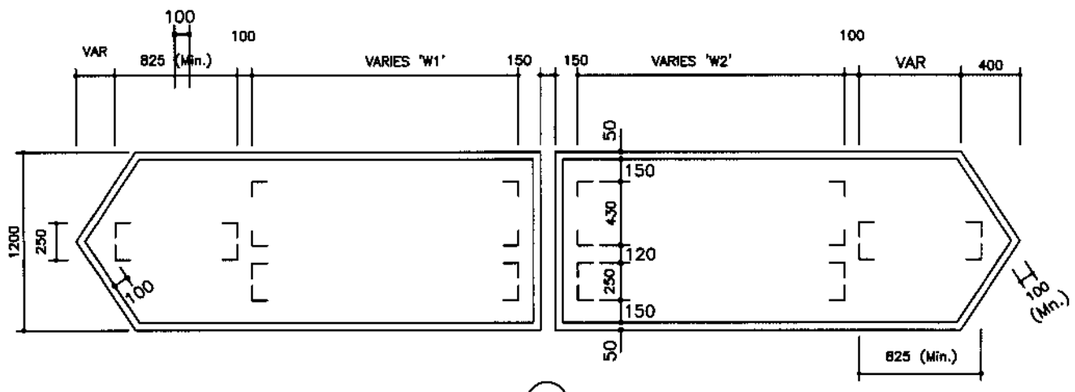
(And of built up area)



R20

EXIT SIGN

(At exit ramp nose)



R19

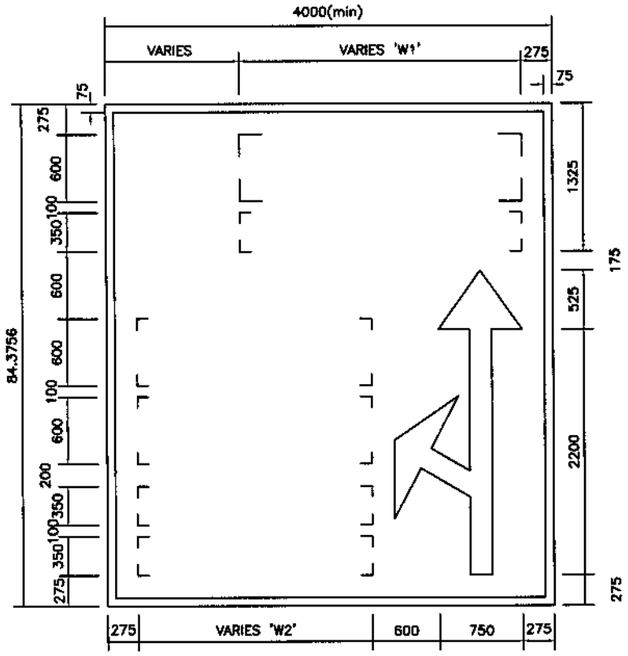
DISTANCE & DESTINATION SIGN

(At T– Junction)

NOTE

FOR NOTES REFER DRAWING NO. 3829/102/TD/RS0026.

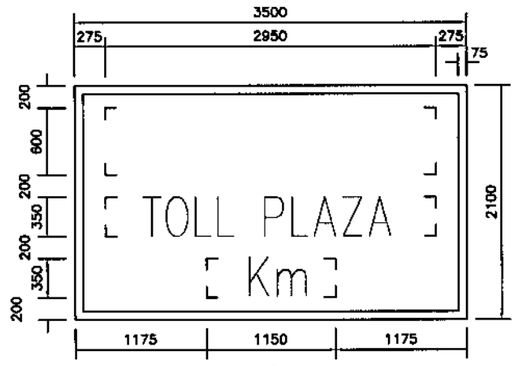
KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.					DRAWN		PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM	TITLE: ROAD SIGNS (6) (REGULATORY SIGN)	
						SUBMITTED				
						RECOMMENDED			DATE: JANUARY, 2021	DWG NO. 38164/102/TD/RS0024
						CHD./VER.				
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED				



R22

DESTINATION SIGN

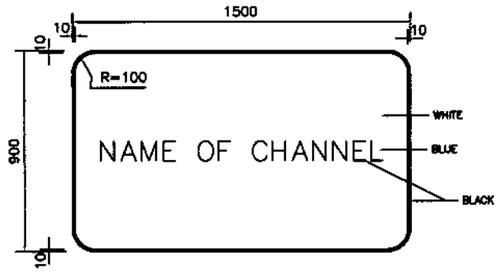
(500m SHORT OF EXIT RAMP)



R23

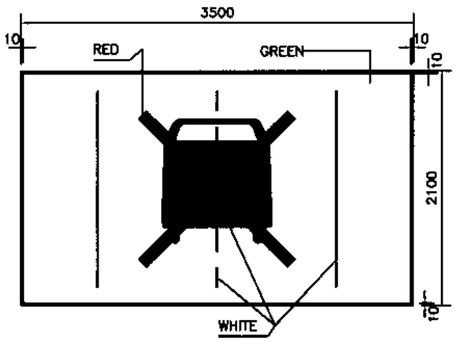
TOLL PLAZA SIGN

(2 Km./1 Km. SHORT OF TOLL PLAZA)



R32

CHANNEL NAME

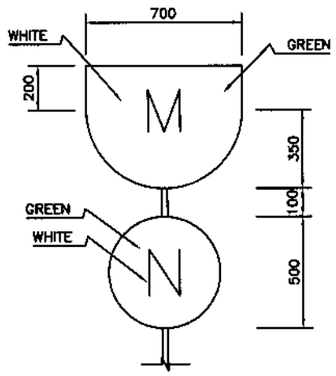


R33

DO NOT DRIVE
ON LANE MARKING

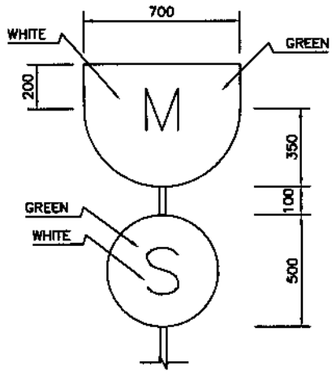
INFORMATORY SIGN

WARNING SIGN



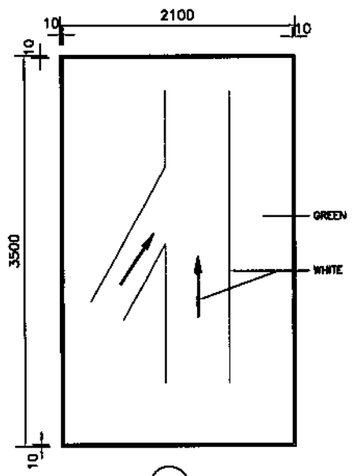
R29

MOTORWAY
NORTH BOUND CARRIAGEWAY



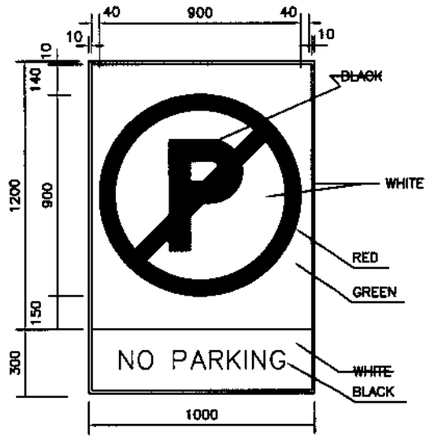
R30

MOTORWAY
SOUTH BOUND CARRIAGEWAY



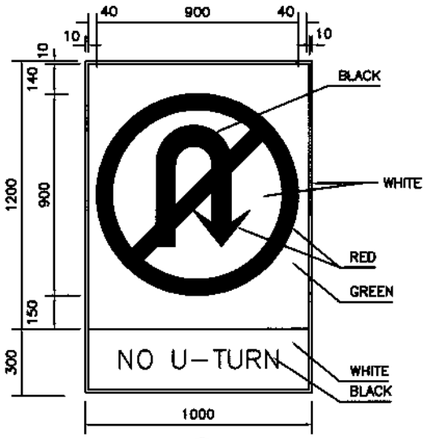
R31

ENTRY LANE AHEAD



R27

NO PARKING



R28

NO U-TURN

INFORMATORY SIGN

REGULATORY SIGN

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

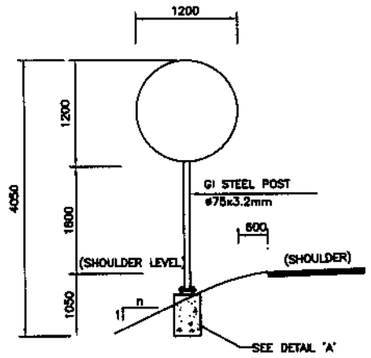
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

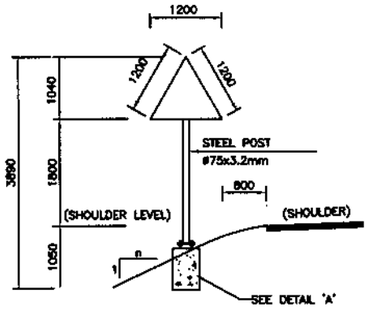
TITLE

ROAD SIGNS (7)

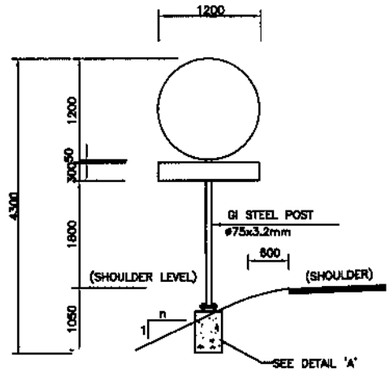
DATE: JANUARY, 2021

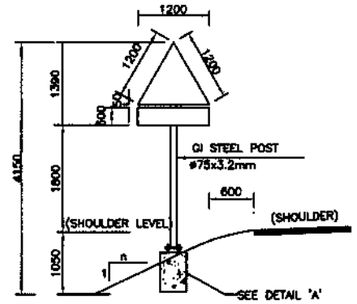
DWG NO. 38164/102/TD/RS0025



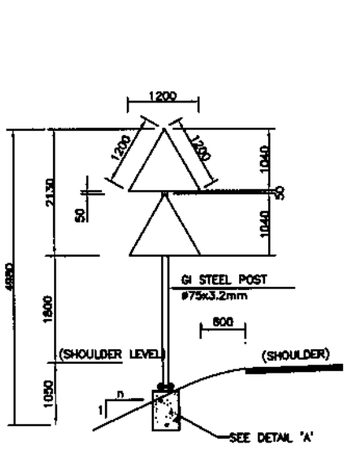


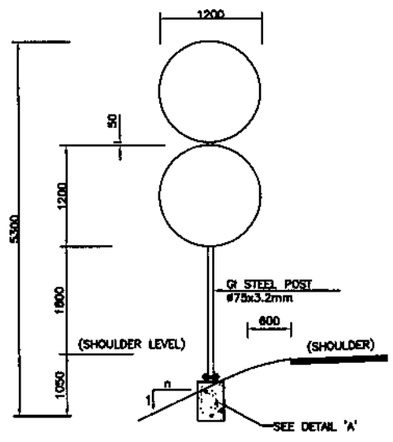
SINGLE SIGNS



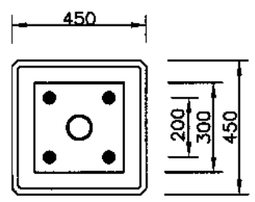


SINGLE SIGNS WITH ADDITIONAL PLATE

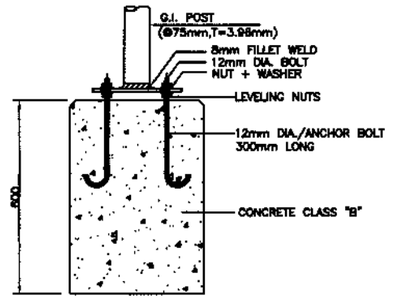




DOUBLE SIGNS



PLAN



SECTION

PRECAST CONCRETE FOUNDATION
(TYPE-1)
DETAIL 'A'

NOTES:-

1- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

2- POST LENGTH AS SHOWN ARE FOR EXPRESSWAY SIGNS OF 1200mm NOMINAL SIZE. FOR RAMPS, POST LENGTH SHALL BE ADJUSTED ACCORDINGLY.

3- PRECAST CONCRETE FOUNDATION BLOCKS SHALL BE CAST USING CLASS "B" CONCRETE.

4- SIGN PANELS SHALL BE MADE OF ALUMINUM ALLOY PLATES OF MINIMUM 3mm THICKNESS.

5- FOR ALL TRIANGULAR, CIRCULAR SIGNS AND INFORMATION SIGNS OF LESS THEN 1.5m Sq.m AREA, USE INNER DIA 75mm, 3.2mm THICK CIRCULAR GI POST WITH.

6- ALL SIGN POSTS SHALL BE PAINTED WITH NON-REFLECTORISED BLACK AND WHITE PAINT STRIPES 300mm WIDE.

7- ALL SIGN BACK PANELS SHALL BE PAINTED WITH GRAY ENAMEL PAINT.

8- ALL POSTS SHALL BE 300mm SHORT OF SIGN TOP.

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM
AND ENTERPRISE
DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

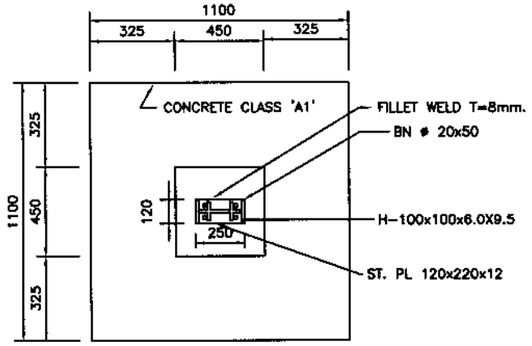
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			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

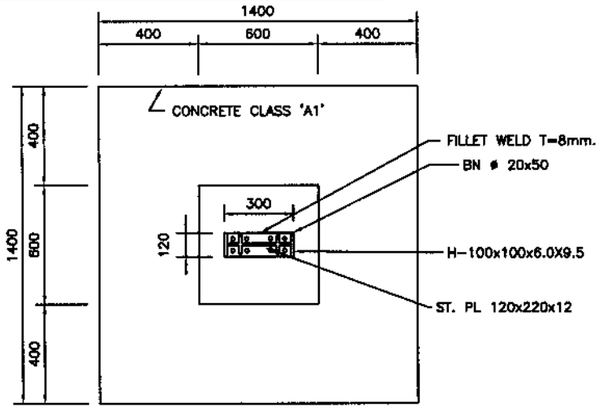
PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.00 KM

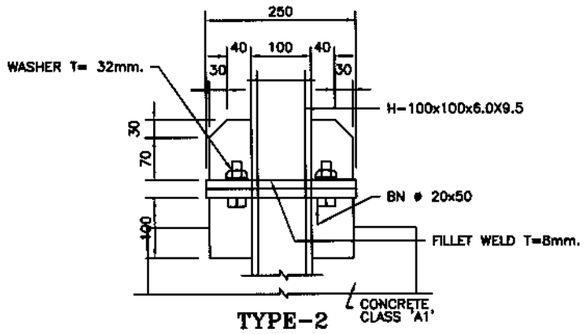
TITLE
TYPICAL PLACEMENT OF ROAD SIGNS

DATE
JANUARY, 2021

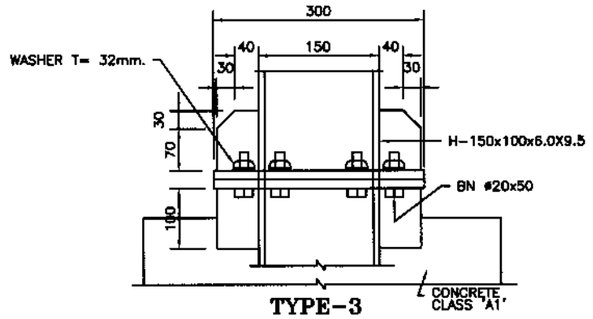
DWG NO.
38164/102/TD/RS0026



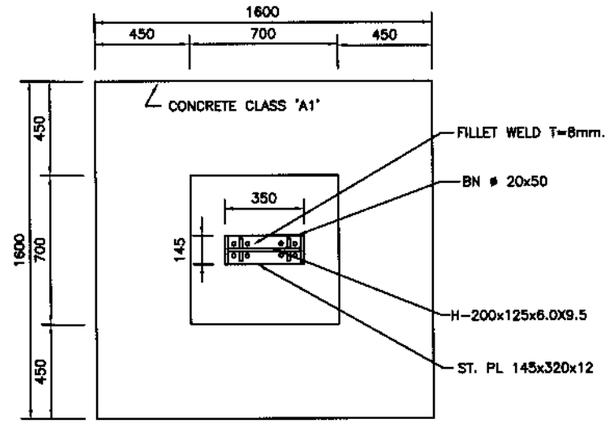


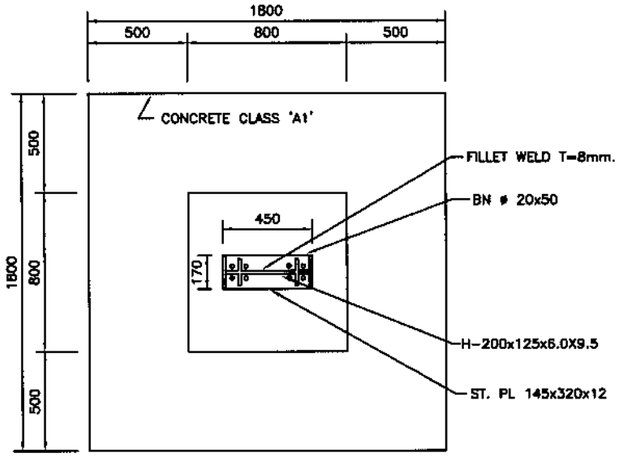


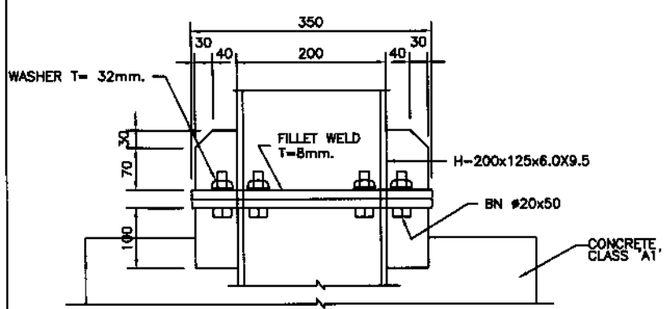
TYPE-2



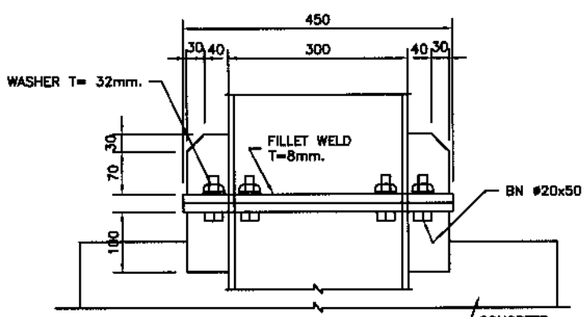
TYPE-3



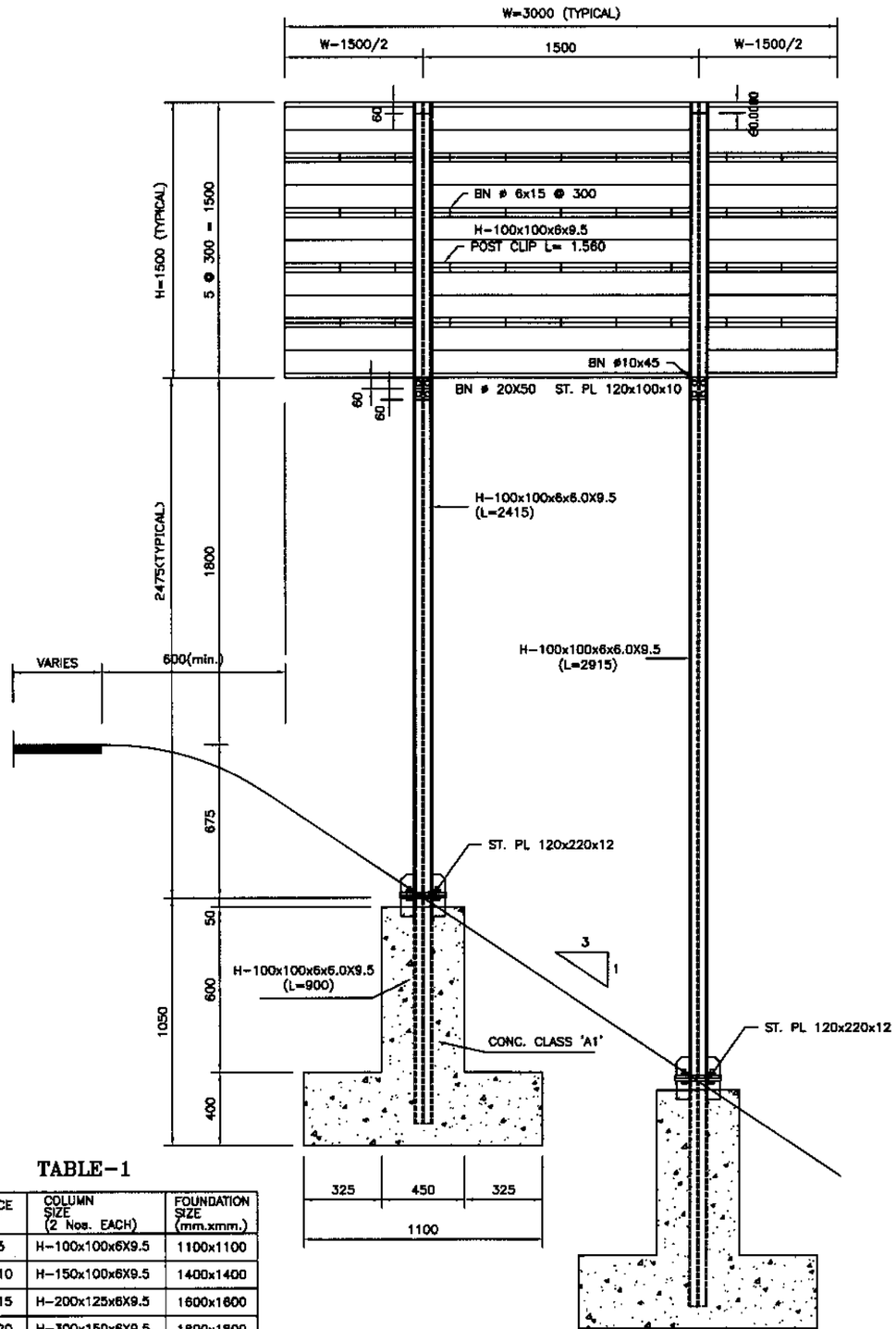




TYPE-4



TYPE-5



TYPICAL SIGN DETAILS
(FACE AREA <5m²)

TABLE-1

SIGN FACE AREA 'A'	COLUMN SIZE (2 Nos. EACH)	FOUNDATION SIZE (mm.xmm.)
3 < A<5	H-100x100x6X9.5	1100x1100
5 < A<10	H-150x100x6X9.5	1400x1400
10< A<15	H-200x125x6X9.5	1600x1600
15< A<20	H-300x150x6X9.5	1800x1800

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NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

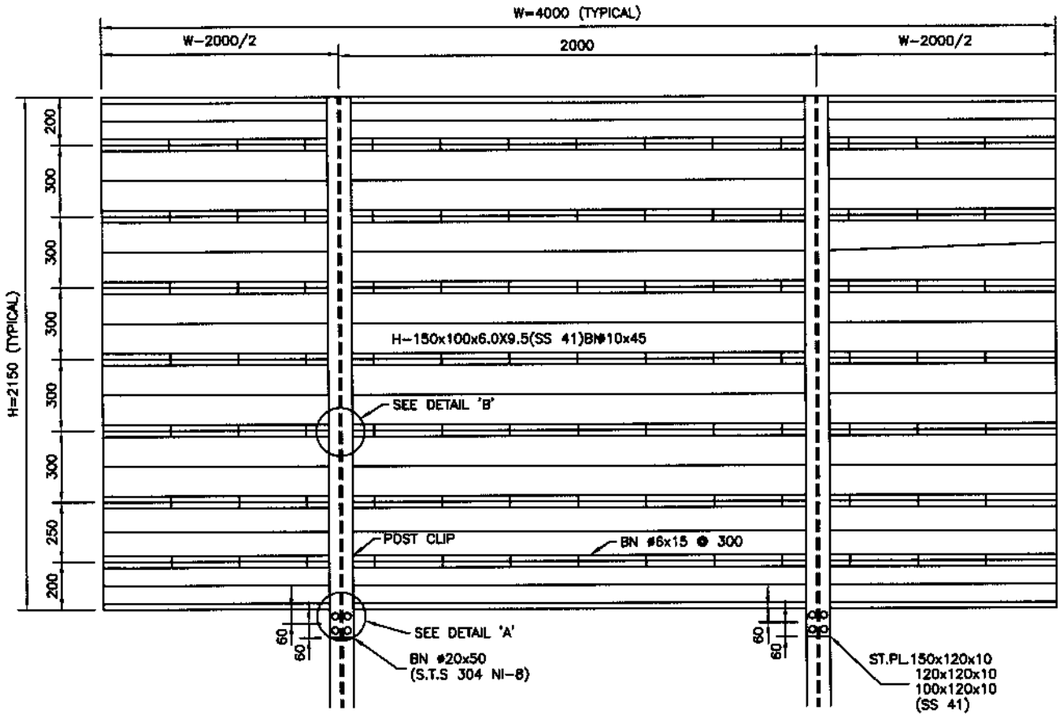
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			RECOMMENDED
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			APPROVED

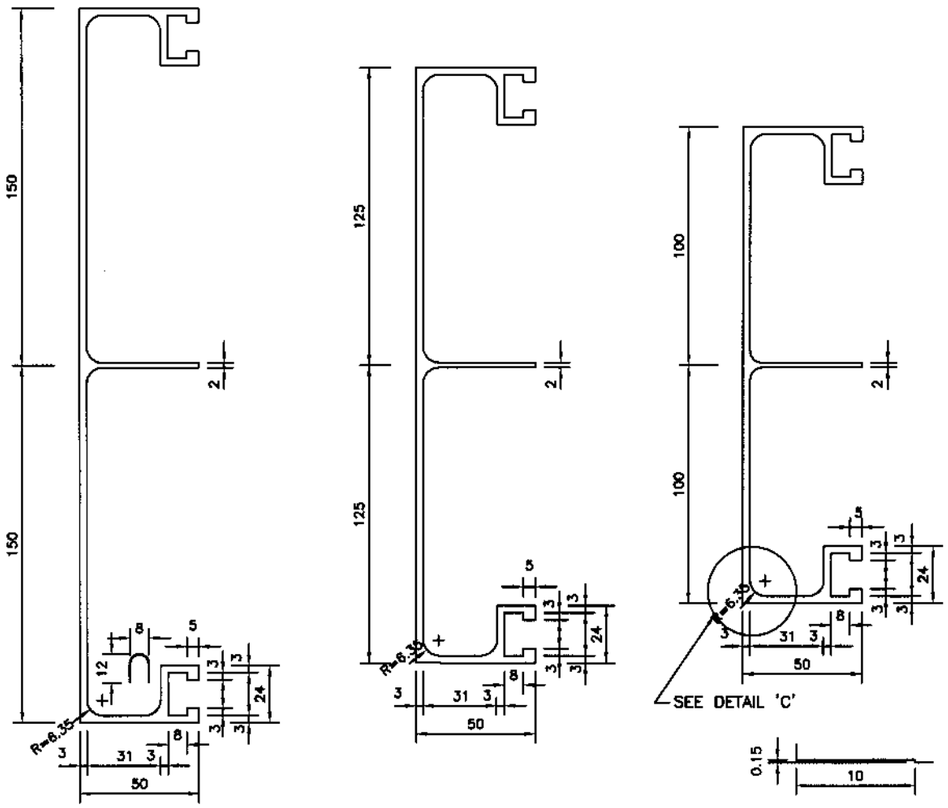
PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
ROAD SIGNS FIXATION DETAILS (2)

DATE
JANUARY, 2021

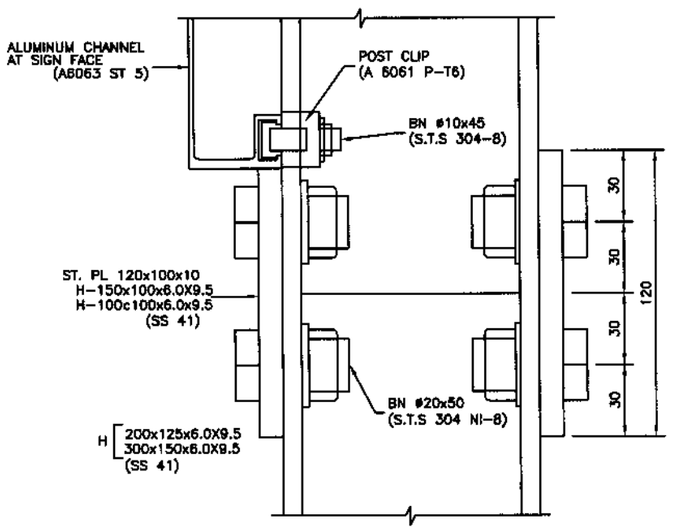
DWG NO.
38164/102/TD/RS0027



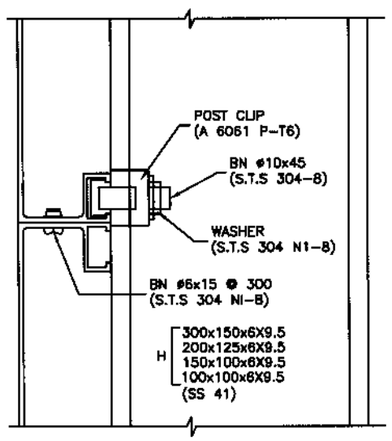


ALUMINUM CHANNEL DETAILS

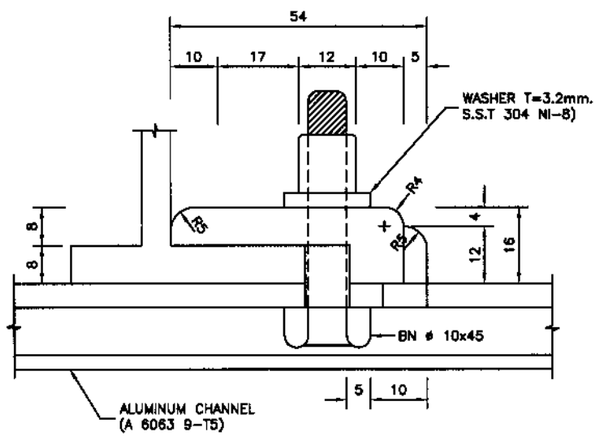
DETAIL 'C'

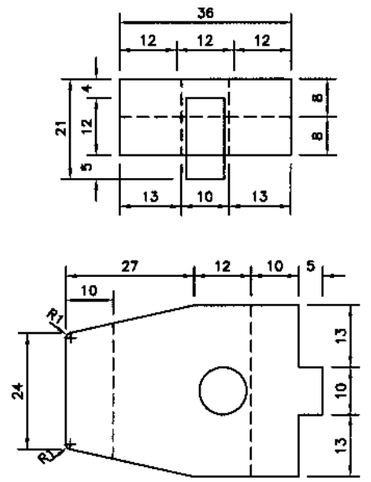


DETAIL 'A'



DETAIL 'B'





ALUMINUM POST CLIP DETAIL

NOTES:-

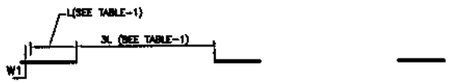
1 - ALL DIMENSIONS ARE IN MILLIMETERS

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP	NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.				DRAWN		PROJECT: REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD - 24.00 KM	TITLE: ROAD SIGNS FIXATION DETAILS (3)
					SUBMITTED			DATE: JANUARY, 2021
					RECOMMENDED			DWG NO. 38164/102/TD/RS0028
					CHD./VER.			
	REV.	DATE	DESCRIPTION	APPROVED	APPROVED			

PAVEMENT MARKING LINES

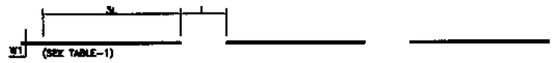
SCALE 1:200

FOR DIMENSIONS L & W1 TO W5 (SEE TABLE-1)



L1 – BROKEN GUIDE LINE–WHITE

AT CENTERLINE OF DIVIDED (SINGLE) 2–LANE HWYS AND LANE SEPARATION OF DIVIDED (DUAL) HWYS



L2 –BROKEN WARNING LINE –WHITE

AT APPROACHES TO DANGER (e.g roundabouts, median openings and junctions)



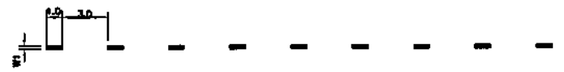
L3 – CONTINUOUS LINE – WHITE

AT CENTERLINE NEAR INTERSECTIONS AND AT NO PASSING ZONES



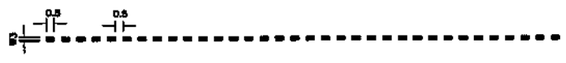
L4 – CONTINUOUS EDGE LINE –YELLOW

AT EDGE OF PAVEMENT OF ALL HWYS



L5 – DASHED LINE – WHITE

AT SEPERATION OF THROUGH LANES FROM ACCELERATION/DECELERATION LANE



L6 – DOTTED LINE – WHITE

FOR DEFINING VEHICLE PATHS WITHIN INTERSECTIONS



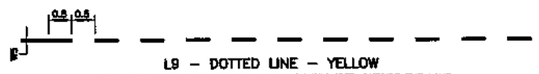
L7 – STOP LINE – WHITE

AT INTERSECTIONS ACROSS PAVEMENT



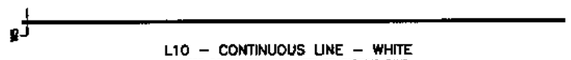
L8 – TRANSVERSE YIELD LINE – WHITE

AT INTERSECTIONS ACROSS PAVEMENT IN THE SAME POSITION AS L7 LINE TO INDICATE GIVE WAY



L9 – DOTTED LINE – YELLOW

FOR EDGE LINE WHERE PARKING BAYS ARE PROVIDED OUTSIDE THE LANE

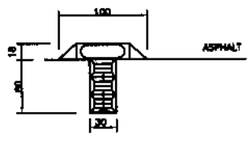


L10 – CONTINUOUS LINE – WHITE

FOR DELINEATION OF LIMITS OF PARKING BAYS

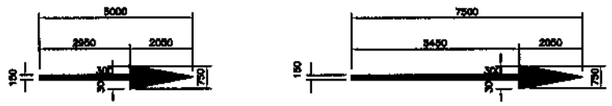


PLAN

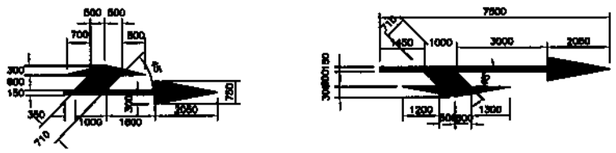


SECTION A–A

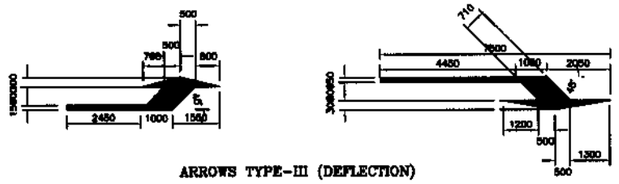
REFLECTORISED PAVEMENT STUD
(RAISED PROFILE TYPE)



ARROWS TYPE–I (STRAIGHT)



ARROWS TYPE–II (COMBINED)



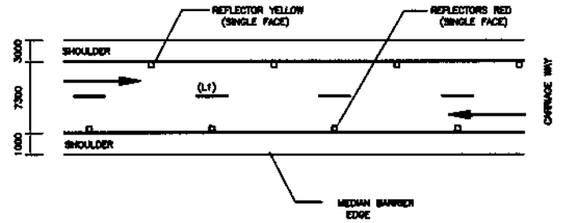
ARROWS TYPE–III (DEFLECTION)

(FOR <60 Km/hr) (FOR >60 Km/hr)

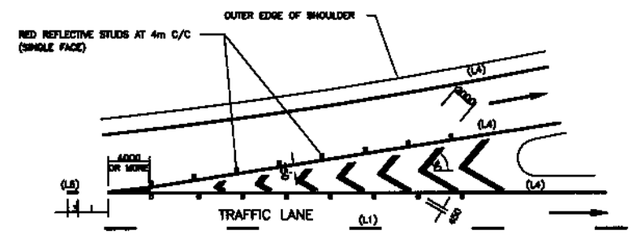
LANE SELECTION ARROWS – WHITE

TABLE – 1

ROADWAY SPEED	L (mm)	W1	W2	W3	W4	W5
>120 Km/hr	4000	200	200	200	400	100

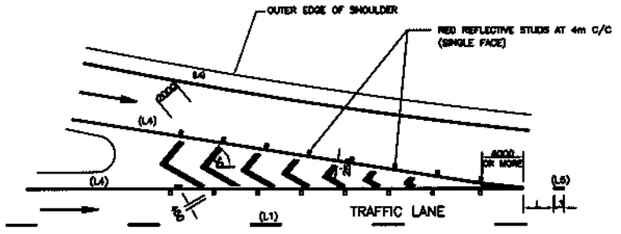


ADDITIONAL DETAIL FOR MEDIAN
AND CARRIAGE WAY



ENTRANCE NOSE DETAIL

SCALE 1:300



EXIT NOSE DETAIL

SCALE 1:300

PAVEMENT MARKING & ROAD STUDS DETAILS

NOTES :–

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. AT APPROACHES TO INTERSECTIONS/ROUNDABOUTS, CENTER LINE OR LANE SEPARATION LINE (L1) BECOMES (L2) FOR A LENGTH = 150m AND CONTINUOUS LINE (L3) FOR LAST 50m.
3. LENGTH OF STORKE IN (L2) = LENGTH OF GAP IN MATCHING (L1).
4. LOCATION OF DIRECTIONAL ARROWS, NOSES AND STOP SIGN SHALL BE PLACED AS DIRECTED BY THE ENGINEER.

KHYBER PAKHTUNKHWA
INTEGRATED TOURISM
AND ENTERPRISE
DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

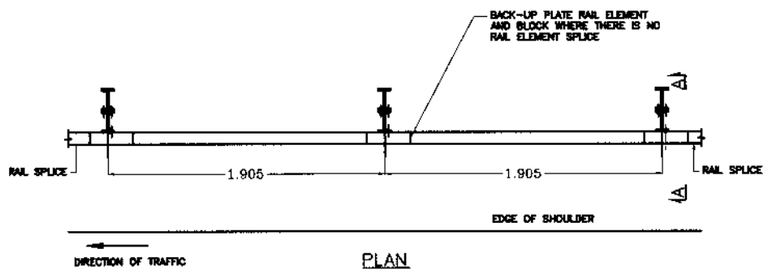
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

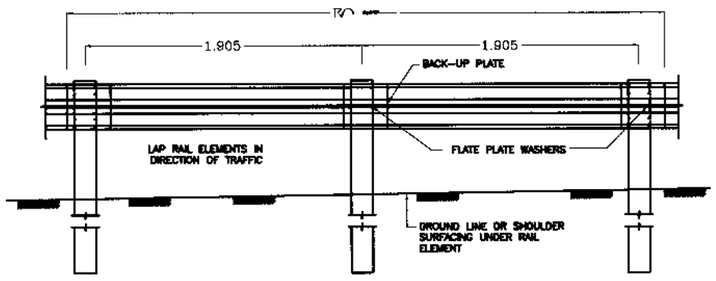
PAVEMENT MARKING AND ROAD STUDS

DATE: JANUARY, 2021

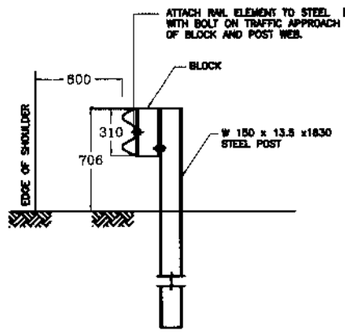
DWG NO.: 38164/102/TD/PMS0029



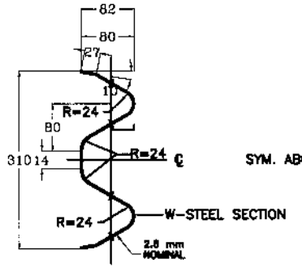
PLAN



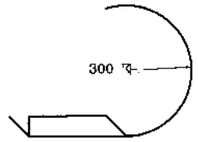
METAL W-BEAM GUARD RAILING WITH W150x13.5
STEEL POSTS AND BLOCKS



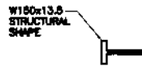
SECTION A-A
POST SPACING 1.905m C/C

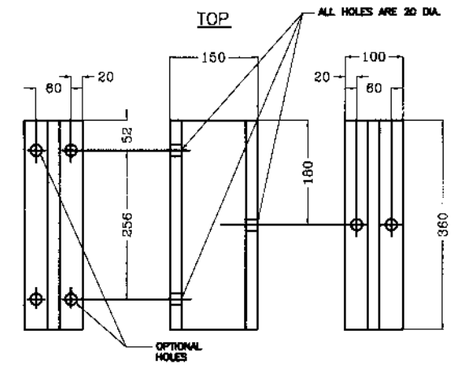


SECTION THROUGH
W-BEAM RAIL ELEMENT

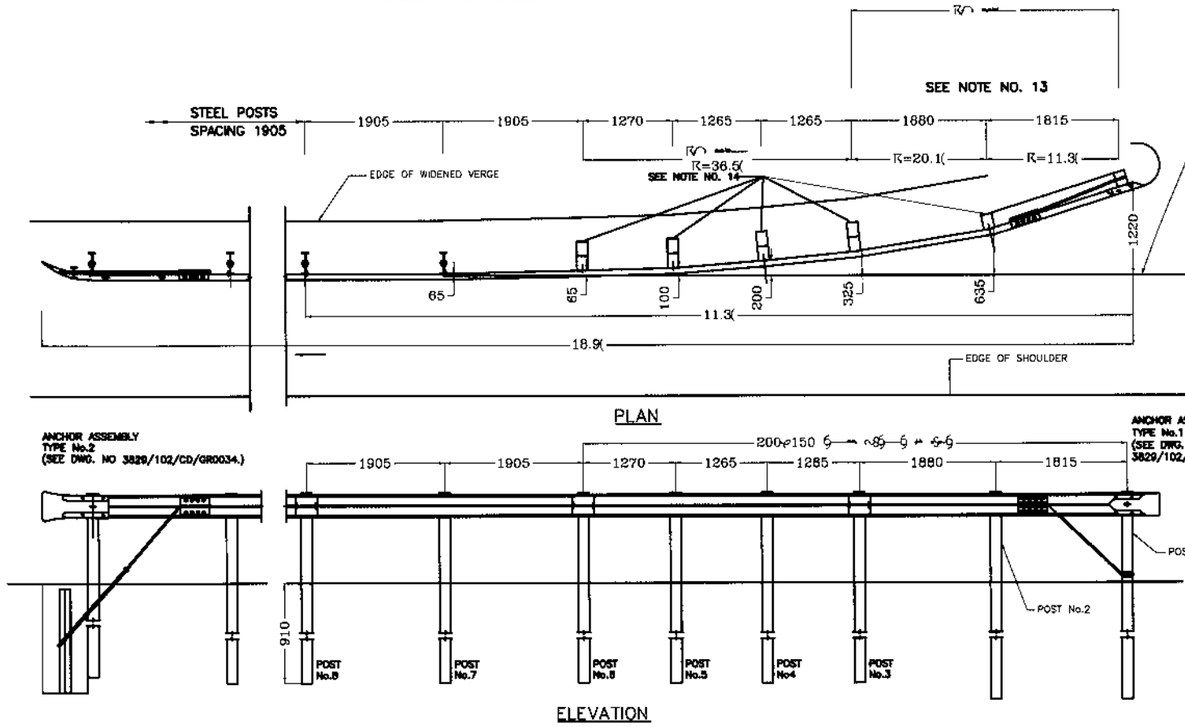


W-BEAM BACK-UP PLATE





POST FACE SIDE TRAFFIC FACE
W-BEAM GUARD RAIL BLOCK

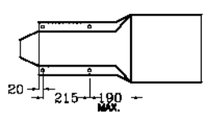


PLAN

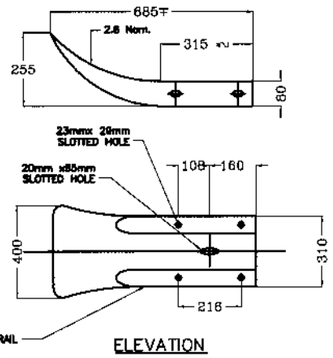
ELEVATION
APPROACH FLARE AND END ANCHORS

APPLICABLE REACHES

GUARD RAIL SHALL BE PROVIDED ADDITIONALLY ON CULVERT APPROACHES AND AT CRITICAL LOCATIONS/SHARP BENDS.



ELEVATION
TERMINAL SECTION TYPE No. 1
W-BEAM



ELEVATION
TERMINAL SECTION TYPE No.2
W-BEAM

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS. UNLESS NOTED OTHERWISE.
2. ALL LAPS SHALL BE IN THE DIRECTION OF TRAFFIC.
3. W-BEAM TERMINAL SECTIONS SHALL BE USED IN PLACE OF END ANCHORAGE RAIL AT THE DEPARTURE END ONLY OR AT OTHER RESTRICTED LOCATIONS AS APPROVED BY THE ENGINEER.
4. W-BEAM RAIL SECTION SHALL CONFORM TO AASHTO M-180 AND SHALL BE TYPE-II, CLASS 'B'.
5. WHERE THE GUARD RAIL HAS TO FOLLOW A CURVE OF LESS THAN 45m RADIUS, THE BEAM SHALL BE CURVED TO SUIT, BY THE BEAM MANUFACTURER.
6. THE HOLES FOR ANCHORAGE POSTS SHALL BE BACKFILLED WITH WELL COMPACTED GRANULAR MATERIAL. THE SPACE INSIDE THE TERMINAL NOSE SHALL BE FILLED WITH CONCRETE. CLASS 20
7. THE CONTRACTOR SHALL PREPARE DRAWINGS SHOWING LOCATIONS, ELEVATIONS AND SPACING OF POSTS AT EACH CULVERT/HIGH FILL LOCATION AND SHALL OBTAIN APPROVAL OF THE ENGINEER
8. BACKFILLING OF THE POST HOLES SHALL BE CARRIED OUT AS FOLLOWS:
   - IN CASE OF ROCK, CORED HOLES-250 DIA (AS MADE) WILL BE BACKFILLED WITH LEAN CONCRETE CLASS 15
   - IN CASE OF STRATA OTHER THAN ROCK, HOLES-300 DIA (AS MADE) WILL BE BACKFILLED WITH LEAN CONCRETE CLASS 15 OR THE POSTS MAY BE HAMMERED IN PLACE AS APPROVED BY THE ENGINEER.

   NO EXTRA PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR CORING AND OR CONCRETING FOR POST FIXATION.
9. EXISTING EMBANKMENT MAY BE WIDENED WHERE NECESSARY TO ACCOMMODATE GUARD RAIL FLARE AT APPROACH END.
10. BACK-UP PLATE TO BE USED BETWEEN GUARD RAIL ELEMENT AND STEEL BLOCK ON STEEL POST WHERE THERE IS NO RAIL ELEMENT SPLICE.
11. DIRECTION OF TRAFFIC INDICATED BY ARROW (——).
12. POST SPACING AND HEIGHT IS AS PER TYPE OF RAIL SPECIFIED IN HIGHWAY DESIGN STANDARDS SECTION 16.
13. THE RAIL ELEMENT CONNECTING POST NOS. 1, 2, AND AND 3 HAS A COMPOUND BEND WITH A RADIUS OF 11.3m BETWEEN POST NOS. 1 AND 2, AND A RADIUS OF 20.1m BETWEEN POST NOS. 2 AND 3. THE RADIUS CHANGES AT POST NO. 2.
14. SHELF ANGLES TO SUPPORT THE RAIL ELEMENT SHALL BE INSTALLED ON POST NOS. 2, 3, 4, 5 AND 6 OF THE FLARE. SEE DWG. NO. 3829/102/CD/GR0034
15. FOR GUARD RAIL EXTENDED INTO CUT BANK, THE THE POSTS INSTALLED ON SLOPES GREATER THAN 10:1, SHOULD BE 2400 LONG.
16. THE FLARE RATE FOR THE GUARD RAIL EXTENDED INTO CUT BANKS MAY BE INCREASED AFTER CROSSING THE DITCH BOTTOM (AT THE ANGLE POINT), TO SHORTEN THE LENGTH OF TERMINAL (UPTO 8:1).
17. TYPE NO.2 WOULD BE USED ON THE TRAIL END OF A 1WAY SINGLE CARRIAGEWAY. AND ON THE TRAIL END FOR A DUAL CARRIAGEWAY.
18. MINOR ADJUSTMENTS TO POST SPACING AND OFFSETS MAY BE REQUIRED TO FIT SITE CONDITIONS.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

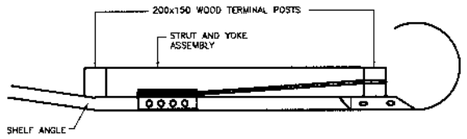
REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

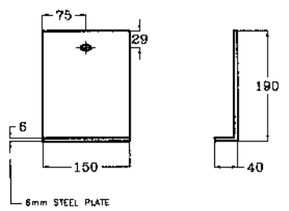
TITLE
TYPICAL GUARD RAIL DETAILS (1)

DATE
JANUARY, 2021

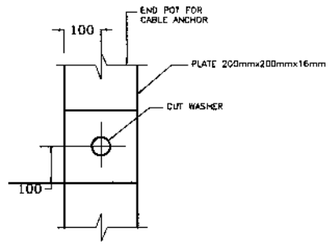
DWG NO.
38164/102/TD/GR0030



PLAN



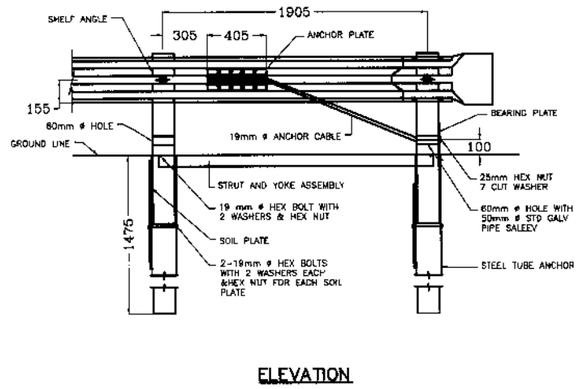
SHELF ANGLE



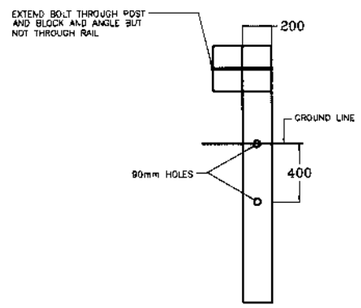
BEARING PLATE DETAIL



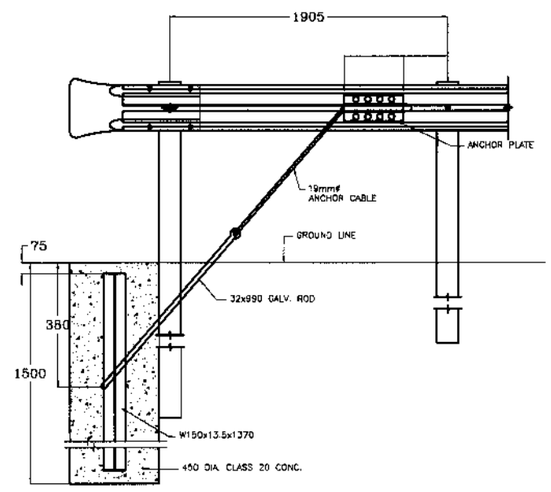
PLAN



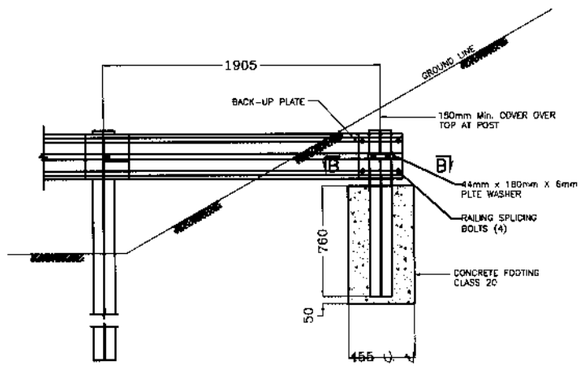
ELEVATION
ANCHORS ASSEMBLY
TYPE NO.1 (BREAKAWAY)



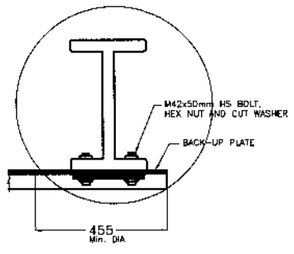
BREAKAWAY POST
(POST NO. 2, 3, 4, 5, AND 6)



ELEVATION
ANCHORS ASSEMBLY
TYPE NO.2



ELEVATION
BURIED POST ANCHOR



SECTION B – B

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS. UNLESS NOTED OTHERWISE.
2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG. NO. 38164/102/TD/GR0030.)
3. THE LAYOUT AND DETAILS SHOWN ON THIS PLAN ARE INDICATIVE ONLY OF THE VARIOUS POSSIBILITIES AVAILABLE FOR THE APPROACH AND TAIL ENDS FOR GUARD RAIL INSTALLATION.
4. IN CASE SOLID ROCK IS ENCOUNTERED, THE POST MAY BE SHORTENED, PROVIDED IT EXTENDS INTO THE SOLID ROCK A MIN. OF 900mm.

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
TYPICAL GUARD RAIL DETAILS (2)

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/GR0031

PI STATION DATA

PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION
0+000.00	3,780,819.1407m	340,182.1357m	N16° 57' 32"E	1+792.46	3,781,427.6047m	341,295.6055m	N53° 13' 09"E	3+259.50	3,782,114.9993m	341,559.5222m	N29° 04' 35"E
0+055.44	3,780,872.1703m	340,198.3070m	N24° 15' 48"E	1+855.71	3,781,466.2650m	341,347.3200m	S83° 48' 51"E	3+300.68	3,782,151.3903m	341,579.7574m	N76° 13' 06"E
0+107.44	3,780,919.6031m	340,219.6871m	N13° 04' 19"E	1+953.43	3,781,455.4515m	341,447.0912m	S78° 03' 17"E	3+383.35	3,782,171.6303m	341,662.2734m	S25° 51' 18"E
0+177.11	3,780,987.5557m	340,235.4649m	S76° 35' 24"E	2+020.29	3,781,441.6074m	341,512.5292m	N52° 54' 27"E	3+468.13	3,782,087.5742m	341,703.0071m	N72° 33' 33"E
0+241.11	3,780,970.4940m	340,307.0268m	S64° 52' 27"E	2+072.18	3,781,474.5721m	341,556.1284m	N42° 17' 12"E	3+572.23	3,782,123.5561m	341,817.5397m	S56° 51' 04"E
0+291.01	3,780,949.2698m	340,352.2825m	N8° 25' 29"W	2+165.63	3,781,543.7707m	341,619.0649m	S24° 47' 29"W	3+617.37	3,782,097.0433m	341,858.1343m	S1° 30' 39"E
0+331.99	3,781,015.1687m	340,342.5223m	N17° 35' 21"W	2+214.59	3,781,406.6499m	341,555.7316m	S40° 45' 51"W	3+653.07	3,782,058.8257m	341,859.1423m	S14° 53' 08"W
0+397.01	3,781,077.2083m	340,322.8552m	N85° 05' 42"E	2+269.61	3,781,364.7447m	341,519.6056m	S60° 34' 49"E	3+684.30	3,782,028.4894m	341,851.0786m	S2° 00' 58"E
0+440.83	3,781,082.1621m	340,380.5782m	N38° 40' 58"E	2+289.96	3,781,350.6373m	341,544.6220m	N25° 18' 32"E	3+747.21	3,781,965.4302m	341,853.2984m	S33° 32' 29"W
0+494.30	3,781,125.1703m	340,415.0131m	N7° 40' 45"E	2+324.21	3,781,387.2849m	341,561.9522m	N50° 30' 09"E	3+790.43	3,781,928.2648m	341,828.6604m	S67° 57' 11"E
0+610.63	3,781,242.1723m	340,430.7889m	N7° 16' 10"W	2+380.77	3,781,423.7666m	341,606.2122m	N28° 51' 46"E	3+859.82	3,781,898.0933m	341,903.1613m	N17° 28' 50"W
0+655.65	3,781,287.0353m	340,425.0661m	N64° 21' 03"E	2+477.57	3,781,508.9731m	341,653.1767m	N1° 07' 30"W	3+887.91	3,781,964.3583m	341,882.2928m	N49° 34' 58"E
0+705.81	3,781,311.0848m	340,475.1512m	N46° 29' 05"E	2+521.74	3,781,554.1934m	341,652.2888m	N16° 19' 47"E	3+922.34	3,781,989.0014m	341,911.2306m	N66° 05' 58"E
0+759.19	3,781,347.9874m	340,514.0175m	N70° 00' 16"E	2+575.24	3,781,605.7527m	341,667.3948m	N2° 45' 54"W	3+958.01	3,782,003.5079m	341,943.9657m	N55° 59' 37"E
0+884.39	3,781,390.9249m	340,632.0163m	N78° 27' 01"E	2+616.00	3,781,646.7803m	341,665.4133m	N11° 34' 56"W	4+009.36	3,782,032.2617m	341,986.5848m	N50° 37' 19"E
0+979.80	3,781,410.0439m	340,725.5738m	N65° 25' 15"E	2+639.16	3,781,669.4978m	341,660.7574m	N9° 51' 53"E	4+072.18	3,782,072.1266m	342,035.1552m	N78° 22' 56"E
1+028.72	3,781,430.4315m	340,770.1470m	N88° 14' 26"E	2+672.09	3,781,702.2494m	341,666.4527m	N16° 38' 28"E	4+106.09	3,782,079.1135m	342,069.1388m	N49° 10' 44"E
1+100.81	3,781,432.6692m	340,842.9916m	N59° 26' 55"E	2+713.89	3,781,742.3132m	341,678.4276m	N20° 14' 08"W	4+135.12	3,782,098.3326m	342,091.3878m	N61° 47' 32"E
1+147.68	3,781,457.0251m	340,884.2548m	N76° 21' 18"E	2+773.45	3,781,799.3735m	341,657.3932m	N6° 07' 29"W	4+165.97	3,782,112.9542m	342,118.6482m	N29° 15' 41"W
1+207.79	3,781,471.2564m	340,942.8792m	S86° 19' 28"E	2+808.82	3,781,834.6494m	341,653.6079m	N2° 30' 57"E	4+182.42	3,782,131.2531m	342,108.3955m	S57° 39' 43"W
1+250.24	3,781,468.5199m	340,985.4791m	N76° 21' 28"E	2+831.99	3,781,857.8316m	341,654.6265m	N5° 45' 42"E	4+235.01	3,782,100.4891m	342,059.8033m	S66° 38' 07"W
1+329.79	3,781,487.3324m	341,062.9910m	S38° 34' 57"W	2+872.07	3,781,897.7079m	341,658.6500m	N2° 43' 55"E	4+282.19	3,782,081.7576m	342,016.4442m	S57° 22' 09"W
1+371.61	3,781,412.1954m	341,003.0473m	S7° 02' 18"E	2+936.59	3,781,962.1633m	341,661.7257m	N32° 26' 33"W	4+319.11	3,782,061.8131m	341,985.2947m	N29° 00' 05"W
1+497.51	3,781,378.0481m	341,007.2633m	N89° 09' 50"W	2+962.84	3,781,984.8926m	341,647.2776m	N45° 52' 50"W	4+336.01	3,782,081.5587m	341,974.3489m	N50° 07' 03"E
1+545.74	3,781,380.6375m	340,829.8249m	N89° 40' 50"E	3+020.50	3,782,025.0975m	341,605.8177m	N58° 22' 24"W	4+416.02	3,782,134.7818m	342,038.0428m	N10° 56' 53"E
1+568.96	3,781,382.0246m	341,078.6217m	N76° 30' 20"E	3+083.10	3,782,057.9767m	341,552.4293m	S76° 27' 29"W	4+465.18	3,782,184.5879m	342,047.6774m	N0° 36' 53"W
1+624.43	3,781,394.9976m	341,132.6810m	N85° 54' 56"E	3+149.30	3,782,041.7611m	341,485.1029m	N8° 49' 27"W	4+557.79	3,782,277.3167m	342,046.6824m	N33° 56' 04"E
1+660.30	3,781,397.5558m	341,168.5044m	N69° 38' 21"E	3+174.01	3,782,074.6305m	341,480.0003m	N72° 44' 41"E	4+613.03	3,782,324.0970m	342,078.1583m	N76° 43' 56"E
1+750.98	3,781,429.1792m	341,253.7151m	S87° 50' 51"E	3+217.27	3,782,088.9165m	341,525.9941m	N52° 07' 09"E	4+637.36	3,782,329.9506m	342,102.9830m	N67° 50' 08"E

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN
SUBMITTED
RECOMMENDED
CHD./VER.
APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
PI STATION DATA

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/ PD0010A

PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION
4+661.11	3,782,338.9221m	342,125.0061m	S86° 46' 28"E	6+186.75	3,782,803.6458m	342,840.9155m	N44° 29' 30"E	7+708.65	3,783,747.4906m	343,558.2695m	S85° 59' 18"E
4+713.19	3,782,335.9645m	342,177.4852m	N74° 02' 43"E	6+224.87	3,782,830.9174m	342,867.7074m	N58° 43' 50"W	7+748.49	3,783,744.6779m	343,598.3745m	N78° 44' 46"E
4+759.07	3,782,348.6509m	342,221.8600m	N40° 53' 04"E	6+243.33	3,782,846.1820m	342,842.5714m	S54° 36' 01"W	7+817.03	3,783,758.0985m	343,665.8211m	N77° 12' 34"E
4+806.70	3,782,385.2555m	342,253.5504m	N50° 26' 47"E	6+295.77	3,782,814.4488m	342,797.9179m	N59° 12' 37"W	7+880.75	3,783,772.2063m	343,727.9648m	N69° 59' 49"E
4+866.74	3,782,423.5190m	342,299.8793m	S88° 17' 41"E	6+383.36	3,782,833.4637m	342,766.0073m	S30° 21' 11"W	7+913.83	3,783,783.5320m	343,759.0768m	N74° 15' 16"E
4+905.80	3,782,422.3045m	342,340.6731m	N60° 33' 55"E	6+399.65	3,782,749.5047m	342,716.8412m	N32° 21' 49"E	7+957.38	3,783,795.3522m	343,801.0003m	N54° 51' 18"E
4+962.93	3,782,450.6331m	342,390.8774m	N63° 44' 35"E	6+457.23	3,782,893.9767m	342,808.3978m	N30° 09' 05"E	8+012.65	3,783,827.3361m	343,846.4328m	N40° 33' 19"E
5+022.19	3,782,476.8549m	342,444.0337m	S71° 18' 06"E	6+531.86	3,782,958.5256m	342,845.8928m	N66° 40' 02"E	8+043.80	3,783,851.1200m	343,866.7858m	N45° 47' 27"E
5+089.15	3,782,454.8314m	342,509.1060m	S23° 54' 01"W	6+599.88	3,782,986.0079m	342,909.6054m	N34° 58' 49"E	8+070.52	3,783,869.7665m	343,885.9544m	N41° 35' 04"E
5+128.43	3,782,403.3309m	342,486.2839m	S78° 33' 03"E	6+655.70	3,783,032.8961m	342,942.4130m	N42° 31' 48"E	8+097.74	3,783,890.1277m	343,904.0220m	N59° 49' 07"E
5+152.89	3,782,396.6085m	342,519.4759m	N65° 21' 31"E	6+723.47	3,783,082.8726m	342,988.2563m	N84° 11' 38"W	8+126.59	3,783,904.6956m	343,929.0710m	N9° 08' 19"W
5+249.12	3,782,437.1765m	342,607.9154m	N11° 14' 27"E	6+741.04	3,783,087.6578m	342,941.1976m	N3° 13' 39"W	8+150.93	3,783,931.5387m	343,924.7529m	N26° 43' 12"E
5+285.59	3,782,476.1772m	342,615.6666m	N9° 24' 08"W	6+771.52	3,783,121.6675m	342,939.2798m	N18° 11' 31"W	8+189.47	3,783,966.4737m	343,942.3387m	N74° 22' 01"E
5+320.45	3,782,510.7622m	342,609.9396m	N14° 51' 55"E	6+793.47	3,783,142.6139m	342,932.3963m	N20° 39' 21"E	8+236.84	3,783,979.9493m	343,990.4956m	S86° 34' 11"E
5+374.51	3,782,563.5517m	342,623.9515m	N38° 35' 49"E	6+852.70	3,783,198.8888m	342,953.6111m	N30° 31' 02"W	8+268.12	3,783,978.0619m	344,021.9836m	S84° 32' 52"E
5+435.84	3,782,611.9219m	342,662.5609m	N53° 15' 46"E	6+885.95	3,783,228.9351m	342,935.9003m	N29° 54' 33"E	8+306.77	3,783,974.3891m	344,060.4641m	N14° 40' 07"E
5+468.68	3,782,631.5994m	342,688.9245m	S8° 49' 04"E	6+919.26	3,783,260.3619m	342,953.9781m	N35° 20' 01"E	8+358.65	3,784,030.7333m	344,075.2129m	N6° 51' 24"E
5+521.03	3,782,559.8222m	342,700.0588m	S16° 04' 49"W	6+961.87	3,783,295.1335m	342,978.6283m	N39° 38' 12"E	8+398.92	3,784,070.7535m	344,080.0251m	N20° 35' 22"W
5+545.59	3,782,535.8186m	342,693.1395m	S7° 31' 23"E	7+043.64	3,783,358.1150m	343,030.7990m	N50° 34' 50"E	8+494.53	3,784,160.7833m	344,046.2040m	N36° 26' 47"E
5+580.76	3,782,500.7475m	342,697.7710m	S49° 44' 42"E	7+099.16	3,783,393.4462m	343,073.7823m	N54° 54' 24"E	8+581.21	3,784,237.6767m	344,102.9911m	N52° 34' 34"E
5+637.67	3,782,462.4762m	342,742.9709m	S16° 51' 50"E	7+139.56	3,783,416.6776m	343,106.8453m	N43° 00' 07"E	8+627.02	3,784,265.6160m	344,139.5025m	N75° 54' 59"E
5+679.62	3,782,421.4878m	342,755.3960m	S6° 01' 03"E	7+195.05	3,783,457.3208m	343,144.7482m	N45° 08' 18"E	8+664.47	3,784,274.8138m	344,176.1651m	N55° 18' 26"E
5+721.46	3,782,379.8051m	342,759.7898m	N75° 03' 44"E	7+274.15	3,783,513.1193m	343,200.8165m	N58° 19' 38"E	8+760.27	3,784,329.5066m	344,255.1724m	N8° 53' 38"E
5+739.55	3,782,386.1705m	342,783.6493m	N22° 37' 16"W	7+345.06	3,783,550.4468m	343,261.3190m	N71° 31' 25"E	8+817.18	3,784,388.6441m	344,264.4265m	N83° 55' 18"E
5+760.62	3,782,411.2003m	342,773.2197m	N15° 31' 08"W	7+371.55	3,783,558.8748m	343,286.5421m	N65° 19' 03"E	8+915.77	3,784,400.0391m	344,371.4355m	S72° 31' 01"E
5+809.65	3,782,458.4612m	342,760.0962m	N0° 09' 10"W	7+408.27	3,783,574.2153m	343,319.9213m	N52° 28' 47"E	8+949.70	3,784,389.7393m	344,404.1358m	S40° 11' 18"E
5+853.49	3,782,502.4925m	342,759.9788m	N34° 41' 28"W	7+444.69	3,783,596.4480m	343,348.8744m	N46° 08' 27"E	9+013.17	3,784,340.8084m	344,445.4687m	N12° 03' 28"E
5+905.14	3,782,545.6225m	342,730.1239m	N13° 05' 22"E	7+477.82	3,783,619.4181m	343,372.7779m	N48° 32' 44"E	9+052.44	3,784,410.0021m	344,460.2491m	N22° 52' 19"E
5+983.93	3,782,624.4701m	342,748.4570m	N38° 43' 16"E	7+547.22	3,783,665.3632m	343,424.7928m	N40° 18' 53"E	9+086.20	3,784,441.1752m	344,473.3992m	N3° 03' 13"E
6+021.13	3,782,653.8024m	342,771.9744m	N15° 20' 25"E	7+587.67	3,783,696.2299m	343,450.9832m	N50° 56' 56"E	9+147.73	3,784,502.9131m	344,476.6926m	N24° 38' 00"E
6+075.26	3,782,706.3865m	342,786.3994m	N26° 42' 12"E	7+642.58	3,783,730.8738m	343,493.6871m	N79° 29' 09"E	9+194.20	3,784,545.6093m	344,496.2704m	N67° 21' 23"E
6+125.99	3,782,751.7846m	342,809.2355m	N31° 25' 09"E	7+682.16	3,783,738.2461m	343,533.4103m	N69° 36' 05"E	9+248.24	3,784,566.8275m	344,547.1351m	N20° 47' 08"E

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
PI STATION DATA

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/ PD0010B

PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION
9+355.08	3,784,670.0407m	344,586.3124m	S51° 02' 37"E	10+753.19	3,785,532.4469m	345,389.0937m	N1° 06' 53"E	11+724.89	3,786,098.3474m	346,032.7832m	S78° 47' 18"E
9+411.82	3,784,623.6801m	344,643.6522m	S45° 12' 54"E	10+791.69	3,785,570.9368m	345,389.8426m	S80° 30' 43"E	11+792.29	3,786,084.8780m	346,100.7364m	N10° 40' 50"E
9+467.58	3,784,584.3854m	344,683.2431m	S64° 52' 02"E	10+822.10	3,785,564.0941m	345,430.7852m	N85° 43' 04"E	11+821.69	3,786,121.3045m	346,107.6066m	N1° 35' 01"W
9+511.89	3,784,565.4409m	344,723.6250m	N51° 00' 42"E	10+864.80	3,785,567.2926m	345,473.5012m	N55° 43' 29"E	11+861.91	3,786,161.5890m	346,106.4928m	N9° 36' 20"E
9+556.59	3,784,595.5975m	344,760.8807m	N27° 36' 11"E	10+910.91	3,785,593.7166m	345,512.2731m	N38° 39' 13"E	11+906.08	3,786,205.2553m	346,113.8827m	N4° 05' 54"E
9+604.04	3,784,638.1144m	344,783.1109m	N31° 40' 43"E	10+939.92	3,785,616.4984m	345,530.4945m	N43° 15' 24"E	11+929.89	3,786,229.0213m	346,115.5856m	N17° 32' 08"E
9+652.48	3,784,679.3399m	344,808.5510m	N45° 58' 30"E	10+967.06	3,785,636.2687m	345,549.0969m	N7° 38' 33"W	11+976.28	3,786,273.3300m	346,129.5864m	N7° 05' 43"E
9+699.66	3,784,712.2384m	344,842.5887m	N40° 38' 08"E	10+999.71	3,785,670.1794m	345,544.5467m	N19° 58' 43"E	12+023.38	3,786,320.1490m	346,135.4141m	N30° 04' 18"E
9+731.82	3,784,736.6563m	344,863.5436m	N52° 15' 24"E	11+039.70	3,785,708.2676m	345,558.3936m	S68° 07' 26"E	12+108.97	3,786,394.8152m	346,178.6474m	N26° 18' 36"E
9+774.50	3,784,762.8259m	344,897.3502m	N40° 53' 06"E	11+061.91	3,785,696.9253m	345,586.6425m	N39° 36' 09"E	12+136.91	3,786,419.8680m	346,191.0346m	N29° 35' 31"E
9+834.07	3,784,807.9069m	344,936.3802m	N5° 54' 51"E	11+090.45	3,785,721.1674m	345,606.6991m	N51° 17' 38"E	12+167.00	3,786,446.0323m	346,205.8931m	N1° 42' 27"E
9+862.96	3,784,837.3996m	344,939.4353m	N51° 04' 19"E	11+131.12	3,785,746.6419m	345,638.4895m	N29° 55' 33"E	12+187.75	3,786,467.0833m	346,206.5206m	N15° 53' 46"E
9+891.36	3,784,856.0568m	344,962.5343m	N8° 26' 36"E	11+177.78	3,785,787.3071m	345,661.8974m	N82° 13' 35"E	12+213.51	3,786,491.9090m	346,213.5906m	N6° 08' 47"E
9+922.53	3,784,887.7815m	344,967.2435m	N48° 24' 42"E	11+207.89	3,785,791.6214m	345,693.5001m	N54° 29' 54"E	12+250.73	3,786,528.9830m	346,217.5830m	N9° 36' 28"W
10+014.73	3,784,949.9744m	345,037.3221m	N39° 54' 00"E	11+264.60	3,785,824.8685m	345,740.1079m	N25° 47' 02"W	12+325.20	3,786,602.6679m	346,205.1099m	N35° 41' 09"W
10+105.00	3,785,019.2975m	345,095.2855m	N45° 54' 02"E	11+305.28	3,785,867.2278m	345,719.6452m	N30° 57' 43"E	12+370.66	3,786,640.0559m	346,178.2580m	N16° 06' 26"W
10+167.57	3,785,062.8698m	345,140.2493m	N13° 51' 27"W	11+330.20	3,785,890.4825m	345,733.5970m	S82° 25' 36"E	12+392.47	3,786,661.1206m	346,172.1751m	N55° 55' 11"E
10+208.13	3,785,105.1911m	345,129.8091m	N30° 46' 51"E	11+355.83	3,785,886.7328m	345,761.8003m	N85° 29' 03"E	12+431.34	3,786,685.0818m	346,207.5919m	N36° 17' 39"E
10+242.32	3,785,136.5178m	345,148.4693m	N32° 42' 53"E	11+374.55	3,785,888.2109m	345,780.5157m	S82° 20' 14"E	12+464.77	3,786,712.2082m	346,227.5139m	N86° 33' 16"E
10+288.14	3,785,175.0699m	345,173.2333m	N11° 07' 21"E	11+394.78	3,785,885.5044m	345,800.6320m	N75° 41' 27"E	12+505.69	3,786,714.7678m	346,270.0277m	N20° 23' 22"E
10+334.27	3,785,220.6020m	345,182.1848m	N77° 56' 55"E	11+435.06	3,785,895.5044m	345,839.8375m	N27° 18' 10"E	12+550.29	3,786,759.7137m	346,286.7334m	N4° 48' 33"W
10+399.40	3,785,235.3631m	345,251.3251m	N23° 37' 13"E	11+465.78	3,785,923.6991m	345,854.3916m	N76° 35' 31"E	12+578.10	3,786,787.9940m	346,284.3541m	N10° 23' 26"E
10+462.84	3,785,295.6963m	345,277.7094m	N58° 38' 37"E	11+494.96	3,785,930.9307m	345,884.7274m	N32° 37' 38"E	12+621.70	3,786,830.9446m	346,292.2298m	N30° 11' 27"E
10+494.17	3,785,312.5125m	345,305.3060m	N18° 34' 50"E	11+515.54	3,785,948.9532m	345,896.2653m	N62° 12' 04"E	12+651.00	3,786,856.5002m	346,307.0980m	N35° 23' 09"E
10+521.67	3,785,339.4897m	345,314.3746m	N29° 47' 01"E	11+532.81	3,785,957.1878m	345,911.8845m	N37° 12' 24"E	12+671.79	3,786,873.4603m	346,319.1446m	N31° 15' 52"E
10+555.88	3,785,369.2405m	345,331.4018m	N39° 26' 52"E	11+555.16	3,785,975.2122m	345,925.5690m	N66° 19' 24"E	12+691.57	3,786,890.3750m	346,329.4145m	N26° 07' 01"E
10+587.78	3,785,393.9141m	345,351.7034m	N77° 33' 13"E	11+594.86	3,785,991.3651m	345,962.4072m	N32° 14' 10"E	12+766.95	3,786,958.0633m	346,362.5994m	N0° 44' 01"E
10+619.03	3,785,400.8300m	345,383.0378m	N18° 50' 47"E	11+620.85	3,786,013.7223m	345,976.5060m	N11° 11' 30"E	12+799.58	3,786,990.9791m	346,363.0209m	N10° 30' 14"E
10+663.09	3,785,444.4522m	345,397.9274m	N8° 31' 56"E	11+642.21	3,786,034.8940m	345,980.6949m	N47° 13' 48"E	12+835.61	3,787,026.4425m	346,369.5962m	N5° 53' 18"W
10+684.05	3,785,465.2382m	345,401.0459m	N20° 28' 21"W	11+665.76	3,786,051.1643m	345,998.2836m	N22° 51' 24"E	12+865.51	3,787,056.3823m	346,366.5084m	N11° 14' 57"E
10+724.17	3,785,503.1514m	345,386.8914m	N4° 17' 57"E	11+692.10	3,786,075.7840m	346,008.6615m	N46° 54' 42"E	12+890.08	3,787,080.5968m	346,371.3246m	N70° 34' 06"W

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: PI STATION DATA

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010C

PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION	PI STATION	EASTING	NORTHING	DIRECTION
9+355.08	3,784,670.0407m	344,586.3124m	S51° 02' 37"E	10+753.19	3,785,532.4469m	345,389.0937m	N1° 06' 53"E	11+821.69	3,786,121.3045m	346,107.6066m	N1° 35' 01"W
9+411.82	3,784,623.6801m	344,643.6522m	S45° 12' 54"E	10+791.69	3,785,570.9368m	345,389.8426m	S80° 30' 43"E	11+861.91	3,786,161.5890m	346,106.4928m	N9° 36' 20"E
9+467.58	3,784,584.3854m	344,683.2431m	S64° 52' 02"E	10+822.10	3,785,564.0941m	345,430.7852m	N85° 43' 04"E	11+906.08	3,786,205.2553m	346,113.8827m	N4° 05' 54"E
9+511.89	3,784,565.4409m	344,723.6250m	N51° 00' 42"E	10+864.80	3,785,567.2926m	345,473.5012m	N55° 43' 29"E	11+929.89	3,786,229.0213m	346,115.5856m	N17° 32' 08"E
9+556.59	3,784,595.5975m	344,760.8807m	N27° 36' 11"E	10+910.91	3,785,593.7166m	345,512.2731m	N38° 39' 13"E	11+976.28	3,786,273.3300m	346,129.5864m	N7° 05' 43"E
9+604.04	3,784,638.1144m	344,783.1109m	N31° 40' 43"E	10+939.92	3,785,616.4984m	345,530.4945m	N43° 15' 24"E	12+023.38	3,786,320.1490m	346,135.4141m	N30° 04' 18"E
9+652.48	3,784,679.3399m	344,808.5510m	N45° 58' 30"E	10+967.06	3,785,636.2687m	345,549.0969m	N7° 38' 33"W	12+108.97	3,786,394.8152m	346,178.6474m	N26° 18' 36"E
9+699.66	3,784,712.2384m	344,842.5887m	N40° 38' 08"E	10+999.71	3,785,670.1794m	345,544.5467m	N19° 58' 43"E	12+136.91	3,786,419.8680m	346,191.0346m	N29° 35' 31"E
9+731.82	3,784,736.6563m	344,863.5436m	N52° 15' 24"E	11+039.70	3,785,708.2676m	345,558.3936m	S68° 07' 26"E	12+167.00	3,786,446.0323m	346,205.8931m	N1° 42' 27"E
9+774.50	3,784,762.8259m	344,897.3502m	N40° 53' 06"E	11+061.91	3,785,696.9253m	345,586.6425m	N39° 36' 09"E	12+187.75	3,786,467.0833m	346,206.5206m	N15° 53' 46"E
9+834.07	3,784,807.9069m	344,936.3802m	N5° 54' 51"E	11+090.45	3,785,721.1674m	345,606.6991m	N51° 17' 38"E	12+213.51	3,786,491.9090m	346,213.5906m	N6° 08' 47"E
9+862.96	3,784,837.3996m	344,939.4353m	N51° 04' 19"E	11+131.12	3,785,746.6419m	345,638.4895m	N29° 55' 33"E	12+250.73	3,786,528.9830m	346,217.5830m	N9° 36' 28"W
9+891.36	3,784,856.0568m	344,962.5343m	N8° 26' 36"E	11+177.78	3,785,787.3071m	345,661.8974m	N82° 13' 35"E	12+325.20	3,786,602.6679m	346,205.1099m	N35° 41' 09"W
9+922.53	3,784,887.7815m	344,967.2435m	N48° 24' 42"E	11+207.89	3,785,791.6214m	345,693.5001m	N54° 29' 54"E	12+370.66	3,786,640.0559m	346,178.2580m	N16° 06' 26"W
10+014.73	3,784,949.9744m	345,037.3221m	N39° 54' 00"E	11+264.60	3,785,824.8685m	345,740.1079m	N25° 47' 02"W	12+392.47	3,786,661.1206m	346,172.1751m	N55° 55' 11"E
10+105.00	3,785,019.2975m	345,095.2855m	N45° 54' 02"E	11+305.28	3,785,867.2278m	345,719.6452m	N30° 57' 43"E	12+431.34	3,786,685.0818m	346,207.5919m	N36° 17' 39"E
10+167.57	3,785,062.8698m	345,140.2493m	N13° 51' 27"W	11+330.20	3,785,890.4825m	345,733.5970m	S82° 25' 36"E	12+464.77	3,786,712.2082m	346,227.5139m	N86° 33' 16"E
10+208.13	3,785,105.1911m	345,129.8091m	N30° 46' 51"E	11+355.83	3,785,886.7328m	345,761.8003m	N85° 29' 03"E	12+505.69	3,786,714.7678m	346,270.0277m	N20° 23' 22"E
10+242.32	3,785,136.5178m	345,148.4693m	N32° 42' 53"E	11+374.55	3,785,888.2109m	345,780.5157m	S82° 20' 14"E	12+550.29	3,786,759.7137m	346,286.7334m	N4° 48' 33"W
10+288.14	3,785,175.0699m	345,173.2333m	N11° 07' 21"E	11+394.78	3,785,885.5044m	345,800.6320m	N75° 41' 27"E	12+578.10	3,786,787.9940m	346,284.3541m	N10° 23' 26"E
10+334.27	3,785,220.6020m	345,182.1848m	N77° 56' 55"E	11+435.06	3,785,895.5044m	345,839.8375m	N27° 18' 10"E	12+621.70	3,786,830.9446m	346,292.2298m	N30° 11' 27"E
10+399.40	3,785,235.3631m	345,251.3251m	N23° 37' 13"E	11+465.78	3,785,923.6991m	345,854.3916m	N76° 35' 31"E	12+651.00	3,786,856.5002m	346,307.0980m	N35° 23' 09"E
10+462.84	3,785,295.6963m	345,277.7094m	N58° 38' 37"E	11+494.96	3,785,930.9307m	345,884.7274m	N32° 37' 38"E	12+671.79	3,786,873.4603m	346,319.1446m	N31° 15' 52"E
10+494.17	3,785,312.5125m	345,305.3060m	N18° 34' 50"E	11+515.54	3,785,948.9532m	345,896.2653m	N62° 12' 04"E	12+691.57	3,786,890.3750m	346,329.4145m	N26° 07' 01"E
10+521.67	3,785,339.4897m	345,314.3746m	N29° 47' 01"E	11+532.81	3,785,957.1878m	345,911.8845m	N37° 12' 24"E	12+766.95	3,786,958.0633m	346,362.5994m	N0° 44' 01"E
10+555.88	3,785,369.2405m	345,331.4018m	N39° 26' 52"E	11+555.16	3,785,975.2122m	345,925.5690m	N66° 19' 24"E	12+799.58	3,786,990.9791m	346,363.0209m	N10° 30' 14"E
10+587.78	3,785,393.9141m	345,351.7034m	N77° 33' 13"E	11+594.86	3,785,991.3651m	345,962.4072m	N32° 14' 10"E	12+835.61	3,787,026.4425m	346,369.5962m	N5° 53' 18"W
10+619.03	3,785,400.8300m	345,383.0378m	N18° 50' 47"E	11+620.85	3,786,013.7223m	345,976.5060m	N11° 11' 30"E	12+865.51	3,787,056.3823m	346,366.5084m	N11° 14' 57"E
10+663.09	3,785,444.4522m	345,397.9274m	N8° 31' 56"E	11+642.21	3,786,034.8940m	345,980.6949m	N47° 13' 48"E	12+890.08	3,787,080.5968m	346,371.3246m	N70° 34' 06"W
10+684.05	3,785,465.2382m	345,401.0459m	N20° 28' 21"W	11+665.76	3,786,051.1643m	345,998.2836m	N22° 51' 24"E	12+906.58	3,787,087.5403m	346,351.6422m	N29° 46' 45"W
10+724.17	3,785,503.1514m	345,386.8914m	N4° 17' 57"E	11+692.10	3,786,075.7840m	346,008.6615m	N46° 54' 42"E	12+929.59	3,787,108.0815m	346,339.8881m	N31° 24' 11"W
				11+724.89	3,786,098.3474m	346,032.7832m	S78° 47' 18"E	12+956.74	3,787,131.2478m	346,325.7456m	N6° 24' 33"E
				11+792.29	3,786,084.8780m	346,100.7364m	N10° 40' 50"E	12+989.48	3,787,164.8961m	346,329.5253m	N52° 49' 19"W

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE: PI STATION DATA

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010D

SUPERELEVATION SCHEME

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
	0+000.00m	Begin Alignment	-2.00%	-2.00%	9	0+438.12m	End Normal Crown	-2.00%	-2.00%	17	1+063.57m	Level Crown	-2.00%	0.00%	25	1+612.80m	Reverse Crown	2.00%	-2.00%
1	0+025.28m	End Normal Crown	-2.00%	-2.00%	9	0+447.56m	Level Crown	-2.00%	0.00%	17	1+073.07m	Reverse Crown	-2.00%	2.00%	25	1+620.35m	Begin Full Super	3.60%	-3.60%
1	0+034.62m	Level Crown	0.00%	-2.00%	9	0+457.01m	Reverse Crown	-2.00%	2.00%	18	1+082.57m	Begin Full Super	-4.00%	4.00%	25	1+628.46m	End Full Super	3.60%	-3.60%
1	0+043.95m	Reverse Crown	2.00%	-2.00%	9	0+464.56m	Begin Full Super	-3.60%	3.60%	18	1+118.01m	End Full Super	-4.00%	4.00%	25	1+636.02m	Reverse Crown	2.00%	-2.00%
1	0+048.62m	Begin Full Super	3.00%	-3.00%	9	0+522.31m	End Full Super	-3.60%	3.60%	18	1+127.51m	Reverse Crown	-2.00%	2.00%	25	1+645.46m	Level Crown	0.00%	-2.00%
1	0+062.23m	End Full Super	3.00%	-3.00%	9	0+529.86m	Reverse Crown	-2.00%	2.00%	18	1+137.01m	Level Crown	-2.00%	0.00%	25	1+654.91m	Begin Normal Crown	-2.00%	-2.00%
1	0+066.90m	Reverse Crown	2.00%	-2.00%	9	0+539.31m	Level Crown	-2.00%	0.00%	18	1+146.51m	Begin Normal Crown	-2.00%	-2.00%	26	1+623.61m	End Normal Crown	-2.00%	-2.00%
1	0+076.23m	Level Crown	0.00%	-2.00%	9	0+548.75m	Begin Normal Crown	-2.00%	-2.00%	18	1+110.75m	End Normal Crown	-2.00%	-2.00%	26	1+633.08m	Level Crown	-2.00%	0.00%
1	0+085.57m	Begin Normal Crown	-2.00%	-2.00%	10	0+572.22m	End Normal Crown	-2.00%	-2.00%	18	1+120.22m	Level Crown	0.00%	-2.00%	26	1+642.56m	Reverse Crown	-2.00%	2.00%
2	0+073.64m	End Normal Crown	-2.00%	-2.00%	10	0+581.63m	Level Crown	-2.00%	0.00%	18	1+129.70m	Reverse Crown	2.00%	-2.00%	26	1+651.08m	Begin Full Super	-3.80%	3.80%
2	0+083.05m	Level Crown	-2.00%	0.00%	10	0+591.04m	Reverse Crown	-2.00%	2.00%	18	1+138.22m	Begin Full Super	3.80%	-3.80%	26	1+669.31m	End Full Super	-3.80%	3.80%
2	0+092.47m	Reverse Crown	-2.00%	2.00%	10	0+597.63m	Begin Full Super	-3.40%	3.40%	18	1+156.92m	End Full Super	3.80%	-3.80%	26	1+677.84m	Reverse Crown	-2.00%	2.00%
2	0+099.05m	Begin Full Super	-3.40%	3.40%	10	0+623.41m	End Full Super	-3.40%	3.40%	18	1+165.45m	Reverse Crown	2.00%	-2.00%	26	1+687.31m	Level Crown	-2.00%	0.00%
2	0+115.73m	End Full Super	-3.40%	3.40%	10	0+630.00m	Reverse Crown	-2.00%	2.00%	18	1+174.92m	Level Crown	0.00%	-2.00%	26	1+696.79m	Begin Normal Crown	-2.00%	-2.00%
2	0+122.32m	Reverse Crown	-2.00%	2.00%	10	0+639.41m	Level Crown	-2.00%	0.00%	18	1+184.39m	Begin Normal Crown	-2.00%	-2.00%	27	1+711.59m	End Normal Crown	-2.00%	-2.00%
2	0+131.73m	Level Crown	-2.00%	0.00%	10	0+648.83m	Begin Normal Crown	-2.00%	-2.00%	19	1+170.97m	End Normal Crown	-2.00%	-2.00%	27	1+721.09m	Level Crown	0.00%	-2.00%
2	0+141.15m	Begin Normal Crown	-2.00%	-2.00%	11	0+606.49m	End Normal Crown	-2.00%	-2.00%	19	1+180.44m	Level Crown	0.00%	-2.00%	27	1+730.59m	Reverse Crown	2.00%	-2.00%
3	0+125.98m	End Normal Crown	-2.00%	-2.00%	11	0+616.16m	Level Crown	0.00%	-2.00%	19	1+189.91m	Reverse Crown	2.00%	-2.00%	27	1+740.09m	Begin Full Super	4.00%	-4.00%
3	0+135.65m	Level Crown	0.00%	-2.00%	11	0+625.82m	Reverse Crown	2.00%	-2.00%	19	1+198.44m	Begin Full Super	3.80%	-3.80%	27	1+761.44m	End Full Super	4.00%	-4.00%
3	0+145.31m	Reverse Crown	2.00%	-2.00%	11	0+645.16m	Begin Full Super	6.00%	-6.00%	19	1+216.90m	End Full Super	3.80%	-3.80%	27	1+770.94m	Reverse Crown	2.00%	-2.00%
3	0+164.65m	Begin Full Super	6.00%	-6.00%	11	0+660.75m	End Full Super	6.00%	-6.00%	19	1+225.43m	Reverse Crown	2.00%	-2.00%	27	1+780.44m	Level Crown	0.00%	-2.00%
3	0+180.00m	End Full Super	6.00%	-6.00%	11	0+680.08m	Reverse Crown	2.00%	-2.00%	19	1+234.90m	Level Crown	0.00%	-2.00%	27	1+789.94m	Begin Normal Crown	-2.00%	-2.00%
3	0+199.34m	Reverse Crown	2.00%	-2.00%	11	0+689.75m	Level Crown	0.00%	-2.00%	19	1+244.37m	Begin Normal Crown	-2.00%	-2.00%	28	1+749.90m	End Normal Crown	-2.00%	-2.00%
3	0+209.00m	Level Crown	0.00%	-2.00%	11	0+699.41m	Begin Normal Crown	-2.00%	-2.00%	20	1+214.32m	End Normal Crown	-2.00%	-2.00%	28	1+759.50m	Level Crown	-2.00%	0.00%
3	0+218.67m	Begin Normal Crown	-2.00%	-2.00%	12	0+670.11m	End Normal Crown	-2.00%	-2.00%	20	1+223.82m	Level Crown	-2.00%	0.00%	28	1+769.10m	Reverse Crown	-2.00%	2.00%
4	0+208.35m	End Normal Crown	-2.00%	-2.00%	12	0+679.61m	Level Crown	-2.00%	0.00%	20	1+233.32m	Reverse Crown	-2.00%	2.00%	28	1+783.50m	Begin Full Super	-5.00%	5.00%
4	0+217.82m	Level Crown	0.00%	-2.00%	12	0+689.11m	Reverse Crown	-2.00%	2.00%	20	1+242.82m	Begin Full Super	-4.00%	4.00%	28	1+800.10m	End Full Super	-5.00%	5.00%
4	0+227.29m	Reverse Crown	2.00%	-2.00%	12	0+698.61m	Begin Full Super	-4.00%	4.00%	20	1+257.46m	End Full Super	-4.00%	4.00%	28	1+814.50m	Reverse Crown	-2.00%	2.00%
4	0+235.82m	Begin Full Super	3.80%	-3.80%	12	0+712.80m	End Full Super	-4.00%	4.00%	20	1+266.96m	Reverse Crown	-2.00%	2.00%	28	1+824.10m	Level Crown	-2.00%	0.00%
4	0+246.31m	End Full Super	3.80%	-3.80%	12	0+722.30m	Reverse Crown	-2.00%	2.00%	20	1+276.46m	Level Crown	-2.00%	0.00%	28	1+833.70m	Begin Normal Crown	-2.00%	-2.00%
4	0+254.84m	Reverse Crown	2.00%	-2.00%	12	0+731.80m	Level Crown	-2.00%	0.00%	20	1+285.96m	Begin Normal Crown	-2.00%	-2.00%	29	1+804.30m	End Normal Crown	-2.00%	-2.00%
4	0+264.31m	Level Crown	0.00%	-2.00%	13	0+741.30m	Begin Normal Crown	-2.00%	-2.00%	21	1+253.61m	End Normal Crown	-2.00%	-2.00%	29	1+813.85m	Level Crown	0.00%	-2.00%
4	0+273.79m	Begin Normal Crown	-2.00%	-2.00%	13	0+722.46m	End Normal Crown	-2.00%	-2.00%	21	1+263.27m	Level Crown	0.00%	-2.00%	29	1+823.39m	Reverse Crown	2.00%	-2.00%
5	0+231.58m	End Normal Crown	-2.00%	-2.00%	13	0+732.00m	Level Crown	0.00%	-2.00%	21	1+272.94m	Reverse Crown	2.00%	-2.00%	29	1+834.85m	Begin Full Super	4.40%	-4.40%
5	0+241.25m	Level Crown	-2.00%	0.00%	13	0+741.55m	Reverse Crown	2.00%	-2.00%	21	1+292.27m	Begin Full Super	6.00%	-6.00%	29	1+873.94m	End Full Super	4.40%	-4.40%
5	0+250.92m	Reverse Crown	-2.00%	2.00%	14	0+753.00m	Begin Full Super	4.40%	-4.40%	21	1+313.01m	End Full Super	6.00%	-6.00%	29	1+885.39m	Reverse Crown	2.00%	-2.00%
5	0+270.25m	Begin Full Super	-6.00%	6.00%	14	0+765.00m	End Full Super	4.40%	-4.40%	21	1+332.35m	Reverse Crown	2.00%	-2.00%	29	1+894.94m	Level Crown	0.00%	-2.00%
5	0+286.14m	End Full Super	-6.00%	6.00%	14	0+776.46m	Reverse Crown	2.00%	-2.00%	21	1+342.01m	Level Crown	0.00%	-2.00%	29	1+904.48m	Begin Normal Crown	-2.00%	-2.00%
5	0+305.47m	Reverse Crown	-2.00%	2.00%	14	0+786.00m	Level Crown	0.00%	-2.00%	21	1+351.68m	Begin Normal Crown	-2.00%	-2.00%	30	1+919.02m	End Normal Crown	-2.00%	-2.00%
5	0+315.14m	Level Crown	-2.00%	0.00%	14	0+795.55m	Begin Normal Crown	-2.00%	-2.00%	22	1+324.89m	End Normal Crown	-2.00%	-2.00%	30	1+929.02m	Level Crown	0.00%	-2.00%
5	0+324.80m	Begin Normal Crown	-2.00%	-2.00%	14	0+846.32m	End Normal Crown	-2.00%	-2.00%	22	1+334.46m	Level Crown	0.00%	-2.00%	30	1+939.02m	Begin Full Super	2.00%	-2.00%
6	0+298.01m	End Normal Crown	-2.00%	-2.00%	14	0+856.32m	Level Crown	0.00%	-2.00%	22	1+344.02m	Reverse Crown	2.00%	-2.00%	30	1+939.02m	Reverse Crown	2.00%	-2.00%
6	0+307.30m	Level Crown	-2.00%	0.00%	14	0+866.32m	Reverse Crown	2.00%	-2.00%	22	1+356.46m	Begin Full Super	4.60%	-4.60%	30	1+967.81m	End Full Super	2.00%	-2.00%
6	0+316.58m	Reverse Crown	-2.00%	2.00%	15	0+867.32m	Begin Full Super	2.20%	-2.20%	22	1+384.82m	End Full Super	4.60%	-4.60%	30	1+967.81m	Reverse Crown	2.00%	-2.00%
6	0+320.30m	Begin Full Super	-2.80%	2.80%	15	0+901.38m	End Full Super	2.20%	-2.20%	22	1+397.26m	Reverse Crown	2.00%	-2.00%	30	1+977.81m	Level Crown	0.00%	-2.00%
6	0+343.62m	End Full Super	-2.80%	2.80%	15	0+902.38m	Reverse Crown	2.00%	-2.00%	22	1+406.82m	Level Crown	0.00%	-2.00%	30	1+987.81m	Begin Normal Crown	-2.00%	-2.00%
6	0+347.34m	Reverse Crown	-2.00%	2.00%	15	0+912.38m	Level Crown	0.00%	-2.00%	22	1+416.39m	Begin Normal Crown	-2.00%	-2.00%	31	1+972.31m	End Normal Crown	-2.00%	-2.00%
6	0+356.62m	Level Crown	-2.00%	0.00%	15	0+922.38m	Begin Normal Crown	-2.00%	-2.00%	23	1+384.92m	End Normal Crown	-2.00%	-2.00%	31	1+981.91m	Level Crown	-2.00%	0.00%
6	0+365.91m	Begin Normal Crown	-2.00%	-2.00%	15	0+946.64m	End Normal Crown	-2.00%	-2.00%	23	1+394.58m	Level Crown	-2.00%	0.00%	31	1+991.51m	Reverse Crown	-2.00%	2.00%
7	0+343.10m	End Normal Crown	-2.00%	-2.00%	15	0+956.12m	Level Crown	-2.00%	0.00%	23	1+404.25m	Reverse Crown	-2.00%	2.00%	31	2+005.91m	Begin Full Super	-5.00%	5.00%
7	0+352.76m	Level Crown	0.00%	-2.00%	15	0+965.59m	Reverse Crown	-2.00%	2.00%	23	1+423.58m	Begin Full Super	-6.00%	6.00%	31	2+031.90m	End Full Super	-5.00%	5.00%
7	0+362.43m	Reverse Crown	2.00%	-2.00%	16	0+974.12m	Begin Full Super	-3.80%	3.80%	23	1+442.21m	End Full Super	-6.00%	6.00%	31	2+046.30m	Reverse Crown	-2.00%	2.00%
7	0+381.76m	Begin Full Super	6.00%	-6.00%	16	0+985.39m	End Full Super	-3.80%	3.80%	23	1+461.54m	Reverse Crown	-2.00%	2.00%	31	2+055.90m	Level Crown	-2.00%	0.00%
7	0+398.14m	End Full Super	6.00%	-6.00%	16	0+993.91m	Reverse Crown	-2.00%	2.00%	23	1+471.21m	Level Crown	-2.00%	0.00%	31	2+065.50m	Begin Normal Crown	-2.00%	-2.00%
7	0+417.48m	Reverse Crown	2.00%	-2.00%	16	1+003.39m	Level Crown	-2.00%	0.00%	23	1+480.87m	Begin Normal Crown	-2.00%	-2.00%	32	2+037.16m	End Normal Crown	-2.00%	-2.00%
7	0+427.14m	Level Crown	0.00%	-2.00%	16	1+012.86m	Begin Normal Crown	-2.00%	-2.00%	24	1+527.29m	End Normal Crown	-2.00%	-2.00%	32	2+046.53m	Level Crown	-2.00%	0.00%
7	0+436.81m	Begin Normal Crown	-2.00%	-2.00%	16	0+978.94m	End Normal Crown	-2.00%	-2.00%	24	1+537.29m	Level Crown	-2.00%	0.00%	32	2+055.91m	Reverse Crown	-2.00%	2.00%
8	0+398.48m	End Normal Crown	-2.00%	-2.00%	16	0+988.35m	Level Crown	0.00%	-2.00%	24	1+547.29m	Reverse Crown	-2.00%	2.00%	32	2+061.53m	Begin Full Super	-3.20%	3.20%
8	0+408.13m	Level Crown	-2.00%	0.00%	16	0+997.76m	Reverse Crown	2.00%	-2.00%	24	1+549.29m	Begin Full Super	-2.40%	2.40%	32	2+082.74m	End Full Super	-3.20%	3.20%
8	0+417.77m	Reverse Crown	-2.00%	2.00%	17	1+004.35m	Begin Full Super	3.40%	-3.40%	24	1+588.51m	End Full Super	-2.40%	2.40%	32	2+088.37m	Reverse Crown	-2.00%	2.00%
8	0+435.13m	Begin Full Super	-5.60%	5.60%	17	1+052.30m	End Full Super	3.40%	-3.40%	24	1+590.51m	Reverse Crown	-2.00%	2.00%	32	2+097.74m	Level Crown	-2.00%	0.00%
8	0+444.91m	End Full Super	-5.60%	5.60%	17	1+058.89m	Reverse Crown	2.00%	-2.00%	24	1+600.51m	Level Crown	-2.00%	0.00%	32	2+107.12m	Begin Normal Crown	-2.00%	-2.00%
8	0+462.27m	Reverse Crown	-2.00%	2.00%	17	1+068.30m	Level Crown	0.00%	-2.00%	24	1+610.51m	Begin Normal Crown	-2.00%	-2.00%	33	2+071.34m	End Normal Crown	-2.00%	-2.00%
8	0+471.91m	Level Crown	-2.00%	0.00%	17	1+077.71m	Begin Normal Crown	-2.00%	-2.00%	25	1+593.91m	End Normal Crown	-2.00%	-2.00%	33	2+081.01m	Level Crown	0.00%	-2.00%
8	0+481.56m	Begin Normal Crown	-2.00%	-2.00%	17	1+054.07m	End Normal Crown	-2.00%	-2.00%	25	1+603.35m	Level Crown	0.00%	-2.00%	33	2+090.68m	Reverse Crown	2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010A

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
33	2+110.01m	Begin Full Super	6.00%	-6.00%	41	2+585.89m	End Full Super	-3.80%	3.80%	49	2+955.14m	Reverse Crown	-2.00%	2.00%	57	3+334.45m	Level Crown	0.00%	-2.00%
33	2+119.17m	End Full Super	6.00%	-6.00%	41	2+594.41m	Reverse Crown	-2.00%	2.00%	49	2+964.78m	Level Crown	-2.00%	0.00%	57	3+344.05m	Begin Normal Crown	-2.00%	-2.00%
33	2+138.50m	Reverse Crown	2.00%	-2.00%	41	2+603.89m	Level Crown	-2.00%	0.00%	49	2+974.42m	Begin Normal Crown	-2.00%	-2.00%	58	3+328.60m	End Normal Crown	-2.00%	-2.00%
33	2+148.17m	Level Crown	0.00%	-2.00%	41	2+613.36m	Begin Normal Crown	-2.00%	-2.00%	50	2+930.59m	End Normal Crown	-2.00%	-2.00%	58	3+338.24m	Level Crown	0.00%	-2.00%
33	2+157.84m	Begin Normal Crown	-2.00%	-2.00%	42	2+586.61m	End Normal Crown	-2.00%	-2.00%	50	2+940.11m	Level Crown	-2.00%	0.00%	58	3+347.89m	Reverse Crown	2.00%	-2.00%
34	2+171.91m	End Normal Crown	-2.00%	-2.00%	42	2+596.09m	Level Crown	-2.00%	0.00%	50	2+949.64m	Reverse Crown	-2.00%	2.00%	58	3+365.24m	Begin Full Super	5.60%	-5.60%
34	2+181.28m	Level Crown	0.00%	-2.00%	42	2+605.56m	Reverse Crown	-2.00%	2.00%	50	2+960.11m	Begin Full Super	-4.20%	4.20%	58	3+392.83m	End Full Super	5.60%	-5.60%
34	2+190.66m	Reverse Crown	2.00%	-2.00%	42	2+614.09m	Begin Full Super	-3.80%	3.80%	50	2+965.47m	End Full Super	-4.20%	4.20%	58	3+410.19m	Reverse Crown	2.00%	-2.00%
34	2+196.28m	Begin Full Super	3.20%	-3.20%	42	2+617.88m	End Full Super	-3.80%	3.80%	50	2+975.95m	Reverse Crown	-2.00%	2.00%	58	3+419.83m	Level Crown	0.00%	-2.00%
34	2+232.60m	End Full Super	3.20%	-3.20%	42	2+626.40m	Reverse Crown	-2.00%	2.00%	50	2+985.47m	Level Crown	-2.00%	0.00%	58	3+429.48m	Begin Normal Crown	-2.00%	-2.00%
34	2+238.22m	Reverse Crown	2.00%	-2.00%	42	2+635.88m	Level Crown	-2.00%	0.00%	50	2+995.00m	Begin Normal Crown	-2.00%	-2.00%	59	3+397.62m	End Normal Crown	-2.00%	-2.00%
34	2+247.60m	Level Crown	0.00%	-2.00%	42	2+645.35m	Begin Normal Crown	-2.00%	-2.00%	51	2+986.56m	End Normal Crown	-2.00%	-2.00%	59	3+407.20m	Level Crown	-2.00%	0.00%
34	2+256.97m	Begin Normal Crown	-2.00%	-2.00%	43	2+602.29m	End Normal Crown	-2.00%	-2.00%	51	2+996.01m	Level Crown	-2.00%	0.00%	59	3+416.79m	Reverse Crown	-2.00%	2.00%
35	2+225.42m	End Normal Crown	-2.00%	-2.00%	43	2+611.84m	Level Crown	0.00%	-2.00%	51	3+005.45m	Reverse Crown	-2.00%	2.00%	59	3+430.20m	Begin Full Super	-4.80%	4.80%
35	2+235.08m	Level Crown	-2.00%	0.00%	43	2+621.38m	Reverse Crown	2.00%	-2.00%	51	3+013.01m	Begin Full Super	-3.60%	3.60%	59	3+490.11m	End Full Super	-4.80%	4.80%
35	2+244.75m	Reverse Crown	-2.00%	2.00%	43	2+632.84m	Begin Full Super	4.40%	-4.40%	51	3+027.89m	End Full Super	-3.60%	3.60%	59	3+503.52m	Reverse Crown	-2.00%	2.00%
35	2+264.08m	Begin Full Super	-6.00%	6.00%	43	2+645.16m	End Full Super	4.40%	-4.40%	51	3+035.45m	Reverse Crown	-2.00%	2.00%	59	3+513.11m	Level Crown	-2.00%	0.00%
35	2+266.77m	End Full Super	-6.00%	6.00%	43	2+656.62m	Reverse Crown	2.00%	-2.00%	51	3+044.89m	Level Crown	-2.00%	0.00%	59	3+522.69m	Begin Normal Crown	-2.00%	-2.00%
35	2+286.11m	Reverse Crown	-2.00%	2.00%	43	2+666.16m	Level Crown	0.00%	-2.00%	51	3+054.34m	Begin Normal Crown	-2.00%	-2.00%	60	3+521.91m	End Normal Crown	-2.00%	-2.00%
35	2+295.77m	Level Crown	-2.00%	0.00%	43	2+675.71m	Begin Normal Crown	-2.00%	-2.00%	52	3+030.42m	End Normal Crown	-2.00%	-2.00%	60	3+531.49m	Level Crown	0.00%	-2.00%
35	2+305.44m	Begin Normal Crown	-2.00%	-2.00%	44	2+643.90m	End Normal Crown	-2.00%	-2.00%	52	3+039.97m	Level Crown	-2.00%	0.00%	60	3+541.07m	Reverse Crown	2.00%	-2.00%
36	2+247.61m	End Normal Crown	-2.00%	-2.00%	44	2+653.35m	Level Crown	0.00%	-2.00%	52	3+049.52m	Reverse Crown	-2.00%	2.00%	60	3+554.49m	Begin Full Super	4.80%	-4.80%
36	2+257.27m	Level Crown	-2.00%	0.00%	44	2+662.79m	Reverse Crown	2.00%	-2.00%	52	3+060.97m	Begin Full Super	-4.40%	4.40%	60	3+586.62m	End Full Super	4.80%	-4.80%
36	2+266.94m	Reverse Crown	-2.00%	2.00%	44	2+670.35m	Begin Full Super	3.60%	-3.60%	52	3+102.18m	End Full Super	-4.40%	4.40%	60	3+600.04m	Reverse Crown	2.00%	-2.00%
36	2+286.27m	Begin Full Super	-6.00%	6.00%	44	2+673.81m	End Full Super	3.60%	-3.60%	52	3+113.63m	Reverse Crown	-2.00%	2.00%	60	3+609.62m	Level Crown	0.00%	-2.00%
36	2+287.36m	End Full Super	-6.00%	6.00%	44	2+681.36m	Reverse Crown	2.00%	-2.00%	52	3+123.18m	Level Crown	-2.00%	0.00%	60	3+619.20m	Begin Normal Crown	-2.00%	-2.00%
36	2+306.69m	Reverse Crown	-2.00%	2.00%	44	2+690.81m	Level Crown	0.00%	-2.00%	52	3+132.72m	Begin Normal Crown	-2.00%	-2.00%	61	3+573.05m	End Normal Crown	-2.00%	-2.00%
36	2+316.36m	Level Crown	-2.00%	0.00%	44	2+700.25m	Begin Normal Crown	-2.00%	-2.00%	53	3+102.39m	End Normal Crown	-2.00%	-2.00%	61	3+582.71m	Level Crown	0.00%	-2.00%
36	2+326.03m	Begin Normal Crown	-2.00%	-2.00%	45	2+670.99m	End Normal Crown	-2.00%	-2.00%	53	3+112.06m	Level Crown	0.00%	-2.00%	61	3+592.36m	Reverse Crown	2.00%	-2.00%
37	2+277.98m	End Normal Crown	-2.00%	-2.00%	45	2+680.58m	Level Crown	-2.00%	0.00%	53	3+121.73m	Reverse Crown	2.00%	-2.00%	61	3+610.71m	Begin Full Super	5.80%	-5.80%
37	2+287.45m	Level Crown	0.00%	-2.00%	45	2+690.16m	Reverse Crown	-2.00%	2.00%	53	3+141.06m	Begin Full Super	6.00%	-6.00%	61	3+621.51m	End Full Super	5.80%	-5.80%
37	2+296.92m	Reverse Crown	2.00%	-2.00%	45	2+703.58m	Begin Full Super	-4.80%	4.80%	53	3+148.99m	End Full Super	6.00%	-6.00%	61	3+639.85m	Reverse Crown	2.00%	-2.00%
37	2+305.45m	Begin Full Super	3.80%	-3.80%	45	2+722.94m	End Full Super	-4.80%	4.80%	53	3+168.32m	Reverse Crown	2.00%	-2.00%	61	3+649.51m	Level Crown	0.00%	-2.00%
37	2+342.17m	End Full Super	3.80%	-3.80%	45	2+736.36m	Reverse Crown	-2.00%	2.00%	53	3+177.99m	Level Crown	0.00%	-2.00%	61	3+659.16m	Begin Normal Crown	-2.00%	-2.00%
37	2+350.69m	Reverse Crown	2.00%	-2.00%	45	2+745.94m	Level Crown	-2.00%	0.00%	53	3+187.65m	Begin Normal Crown	-2.00%	-2.00%	62	3+619.05m	End Normal Crown	-2.00%	-2.00%
37	2+360.17m	Level Crown	0.00%	-2.00%	45	2+755.53m	Begin Normal Crown	-2.00%	-2.00%	54	3+130.98m	End Normal Crown	-2.00%	-2.00%	62	3+628.55m	Level Crown	0.00%	-2.00%
37	2+369.64m	Begin Normal Crown	-2.00%	-2.00%	46	2+741.11m	End Normal Crown	-2.00%	-2.00%	54	3+140.65m	Level Crown	0.00%	-2.00%	62	3+638.05m	Reverse Crown	2.00%	-2.00%
38	2+338.72m	End Normal Crown	-2.00%	-2.00%	46	2+750.61m	Level Crown	0.00%	-2.00%	54	3+150.32m	Reverse Crown	2.00%	-2.00%	62	3+647.55m	Begin Full Super	4.00%	-4.00%
38	2+348.19m	Level Crown	-2.00%	0.00%	46	2+760.11m	Reverse Crown	2.00%	-2.00%	54	3+169.65m	Begin Full Super	6.00%	-6.00%	62	3+658.44m	End Full Super	4.00%	-4.00%
38	2+357.66m	Reverse Crown	-2.00%	2.00%	46	2+769.61m	Begin Full Super	4.00%	-4.00%	54	3+173.47m	End Full Super	6.00%	-6.00%	62	3+667.94m	Reverse Crown	2.00%	-2.00%
38	2+366.19m	Begin Full Super	-3.80%	3.80%	46	2+777.18m	End Full Super	4.00%	-4.00%	54	3+192.80m	Reverse Crown	2.00%	-2.00%	62	3+677.44m	Level Crown	0.00%	-2.00%
38	2+394.85m	End Full Super	-3.80%	3.80%	46	2+786.68m	Reverse Crown	2.00%	-2.00%	54	3+202.47m	Level Crown	0.00%	-2.00%	62	3+686.94m	Begin Normal Crown	-2.00%	-2.00%
38	2+403.38m	Reverse Crown	-2.00%	2.00%	46	2+796.18m	Level Crown	0.00%	-2.00%	54	3+212.13m	Begin Normal Crown	-2.00%	-2.00%	63	3+648.81m	End Normal Crown	-2.00%	-2.00%
38	2+412.85m	Level Crown	-2.00%	0.00%	46	2+805.68m	Begin Normal Crown	-2.00%	-2.00%	55	3+181.93m	End Normal Crown	-2.00%	-2.00%	63	3+658.31m	Level Crown	-2.00%	0.00%
38	2+422.32m	Begin Normal Crown	-2.00%	-2.00%	47	2+778.86m	End Normal Crown	-2.00%	-2.00%	55	3+191.49m	Level Crown	-2.00%	0.00%	63	3+667.81m	Reverse Crown	-2.00%	2.00%
39	2+432.32m	End Normal Crown	-2.00%	-2.00%	47	2+788.31m	Level Crown	0.00%	-2.00%	55	3+201.06m	Reverse Crown	-2.00%	2.00%	63	3+677.31m	Begin Full Super	-4.00%	4.00%
39	2+441.82m	Level Crown	-2.00%	0.00%	47	2+797.75m	Reverse Crown	2.00%	-2.00%	55	3+213.49m	Begin Full Super	-4.60%	4.60%	63	3+691.10m	End Full Super	-4.00%	4.00%
39	2+451.32m	Reverse Crown	-2.00%	2.00%	47	2+805.31m	Begin Full Super	3.60%	-3.60%	55	3+220.80m	End Full Super	-4.60%	4.60%	63	3+700.60m	Reverse Crown	-2.00%	2.00%
39	2+460.82m	Begin Full Super	-4.00%	4.00%	47	2+812.31m	End Full Super	3.60%	-3.60%	55	3+233.24m	Reverse Crown	-2.00%	2.00%	63	3+710.10m	Level Crown	-2.00%	0.00%
39	2+493.25m	End Full Super	-4.00%	4.00%	47	2+819.87m	Reverse Crown	2.00%	-2.00%	55	3+242.80m	Level Crown	-2.00%	0.00%	63	3+719.60m	Begin Normal Crown	-2.00%	-2.00%
39	2+502.75m	Reverse Crown	-2.00%	2.00%	47	2+829.31m	Level Crown	0.00%	-2.00%	55	3+252.37m	Begin Normal Crown	-2.00%	-2.00%	64	3+702.46m	End Normal Crown	-2.00%	-2.00%
39	2+512.25m	Level Crown	-2.00%	0.00%	47	2+838.75m	Begin Normal Crown	-2.00%	-2.00%	56	3+220.19m	End Normal Crown	-2.00%	-2.00%	64	3+712.01m	Level Crown	0.00%	-2.00%
39	2+521.75m	Begin Normal Crown	-2.00%	-2.00%	48	2+806.95m	End Normal Crown	-2.00%	-2.00%	56	3+229.69m	Level Crown	-2.00%	0.00%	64	3+721.55m	Reverse Crown	2.00%	-2.00%
40	2+484.84m	End Normal Crown	-2.00%	-2.00%	48	2+816.95m	Level Crown	0.00%	-2.00%	56	3+239.19m	Reverse Crown	-2.00%	2.00%	64	3+733.01m	Begin Full Super	4.40%	-4.40%
40	2+494.34m	Level Crown	0.00%	-2.00%	48	2+826.95m	Reverse Crown	2.00%	-2.00%	56	3+248.69m	Begin Full Super	-4.00%	4.00%	64	3+760.04m	End Full Super	4.40%	-4.40%
40	2+503.84m	Reverse Crown	2.00%	-2.00%	48	2+828.95m	Begin Full Super	2.40%	-2.40%	56	3+269.86m	End Full Super	-4.00%	4.00%	64	3+771.49m	Reverse Crown	2.00%	-2.00%
40	2+513.34m	Begin Full Super	4.00%	-4.00%	48	2+835.04m	End Full Super	2.40%	-2.40%	56	3+279.36m	Reverse Crown	-2.00%	2.00%	64	3+781.04m	Level Crown	0.00%	-2.00%
40	2+529.91m	End Full Super	4.00%	-4.00%	48	2+837.04m	Reverse Crown	2.00%	-2.00%	56	3+288.86m	Level Crown	-2.00%	0.00%	64	3+790.58m	Begin Normal Crown	-2.00%	-2.00%
40	2+539.41m	Reverse Crown	2.00%	-2.00%	48	2+847.04m	Level Crown	0.00%	-2.00%	56	3+298.36m	Begin Normal Crown	-2.00%	-2.00%	65	3+741.54m	End Normal Crown	-2.00%	-2.00%
40	2+548.91m	Level Crown	0.00%	-2.00%	48	2+857.04m	Begin Normal Crown	-2.00%	-2.00%	57	3+255.02m	End Normal Crown	-2.00%	-2.00%	65	3+751.21m	Level Crown	-2.00%	0.00%
40	2+558.41m	Begin Normal Crown	-2.00%	-2.00%	49	2+898.07m	End Normal Crown	-2.00%	-2.00%	57	3+264.62m	Level Crown	0.00%	-2.00%	65	3+760.87m	Reverse Crown	-2.00%	2.00%
41	2+536.80m	End Normal Crown	-2.00%	-2.00%	49	2+907.71m	Level Crown	-2.00%	0.00%	57	3+274.22m	Reverse Crown	2.00%	-2.00%	65	3+780.21m	Begin Full Super	-6.00%	6.00%
41	2+546.27m	Level Crown	-2.00%	0.00%	49	2+917.36m	Reverse Crown	-2.00%	2.00%	57	3+288.62m	Begin Full Super	5.00%	-5.00%	65	3+789.66m	End Full Super	-6.00%	6.00%
41	2+555.75m	Reverse Crown	-2.00%	2.00%	49	2+934.71m	Begin Full Super	-5.60%	5.60%	57	3+310.45m	End Full Super	5.00%	-5.00%	65	3+808.99m	Reverse Crown	-2.00%	2.00%
41	2+564.27m	Begin Full Super	-3.80%	3.80%	49	2+937.78m	End Full Super	-5.60%	5.60%	57	3+324.85m	Reverse Crown	2.00%	-2.00%	65	3+818.66m	Level Crown	-2.00%	0.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010B

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
65	3+828.33m	Begin Normal Crown	-2.00%	-2.00%	74	4+126.69m	End Normal Crown	-2.00%	-2.00%	82	4+524.46m	Level Crown	0.00%	-2.00%	90	4+887.60m	Reverse Crown	-2.00%	2.00%
66	3+786.54m	End Normal Crown	-2.00%	-2.00%	74	4+136.36m	Level Crown	-2.00%	0.00%	82	4+534.02m	Reverse Crown	2.00%	-2.00%	90	4+903.97m	Begin Full Super	-5.40%	5.40%
66	3+796.20m	Level Crown	-2.00%	0.00%	74	4+146.02m	Reverse Crown	-2.00%	2.00%	82	4+546.46m	Begin Full Super	4.60%	-4.60%	90	4+907.11m	End Full Super	-5.40%	5.40%
66	3+805.87m	Reverse Crown	-2.00%	2.00%	74	4+162.06m	End Full Super	-6.00%	6.00%	82	4+567.97m	End Full Super	4.60%	-4.60%	90	4+923.48m	Reverse Crown	-2.00%	2.00%
66	3+825.20m	Begin Full Super	-6.00%	6.00%	74	4+165.36m	Begin Full Super	-6.00%	6.00%	82	4+580.41m	Reverse Crown	2.00%	-2.00%	90	4+933.11m	Level Crown	-2.00%	0.00%
66	3+853.05m	End Full Super	-6.00%	6.00%	74	4+181.39m	Reverse Crown	-2.00%	2.00%	82	4+589.97m	Level Crown	0.00%	-2.00%	90	4+942.74m	Begin Normal Crown	-2.00%	-2.00%
66	3+872.39m	Reverse Crown	-2.00%	2.00%	74	4+191.06m	Level Crown	-2.00%	0.00%	82	4+599.54m	Begin Normal Crown	-2.00%	-2.00%	91	4+979.15m	End Normal Crown	-2.00%	-2.00%
66	3+882.05m	Level Crown	-2.00%	0.00%	74	4+200.72m	Begin Normal Crown	-2.00%	-2.00%	83	4+572.81m	End Normal Crown	-2.00%	-2.00%	91	4+988.77m	Level Crown	0.00%	-2.00%
66	3+891.72m	Begin Normal Crown	-2.00%	-2.00%	75	4+142.72m	End Normal Crown	-2.00%	-2.00%	83	4+582.46m	Level Crown	0.00%	-2.00%	91	4+998.38m	Reverse Crown	2.00%	-2.00%
67	3+843.59m	End Normal Crown	-2.00%	-2.00%	75	4+152.39m	Level Crown	-2.00%	0.00%	83	4+592.10m	Reverse Crown	2.00%	-2.00%	91	5+013.77m	Begin Full Super	5.20%	-5.20%
67	3+853.25m	Level Crown	0.00%	-2.00%	75	4+162.06m	Reverse Crown	-2.00%	2.00%	83	4+609.46m	Begin Full Super	5.60%	-5.60%	91	5+028.88m	End Full Super	5.20%	-5.20%
67	3+862.92m	Reverse Crown	2.00%	-2.00%	75	4+178.53m	End Full Super	-6.00%	6.00%	83	4+615.43m	End Full Super	5.60%	-5.60%	91	5+044.26m	Reverse Crown	2.00%	-2.00%
67	3+882.25m	Begin Full Super	6.00%	-6.00%	75	4+181.39m	Begin Full Super	-6.00%	6.00%	83	4+632.78m	Reverse Crown	2.00%	-2.00%	91	5+053.88m	Level Crown	0.00%	-2.00%
67	3+889.99m	End Full Super	6.00%	-6.00%	75	4+197.86m	Reverse Crown	-2.00%	2.00%	83	4+642.43m	Level Crown	0.00%	-2.00%	91	5+063.49m	Begin Normal Crown	-2.00%	-2.00%
67	3+909.33m	Reverse Crown	2.00%	-2.00%	75	4+207.53m	Level Crown	-2.00%	0.00%	83	4+652.07m	Begin Normal Crown	-2.00%	-2.00%	92	5+026.19m	End Normal Crown	-2.00%	-2.00%
67	3+918.99m	Level Crown	0.00%	-2.00%	75	4+217.20m	Begin Normal Crown	-2.00%	-2.00%	84	4+608.25m	End Normal Crown	-2.00%	-2.00%	92	5+035.83m	Level Crown	0.00%	-2.00%
67	3+928.66m	Begin Normal Crown	-2.00%	-2.00%	76	4+203.03m	End Normal Crown	-2.00%	-2.00%	84	4+617.72m	Level Crown	-2.00%	0.00%	92	5+045.48m	Reverse Crown	2.00%	-2.00%
68	3+888.90m	End Normal Crown	-2.00%	-2.00%	76	4+212.44m	Level Crown	0.00%	-2.00%	84	4+627.19m	Reverse Crown	-2.00%	2.00%	92	5+062.83m	Begin Full Super	5.60%	-5.60%
68	3+898.45m	Level Crown	0.00%	-2.00%	76	4+221.85m	Reverse Crown	2.00%	-2.00%	84	4+635.72m	Begin Full Super	-3.80%	3.80%	92	5+098.42m	End Full Super	5.60%	-5.60%
68	3+907.99m	Reverse Crown	2.00%	-2.00%	76	4+228.44m	Begin Full Super	3.40%	-3.40%	84	4+638.96m	End Full Super	-3.80%	3.80%	92	5+115.77m	Reverse Crown	2.00%	-2.00%
68	3+919.45m	Begin Full Super	4.40%	-4.40%	76	4+241.53m	End Full Super	3.40%	-3.40%	84	4+647.49m	Reverse Crown	-2.00%	2.00%	92	5+125.42m	Level Crown	0.00%	-2.00%
68	3+925.10m	End Full Super	4.40%	-4.40%	76	4+248.12m	Reverse Crown	2.00%	-2.00%	84	4+656.96m	Level Crown	-2.00%	0.00%	92	5+135.06m	Begin Normal Crown	-2.00%	-2.00%
68	3+936.55m	Reverse Crown	2.00%	-2.00%	76	4+257.53m	Level Crown	0.00%	-2.00%	84	4+666.44m	Begin Normal Crown	-2.00%	-2.00%	93	5+082.73m	End Normal Crown	-2.00%	-2.00%
68	3+946.10m	Level Crown	0.00%	-2.00%	76	4+266.94m	Begin Normal Crown	-2.00%	-2.00%	85	4+623.04m	End Normal Crown	-2.00%	-2.00%	93	5+092.40m	Level Crown	-2.00%	0.00%
68	3+955.64m	Begin Normal Crown	-2.00%	-2.00%	77	4+248.09m	End Normal Crown	-2.00%	-2.00%	85	4+632.59m	Level Crown	0.00%	-2.00%	93	5+102.07m	Reverse Crown	-2.00%	2.00%
69	3+925.53m	End Normal Crown	-2.00%	-2.00%	77	4+257.38m	Level Crown	-2.00%	0.00%	85	4+642.13m	Reverse Crown	2.00%	-2.00%	93	5+121.40m	Begin Full Super	-6.00%	6.00%
69	3+934.98m	Level Crown	-2.00%	0.00%	77	4+266.66m	Reverse Crown	-2.00%	2.00%	85	4+653.59m	Begin Full Super	4.40%	-4.40%	93	5+126.05m	End Full Super	-6.00%	6.00%
69	3+944.42m	Reverse Crown	-2.00%	2.00%	77	4+270.38m	Begin Full Super	-2.80%	2.80%	85	4+668.15m	End Full Super	4.40%	-4.40%	93	5+145.39m	Reverse Crown	-2.00%	2.00%
69	3+951.98m	Begin Full Super	-3.60%	3.60%	77	4+293.94m	End Full Super	-2.80%	2.80%	85	4+679.60m	Reverse Crown	2.00%	-2.00%	93	5+155.05m	Level Crown	-2.00%	0.00%
69	3+963.98m	End Full Super	-3.60%	3.60%	77	4+297.65m	Reverse Crown	-2.00%	2.00%	85	4+689.15m	Level Crown	0.00%	-2.00%	93	5+164.72m	Begin Normal Crown	-2.00%	-2.00%
69	3+971.54m	Reverse Crown	-2.00%	2.00%	77	4+306.94m	Level Crown	-2.00%	0.00%	85	4+698.69m	Begin Normal Crown	-2.00%	-2.00%	94	5+111.22m	End Normal Crown	-2.00%	-2.00%
69	3+980.98m	Level Crown	-2.00%	0.00%	77	4+316.23m	Begin Normal Crown	-2.00%	-2.00%	86	4+676.26m	End Normal Crown	-2.00%	-2.00%	94	5+120.82m	Level Crown	-2.00%	0.00%
69	3+990.43m	Begin Normal Crown	-2.00%	-2.00%	78	4+277.93m	End Normal Crown	-2.00%	-2.00%	86	4+685.76m	Level Crown	-2.00%	0.00%	94	5+130.42m	Reverse Crown	-2.00%	2.00%
70	3+980.11m	End Normal Crown	-2.00%	-2.00%	78	4+287.60m	Level Crown	0.00%	-2.00%	86	4+695.26m	Reverse Crown	-2.00%	2.00%	94	5+144.82m	Begin Full Super	-5.00%	5.00%
70	3+990.11m	Level Crown	-2.00%	0.00%	78	4+297.27m	Reverse Crown	2.00%	-2.00%	86	4+704.76m	Begin Full Super	-4.00%	4.00%	94	5+159.88m	End Full Super	-5.00%	5.00%
70	4+000.11m	Reverse Crown	-2.00%	2.00%	78	4+315.94m	End Full Super	6.00%	-6.00%	86	4+721.35m	End Full Super	-4.00%	4.00%	94	5+174.28m	Reverse Crown	-2.00%	2.00%
70	4+002.11m	Begin Full Super	-2.40%	2.40%	78	4+316.60m	Begin Full Super	6.00%	-6.00%	86	4+730.85m	Reverse Crown	-2.00%	2.00%	94	5+183.88m	Level Crown	-2.00%	0.00%
70	4+016.59m	End Full Super	-2.40%	2.40%	78	4+335.28m	Reverse Crown	2.00%	-2.00%	86	4+740.35m	Level Crown	-2.00%	0.00%	94	5+193.48m	Begin Normal Crown	-2.00%	-2.00%
70	4+018.59m	Reverse Crown	-2.00%	2.00%	78	4+344.94m	Level Crown	0.00%	-2.00%	86	4+749.85m	Begin Normal Crown	-2.00%	-2.00%	95	5+201.08m	End Normal Crown	-2.00%	-2.00%
70	4+028.59m	Level Crown	-2.00%	0.00%	78	4+354.61m	Begin Normal Crown	-2.00%	-2.00%	87	4+719.51m	End Normal Crown	-2.00%	-2.00%	95	5+210.69m	Level Crown	-2.00%	0.00%
70	4+038.59m	Begin Normal Crown	-2.00%	-2.00%	79	4+297.89m	End Normal Crown	-2.00%	-2.00%	87	4+729.11m	Level Crown	-2.00%	0.00%	95	5+220.31m	Reverse Crown	-2.00%	2.00%
71	4+029.49m	End Normal Crown	-2.00%	-2.00%	79	4+307.55m	Level Crown	0.00%	-2.00%	87	4+738.71m	Reverse Crown	-2.00%	2.00%	95	5+235.69m	Begin Full Super	-5.20%	5.20%
71	4+039.01m	Level Crown	0.00%	-2.00%	79	4+317.22m	Reverse Crown	2.00%	-2.00%	87	4+753.11m	Begin Full Super	-5.00%	5.00%	95	5+259.26m	End Full Super	-5.20%	5.20%
71	4+048.54m	Reverse Crown	2.00%	-2.00%	79	4+332.47m	End Full Super	6.00%	-6.00%	87	4+764.25m	End Full Super	-5.00%	5.00%	95	5+274.64m	Reverse Crown	-2.00%	2.00%
71	4+059.01m	Begin Full Super	4.20%	-4.20%	79	4+336.55m	Begin Full Super	6.00%	-6.00%	87	4+778.65m	Reverse Crown	-2.00%	2.00%	95	5+284.26m	Level Crown	-2.00%	0.00%
71	4+084.57m	End Full Super	4.20%	-4.20%	79	4+351.80m	Reverse Crown	2.00%	-2.00%	87	4+788.25m	Level Crown	-2.00%	0.00%	95	5+293.87m	Begin Normal Crown	-2.00%	-2.00%
71	4+095.04m	Reverse Crown	2.00%	-2.00%	79	4+361.47m	Level Crown	0.00%	-2.00%	87	4+797.85m	Begin Normal Crown	-2.00%	-2.00%	96	5+251.43m	End Normal Crown	-2.00%	-2.00%
71	4+104.57m	Level Crown	0.00%	-2.00%	79	4+371.14m	Begin Normal Crown	-2.00%	-2.00%	88	4+775.37m	End Normal Crown	-2.00%	-2.00%	96	5+261.01m	Level Crown	-2.00%	0.00%
71	4+114.09m	Begin Normal Crown	-2.00%	-2.00%	80	4+371.77m	End Normal Crown	-2.00%	-2.00%	88	4+784.78m	Level Crown	0.00%	-2.00%	96	5+270.60m	Reverse Crown	-2.00%	2.00%
72	4+069.89m	End Normal Crown	-2.00%	-2.00%	80	4+381.34m	Level Crown	-2.00%	0.00%	88	4+794.20m	Reverse Crown	2.00%	-2.00%	96	5+284.01m	Begin Full Super	-4.80%	4.80%
72	4+079.53m	Level Crown	-2.00%	0.00%	80	4+390.90m	Reverse Crown	-2.00%	2.00%	88	4+800.78m	Begin Full Super	3.40%	-3.40%	96	5+286.98m	End Full Super	-4.80%	4.80%
72	4+089.17m	Reverse Crown	-2.00%	2.00%	80	4+403.34m	Begin Full Super	-4.60%	4.60%	88	4+812.57m	End Full Super	3.40%	-3.40%	96	5+300.39m	Reverse Crown	-2.00%	2.00%
72	4+105.29m	End Full Super	-5.60%	5.60%	80	4+427.13m	End Full Super	-4.60%	4.60%	88	4+819.15m	Reverse Crown	2.00%	-2.00%	96	5+309.98m	Level Crown	-2.00%	0.00%
72	4+106.53m	Begin Full Super	-5.60%	5.60%	80	4+439.56m	Reverse Crown	-2.00%	2.00%	88	4+828.57m	Level Crown	0.00%	-2.00%	96	5+319.56m	Begin Normal Crown	-2.00%	-2.00%
72	4+122.65m	Reverse Crown	-2.00%	2.00%	80	4+449.13m	Level Crown	-2.00%	0.00%	88	4+837.98m	Begin Normal Crown	-2.00%	-2.00%	97	5+279.83m	End Normal Crown	-2.00%	-2.00%
72	4+132.29m	Level Crown	-2.00%	0.00%	80	4+458.69m	Begin Normal Crown	-2.00%	-2.00%	89	4+821.76m	End Normal Crown	-2.00%	-2.00%	97	5+289.33m	Level Crown	0.00%	-2.00%
72	4+141.93m	Begin Normal Crown	-2.00%	-2.00%	81	4+428.16m	End Normal Crown	-2.00%	-2.00%	89	4+831.34m	Level Crown	0.00%	-2.00%	97	5+298.83m	Reverse Crown	2.00%	-2.00%
73	4+102.56m	End Normal Crown	-2.00%	-2.00%	81	4+437.50m	Level Crown	-2.00%	0.00%	89	4+840.92m	Reverse Crown	2.00%	-2.00%	97	5+308.33m	Begin Full Super	4.00%	-4.00%
73	4+112.04m	Level Crown	0.00%	-2.00%	81	4+446.83m	Reverse Crown	-2.00%	2.00%	89	4+854.34m	Begin Full Super	4.80%	-4.80%	97	5+332.02m	End Full Super	4.00%	-4.00%
73	4+121.51m	Reverse Crown	2.00%	-2.00%	81	4+451.50m	Begin Full Super	-3.00%	3.00%	89	4+877.38m	End Full Super	4.80%	-4.80%	97	5+341.52m	Reverse Crown	2.00%	-2.00%
73	4+130.04m	Begin Full Super	3.80%	-3.80%	81	4+478.73m	End Full Super	-3.00%	3.00%	89	4+890.80m	Reverse Crown	2.00%	-2.00%	97	5+351.02m	Level Crown	0.00%	-2.00%
73	4+140.12m	End Full Super	3.80%	-3.80%	81	4+483.40m	Reverse Crown	-2.00%	2.00%	89	4+900.38m	Level Crown	0.00%	-2.00%	97	5+360.52m	Begin Normal Crown	-2.00%	-2.00%
73	4+148.65m	Reverse Crown	2.00%	-2.00%	81	4+492.73m	Level Crown	-2.00%	0.00%	89	4+909.97m	Begin Normal Crown	-2.00%	-2.00%	98	5+332.71m	End Normal Crown	-2.00%	-2.00%
73	4+158.12m	Level Crown	0.00%	-2.00%	81	4+502.06m	Begin Normal Crown	-2.00%	-2.00%	90	4+868.34m	End Normal Crown	-2.00%	-2.00%	98	5+342.21m	Level Crown	0.00%	-2.00%
73	4+167.59m	Begin Normal Crown	-2.00%	-2.00%	82	4+514.89m	End Normal Crown	-2.00%	-2.00%	90	4+877.97m	Level Crown	-2.00%	0.00%	98	5+351.71m	Reverse Crown	2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010C

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
98	5+361.21m	Begin Full Super	4.00%	-4.00%	106	5+718.50m	Begin Full Super	-6.00%	6.00%	114	6+090.27m	Reverse Crown	2.00%	-2.00%	122	6+478.28m	Level Crown	-2.00%	0.00%
98	5+387.26m	End Full Super	4.00%	-4.00%	106	5+737.14m	Reverse Crown	-2.00%	2.00%	114	6+099.69m	Level Crown	0.00%	-2.00%	122	6+488.28m	Begin Normal Crown	-2.00%	-2.00%
98	5+396.76m	Reverse Crown	2.00%	-2.00%	106	5+746.81m	Level Crown	-2.00%	0.00%	114	6+109.10m	Begin Normal Crown	-2.00%	-2.00%	123	6+487.52m	End Normal Crown	-2.00%	-2.00%
98	5+406.26m	Level Crown	0.00%	-2.00%	106	5+756.47m	Begin Normal Crown	-2.00%	-2.00%	115	6+096.45m	End Normal Crown	-2.00%	-2.00%	123	6+497.09m	Level Crown	0.00%	-2.00%
98	5+415.76m	Begin Normal Crown	-2.00%	-2.00%	107	5+698.70m	End Normal Crown	-2.00%	-2.00%	115	6+106.45m	Level Crown	0.00%	-2.00%	123	6+506.66m	Reverse Crown	2.00%	-2.00%
99	5+403.86m	End Normal Crown	-2.00%	-2.00%	107	5+708.36m	Level Crown	-2.00%	0.00%	115	6+116.45m	Begin Full Super	2.00%	-2.00%	123	6+519.09m	Begin Full Super	4.60%	-4.60%
99	5+413.49m	Level Crown	0.00%	-2.00%	107	5+718.03m	Reverse Crown	-2.00%	2.00%	115	6+116.45m	Reverse Crown	2.00%	-2.00%	123	6+543.27m	End Full Super	4.60%	-4.60%
99	5+423.12m	Reverse Crown	2.00%	-2.00%	107	5+735.69m	End Full Super	-6.00%	6.00%	115	6+135.51m	End Full Super	2.00%	-2.00%	123	6+555.70m	Reverse Crown	2.00%	-2.00%
99	5+432.13m	End Full Super	5.40%	-5.40%	107	5+737.36m	Begin Full Super	-6.00%	6.00%	115	6+135.51m	Reverse Crown	2.00%	-2.00%	123	6+565.27m	Level Crown	0.00%	-2.00%
99	5+439.49m	Begin Full Super	5.40%	-5.40%	107	5+755.02m	Reverse Crown	-2.00%	2.00%	115	6+145.51m	Level Crown	0.00%	-2.00%	123	6+574.83m	Begin Normal Crown	-2.00%	-2.00%
99	5+448.50m	Reverse Crown	2.00%	-2.00%	107	5+764.69m	Level Crown	-2.00%	0.00%	115	6+155.51m	Begin Normal Crown	-2.00%	-2.00%	124	6+551.04m	End Normal Crown	-2.00%	-2.00%
99	5+458.13m	Level Crown	0.00%	-2.00%	107	5+774.36m	Begin Normal Crown	-2.00%	-2.00%	116	6+152.71m	End Normal Crown	-2.00%	-2.00%	124	6+560.52m	Level Crown	-2.00%	0.00%
99	5+467.76m	Begin Normal Crown	-2.00%	-2.00%	108	5+730.72m	End Normal Crown	-2.00%	-2.00%	116	6+162.18m	Level Crown	0.00%	-2.00%	124	6+569.99m	Reverse Crown	-2.00%	2.00%
100	5+413.03m	End Normal Crown	-2.00%	-2.00%	108	5+740.09m	Level Crown	0.00%	-2.00%	116	6+171.66m	Reverse Crown	2.00%	-2.00%	124	6+578.52m	Begin Full Super	-3.80%	3.80%
100	5+422.70m	Level Crown	0.00%	-2.00%	108	5+749.47m	Reverse Crown	2.00%	-2.00%	116	6+180.18m	Begin Full Super	3.80%	-3.80%	124	6+619.84m	End Full Super	-3.80%	3.80%
100	5+432.37m	Reverse Crown	2.00%	-2.00%	108	5+755.09m	Begin Full Super	3.20%	-3.20%	116	6+193.20m	End Full Super	3.80%	-3.80%	124	6+628.37m	Reverse Crown	-2.00%	2.00%
100	5+451.70m	Begin Full Super	6.00%	-6.00%	108	5+766.13m	End Full Super	3.20%	-3.20%	116	6+201.73m	Reverse Crown	2.00%	-2.00%	124	6+637.84m	Level Crown	-2.00%	0.00%
100	5+465.38m	End Full Super	6.00%	-6.00%	108	5+771.75m	Reverse Crown	2.00%	-2.00%	116	6+211.20m	Level Crown	0.00%	-2.00%	124	6+647.32m	Begin Normal Crown	-2.00%	-2.00%
100	5+484.71m	Reverse Crown	2.00%	-2.00%	108	5+781.13m	Level Crown	0.00%	-2.00%	116	6+220.67m	Begin Normal Crown	-2.00%	-2.00%	125	6+620.83m	End Normal Crown	-2.00%	-2.00%
100	5+494.38m	Level Crown	0.00%	-2.00%	108	5+790.50m	Begin Normal Crown	-2.00%	-2.00%	117	6+176.75m	End Normal Crown	-2.00%	-2.00%	125	6+630.83m	Level Crown	0.00%	-2.00%
100	5+504.04m	Begin Normal Crown	-2.00%	-2.00%	109	5+773.31m	End Normal Crown	-2.00%	-2.00%	117	6+186.42m	Level Crown	-2.00%	0.00%	125	6+640.83m	Reverse Crown	2.00%	-2.00%
101	5+483.60m	End Normal Crown	-2.00%	-2.00%	109	5+782.76m	Level Crown	0.00%	-2.00%	117	6+196.09m	Reverse Crown	-2.00%	2.00%	125	6+641.83m	Begin Full Super	2.20%	-2.20%
101	5+493.17m	Level Crown	0.00%	-2.00%	109	5+792.20m	Reverse Crown	2.00%	-2.00%	117	6+215.42m	Begin Full Super	-6.00%	6.00%	125	6+669.53m	End Full Super	2.20%	-2.20%
101	5+502.74m	Reverse Crown	2.00%	-2.00%	109	5+799.76m	Begin Full Super	3.60%	-3.60%	117	6+223.37m	End Full Super	-6.00%	6.00%	125	6+670.53m	Reverse Crown	2.00%	-2.00%
101	5+515.17m	Begin Full Super	4.60%	-4.60%	109	5+819.35m	End Full Super	3.60%	-3.60%	117	6+242.70m	Reverse Crown	-2.00%	2.00%	125	6+680.53m	Level Crown	0.00%	-2.00%
101	5+526.47m	End Full Super	4.60%	-4.60%	109	5+826.90m	Reverse Crown	2.00%	-2.00%	117	6+252.37m	Level Crown	-2.00%	0.00%	125	6+690.53m	Begin Normal Crown	-2.00%	-2.00%
101	5+538.91m	Reverse Crown	2.00%	-2.00%	109	5+836.35m	Level Crown	0.00%	-2.00%	117	6+262.04m	Begin Normal Crown	-2.00%	-2.00%	126	6+661.09m	End Normal Crown	-2.00%	-2.00%
101	5+548.47m	Level Crown	0.00%	-2.00%	109	5+845.79m	Begin Normal Crown	-2.00%	-2.00%	118	6+204.20m	End Normal Crown	-2.00%	-2.00%	126	6+670.76m	Level Crown	-2.00%	0.00%
101	5+558.04m	Begin Normal Crown	-2.00%	-2.00%	110	5+813.98m	End Normal Crown	-2.00%	-2.00%	118	6+213.87m	Level Crown	-2.00%	0.00%	126	6+680.42m	Reverse Crown	-2.00%	2.00%
102	5+510.43m	End Normal Crown	-2.00%	-2.00%	110	5+823.60m	Level Crown	-2.00%	0.00%	118	6+223.54m	Reverse Crown	-2.00%	2.00%	126	6+699.76m	Begin Full Super	-6.00%	6.00%
102	5+520.07m	Level Crown	-2.00%	0.00%	110	5+833.21m	Reverse Crown	-2.00%	2.00%	118	6+241.45m	End Full Super	-6.00%	6.00%	126	6+717.46m	End Full Super	-6.00%	6.00%
102	5+529.72m	Reverse Crown	-2.00%	2.00%	110	5+848.60m	Begin Full Super	-5.20%	5.20%	118	6+242.87m	Begin Full Super	-6.00%	6.00%	126	6+736.79m	Reverse Crown	-2.00%	2.00%
102	5+543.90m	End Full Super	-5.60%	5.60%	110	5+857.58m	End Full Super	-5.20%	5.20%	118	6+260.79m	Reverse Crown	-2.00%	2.00%	126	6+746.46m	Level Crown	-2.00%	0.00%
102	5+547.07m	Begin Full Super	-5.60%	5.60%	110	5+872.96m	Reverse Crown	-2.00%	2.00%	118	6+270.45m	Level Crown	-2.00%	0.00%	126	6+756.12m	Begin Normal Crown	-2.00%	-2.00%
102	5+561.26m	Reverse Crown	-2.00%	2.00%	110	5+882.58m	Level Crown	-2.00%	0.00%	118	6+280.12m	Begin Normal Crown	-2.00%	-2.00%	127	6+701.62m	End Normal Crown	-2.00%	-2.00%
102	5+570.90m	Level Crown	-2.00%	0.00%	110	5+892.19m	Begin Normal Crown	-2.00%	-2.00%	119	6+270.52m	End Normal Crown	-2.00%	-2.00%	127	6+711.29m	Level Crown	0.00%	-2.00%
102	5+580.54m	Begin Normal Crown	-2.00%	-2.00%	111	5+860.43m	End Normal Crown	-2.00%	-2.00%	119	6+280.52m	Level Crown	-2.00%	0.00%	127	6+720.96m	Reverse Crown	2.00%	-2.00%
103	5+531.95m	End Normal Crown	-2.00%	-2.00%	111	5+870.05m	Level Crown	0.00%	-2.00%	119	6+290.52m	Reverse Crown	-2.00%	2.00%	127	6+738.21m	End Full Super	6.00%	-6.00%
103	5+541.49m	Level Crown	-2.00%	0.00%	111	5+879.67m	Reverse Crown	2.00%	-2.00%	119	6+291.52m	Begin Full Super	-2.20%	2.20%	127	6+740.29m	Begin Full Super	6.00%	-6.00%
103	5+551.04m	Reverse Crown	-2.00%	2.00%	111	5+895.05m	Begin Full Super	5.20%	-5.20%	119	6+300.02m	End Full Super	-2.20%	2.20%	127	6+757.54m	Reverse Crown	2.00%	-2.00%
103	5+562.49m	Begin Full Super	-4.40%	4.40%	111	5+913.07m	End Full Super	5.20%	-5.20%	119	6+301.02m	Reverse Crown	-2.00%	2.00%	127	6+767.21m	Level Crown	0.00%	-2.00%
103	5+596.71m	End Full Super	-4.40%	4.40%	111	5+928.45m	Reverse Crown	2.00%	-2.00%	119	6+311.02m	Level Crown	-2.00%	0.00%	127	6+776.87m	Begin Normal Crown	-2.00%	-2.00%
103	5+608.16m	Reverse Crown	-2.00%	2.00%	111	5+938.07m	Level Crown	0.00%	-2.00%	119	6+321.02m	Begin Normal Crown	-2.00%	-2.00%	128	6+739.63m	End Normal Crown	-2.00%	-2.00%
103	5+617.71m	Level Crown	-2.00%	0.00%	111	5+947.68m	Begin Normal Crown	-2.00%	-2.00%	120	6+294.25m	End Normal Crown	-2.00%	-2.00%	128	6+749.18m	Level Crown	-2.00%	0.00%
103	5+627.25m	Begin Normal Crown	-2.00%	-2.00%	112	5+947.21m	End Normal Crown	-2.00%	-2.00%	120	6+303.92m	Level Crown	0.00%	-2.00%	128	6+758.72m	Reverse Crown	-2.00%	2.00%
104	5+596.65m	End Normal Crown	-2.00%	-2.00%	112	5+956.80m	Level Crown	0.00%	-2.00%	120	6+313.58m	Reverse Crown	2.00%	-2.00%	128	6+770.18m	Begin Full Super	-4.40%	4.40%
104	5+606.23m	Level Crown	0.00%	-2.00%	112	5+966.38m	Reverse Crown	2.00%	-2.00%	120	6+332.92m	Begin Full Super	6.00%	-6.00%	128	6+772.77m	End Full Super	-4.40%	4.40%
104	5+615.82m	Reverse Crown	2.00%	-2.00%	112	5+979.80m	Begin Full Super	4.80%	-4.80%	120	6+352.80m	End Full Super	6.00%	-6.00%	128	6+784.22m	Reverse Crown	-2.00%	2.00%
104	5+629.23m	Begin Full Super	4.80%	-4.80%	112	5+987.67m	End Full Super	4.80%	-4.80%	120	6+372.13m	Reverse Crown	2.00%	-2.00%	128	6+793.77m	Level Crown	-2.00%	0.00%
104	5+645.23m	End Full Super	4.80%	-4.80%	112	6+001.08m	Reverse Crown	2.00%	-2.00%	120	6+381.80m	Level Crown	0.00%	-2.00%	128	6+803.31m	Begin Normal Crown	-2.00%	-2.00%
104	5+658.64m	Reverse Crown	2.00%	-2.00%	112	6+010.67m	Level Crown	0.00%	-2.00%	120	6+391.47m	Begin Normal Crown	-2.00%	-2.00%	129	6+753.98m	End Normal Crown	-2.00%	-2.00%
104	5+668.23m	Level Crown	0.00%	-2.00%	112	6+020.25m	Begin Normal Crown	-2.00%	-2.00%	121	6+353.59m	End Normal Crown	-2.00%	-2.00%	129	6+763.62m	Level Crown	0.00%	-2.00%
104	5+677.81m	Begin Normal Crown	-2.00%	-2.00%	113	5+983.38m	End Normal Crown	-2.00%	-2.00%	121	6+363.59m	Level Crown	0.00%	-2.00%	129	6+773.27m	Reverse Crown	2.00%	-2.00%
105	5+646.81m	End Normal Crown	-2.00%	-2.00%	113	5+992.92m	Level Crown	-2.00%	0.00%	121	6+373.59m	Begin Full Super	2.00%	-2.00%	129	6+790.62m	Begin Full Super	5.60%	-5.60%
105	5+656.26m	Level Crown	0.00%	-2.00%	113	6+002.47m	Reverse Crown	-2.00%	2.00%	121	6+373.59m	Reverse Crown	2.00%	-2.00%	129	6+795.41m	End Full Super	5.60%	-5.60%
105	5+665.70m	Reverse Crown	2.00%	-2.00%	113	6+013.92m	Begin Full Super	-4.40%	4.40%	121	6+393.12m	End Full Super	2.00%	-2.00%	129	6+812.76m	Reverse Crown	2.00%	-2.00%
105	5+673.26m	Begin Full Super	3.60%	-3.60%	113	6+027.95m	End Full Super	-4.40%	4.40%	121	6+393.12m	Reverse Crown	2.00%	-2.00%	129	6+822.41m	Level Crown	0.00%	-2.00%
105	5+685.90m	End Full Super	3.60%	-3.60%	113	6+039.40m	Reverse Crown	-2.00%	2.00%	121	6+403.12m	Level Crown	0.00%	-2.00%	129	6+832.05m	Begin Normal Crown	-2.00%	-2.00%
105	5+693.46m	Reverse Crown	2.00%	-2.00%	113	6+048.95m	Level Crown	-2.00%	0.00%	121	6+413.12m	Begin Normal Crown	-2.00%	-2.00%	130	6+811.65m	End Normal Crown	-2.00%	-2.00%
105	5+702.90m	Level Crown	0.00%	-2.00%	113	6+058.49m	Begin Normal Crown	-2.00%	-2.00%	122	6+426.17m	End Normal Crown	-2.00%	-2.00%	130	6+821.31m	Level Crown	-2.00%	0.00%
105	5+712.35m	Begin Normal Crown	-2.00%	-2.00%	114	6+041.34m	End Normal Crown	-2.00%	-2.00%	122	6+436.17m	Level Crown	-2.00%	0.00%	130	6+830.98m	Reverse Crown	-2.00%	2.00%
106	5+679.83m	End Normal Crown	-2.00%	-2.00%	114	6+050.75m	Level Crown	0.00%	-2.00%	122	6+446.17m	Begin Full Super	-2.00%	2.00%	130	6+850.31m	Begin Full Super	-6.00%	6.00%
106	5+689.50m	Level Crown	-2.00%	0.00%	114	6+060.16m	Reverse Crown	2.00%	-2.00%	122	6+446.17m	Reverse Crown	-2.00%	2.00%	130	6+853.46m	End Full Super	-6.00%	6.00%
106	5+699.17m	Reverse Crown	-2.00%	2.00%	114	6+066.75m	Begin Full Super	3.40%	-3.40%	122	6+468.28m	End Full Super	-2.00%	2.00%	130	6+872.79m	Reverse Crown	-2.00%	2.00%
106	5+717.81m	End Full Super	-6.00%	6.00%	114	6+083.69m	End Full Super	3.40%	-3.40%	122	6+468.28m	Reverse Crown	-2.00%	2.00%	130	6+882.46m	Level Crown	-2.00%	0.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010D

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
130	6+892.13m	Begin Normal Crown	-2.00%	-2.00%	139	7+343.86m	End Normal Crown	-2.00%	-2.00%	147	7+681.38m	Level Crown	0.00%	-2.00%	155	8+084.10m	Reverse Crown	2.00%	-2.00%
131	6+841.36m	End Normal Crown	-2.00%	-2.00%	139	7+353.27m	Level Crown	-2.00%	0.00%	147	7+690.97m	Reverse Crown	2.00%	-2.00%	155	8+096.85m	End Full Super	5.00%	-5.00%
131	6+851.03m	Level Crown	0.00%	-2.00%	139	7+362.69m	Reverse Crown	-2.00%	2.00%	147	7+704.38m	Begin Full Super	4.80%	-4.80%	155	8+098.50m	Begin Full Super	5.00%	-5.00%
131	6+860.70m	Reverse Crown	2.00%	-2.00%	139	7+369.27m	Begin Full Super	-3.40%	3.40%	147	7+712.55m	End Full Super	4.80%	-4.80%	155	8+111.25m	Reverse Crown	2.00%	-2.00%
131	6+880.03m	Begin Full Super	6.00%	-6.00%	139	7+373.81m	End Full Super	-3.40%	3.40%	147	7+725.97m	Reverse Crown	2.00%	-2.00%	155	8+120.85m	Level Crown	0.00%	-2.00%
131	6+888.93m	End Full Super	6.00%	-6.00%	139	7+380.40m	Reverse Crown	-2.00%	2.00%	147	7+735.55m	Level Crown	0.00%	-2.00%	155	8+130.45m	Begin Normal Crown	-2.00%	-2.00%
131	6+908.26m	Reverse Crown	2.00%	-2.00%	139	7+389.81m	Level Crown	-2.00%	0.00%	147	7+745.14m	Begin Normal Crown	-2.00%	-2.00%	156	8+086.10m	End Normal Crown	-2.00%	-2.00%
131	6+917.93m	Level Crown	0.00%	-2.00%	139	7+399.22m	Begin Normal Crown	-2.00%	-2.00%	148	7+708.95m	End Normal Crown	-2.00%	-2.00%	156	8+095.76m	Level Crown	-2.00%	0.00%
131	6+927.60m	Begin Normal Crown	-2.00%	-2.00%	140	7+375.83m	End Normal Crown	-2.00%	-2.00%	148	7+718.36m	Level Crown	-2.00%	0.00%	156	8+105.43m	Reverse Crown	-2.00%	2.00%
132	6+891.65m	End Normal Crown	-2.00%	-2.00%	140	7+385.33m	Level Crown	-2.00%	0.00%	148	7+727.78m	Reverse Crown	-2.00%	2.00%	156	8+124.76m	Begin Full Super	-6.00%	6.00%
132	6+900.88m	Level Crown	0.00%	-2.00%	140	7+394.83m	Reverse Crown	-2.00%	2.00%	148	7+734.36m	Begin Full Super	-3.40%	3.40%	156	8+125.58m	End Full Super	-6.00%	6.00%
132	6+910.11m	Reverse Crown	2.00%	-2.00%	140	7+404.33m	Begin Full Super	-4.00%	4.00%	148	7+762.39m	End Full Super	-3.40%	3.40%	156	8+144.91m	Reverse Crown	-2.00%	2.00%
132	6+912.88m	Begin Full Super	2.60%	-2.60%	140	7+412.13m	End Full Super	-4.00%	4.00%	148	7+768.98m	Reverse Crown	-2.00%	2.00%	156	8+154.58m	Level Crown	-2.00%	0.00%
132	6+925.63m	End Full Super	2.60%	-2.60%	140	7+421.63m	Reverse Crown	-2.00%	2.00%	148	7+778.39m	Level Crown	-2.00%	0.00%	156	8+164.24m	Begin Normal Crown	-2.00%	-2.00%
132	6+928.40m	Reverse Crown	2.00%	-2.00%	140	7+431.13m	Level Crown	-2.00%	0.00%	148	7+787.80m	Begin Normal Crown	-2.00%	-2.00%	157	8+113.12m	End Normal Crown	-2.00%	-2.00%
132	6+937.63m	Level Crown	0.00%	-2.00%	140	7+440.63m	Begin Normal Crown	-2.00%	-2.00%	149	7+850.94m	End Normal Crown	-2.00%	-2.00%	157	8+122.79m	Level Crown	0.00%	-2.00%
132	6+946.86m	Begin Normal Crown	-2.00%	-2.00%	141	7+416.04m	End Normal Crown	-2.00%	-2.00%	149	7+860.27m	Level Crown	-2.00%	0.00%	157	8+132.45m	Reverse Crown	2.00%	-2.00%
133	6+933.51m	End Normal Crown	-2.00%	-2.00%	141	7+425.41m	Level Crown	-2.00%	0.00%	149	7+869.61m	Reverse Crown	-2.00%	2.00%	157	8+149.51m	End Full Super	6.00%	-6.00%
133	6+943.51m	Level Crown	0.00%	-2.00%	141	7+434.79m	Reverse Crown	-2.00%	2.00%	149	7+874.27m	Begin Full Super	-3.00%	3.00%	157	8+151.79m	Begin Full Super	6.00%	-6.00%
133	6+953.51m	Begin Full Super	2.00%	-2.00%	141	7+440.41m	Begin Full Super	-3.20%	3.20%	149	7+887.20m	End Full Super	-3.00%	3.00%	157	8+168.84m	Reverse Crown	2.00%	-2.00%
133	6+953.51m	Reverse Crown	2.00%	-2.00%	141	7+448.95m	End Full Super	-3.20%	3.20%	149	7+891.87m	Reverse Crown	-2.00%	2.00%	157	8+178.51m	Level Crown	0.00%	-2.00%
133	6+970.22m	End Full Super	2.00%	-2.00%	141	7+454.57m	Reverse Crown	-2.00%	2.00%	149	7+901.20m	Level Crown	-2.00%	0.00%	157	8+188.17m	Begin Normal Crown	-2.00%	-2.00%
133	6+970.22m	Reverse Crown	2.00%	-2.00%	141	7+463.95m	Level Crown	-2.00%	0.00%	149	7+910.54m	Begin Normal Crown	-2.00%	-2.00%	158	8+141.93m	End Normal Crown	-2.00%	-2.00%
133	6+980.22m	Level Crown	0.00%	-2.00%	141	7+473.32m	Begin Normal Crown	-2.00%	-2.00%	150	7+884.17m	End Normal Crown	-2.00%	-2.00%	158	8+151.51m	Level Crown	0.00%	-2.00%
133	6+990.22m	Begin Normal Crown	-2.00%	-2.00%	142	7+452.96m	End Normal Crown	-2.00%	-2.00%	150	7+894.17m	Level Crown	0.00%	-2.00%	158	8+161.10m	Reverse Crown	2.00%	-2.00%
134	7+005.44m	End Normal Crown	-2.00%	-2.00%	142	7+462.96m	Level Crown	0.00%	-2.00%	150	7+904.17m	Begin Full Super	2.00%	-2.00%	158	8+174.51m	Begin Full Super	4.80%	-4.80%
134	7+014.73m	Level Crown	0.00%	-2.00%	142	7+472.96m	Begin Full Super	2.00%	-2.00%	150	7+904.17m	Reverse Crown	2.00%	-2.00%	158	8+201.78m	End Full Super	4.80%	-4.80%
134	7+024.01m	Reverse Crown	2.00%	-2.00%	142	7+472.96m	Reverse Crown	2.00%	-2.00%	150	7+923.48m	End Full Super	2.00%	-2.00%	158	8+215.20m	Reverse Crown	2.00%	-2.00%
134	7+027.73m	Begin Full Super	2.80%	-2.80%	142	7+482.68m	End Full Super	2.00%	-2.00%	150	7+923.48m	Reverse Crown	2.00%	-2.00%	158	8+224.78m	Level Crown	0.00%	-2.00%
134	7+059.44m	End Full Super	2.80%	-2.80%	142	7+482.68m	Reverse Crown	2.00%	-2.00%	150	7+933.48m	Level Crown	0.00%	-2.00%	158	8+234.37m	Begin Normal Crown	-2.00%	-2.00%
134	7+063.15m	Reverse Crown	2.00%	-2.00%	142	7+492.68m	Level Crown	0.00%	-2.00%	150	7+943.48m	Begin Normal Crown	-2.00%	-2.00%	159	8+200.34m	End Normal Crown	-2.00%	-2.00%
134	7+072.44m	Level Crown	0.00%	-2.00%	142	7+502.68m	Begin Normal Crown	-2.00%	-2.00%	151	7+919.96m	End Normal Crown	-2.00%	-2.00%	159	8+209.84m	Level Crown	0.00%	-2.00%
134	7+081.72m	Begin Normal Crown	-2.00%	-2.00%	143	7+516.81m	End Normal Crown	-2.00%	-2.00%	151	7+929.46m	Level Crown	-2.00%	0.00%	159	8+219.34m	Reverse Crown	2.00%	-2.00%
135	7+073.69m	End Normal Crown	-2.00%	-2.00%	143	7+526.22m	Level Crown	-2.00%	0.00%	151	7+938.96m	Reverse Crown	-2.00%	2.00%	159	8+228.84m	Begin Full Super	4.00%	-4.00%
135	7+082.98m	Level Crown	0.00%	-2.00%	143	7+535.63m	Reverse Crown	-2.00%	2.00%	151	7+948.46m	Begin Full Super	-4.00%	4.00%	159	8+244.57m	End Full Super	4.00%	-4.00%
135	7+092.26m	Reverse Crown	2.00%	-2.00%	143	7+542.22m	Begin Full Super	-3.40%	3.40%	151	7+966.00m	End Full Super	-4.00%	4.00%	159	8+254.07m	Reverse Crown	2.00%	-2.00%
135	7+095.98m	Begin Full Super	2.80%	-2.80%	143	7+552.19m	End Full Super	-3.40%	3.40%	151	7+975.50m	Reverse Crown	-2.00%	2.00%	159	8+263.57m	Level Crown	0.00%	-2.00%
135	7+102.34m	End Full Super	2.80%	-2.80%	143	7+558.78m	Reverse Crown	-2.00%	2.00%	151	7+985.00m	Level Crown	-2.00%	0.00%	159	8+273.07m	Begin Normal Crown	-2.00%	-2.00%
135	7+106.05m	Reverse Crown	2.00%	-2.00%	143	7+568.19m	Level Crown	-2.00%	0.00%	151	7+994.50m	Begin Normal Crown	-2.00%	-2.00%	160	8+259.22m	End Normal Crown	-2.00%	-2.00%
135	7+115.34m	Level Crown	0.00%	-2.00%	143	7+577.60m	Begin Normal Crown	-2.00%	-2.00%	152	7+977.02m	End Normal Crown	-2.00%	-2.00%	160	8+268.88m	Level Crown	-2.00%	0.00%
135	7+124.62m	Begin Normal Crown	-2.00%	-2.00%	144	7+554.72m	End Normal Crown	-2.00%	-2.00%	152	7+986.46m	Level Crown	-2.00%	0.00%	160	8+278.55m	Reverse Crown	-2.00%	2.00%
136	7+106.88m	End Normal Crown	-2.00%	-2.00%	144	7+564.17m	Level Crown	0.00%	-2.00%	152	7+995.91m	Reverse Crown	-2.00%	2.00%	160	8+297.88m	Begin Full Super	-6.00%	6.00%
136	7+116.32m	Level Crown	-2.00%	0.00%	144	7+573.61m	Reverse Crown	2.00%	-2.00%	152	8+003.46m	Begin Full Super	-3.60%	3.60%	160	8+309.29m	End Full Super	-6.00%	6.00%
136	7+125.77m	Reverse Crown	-2.00%	2.00%	144	7+581.17m	Begin Full Super	3.60%	-3.60%	152	8+021.68m	End Full Super	-3.60%	3.60%	160	8+328.63m	Reverse Crown	-2.00%	2.00%
136	7+133.32m	Begin Full Super	-3.60%	3.60%	144	7+594.09m	End Full Super	3.60%	-3.60%	152	8+029.23m	Reverse Crown	-2.00%	2.00%	160	8+338.29m	Level Crown	-2.00%	0.00%
136	7+145.71m	End Full Super	-3.60%	3.60%	144	7+601.65m	Reverse Crown	2.00%	-2.00%	152	8+038.68m	Level Crown	-2.00%	0.00%	160	8+347.96m	Begin Normal Crown	-2.00%	-2.00%
136	7+153.27m	Reverse Crown	-2.00%	2.00%	144	7+611.09m	Level Crown	0.00%	-2.00%	152	8+048.12m	Begin Normal Crown	-2.00%	-2.00%	161	8+327.36m	End Normal Crown	-2.00%	-2.00%
136	7+162.71m	Level Crown	-2.00%	0.00%	144	7+620.54m	Begin Normal Crown	-2.00%	-2.00%	153	8+014.26m	End Normal Crown	-2.00%	-2.00%	161	8+336.65m	Level Crown	-2.00%	0.00%
136	7+172.16m	Begin Normal Crown	-2.00%	-2.00%	145	7+599.80m	End Normal Crown	-2.00%	-2.00%	153	8+024.26m	Level Crown	0.00%	-2.00%	161	8+345.93m	Reverse Crown	-2.00%	2.00%
137	7+234.67m	End Normal Crown	-2.00%	-2.00%	145	7+609.33m	Level Crown	0.00%	-2.00%	153	8+034.26m	Reverse Crown	2.00%	-2.00%	161	8+349.65m	Begin Full Super	-2.80%	2.80%
137	7+244.00m	Level Crown	0.00%	-2.00%	145	7+618.85m	Reverse Crown	2.00%	-2.00%	153	8+036.26m	Begin Full Super	2.40%	-2.40%	161	8+367.61m	End Full Super	-2.80%	2.80%
137	7+253.34m	Reverse Crown	2.00%	-2.00%	145	7+629.33m	Begin Full Super	4.20%	-4.20%	153	8+051.31m	End Full Super	2.40%	-2.40%	161	8+371.33m	Reverse Crown	-2.00%	2.00%
137	7+258.00m	Begin Full Super	3.00%	-3.00%	145	7+655.01m	End Full Super	4.20%	-4.20%	153	8+053.31m	Reverse Crown	2.00%	-2.00%	161	8+380.61m	Level Crown	-2.00%	0.00%
137	7+290.11m	End Full Super	3.00%	-3.00%	145	7+665.49m	Reverse Crown	2.00%	-2.00%	153	8+063.31m	Level Crown	0.00%	-2.00%	161	8+389.90m	Begin Normal Crown	-2.00%	-2.00%
137	7+294.78m	Reverse Crown	2.00%	-2.00%	145	7+675.01m	Level Crown	0.00%	-2.00%	153	8+073.31m	Begin Normal Crown	-2.00%	-2.00%	162	8+359.98m	End Normal Crown	-2.00%	-2.00%
137	7+304.11m	Level Crown	0.00%	-2.00%	145	7+684.54m	Begin Normal Crown	-2.00%	-2.00%	154	8+043.47m	End Normal Crown	-2.00%	-2.00%	162	8+369.55m	Level Crown	-2.00%	0.00%
137	7+313.44m	Begin Normal Crown	-2.00%	-2.00%	146	7+652.81m	End Normal Crown	-2.00%	-2.00%	154	8+053.47m	Level Crown	-2.00%	0.00%	162	8+379.11m	Reverse Crown	-2.00%	2.00%
138	7+312.37m	End Normal Crown	-2.00%	-2.00%	146	7+662.33m	Level Crown	-2.00%	0.00%	154	8+063.47m	Reverse Crown	-2.00%	2.00%	162	8+391.55m	Begin Full Super	-4.60%	4.60%
138	7+321.84m	Level Crown	0.00%	-2.00%	146	7+671.86m	Reverse Crown	-2.00%	2.00%	154	8+065.47m	Begin Full Super	-2.40%	2.40%	162	8+405.72m	End Full Super	-4.60%	4.60%
138	7+331.31m	Reverse Crown	2.00%	-2.00%	146	7+681.95m	End Full Super	-4.20%	4.20%	154	8+075.57m	End Full Super	-2.40%	2.40%	162	8+418.16m	Reverse Crown	-2.00%	2.00%
138	7+339.84m	Begin Full Super	3.80%	-3.80%	146	7+682.33m	Begin Full Super	-4.20%	4.20%	154	8+077.57m	Reverse Crown	-2.00%	2.00%	162	8+427.72m	Level Crown	-2.00%	0.00%
138	7+350.17m	End Full Super	3.80%	-3.80%	146	7+692.43m	Reverse Crown	-2.00%	2.00%	154	8+087.57m	Level Crown	-2.00%	0.00%	162	8+437.29m	Begin Normal Crown	-2.00%	-2.00%
138	7+358.70m	Reverse Crown	2.00%	-2.00%	146	7+701.95m	Level Crown	-2.00%	0.00%	154	8+097.57m	Begin Normal Crown	-2.00%	-2.00%	163	8+420.02m	End Normal Crown	-2.00%	-2.00%
138	7+368.17m	Level Crown	0.00%	-2.00%	146	7+711.48m	Begin Normal Crown	-2.00%	-2.00%	155	8+064.90m	End Normal Crown	-2.00%	-2.00%	163	8+429.49m	Level Crown	0.00%	-2.00%
138	7+377.64m	Begin Normal Crown	-2.00%	-2.00%	147	7+671.80m	End Normal Crown	-2.00%	-2.00%	155	8+074.50m	Level Crown	0.00%	-2.00%	163	8+438.96m	Reverse Crown	2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN | SUBMITTED | RECOMMENDED | CHD./VER. | APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010E

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
163	8+447.49m	Begin Full Super	3.80%	-3.80%	171	9+006.74m	End Full Super	-6.00%	6.00%	179	9+485.59m	Reverse Crown	-2.00%	2.00%	187	9+862.72m	Level Crown	-2.00%	0.00%
163	8+532.66m	End Full Super	3.80%	-3.80%	171	9+026.08m	Reverse Crown	-2.00%	2.00%	179	9+495.09m	Level Crown	-2.00%	0.00%	187	9+872.35m	Begin Normal Crown	-2.00%	-2.00%
163	8+541.18m	Reverse Crown	2.00%	-2.00%	171	9+035.74m	Level Crown	-2.00%	0.00%	179	9+504.59m	Begin Normal Crown	-2.00%	-2.00%	188	9+822.26m	End Normal Crown	-2.00%	-2.00%
163	8+550.66m	Level Crown	0.00%	-2.00%	171	9+045.41m	Begin Normal Crown	-2.00%	-2.00%	180	9+467.72m	End Normal Crown	-2.00%	-2.00%	188	9+831.91m	Level Crown	0.00%	-2.00%
163	8+560.13m	Begin Normal Crown	-2.00%	-2.00%	172	9+019.33m	End Normal Crown	-2.00%	-2.00%	180	9+477.39m	Level Crown	-2.00%	0.00%	188	9+841.57m	Reverse Crown	2.00%	-2.00%
164	8+546.47m	End Normal Crown	-2.00%	-2.00%	172	9+028.78m	Level Crown	0.00%	-2.00%	180	9+487.06m	Reverse Crown	-2.00%	2.00%	188	9+859.91m	Begin Full Super	5.80%	-5.80%
164	8+555.97m	Level Crown	0.00%	-2.00%	172	9+038.22m	Reverse Crown	2.00%	-2.00%	180	9+506.39m	Begin Full Super	-6.00%	6.00%	188	9+864.71m	End Full Super	5.80%	-5.80%
164	8+565.47m	Reverse Crown	2.00%	-2.00%	172	9+045.78m	Begin Full Super	3.60%	-3.60%	180	9+514.16m	End Full Super	-6.00%	6.00%	188	9+883.06m	Reverse Crown	2.00%	-2.00%
164	8+574.97m	Begin Full Super	4.00%	-4.00%	172	9+059.02m	End Full Super	3.60%	-3.60%	180	9+533.49m	Reverse Crown	-2.00%	2.00%	188	9+892.71m	Level Crown	0.00%	-2.00%
164	8+587.28m	End Full Super	4.00%	-4.00%	172	9+066.58m	Reverse Crown	2.00%	-2.00%	180	9+543.16m	Level Crown	-2.00%	0.00%	188	9+902.37m	Begin Normal Crown	-2.00%	-2.00%
164	8+596.78m	Reverse Crown	2.00%	-2.00%	172	9+076.02m	Level Crown	0.00%	-2.00%	180	9+552.82m	Begin Normal Crown	-2.00%	-2.00%	189	9+852.68m	End Normal Crown	-2.00%	-2.00%
164	8+606.28m	Level Crown	0.00%	-2.00%	172	9+085.47m	Begin Normal Crown	-2.00%	-2.00%	181	9+515.59m	End Normal Crown	-2.00%	-2.00%	189	9+862.35m	Level Crown	-2.00%	0.00%
164	8+615.78m	Begin Normal Crown	-2.00%	-2.00%	173	9+049.44m	End Normal Crown	-2.00%	-2.00%	181	9+525.09m	Level Crown	-2.00%	0.00%	189	9+872.01m	Reverse Crown	-2.00%	2.00%
165	8+590.39m	End Normal Crown	-2.00%	-2.00%	173	9+058.94m	Level Crown	-2.00%	0.00%	181	9+534.59m	Reverse Crown	-2.00%	2.00%	189	9+890.47m	End Full Super	-6.00%	6.00%
165	8+599.96m	Level Crown	0.00%	-2.00%	173	9+068.44m	Reverse Crown	-2.00%	2.00%	181	9+544.09m	Begin Full Super	-4.00%	4.00%	189	9+891.35m	Begin Full Super	-6.00%	6.00%
165	8+609.52m	Reverse Crown	2.00%	-2.00%	173	9+077.94m	Begin Full Super	-4.00%	4.00%	181	9+568.56m	End Full Super	-4.00%	4.00%	189	9+909.80m	Reverse Crown	-2.00%	2.00%
165	8+621.96m	Begin Full Super	4.60%	-4.60%	173	9+094.16m	End Full Super	-4.00%	4.00%	181	9+578.06m	Reverse Crown	-2.00%	2.00%	189	9+919.47m	Level Crown	-2.00%	0.00%
165	8+631.73m	End Full Super	4.60%	-4.60%	173	9+103.66m	Reverse Crown	-2.00%	2.00%	181	9+587.56m	Level Crown	-2.00%	0.00%	189	9+929.14m	Begin Normal Crown	-2.00%	-2.00%
165	8+644.17m	Reverse Crown	2.00%	-2.00%	173	9+113.16m	Level Crown	-2.00%	0.00%	181	9+597.06m	Begin Normal Crown	-2.00%	-2.00%	190	9+879.34m	End Normal Crown	-2.00%	-2.00%
165	8+653.73m	Level Crown	0.00%	-2.00%	173	9+122.66m	Begin Normal Crown	-2.00%	-2.00%	182	9+576.78m	End Normal Crown	-2.00%	-2.00%	190	9+888.92m	Level Crown	0.00%	-2.00%
165	8+663.30m	Begin Normal Crown	-2.00%	-2.00%	174	9+104.92m	End Normal Crown	-2.00%	-2.00%	182	9+586.78m	Level Crown	0.00%	-2.00%	190	9+898.51m	Reverse Crown	2.00%	-2.00%
166	8+628.14m	End Normal Crown	-2.00%	-2.00%	174	9+114.40m	Level Crown	0.00%	-2.00%	182	9+596.78m	Reverse Crown	2.00%	-2.00%	190	9+911.92m	Begin Full Super	4.80%	-4.80%
166	8+637.66m	Level Crown	-2.00%	0.00%	174	9+123.87m	Reverse Crown	2.00%	-2.00%	182	9+598.78m	Begin Full Super	2.40%	-2.40%	190	9+931.64m	End Full Super	4.80%	-4.80%
166	8+647.18m	Reverse Crown	-2.00%	2.00%	174	9+132.40m	Begin Full Super	3.80%	-3.80%	182	9+609.29m	End Full Super	2.40%	-2.40%	190	9+945.06m	Reverse Crown	2.00%	-2.00%
166	8+657.66m	Begin Full Super	-4.20%	4.20%	174	9+162.56m	End Full Super	3.80%	-3.80%	182	9+611.29m	Reverse Crown	2.00%	-2.00%	190	9+954.64m	Level Crown	0.00%	-2.00%
166	8+670.99m	End Full Super	-4.20%	4.20%	174	9+171.09m	Reverse Crown	2.00%	-2.00%	182	9+621.29m	Level Crown	0.00%	-2.00%	190	9+964.23m	Begin Normal Crown	-2.00%	-2.00%
166	8+681.47m	Reverse Crown	-2.00%	2.00%	174	9+180.56m	Level Crown	0.00%	-2.00%	182	9+631.29m	Begin Normal Crown	-2.00%	-2.00%	191	9+972.23m	End Normal Crown	-2.00%	-2.00%
166	8+690.99m	Level Crown	-2.00%	0.00%	174	9+190.04m	Begin Normal Crown	-2.00%	-2.00%	183	9+617.36m	End Normal Crown	-2.00%	-2.00%	191	9+982.23m	Level Crown	-2.00%	0.00%
166	8+700.52m	Begin Normal Crown	-2.00%	-2.00%	175	9+154.46m	End Normal Crown	-2.00%	-2.00%	183	9+626.81m	Level Crown	0.00%	-2.00%	191	9+992.23m	Begin Full Super	-2.00%	2.00%
167	8+709.40m	End Normal Crown	-2.00%	-2.00%	175	9+164.11m	Level Crown	0.00%	-2.00%	183	9+636.25m	Reverse Crown	2.00%	-2.00%	191	9+992.23m	Reverse Crown	-2.00%	2.00%
167	8+718.97m	Level Crown	-2.00%	0.00%	175	9+173.77m	Reverse Crown	2.00%	-2.00%	183	9+643.81m	Begin Full Super	3.60%	-3.60%	191	10+037.14m	End Full Super	-2.00%	2.00%
167	8+728.54m	Reverse Crown	-2.00%	2.00%	175	9+192.11m	Begin Full Super	5.80%	-5.80%	183	9+660.99m	End Full Super	3.60%	-3.60%	191	10+037.14m	Reverse Crown	-2.00%	2.00%
167	8+740.97m	Begin Full Super	-4.60%	4.60%	175	9+195.21m	End Full Super	5.80%	-5.80%	183	9+668.55m	Reverse Crown	2.00%	-2.00%	191	10+047.14m	Level Crown	-2.00%	0.00%
167	8+776.63m	End Full Super	-4.60%	4.60%	175	9+213.56m	Reverse Crown	2.00%	-2.00%	183	9+677.99m	Level Crown	0.00%	-2.00%	191	10+057.14m	Begin Normal Crown	-2.00%	-2.00%
167	8+789.06m	Reverse Crown	-2.00%	2.00%	175	9+223.21m	Level Crown	0.00%	-2.00%	183	9+687.44m	Begin Normal Crown	-2.00%	-2.00%	192	10+067.63m	End Normal Crown	-2.00%	-2.00%
167	8+798.63m	Level Crown	-2.00%	0.00%	175	9+232.87m	Begin Normal Crown	-2.00%	-2.00%	184	9+668.82m	End Normal Crown	-2.00%	-2.00%	192	10+077.63m	Level Crown	0.00%	-2.00%
167	8+808.19m	Begin Normal Crown	-2.00%	-2.00%	176	9+193.45m	End Normal Crown	-2.00%	-2.00%	184	9+678.82m	Level Crown	-2.00%	0.00%	192	10+087.63m	Begin Full Super	2.00%	-2.00%
168	8+759.56m	End Normal Crown	-2.00%	-2.00%	176	9+202.97m	Level Crown	-2.00%	0.00%	184	9+688.82m	Reverse Crown	-2.00%	2.00%	192	10+087.63m	Reverse Crown	2.00%	-2.00%
168	8+769.19m	Level Crown	0.00%	-2.00%	176	9+212.49m	Reverse Crown	-2.00%	2.00%	184	9+689.82m	Begin Full Super	-2.20%	2.20%	192	10+122.33m	End Full Super	2.00%	-2.00%
168	8+778.82m	Reverse Crown	2.00%	-2.00%	176	9+222.97m	Begin Full Super	-4.20%	4.20%	184	9+709.49m	End Full Super	-2.20%	2.20%	192	10+122.33m	Reverse Crown	2.00%	-2.00%
168	8+795.19m	Begin Full Super	5.40%	-5.40%	176	9+269.96m	End Full Super	-4.20%	4.20%	184	9+710.49m	Reverse Crown	-2.00%	2.00%	192	10+132.33m	Level Crown	0.00%	-2.00%
168	8+830.16m	End Full Super	5.40%	-5.40%	176	9+280.43m	Reverse Crown	-2.00%	2.00%	184	9+720.49m	Level Crown	-2.00%	0.00%	192	10+142.33m	Begin Normal Crown	-2.00%	-2.00%
168	8+846.53m	Reverse Crown	2.00%	-2.00%	176	9+289.96m	Level Crown	-2.00%	0.00%	184	9+730.49m	Begin Normal Crown	-2.00%	-2.00%	193	10+122.83m	End Normal Crown	-2.00%	-2.00%
168	8+856.16m	Level Crown	0.00%	-2.00%	176	9+299.48m	Begin Normal Crown	-2.00%	-2.00%	185	9+699.28m	End Normal Crown	-2.00%	-2.00%	193	10+132.49m	Level Crown	-2.00%	0.00%
168	8+865.79m	Begin Normal Crown	-2.00%	-2.00%	177	9+299.22m	End Normal Crown	-2.00%	-2.00%	185	9+708.75m	Level Crown	0.00%	-2.00%	193	10+142.14m	Reverse Crown	-2.00%	2.00%
169	8+879.03m	End Normal Crown	-2.00%	-2.00%	177	9+308.88m	Level Crown	0.00%	-2.00%	185	9+718.22m	Reverse Crown	2.00%	-2.00%	193	10+160.49m	Begin Full Super	-5.80%	5.80%
169	8+888.59m	Level Crown	0.00%	-2.00%	177	9+318.55m	Reverse Crown	2.00%	-2.00%	185	9+726.75m	Begin Full Super	3.80%	-3.80%	193	10+171.63m	End Full Super	-5.80%	5.80%
169	8+898.16m	Reverse Crown	2.00%	-2.00%	177	9+337.88m	Begin Full Super	6.00%	-6.00%	185	9+736.82m	End Full Super	3.80%	-3.80%	193	10+189.97m	Reverse Crown	-2.00%	2.00%
169	8+910.59m	Begin Full Super	4.60%	-4.60%	177	9+355.29m	End Full Super	6.00%	-6.00%	185	9+745.34m	Reverse Crown	2.00%	-2.00%	193	10+199.63m	Level Crown	-2.00%	0.00%
169	8+920.60m	End Full Super	4.60%	-4.60%	177	9+374.62m	Reverse Crown	2.00%	-2.00%	185	9+754.82m	Level Crown	0.00%	-2.00%	193	10+209.28m	Begin Normal Crown	-2.00%	-2.00%
169	8+933.04m	Reverse Crown	2.00%	-2.00%	177	9+384.29m	Level Crown	0.00%	-2.00%	185	9+764.29m	Begin Normal Crown	-2.00%	-2.00%	194	10+160.99m	End Normal Crown	-2.00%	-2.00%
169	8+942.60m	Level Crown	0.00%	-2.00%	177	9+393.96m	Begin Normal Crown	-2.00%	-2.00%	186	9+743.03m	End Normal Crown	-2.00%	-2.00%	194	10+170.57m	Level Crown	0.00%	-2.00%
169	8+952.17m	Begin Normal Crown	-2.00%	-2.00%	178	9+380.96m	End Normal Crown	-2.00%	-2.00%	186	9+752.53m	Level Crown	-2.00%	0.00%	194	10+180.15m	Reverse Crown	2.00%	-2.00%
170	8+911.67m	End Normal Crown	-2.00%	-2.00%	178	9+390.96m	Level Crown	0.00%	-2.00%	186	9+762.03m	Reverse Crown	-2.00%	2.00%	194	10+193.57m	Begin Full Super	4.80%	-4.80%
170	8+921.30m	Level Crown	0.00%	-2.00%	178	9+400.96m	Reverse Crown	2.00%	-2.00%	186	9+771.53m	Begin Full Super	-4.00%	4.00%	194	10+220.42m	End Full Super	4.80%	-4.80%
170	8+930.93m	Reverse Crown	2.00%	-2.00%	178	9+402.96m	Begin Full Super	2.40%	-2.40%	186	9+777.40m	End Full Super	-4.00%	4.00%	194	10+233.84m	Reverse Crown	2.00%	-2.00%
170	8+947.30m	Begin Full Super	5.40%	-5.40%	178	9+420.66m	End Full Super	2.40%	-2.40%	186	9+786.90m	Reverse Crown	-2.00%	2.00%	194	10+243.42m	Level Crown	0.00%	-2.00%
170	8+951.52m	End Full Super	5.40%	-5.40%	178	9+422.66m	Reverse Crown	2.00%	-2.00%	186	9+796.40m	Level Crown	-2.00%	0.00%	194	10+253.00m	Begin Normal Crown	-2.00%	-2.00%
170	8+967.89m	Reverse Crown	2.00%	-2.00%	178	9+432.66m	Level Crown	0.00%	-2.00%	186	9+805.90m	Begin Normal Crown	-2.00%	-2.00%	195	10+218.62m	End Normal Crown	-2.00%	-2.00%
170	8+977.52m	Level Crown	0.00%	-2.00%	178	9+442.66m	Begin Normal Crown	-2.00%	-2.00%	187	9+795.03m	End Normal Crown	-2.00%	-2.00%	195	10+228.62m	Level Crown	0.00%	-2.00%
170	8+987.15m	Begin Normal Crown	-2.00%	-2.00%	179	9+430.28m	End Normal Crown	-2.00%	-2.00%	187	9+804.66m	Level Crown	-2.00%	0.00%	195	10+238.62m	Begin Full Super	2.00%	-2.00%
171	8+949.44m	End Normal Crown	-2.00%	-2.00%	179	9+439.78m	Level Crown	-2.00%	0.00%	187	9+814.29m	Reverse Crown	-2.00%	2.00%	195	10+238.62m	Reverse Crown	2.00%	-2.00%
171	8+959.10m	Level Crown	-2.00%	0.00%	179	9+449.28m	Reverse Crown	-2.00%	2.00%	187	9+830.66m	Begin Full Super	-5.40%	5.40%	195	10+246.02m	End Full Super	2.00%	-2.00%
171	8+968.77m	Reverse Crown	-2.00%	2.00%	179	9+458.78m	Begin Full Super	-4.00%	4.00%	187	9+836.72m	End Full Super	-5.40%	5.40%	195	10+246.02m	Reverse Crown	2.00%	-2.00%
171	8+988.10m	Begin Full Super	-6.00%	6.00%	179	9+476.09m	End Full Super	-4.00%	4.00%	187	9+853.09m	Reverse Crown	-2.00%	2.00%	195	10+256.02m	Level Crown	0.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN | SUBMITTED | RECOMMENDED | CHD./VER. | APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010F

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
195	10+266.02m	Begin Normal Crown	-2.00%	-2.00%	204	10+578.56m	End Normal Crown	-2.00%	-2.00%	212	10+923.45m	Level Crown	0.00%	-2.00%	220	11+188.83m	Reverse Crown	-2.00%	2.00%
196	10+252.47m	End Normal Crown	-2.00%	-2.00%	204	10+588.23m	Level Crown	-2.00%	0.00%	212	10+932.89m	Reverse Crown	2.00%	-2.00%	220	11+201.26m	Begin Full Super	-4.60%	4.60%
196	10+262.03m	Level Crown	-2.00%	0.00%	204	10+597.90m	Reverse Crown	-2.00%	2.00%	212	10+939.39m	End Full Super	3.60%	-3.60%	220	11+213.97m	End Full Super	-4.60%	4.60%
196	10+271.60m	Reverse Crown	-2.00%	2.00%	204	10+617.23m	Begin Full Super	-6.00%	6.00%	212	10+940.45m	Begin Full Super	3.60%	-3.60%	220	11+226.41m	Reverse Crown	-2.00%	2.00%
196	10+284.03m	Begin Full Super	-4.60%	4.60%	204	10+618.80m	End Full Super	-6.00%	6.00%	212	10+946.94m	Reverse Crown	2.00%	-2.00%	220	11+235.97m	Level Crown	-2.00%	0.00%
196	10+291.98m	End Full Super	-4.60%	4.60%	204	10+638.13m	Reverse Crown	-2.00%	2.00%	212	10+956.39m	Level Crown	0.00%	-2.00%	220	11+245.54m	Begin Normal Crown	-2.00%	-2.00%
196	10+304.41m	Reverse Crown	-2.00%	2.00%	204	10+647.80m	Level Crown	-2.00%	0.00%	212	10+965.83m	Begin Normal Crown	-2.00%	-2.00%	221	11+216.82m	End Normal Crown	-2.00%	-2.00%
196	10+313.98m	Level Crown	-2.00%	0.00%	204	10+657.46m	Begin Normal Crown	-2.00%	-2.00%	213	10+926.31m	End Normal Crown	-2.00%	-2.00%	221	11+226.48m	Level Crown	-2.00%	0.00%
196	10+323.55m	Begin Normal Crown	-2.00%	-2.00%	205	10+632.27m	End Normal Crown	-2.00%	-2.00%	213	10+935.97m	Level Crown	-2.00%	0.00%	221	11+236.15m	Reverse Crown	-2.00%	2.00%
197	10+283.28m	End Normal Crown	-2.00%	-2.00%	205	10+641.74m	Level Crown	-2.00%	0.00%	213	10+945.64m	Reverse Crown	-2.00%	2.00%	221	11+255.48m	Begin Full Super	-6.00%	6.00%
197	10+292.91m	Level Crown	0.00%	-2.00%	205	10+651.21m	Reverse Crown	-2.00%	2.00%	213	10+964.97m	Begin Full Super	-6.00%	6.00%	221	11+267.35m	End Full Super	-6.00%	6.00%
197	10+302.54m	Reverse Crown	2.00%	-2.00%	205	10+659.74m	Begin Full Super	-3.80%	3.80%	213	10+967.58m	End Full Super	-6.00%	6.00%	221	11+286.69m	Reverse Crown	-2.00%	2.00%
197	10+318.91m	Begin Full Super	5.40%	-5.40%	205	10+666.38m	End Full Super	-3.80%	3.80%	213	10+986.92m	Reverse Crown	-2.00%	2.00%	221	11+296.35m	Level Crown	-2.00%	0.00%
197	10+344.06m	End Full Super	5.40%	-5.40%	205	10+674.91m	Reverse Crown	-2.00%	2.00%	213	10+996.58m	Level Crown	-2.00%	0.00%	221	11+306.02m	Begin Normal Crown	-2.00%	-2.00%
197	10+360.43m	Reverse Crown	2.00%	-2.00%	205	10+684.38m	Level Crown	-2.00%	0.00%	213	11+006.25m	Begin Normal Crown	-2.00%	-2.00%	222	11+263.02m	End Normal Crown	-2.00%	-2.00%
197	10+370.06m	Level Crown	0.00%	-2.00%	205	10+693.85m	Begin Normal Crown	-2.00%	-2.00%	214	10+961.60m	End Normal Crown	-2.00%	-2.00%	222	11+272.68m	Level Crown	0.00%	-2.00%
197	10+379.69m	Begin Normal Crown	-2.00%	-2.00%	206	10+647.59m	End Normal Crown	-2.00%	-2.00%	214	10+971.17m	Level Crown	0.00%	-2.00%	222	11+282.35m	Reverse Crown	2.00%	-2.00%
198	10+355.24m	End Normal Crown	-2.00%	-2.00%	206	10+657.24m	Level Crown	-2.00%	0.00%	214	10+980.74m	Reverse Crown	2.00%	-2.00%	222	11+301.68m	Begin Full Super	6.00%	-6.00%
198	10+364.90m	Level Crown	-2.00%	0.00%	206	10+666.90m	Reverse Crown	-2.00%	2.00%	214	10+993.17m	Begin Full Super	4.60%	-4.60%	222	11+306.68m	End Full Super	6.00%	-6.00%
198	10+374.55m	Reverse Crown	-2.00%	2.00%	206	10+682.51m	End Full Super	-5.80%	5.80%	214	11+005.71m	End Full Super	4.60%	-4.60%	222	11+326.01m	Reverse Crown	2.00%	-2.00%
198	10+392.90m	Begin Full Super	-5.80%	5.80%	206	10+685.24m	Begin Full Super	-5.80%	5.80%	214	11+018.14m	Reverse Crown	2.00%	-2.00%	222	11+335.68m	Level Crown	0.00%	-2.00%
198	10+403.49m	End Full Super	-5.80%	5.80%	206	10+700.86m	Reverse Crown	-2.00%	2.00%	214	11+027.71m	Level Crown	0.00%	-2.00%	222	11+345.35m	Begin Normal Crown	-2.00%	-2.00%
198	10+421.84m	Reverse Crown	-2.00%	2.00%	206	10+710.51m	Level Crown	-2.00%	0.00%	214	11+037.27m	Begin Normal Crown	-2.00%	-2.00%	223	11+288.96m	End Normal Crown	-2.00%	-2.00%
198	10+431.49m	Level Crown	-2.00%	0.00%	206	10+720.17m	Begin Normal Crown	-2.00%	-2.00%	215	10+992.34m	End Normal Crown	-2.00%	-2.00%	223	11+298.63m	Level Crown	0.00%	-2.00%
198	10+441.15m	Begin Normal Crown	-2.00%	-2.00%	207	10+687.85m	End Normal Crown	-2.00%	-2.00%	215	11+002.01m	Level Crown	0.00%	-2.00%	223	11+308.30m	Reverse Crown	2.00%	-2.00%
199	10+421.50m	End Normal Crown	-2.00%	-2.00%	207	10+697.44m	Level Crown	0.00%	-2.00%	215	11+011.67m	Reverse Crown	2.00%	-2.00%	223	11+327.63m	Begin Full Super	6.00%	-6.00%
199	10+431.10m	Level Crown	0.00%	-2.00%	207	10+707.02m	Reverse Crown	2.00%	-2.00%	215	11+031.01m	Begin Full Super	6.00%	-6.00%	223	11+329.94m	End Full Super	6.00%	-6.00%
199	10+440.70m	Reverse Crown	2.00%	-2.00%	207	10+720.44m	Begin Full Super	4.80%	-4.80%	215	11+040.16m	End Full Super	6.00%	-6.00%	223	11+349.28m	Reverse Crown	2.00%	-2.00%
199	10+455.10m	Begin Full Super	5.00%	-5.00%	207	10+727.55m	End Full Super	4.80%	-4.80%	215	11+059.49m	Reverse Crown	2.00%	-2.00%	223	11+358.94m	Level Crown	0.00%	-2.00%
199	10+469.59m	End Full Super	5.00%	-5.00%	207	10+740.97m	Reverse Crown	2.00%	-2.00%	215	11+069.16m	Level Crown	0.00%	-2.00%	223	11+368.61m	Begin Normal Crown	-2.00%	-2.00%
199	10+483.99m	Reverse Crown	2.00%	-2.00%	207	10+750.55m	Level Crown	0.00%	-2.00%	215	11+078.82m	Begin Normal Crown	-2.00%	-2.00%	224	11+325.19m	End Normal Crown	-2.00%	-2.00%
199	10+493.59m	Level Crown	0.00%	-2.00%	207	10+760.14m	Begin Normal Crown	-2.00%	-2.00%	216	11+022.18m	End Normal Crown	-2.00%	-2.00%	224	11+334.74m	Level Crown	-2.00%	0.00%
199	10+503.19m	Begin Normal Crown	-2.00%	-2.00%	208	10+741.24m	End Normal Crown	-2.00%	-2.00%	216	11+031.84m	Level Crown	-2.00%	0.00%	224	11+344.28m	Reverse Crown	-2.00%	2.00%
200	10+454.82m	End Normal Crown	-2.00%	-2.00%	208	10+750.90m	Level Crown	0.00%	-2.00%	216	11+041.51m	Reverse Crown	-2.00%	2.00%	224	11+355.74m	Begin Full Super	-4.40%	4.40%
200	10+464.46m	Level Crown	-2.00%	0.00%	208	10+760.57m	Reverse Crown	2.00%	-2.00%	216	11+060.05m	End Full Super	-6.00%	6.00%	224	11+355.87m	End Full Super	-4.40%	4.40%
200	10+474.11m	Reverse Crown	-2.00%	2.00%	208	10+779.90m	Begin Full Super	6.00%	-6.00%	216	11+060.84m	Begin Full Super	-6.00%	6.00%	224	11+367.32m	Reverse Crown	-2.00%	2.00%
200	10+491.46m	Begin Full Super	-5.60%	5.60%	208	10+792.37m	End Full Super	6.00%	-6.00%	216	11+079.38m	Reverse Crown	-2.00%	2.00%	224	11+376.87m	Level Crown	-2.00%	0.00%
200	10+495.91m	End Full Super	-5.60%	5.60%	208	10+811.71m	Reverse Crown	2.00%	-2.00%	216	11+089.05m	Level Crown	-2.00%	0.00%	224	11+386.42m	Begin Normal Crown	-2.00%	-2.00%
200	10+513.27m	Reverse Crown	-2.00%	2.00%	208	10+821.37m	Level Crown	0.00%	-2.00%	216	11+098.72m	Begin Normal Crown	-2.00%	-2.00%	225	11+343.34m	End Normal Crown	-2.00%	-2.00%
200	10+522.91m	Level Crown	-2.00%	0.00%	208	10+831.04m	Begin Normal Crown	-2.00%	-2.00%	217	11+059.06m	End Normal Crown	-2.00%	-2.00%	225	11+352.84m	Level Crown	0.00%	-2.00%
200	10+532.56m	Begin Normal Crown	-2.00%	-2.00%	209	10+787.44m	End Normal Crown	-2.00%	-2.00%	217	11+068.56m	Level Crown	0.00%	-2.00%	225	11+362.34m	Reverse Crown	2.00%	-2.00%
201	10+489.32m	End Normal Crown	-2.00%	-2.00%	209	10+796.88m	Level Crown	-2.00%	0.00%	217	11+078.06m	Reverse Crown	2.00%	-2.00%	225	11+371.84m	Begin Full Super	4.00%	-4.00%
201	10+498.80m	Level Crown	0.00%	-2.00%	209	10+806.33m	Reverse Crown	-2.00%	2.00%	217	11+087.56m	Begin Full Super	4.00%	-4.00%	225	11+377.19m	End Full Super	4.00%	-4.00%
201	10+508.27m	Reverse Crown	2.00%	-2.00%	209	10+813.88m	Begin Full Super	-3.60%	3.60%	217	11+093.27m	End Full Super	4.00%	-4.00%	225	11+386.69m	Reverse Crown	2.00%	-2.00%
201	10+516.80m	Begin Full Super	3.80%	-3.80%	209	10+830.19m	End Full Super	-3.60%	3.60%	217	11+102.77m	Reverse Crown	2.00%	-2.00%	225	11+396.19m	Level Crown	0.00%	-2.00%
201	10+526.47m	End Full Super	3.80%	-3.80%	209	10+837.74m	Reverse Crown	-2.00%	2.00%	217	11+112.27m	Level Crown	0.00%	-2.00%	225	11+405.69m	Begin Normal Crown	-2.00%	-2.00%
201	10+535.00m	Reverse Crown	2.00%	-2.00%	209	10+847.19m	Level Crown	-2.00%	0.00%	217	11+121.77m	Begin Normal Crown	-2.00%	-2.00%	226	11+360.56m	End Normal Crown	-2.00%	-2.00%
201	10+544.47m	Level Crown	0.00%	-2.00%	209	10+856.63m	Begin Normal Crown	-2.00%	-2.00%	218	11+095.57m	End Normal Crown	-2.00%	-2.00%	226	11+370.19m	Level Crown	-2.00%	0.00%
201	10+553.94m	Begin Normal Crown	-2.00%	-2.00%	210	10+823.49m	End Normal Crown	-2.00%	-2.00%	218	11+105.13m	Level Crown	-2.00%	0.00%	226	11+379.82m	Reverse Crown	-2.00%	2.00%
202	10+525.05m	End Normal Crown	-2.00%	-2.00%	210	10+833.04m	Level Crown	-2.00%	0.00%	218	11+114.70m	Reverse Crown	-2.00%	2.00%	226	11+393.19m	End Full Super	-5.40%	5.40%
202	10+534.50m	Level Crown	0.00%	-2.00%	210	10+842.58m	Reverse Crown	-2.00%	2.00%	218	11+127.13m	Begin Full Super	-4.60%	4.60%	226	11+396.19m	Begin Full Super	-5.40%	5.40%
202	10+543.94m	Reverse Crown	2.00%	-2.00%	210	10+854.04m	Begin Full Super	-4.40%	4.40%	218	11+134.85m	End Full Super	-4.60%	4.60%	226	11+409.57m	Reverse Crown	-2.00%	2.00%
202	10+551.50m	Begin Full Super	3.60%	-3.60%	210	10+874.75m	End Full Super	-4.40%	4.40%	218	11+147.28m	Reverse Crown	-2.00%	2.00%	226	11+419.19m	Level Crown	-2.00%	0.00%
202	10+560.21m	End Full Super	3.60%	-3.60%	210	10+886.20m	Reverse Crown	-2.00%	2.00%	218	11+156.85m	Level Crown	-2.00%	0.00%	226	11+428.82m	Begin Normal Crown	-2.00%	-2.00%
202	10+567.77m	Reverse Crown	2.00%	-2.00%	210	10+895.75m	Level Crown	-2.00%	0.00%	218	11+166.41m	Begin Normal Crown	-2.00%	-2.00%	227	11+397.64m	End Normal Crown	-2.00%	-2.00%
202	10+577.21m	Level Crown	0.00%	-2.00%	210	10+905.30m	Begin Normal Crown	-2.00%	-2.00%	219	11+136.12m	End Normal Crown	-2.00%	-2.00%	227	11+407.30m	Level Crown	-2.00%	0.00%
202	10+586.65m	Begin Normal Crown	-2.00%	-2.00%	211	10+876.61m	End Normal Crown	-2.00%	-2.00%	219	11+145.79m	Level Crown	0.00%	-2.00%	227	11+416.97m	Reverse Crown	-2.00%	2.00%
203	10+548.89m	End Normal Crown	-2.00%	-2.00%	211	10+886.15m	Level Crown	-2.00%	0.00%	219	11+155.46m	Reverse Crown	2.00%	-2.00%	227	11+432.81m	End Full Super	-6.00%	6.00%
203	10+558.53m	Level Crown	0.00%	-2.00%	211	10+895.70m	Reverse Crown	-2.00%	2.00%	219	11+174.79m	Begin Full Super	6.00%	-6.00%	227	11+436.30m	Begin Full Super	-6.00%	6.00%
203	10+568.17m	Reverse Crown	2.00%	-2.00%	211	10+907.15m	Begin Full Super	-4.40%	4.40%	219	11+178.99m	End Full Super	6.00%	-6.00%	227	11+452.14m	Reverse Crown	-2.00%	2.00%
203	10+585.53m	Begin Full Super	5.60%	-5.60%	211	10+914.50m	End Full Super	-4.40%	4.40%	219	11+198.32m	Reverse Crown	2.00%	-2.00%	227	11+461.81m	Level Crown	-2.00%	0.00%
203	10+589.20m	End Full Super	5.60%	-5.60%	211	10+925.96m	Reverse Crown	-2.00%	2.00%	219	11+207.99m	Level Crown	0.00%	-2.00%	227	11+471.47m	Begin Normal Crown	-2.00%	-2.00%
203	10+606.56m	Reverse Crown	2.00%	-2.00%	211	10+935.50m	Level Crown	-2.00%	0.00%	219	11+217.65m	Begin Normal Crown	-2.00%	-2.00%	228	11+422.05m	End Normal Crown	-2.00%	-2.00%
203	10+616.20m	Level Crown	0.00%	-2.00%	211	10+945.05m	Begin Normal Crown	-2.00%	-2.00%	220	11+169.70m	End Normal Crown	-2.00%	-2.00%	228	11+431.70m	Level Crown	0.00%	-2.00%
203	10+625.84m	Begin Normal Crown	-2.00%	-2.00%	212	10+914.00m	End Normal Crown	-2.00%	-2.00%	220	11+179.26m	Level Crown	-2.00%	0.00%	228	11+441.34m	Reverse Crown	2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010G

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
228	11+458.70m	Begin Full Super	5.60%	-5.60%	236	11+670.34m	End Full Super	-4.60%	4.60%	244	11+991.18m	Reverse Crown	-2.00%	2.00%	252	12+354.89m	Level Crown	-2.00%	0.00%
228	11+470.85m	End Full Super	5.60%	-5.60%	236	11+682.78m	Reverse Crown	-2.00%	2.00%	244	12+000.59m	Level Crown	-2.00%	0.00%	252	12+364.43m	Begin Normal Crown	-2.00%	-2.00%
228	11+488.21m	Reverse Crown	2.00%	-2.00%	236	11+692.34m	Level Crown	-2.00%	0.00%	244	12+010.00m	Begin Normal Crown	-2.00%	-2.00%	253	12+336.84m	End Normal Crown	-2.00%	-2.00%
228	11+497.85m	Level Crown	0.00%	-2.00%	236	11+701.91m	Begin Normal Crown	-2.00%	-2.00%	245	11+976.98m	End Normal Crown	-2.00%	-2.00%	253	12+346.48m	Level Crown	0.00%	-2.00%
228	11+507.49m	Begin Normal Crown	-2.00%	-2.00%	237	11+657.04m	End Normal Crown	-2.00%	-2.00%	245	11+986.42m	Level Crown	0.00%	-2.00%	253	12+356.12m	Reverse Crown	2.00%	-2.00%
229	11+457.69m	End Normal Crown	-2.00%	-2.00%	237	11+666.67m	Level Crown	0.00%	-2.00%	245	11+995.87m	Reverse Crown	2.00%	-2.00%	253	12+367.73m	End Full Super	5.60%	-5.60%
229	11+467.36m	Level Crown	-2.00%	0.00%	237	11+676.30m	Reverse Crown	2.00%	-2.00%	245	12+003.42m	Begin Full Super	3.60%	-3.60%	253	12+373.48m	Begin Full Super	5.60%	-5.60%
229	11+477.02m	Reverse Crown	-2.00%	2.00%	237	11+691.29m	End Full Super	5.40%	-5.40%	245	12+042.65m	End Full Super	3.60%	-3.60%	253	12+385.08m	Reverse Crown	2.00%	-2.00%
229	11+492.74m	End Full Super	-6.00%	6.00%	237	11+692.67m	Begin Full Super	5.40%	-5.40%	245	12+050.21m	Reverse Crown	2.00%	-2.00%	253	12+394.73m	Level Crown	0.00%	-2.00%
229	11+496.36m	Begin Full Super	-6.00%	6.00%	237	11+707.66m	Reverse Crown	2.00%	-2.00%	245	12+059.65m	Level Crown	0.00%	-2.00%	253	12+404.37m	Begin Normal Crown	-2.00%	-2.00%
229	11+512.07m	Reverse Crown	-2.00%	2.00%	237	11+717.29m	Level Crown	0.00%	-2.00%	245	12+069.10m	Begin Normal Crown	-2.00%	-2.00%	254	12+349.11m	End Normal Crown	-2.00%	-2.00%
229	11+521.74m	Level Crown	-2.00%	0.00%	237	11+726.92m	Begin Normal Crown	-2.00%	-2.00%	246	12+081.81m	End Normal Crown	-2.00%	-2.00%	254	12+358.78m	Level Crown	0.00%	-2.00%
229	11+531.40m	Begin Normal Crown	-2.00%	-2.00%	238	11+683.51m	End Normal Crown	-2.00%	-2.00%	246	12+091.81m	Level Crown	-2.00%	0.00%	254	12+368.44m	Reverse Crown	2.00%	-2.00%
230	11+479.37m	End Normal Crown	-2.00%	-2.00%	238	11+693.18m	Level Crown	0.00%	-2.00%	246	12+101.81m	Begin Full Super	-2.00%	2.00%	254	12+387.78m	Begin Full Super	6.00%	-6.00%
230	11+489.01m	Level Crown	0.00%	-2.00%	238	11+702.84m	Reverse Crown	2.00%	-2.00%	246	12+101.81m	Reverse Crown	-2.00%	2.00%	254	12+393.28m	End Full Super	6.00%	-6.00%
230	11+498.65m	Reverse Crown	2.00%	-2.00%	238	11+722.18m	Begin Full Super	6.00%	-6.00%	246	12+116.12m	End Full Super	-2.00%	2.00%	254	12+412.61m	Reverse Crown	2.00%	-2.00%
230	11+514.68m	End Full Super	5.60%	-5.60%	238	11+725.73m	End Full Super	6.00%	-6.00%	246	12+116.12m	Reverse Crown	-2.00%	2.00%	254	12+422.28m	Level Crown	0.00%	-2.00%
230	11+516.01m	Begin Full Super	5.60%	-5.60%	238	11+745.06m	Reverse Crown	2.00%	-2.00%	246	12+126.12m	Level Crown	-2.00%	0.00%	254	12+431.94m	Begin Normal Crown	-2.00%	-2.00%
230	11+532.04m	Reverse Crown	2.00%	-2.00%	238	11+754.73m	Level Crown	0.00%	-2.00%	246	12+136.12m	Begin Normal Crown	-2.00%	-2.00%	255	12+395.91m	End Normal Crown	-2.00%	-2.00%
230	11+541.68m	Level Crown	0.00%	-2.00%	238	11+764.39m	Begin Normal Crown	-2.00%	-2.00%	247	12+110.66m	End Normal Crown	-2.00%	-2.00%	255	12+405.45m	Level Crown	-2.00%	0.00%
230	11+551.32m	Begin Normal Crown	-2.00%	-2.00%	239	11+745.63m	End Normal Crown	-2.00%	-2.00%	247	12+120.66m	Level Crown	0.00%	-2.00%	255	12+415.00m	Reverse Crown	-2.00%	2.00%
231	11+497.03m	End Normal Crown	-2.00%	-2.00%	239	11+755.30m	Level Crown	-2.00%	0.00%	247	12+130.66m	Begin Full Super	2.00%	-2.00%	255	12+426.45m	Begin Full Super	-4.40%	4.40%
231	11+506.66m	Level Crown	-2.00%	0.00%	239	11+764.97m	Reverse Crown	-2.00%	2.00%	247	12+130.66m	Reverse Crown	2.00%	-2.00%	255	12+436.00m	End Full Super	-4.40%	4.40%
231	11+516.29m	Reverse Crown	-2.00%	2.00%	239	11+784.30m	Begin Full Super	-6.00%	6.00%	247	12+143.16m	End Full Super	2.00%	-2.00%	255	12+447.46m	Reverse Crown	-2.00%	2.00%
231	11+532.66m	Begin Full Super	-5.40%	5.40%	239	11+792.60m	End Full Super	-6.00%	6.00%	247	12+143.16m	Reverse Crown	2.00%	-2.00%	255	12+457.00m	Level Crown	-2.00%	0.00%
231	11+532.68m	End Full Super	-5.40%	5.40%	239	11+811.94m	Reverse Crown	-2.00%	2.00%	247	12+153.16m	Level Crown	0.00%	-2.00%	255	12+466.55m	Begin Normal Crown	-2.00%	-2.00%
231	11+549.05m	Reverse Crown	-2.00%	2.00%	239	11+821.60m	Level Crown	-2.00%	0.00%	247	12+163.16m	Begin Normal Crown	-2.00%	-2.00%	256	12+422.89m	End Normal Crown	-2.00%	-2.00%
231	11+558.68m	Level Crown	-2.00%	0.00%	239	11+831.27m	Begin Normal Crown	-2.00%	-2.00%	248	12+131.03m	End Normal Crown	-2.00%	-2.00%	256	12+432.56m	Level Crown	0.00%	-2.00%
231	11+568.31m	Begin Normal Crown	-2.00%	-2.00%	240	11+789.84m	End Normal Crown	-2.00%	-2.00%	248	12+140.69m	Level Crown	-2.00%	0.00%	256	12+442.22m	Reverse Crown	2.00%	-2.00%
232	11+517.38m	End Normal Crown	-2.00%	-2.00%	240	11+799.34m	Level Crown	-2.00%	0.00%	248	12+150.34m	Reverse Crown	-2.00%	2.00%	256	12+461.56m	Begin Full Super	6.00%	-6.00%
232	11+526.98m	Level Crown	0.00%	-2.00%	240	11+808.84m	Reverse Crown	-2.00%	2.00%	248	12+165.00m	End Full Super	-5.80%	5.80%	256	12+466.31m	End Full Super	6.00%	-6.00%
232	11+536.58m	Reverse Crown	2.00%	-2.00%	240	11+818.34m	Begin Full Super	-4.00%	4.00%	248	12+168.69m	Begin Full Super	-5.80%	5.80%	256	12+485.64m	Reverse Crown	2.00%	-2.00%
232	11+550.98m	Begin Full Super	5.00%	-5.00%	240	11+824.96m	End Full Super	-4.00%	4.00%	248	12+183.35m	Reverse Crown	-2.00%	2.00%	256	12+495.31m	Level Crown	0.00%	-2.00%
232	11+558.82m	End Full Super	5.00%	-5.00%	240	11+834.46m	Reverse Crown	-2.00%	2.00%	248	12+193.00m	Level Crown	-2.00%	0.00%	256	12+504.97m	Begin Normal Crown	-2.00%	-2.00%
232	11+573.22m	Reverse Crown	2.00%	-2.00%	240	11+843.96m	Level Crown	-2.00%	0.00%	248	12+202.66m	Begin Normal Crown	-2.00%	-2.00%	257	12+461.97m	End Normal Crown	-2.00%	-2.00%
232	11+582.82m	Level Crown	0.00%	-2.00%	240	11+853.46m	Begin Normal Crown	-2.00%	-2.00%	249	12+156.21m	End Normal Crown	-2.00%	-2.00%	257	12+471.64m	Level Crown	-2.00%	0.00%
232	11+592.42m	Begin Normal Crown	-2.00%	-2.00%	241	11+824.70m	End Normal Crown	-2.00%	-2.00%	249	12+165.81m	Level Crown	0.00%	-2.00%	257	12+481.31m	Reverse Crown	-2.00%	2.00%
233	11+558.49m	End Normal Crown	-2.00%	-2.00%	241	11+834.04m	Level Crown	0.00%	-2.00%	249	12+175.41m	Reverse Crown	2.00%	-2.00%	257	12+500.64m	Begin Full Super	-6.00%	6.00%
233	11+568.16m	Level Crown	-2.00%	0.00%	241	11+843.37m	Reverse Crown	2.00%	-2.00%	249	12+185.64m	End Full Super	5.00%	-5.00%	257	12+507.39m	End Full Super	-6.00%	6.00%
233	11+577.82m	Reverse Crown	-2.00%	2.00%	241	11+848.04m	Begin Full Super	3.00%	-3.00%	249	12+189.81m	Begin Full Super	5.00%	-5.00%	257	12+526.72m	Reverse Crown	-2.00%	2.00%
233	11+592.12m	End Full Super	-6.00%	6.00%	241	11+875.67m	End Full Super	3.00%	-3.00%	249	12+200.04m	Reverse Crown	2.00%	-2.00%	257	12+536.39m	Level Crown	-2.00%	0.00%
233	11+597.16m	Begin Full Super	-6.00%	6.00%	241	11+880.33m	Reverse Crown	2.00%	-2.00%	249	12+209.64m	Level Crown	0.00%	-2.00%	257	12+546.05m	Begin Normal Crown	-2.00%	-2.00%
233	11+611.46m	Reverse Crown	-2.00%	2.00%	241	11+889.67m	Level Crown	0.00%	-2.00%	249	12+219.24m	Begin Normal Crown	-2.00%	-2.00%	258	12+509.93m	End Normal Crown	-2.00%	-2.00%
233	11+621.12m	Level Crown	-2.00%	0.00%	241	11+899.00m	Begin Normal Crown	-2.00%	-2.00%	250	12+180.58m	End Normal Crown	-2.00%	-2.00%	258	12+519.45m	Level Crown	-2.00%	0.00%
233	11+630.79m	Begin Normal Crown	-2.00%	-2.00%	242	11+878.18m	End Normal Crown	-2.00%	-2.00%	250	12+189.95m	Level Crown	-2.00%	0.00%	258	12+528.97m	Reverse Crown	-2.00%	2.00%
234	11+586.05m	End Normal Crown	-2.00%	-2.00%	242	11+887.47m	Level Crown	-2.00%	0.00%	250	12+199.33m	Reverse Crown	-2.00%	2.00%	258	12+539.45m	Begin Full Super	-4.20%	4.20%
234	11+595.63m	Level Crown	-2.00%	0.00%	242	11+896.76m	Reverse Crown	-2.00%	2.00%	250	12+204.95m	Begin Full Super	-3.20%	3.20%	258	12+560.56m	End Full Super	-4.20%	4.20%
234	11+605.22m	Reverse Crown	-2.00%	2.00%	242	11+900.47m	Begin Full Super	-2.80%	2.80%	250	12+221.99m	End Full Super	-3.20%	3.20%	258	12+571.04m	Reverse Crown	-2.00%	2.00%
234	11+618.63m	Begin Full Super	-4.80%	4.80%	242	11+911.68m	End Full Super	-2.80%	2.80%	250	12+227.62m	Reverse Crown	-2.00%	2.00%	258	12+580.56m	Level Crown	-2.00%	0.00%
234	11+622.85m	End Full Super	-4.80%	4.80%	242	11+915.39m	Reverse Crown	-2.00%	2.00%	250	12+236.99m	Level Crown	-2.00%	0.00%	258	12+590.09m	Begin Normal Crown	-2.00%	-2.00%
234	11+636.27m	Reverse Crown	-2.00%	2.00%	242	11+924.68m	Level Crown	-2.00%	0.00%	250	12+246.37m	Begin Normal Crown	-2.00%	-2.00%	259	12+546.32m	End Normal Crown	-2.00%	-2.00%
234	11+645.85m	Level Crown	-2.00%	0.00%	242	11+933.96m	Begin Normal Crown	-2.00%	-2.00%	251	12+210.27m	End Normal Crown	-2.00%	-2.00%	259	12+555.92m	Level Crown	0.00%	-2.00%
234	11+655.44m	Begin Normal Crown	-2.00%	-2.00%	243	11+897.98m	End Normal Crown	-2.00%	-2.00%	251	12+219.64m	Level Crown	-2.00%	0.00%	259	12+565.52m	Reverse Crown	2.00%	-2.00%
235	11+606.92m	End Normal Crown	-2.00%	-2.00%	243	11+907.50m	Level Crown	0.00%	-2.00%	251	12+229.02m	Reverse Crown	-2.00%	2.00%	259	12+576.22m	End Full Super	5.00%	-5.00%
235	11+616.59m	Level Crown	0.00%	-2.00%	243	11+917.03m	Reverse Crown	2.00%	-2.00%	251	12+234.64m	Begin Full Super	-3.20%	3.20%	259	12+579.92m	Begin Full Super	5.00%	-5.00%
235	11+626.26m	Reverse Crown	2.00%	-2.00%	243	11+927.50m	Begin Full Super	4.20%	-4.20%	251	12+266.55m	End Full Super	-3.20%	3.20%	259	12+590.62m	Reverse Crown	2.00%	-2.00%
235	11+638.42m	End Full Super	6.00%	-6.00%	243	11+932.20m	End Full Super	4.20%	-4.20%	251	12+272.17m	Reverse Crown	-2.00%	2.00%	259	12+600.22m	Level Crown	0.00%	-2.00%
235	11+645.59m	Begin Full Super	6.00%	-6.00%	243	11+942.67m	Reverse Crown	2.00%	-2.00%	251	12+281.55m	Level Crown	-2.00%	0.00%	259	12+609.82m	Begin Normal Crown	-2.00%	-2.00%
235	11+657.75m	Reverse Crown	2.00%	-2.00%	243	11+952.20m	Level Crown	0.00%	-2.00%	251	12+290.92m	Begin Normal Crown	-2.00%	-2.00%	260	12+585.50m	End Normal Crown	-2.00%	-2.00%
235	11+667.42m	Level Crown	0.00%	-2.00%	243	11+961.72m	Begin Normal Crown	-2.00%	-2.00%	252	12+285.39m	End Normal Crown	-2.00%	-2.00%	260	12+595.02m	Level Crown	0.00%	-2.00%
235	11+677.09m	Begin Normal Crown	-2.00%	-2.00%	244	11+942.47m	End Normal Crown	-2.00%	-2.00%	252	12+294.94m	Level Crown	-2.00%	0.00%	260	12+604.55m	Reverse Crown	2.00%	-2.00%
236	11+629.23m	End Normal Crown	-2.00%	-2.00%	244	11+951.89m	Level Crown	-2.00%	0.00%	252	12+304.49m	Reverse Crown	-2.00%	2.00%	260	12+615.02m	Begin Full Super	4.20%	-4.20%
236	11+638.80m	Level Crown	-2.00%	0.00%	244	11+961.30m	Reverse Crown	-2.00%	2.00%	252	12+315.94m	Begin Full Super	-4.40%	4.40%	260	12+628.11m	End Full Super	4.20%	-4.20%
236	11+648.36m	Reverse Crown	-2.00%	2.00%	244	11+967.89m	Begin Full Super	-3.40%	3.40%	252	12+333.89m	End Full Super	-4.40%	4.40%	260	12+638.58m	Reverse Crown	2.00%	-2.00%
236	11+660.80m	Begin Full Super	-4.60%	4.60%	244	11+984.59m	End Full Super	-3.40%	3.40%	252	12+345.34m	Reverse Crown	-2.00%	2.00%	260	12+648.11m	Level Crown	0.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN
SUBMITTED
RECOMMENDED
CHD./VER.
APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010H

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
260	12+657.63m	Begin Normal Crown	-2.00%	-2.00%	269	12+869.90m	End Normal Crown	-2.00%	-2.00%	277	13+277.95m	Level Crown	-2.00%	0.00%	285	13+596.94m	Reverse Crown	2.00%	-2.00%
261	12+624.00m	End Normal Crown	-2.00%	-2.00%	269	12+879.57m	Level Crown	0.00%	-2.00%	277	13+287.61m	Reverse Crown	-2.00%	2.00%	285	13+616.28m	Begin Full Super	6.00%	-6.00%
261	12+633.28m	Level Crown	0.00%	-2.00%	269	12+889.24m	Reverse Crown	2.00%	-2.00%	277	13+306.95m	Begin Full Super	-6.00%	6.00%	285	13+620.29m	End Full Super	6.00%	-6.00%
261	12+642.57m	Reverse Crown	2.00%	-2.00%	269	12+903.94m	End Full Super	6.00%	-6.00%	277	13+310.42m	End Full Super	-6.00%	6.00%	285	13+639.63m	Reverse Crown	2.00%	-2.00%
261	12+646.28m	Begin Full Super	2.80%	-2.80%	269	12+908.57m	Begin Full Super	6.00%	-6.00%	277	13+329.75m	Reverse Crown	-2.00%	2.00%	285	13+649.29m	Level Crown	0.00%	-2.00%
261	12+655.70m	End Full Super	2.80%	-2.80%	269	12+923.27m	Reverse Crown	2.00%	-2.00%	277	13+339.42m	Level Crown	-2.00%	0.00%	285	13+658.96m	Begin Normal Crown	-2.00%	-2.00%
261	12+659.42m	Reverse Crown	2.00%	-2.00%	269	12+932.94m	Level Crown	0.00%	-2.00%	277	13+349.08m	Begin Normal Crown	-2.00%	-2.00%	286	13+620.08m	End Normal Crown	-2.00%	-2.00%
261	12+668.70m	Level Crown	0.00%	-2.00%	269	12+942.61m	Begin Normal Crown	-2.00%	-2.00%	278	13+291.09m	End Normal Crown	-2.00%	-2.00%	286	13+629.69m	Level Crown	-2.00%	0.00%
261	12+677.99m	Begin Normal Crown	-2.00%	-2.00%	270	12+915.18m	End Normal Crown	-2.00%	-2.00%	278	13+300.75m	Level Crown	-2.00%	0.00%	286	13+639.31m	Reverse Crown	-2.00%	2.00%
262	12+646.32m	End Normal Crown	-2.00%	-2.00%	270	12+924.79m	Level Crown	0.00%	-2.00%	278	13+310.42m	Reverse Crown	-2.00%	2.00%	286	13+654.69m	Begin Full Super	-5.20%	5.20%
262	12+655.73m	Level Crown	-2.00%	0.00%	270	12+934.41m	Reverse Crown	2.00%	-2.00%	278	13+328.83m	End Full Super	-6.00%	6.00%	286	13+675.26m	End Full Super	-5.20%	5.20%
262	12+665.15m	Reverse Crown	-2.00%	2.00%	270	12+949.79m	Begin Full Super	5.20%	-5.20%	278	13+329.75m	Begin Full Super	-6.00%	6.00%	286	13+690.65m	Reverse Crown	-2.00%	2.00%
262	12+671.73m	Begin Full Super	-3.40%	3.40%	270	12+962.56m	End Full Super	5.20%	-5.20%	278	13+348.16m	Reverse Crown	-2.00%	2.00%	286	13+700.26m	Level Crown	-2.00%	0.00%
262	12+671.84m	End Full Super	-3.40%	3.40%	270	12+977.95m	Reverse Crown	2.00%	-2.00%	278	13+357.83m	Level Crown	-2.00%	0.00%	286	13+709.88m	Begin Normal Crown	-2.00%	-2.00%
262	12+678.43m	Reverse Crown	-2.00%	2.00%	270	12+987.56m	Level Crown	0.00%	-2.00%	278	13+367.49m	Begin Normal Crown	-2.00%	-2.00%	287	13+661.86m	End Normal Crown	-2.00%	-2.00%
262	12+687.84m	Level Crown	-2.00%	0.00%	270	12+997.18m	Begin Normal Crown	-2.00%	-2.00%	279	13+332.41m	End Normal Crown	-2.00%	-2.00%	287	13+671.47m	Level Crown	0.00%	-2.00%
262	12+697.25m	Begin Normal Crown	-2.00%	-2.00%	271	12+950.69m	End Normal Crown	-2.00%	-2.00%	279	13+341.91m	Level Crown	0.00%	-2.00%	287	13+681.09m	Reverse Crown	2.00%	-2.00%
263	12+664.53m	End Normal Crown	-2.00%	-2.00%	271	12+960.36m	Level Crown	-2.00%	0.00%	279	13+351.41m	Reverse Crown	2.00%	-2.00%	287	13+696.47m	Begin Full Super	5.20%	-5.20%
263	12+673.87m	Level Crown	-2.00%	0.00%	271	12+970.03m	Reverse Crown	-2.00%	2.00%	279	13+359.03m	End Full Super	4.00%	-4.00%	287	13+703.98m	End Full Super	5.20%	-5.20%
263	12+683.20m	Reverse Crown	-2.00%	2.00%	271	12+987.82m	End Full Super	-6.00%	6.00%	279	13+360.91m	Begin Full Super	4.00%	-4.00%	287	13+719.36m	Reverse Crown	2.00%	-2.00%
263	12+687.87m	Begin Full Super	-3.00%	3.00%	271	12+989.36m	Begin Full Super	-6.00%	6.00%	279	13+368.53m	Reverse Crown	2.00%	-2.00%	287	13+728.98m	Level Crown	0.00%	-2.00%
263	12+695.27m	End Full Super	-3.00%	3.00%	271	13+007.15m	Reverse Crown	-2.00%	2.00%	279	13+378.03m	Level Crown	0.00%	-2.00%	287	13+738.59m	Begin Normal Crown	-2.00%	-2.00%
263	12+699.94m	Reverse Crown	-2.00%	2.00%	271	13+016.82m	Level Crown	-2.00%	0.00%	279	13+387.53m	Begin Normal Crown	-2.00%	-2.00%	288	13+690.55m	End Normal Crown	-2.00%	-2.00%
263	12+709.27m	Level Crown	-2.00%	0.00%	271	13+026.49m	Begin Normal Crown	-2.00%	-2.00%	280	13+364.13m	End Normal Crown	-2.00%	-2.00%	288	13+700.22m	Level Crown	-2.00%	0.00%
263	12+718.60m	Begin Normal Crown	-2.00%	-2.00%	272	12+995.47m	End Normal Crown	-2.00%	-2.00%	280	13+373.41m	Level Crown	-2.00%	0.00%	288	13+709.89m	Reverse Crown	-2.00%	2.00%
264	12+731.31m	End Normal Crown	-2.00%	-2.00%	272	13+005.07m	Level Crown	0.00%	-2.00%	280	13+382.70m	Reverse Crown	-2.00%	2.00%	288	13+729.22m	Begin Full Super	-6.00%	6.00%
264	12+740.94m	Level Crown	-2.00%	0.00%	272	13+014.67m	Reverse Crown	2.00%	-2.00%	280	13+386.41m	Begin Full Super	-2.80%	2.80%	288	13+748.46m	End Full Super	-6.00%	6.00%
264	12+750.57m	Reverse Crown	-2.00%	2.00%	272	13+029.07m	Begin Full Super	5.00%	-5.00%	280	13+409.83m	End Full Super	-2.80%	2.80%	288	13+767.79m	Reverse Crown	-2.00%	2.00%
264	12+766.67m	End Full Super	-5.40%	5.40%	272	13+037.89m	End Full Super	5.00%	-5.00%	280	13+413.54m	Reverse Crown	-2.00%	2.00%	288	13+777.46m	Level Crown	-2.00%	0.00%
264	12+766.94m	Begin Full Super	-5.40%	5.40%	272	13+052.29m	Reverse Crown	2.00%	-2.00%	280	13+422.83m	Level Crown	-2.00%	0.00%	288	13+787.12m	Begin Normal Crown	-2.00%	-2.00%
264	12+783.04m	Reverse Crown	-2.00%	2.00%	272	13+061.89m	Level Crown	0.00%	-2.00%	280	13+432.11m	Begin Normal Crown	-2.00%	-2.00%	289	13+733.49m	End Normal Crown	-2.00%	-2.00%
264	12+792.67m	Level Crown	-2.00%	0.00%	272	13+071.49m	Begin Normal Crown	-2.00%	-2.00%	281	13+409.21m	End Normal Crown	-2.00%	-2.00%	289	13+743.09m	Level Crown	-2.00%	0.00%
264	12+802.30m	Begin Normal Crown	-2.00%	-2.00%	273	13+041.12m	End Normal Crown	-2.00%	-2.00%	281	13+418.73m	Level Crown	0.00%	-2.00%	289	13+752.69m	Reverse Crown	-2.00%	2.00%
265	12+769.37m	End Normal Crown	-2.00%	-2.00%	273	13+050.57m	Level Crown	0.00%	-2.00%	281	13+428.25m	Reverse Crown	2.00%	-2.00%	289	13+761.90m	End Full Super	-5.00%	5.00%
265	12+778.84m	Level Crown	0.00%	-2.00%	273	13+060.01m	Reverse Crown	2.00%	-2.00%	281	13+438.73m	Begin Full Super	4.20%	-4.20%	289	13+767.09m	Begin Full Super	-5.00%	5.00%
265	12+788.31m	Reverse Crown	2.00%	-2.00%	273	13+067.57m	Begin Full Super	3.60%	-3.60%	281	13+448.71m	End Full Super	4.20%	-4.20%	289	13+776.30m	Reverse Crown	-2.00%	2.00%
265	12+796.84m	Begin Full Super	3.80%	-3.80%	273	13+071.69m	End Full Super	3.60%	-3.60%	281	13+459.19m	Reverse Crown	2.00%	-2.00%	289	13+785.90m	Level Crown	-2.00%	0.00%
265	12+802.28m	End Full Super	3.80%	-3.80%	273	13+079.24m	Reverse Crown	2.00%	-2.00%	281	13+468.71m	Level Crown	0.00%	-2.00%	289	13+795.50m	Begin Normal Crown	-2.00%	-2.00%
265	12+810.81m	Reverse Crown	2.00%	-2.00%	273	13+088.69m	Level Crown	0.00%	-2.00%	281	13+478.23m	Begin Normal Crown	-2.00%	-2.00%	290	13+747.82m	End Normal Crown	-2.00%	-2.00%
265	12+820.28m	Level Crown	0.00%	-2.00%	273	13+098.13m	Begin Normal Crown	-2.00%	-2.00%	282	13+437.86m	End Normal Crown	-2.00%	-2.00%	290	13+757.37m	Level Crown	-2.00%	0.00%
265	12+829.75m	Begin Normal Crown	-2.00%	-2.00%	274	13+134.74m	End Normal Crown	-2.00%	-2.00%	282	13+447.53m	Level Crown	0.00%	-2.00%	290	13+766.91m	Reverse Crown	-2.00%	2.00%
266	12+800.01m	End Normal Crown	-2.00%	-2.00%	274	13+144.34m	Level Crown	-2.00%	0.00%	282	13+457.19m	Reverse Crown	2.00%	-2.00%	290	13+778.37m	Begin Full Super	-4.40%	4.40%
266	12+809.48m	Level Crown	-2.00%	0.00%	274	13+153.94m	Reverse Crown	-2.00%	2.00%	282	13+476.53m	Begin Full Super	6.00%	-6.00%	290	13+811.03m	End Full Super	-4.40%	4.40%
266	12+818.96m	Reverse Crown	-2.00%	2.00%	274	13+168.34m	Begin Full Super	-5.00%	5.00%	282	13+482.85m	End Full Super	6.00%	-6.00%	290	13+822.48m	Reverse Crown	-2.00%	2.00%
266	12+827.48m	Begin Full Super	-3.80%	3.80%	274	13+174.56m	End Full Super	-5.00%	5.00%	282	13+502.18m	Reverse Crown	2.00%	-2.00%	290	13+832.03m	Level Crown	-2.00%	0.00%
266	12+843.54m	End Full Super	-3.80%	3.80%	274	13+188.96m	Reverse Crown	-2.00%	2.00%	282	13+511.85m	Level Crown	0.00%	-2.00%	290	13+841.57m	Begin Normal Crown	-2.00%	-2.00%
266	12+852.06m	Reverse Crown	-2.00%	2.00%	274	13+198.56m	Level Crown	-2.00%	0.00%	282	13+521.51m	Begin Normal Crown	-2.00%	-2.00%	291	13+833.36m	End Normal Crown	-2.00%	-2.00%
266	12+861.54m	Level Crown	-2.00%	0.00%	274	13+208.16m	Begin Normal Crown	-2.00%	-2.00%	283	13+539.82m	End Normal Crown	-2.00%	-2.00%	291	13+843.36m	Level Crown	0.00%	-2.00%
266	12+871.01m	Begin Normal Crown	-2.00%	-2.00%	275	13+161.96m	End Normal Crown	-2.00%	-2.00%	283	13+549.82m	Level Crown	-2.00%	0.00%	291	13+853.36m	Reverse Crown	2.00%	-2.00%
267	12+832.52m	End Normal Crown	-2.00%	-2.00%	275	13+171.62m	Level Crown	0.00%	-2.00%	283	13+559.82m	Reverse Crown	-2.00%	2.00%	291	13+854.36m	Begin Full Super	2.20%	-2.20%
267	12+842.11m	Level Crown	0.00%	-2.00%	275	13+181.29m	Reverse Crown	2.00%	-2.00%	283	13+560.82m	Begin Full Super	-2.20%	2.20%	291	13+875.71m	End Full Super	2.20%	-2.20%
267	12+851.69m	Reverse Crown	2.00%	-2.00%	275	13+200.62m	Begin Full Super	6.00%	-6.00%	283	13+573.24m	End Full Super	-2.20%	2.20%	291	13+876.71m	Reverse Crown	2.00%	-2.00%
267	12+865.11m	Begin Full Super	4.80%	-4.80%	275	13+213.78m	End Full Super	6.00%	-6.00%	283	13+574.24m	Reverse Crown	-2.00%	2.00%	291	13+886.71m	Level Crown	0.00%	-2.00%
267	12+865.80m	End Full Super	4.80%	-4.80%	275	13+233.11m	Reverse Crown	2.00%	-2.00%	283	13+584.24m	Level Crown	-2.00%	0.00%	291	13+896.71m	Begin Normal Crown	-2.00%	-2.00%
267	12+879.21m	Reverse Crown	2.00%	-2.00%	275	13+242.78m	Level Crown	0.00%	-2.00%	283	13+594.24m	Begin Normal Crown	-2.00%	-2.00%	292	13+863.83m	End Normal Crown	-2.00%	-2.00%
267	12+888.80m	Level Crown	0.00%	-2.00%	275	13+252.45m	Begin Normal Crown	-2.00%	-2.00%	284	13+565.90m	End Normal Crown	-2.00%	-2.00%	292	13+873.48m	Level Crown	-2.00%	0.00%
267	12+898.38m	Begin Normal Crown	-2.00%	-2.00%	276	13+194.83m	End Normal Crown	-2.00%	-2.00%	284	13+575.90m	Level Crown	-2.00%	0.00%	292	13+883.14m	Reverse Crown	-2.00%	2.00%
268	12+848.67m	End Normal Crown	-2.00%	-2.00%	276	13+204.49m	Level Crown	0.00%	-2.00%	284	13+585.90m	Reverse Crown	-2.00%	2.00%	292	13+901.48m	Begin Full Super	-5.80%	5.80%
268	12+858.33m	Level Crown	-2.00%	0.00%	276	13+214.16m	Reverse Crown	2.00%	-2.00%	284	13+587.90m	Begin Full Super	-2.40%	2.40%	292	13+911.23m	End Full Super	-5.80%	5.80%
268	12+868.00m	Reverse Crown	-2.00%	2.00%	276	13+226.19m	End Full Super	6.00%	-6.00%	284	13+597.92m	End Full Super	-2.40%	2.40%	292	13+929.57m	Reverse Crown	-2.00%	2.00%
268	12+887.33m	Begin Full Super	-6.00%	6.00%	276	13+233.49m	Begin Full Super	6.00%	-6.00%	284	13+599.92m	Reverse Crown	-2.00%	2.00%	292	13+939.23m	Level Crown	-2.00%	0.00%
268	12+888.46m	End Full Super	-6.00%	6.00%	276	13+245.53m	Reverse Crown	2.00%	-2.00%	284	13+609.92m	Level Crown	-2.00%	0.00%	292	13+948.88m	Begin Normal Crown	-2.00%	-2.00%
268	12+907.79m	Reverse Crown	-2.00%	2.00%	276	13+255.19m	Level Crown	0.00%	-2.00%	284	13+619.92m	Begin Normal Crown	-2.00%	-2.00%	293	13+892.88m	End Normal Crown	-2.00%	-2.00%
268	12+917.46m	Level Crown	-2.00%	0.00%	276	13+264.86m	Begin Normal Crown	-2.00%	-2.00%	285	13+577.61m	End Normal Crown	-2.00%	-2.00%	293	13+902.55m	Level Crown	0.00%	-2.00%
268	12+927.12m	Begin Normal Crown	-2.00%	-2.00%	277	13+268.28m	End Normal Crown	-2.00%	-2.00%	285	13+587.28m	Level Crown	0.00%	-2.00%	293	13+912.21m	Reverse Crown	2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD00101

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
293	13+929.06m	End Full Super	6.00%	-6.00%	301	14+205.80m	End Full Super	5.00%	-5.00%	309	14+470.26m	Reverse Crown	-2.00%	2.00%	317	14+722.00m	Level Crown	0.00%	-2.00%
293	13+931.55m	Begin Full Super	6.00%	-6.00%	301	14+220.20m	Reverse Crown	2.00%	-2.00%	309	14+479.92m	Level Crown	-2.00%	0.00%	317	14+731.65m	Begin Normal Crown	-2.00%	-2.00%
293	13+948.40m	Reverse Crown	2.00%	-2.00%	301	14+229.80m	Level Crown	0.00%	-2.00%	309	14+489.59m	Begin Normal Crown	-2.00%	-2.00%	318	14+680.13m	End Normal Crown	-2.00%	-2.00%
293	13+958.06m	Level Crown	0.00%	-2.00%	301	14+239.40m	Begin Normal Crown	-2.00%	-2.00%	310	14+437.82m	End Normal Crown	-2.00%	-2.00%	318	14+689.69m	Level Crown	-2.00%	0.00%
293	13+967.73m	Begin Normal Crown	-2.00%	-2.00%	302	14+214.04m	End Normal Crown	-2.00%	-2.00%	310	14+447.39m	Level Crown	0.00%	-2.00%	318	14+699.26m	Reverse Crown	-2.00%	2.00%
294	13+925.79m	End Normal Crown	-2.00%	-2.00%	302	14+223.61m	Level Crown	0.00%	-2.00%	310	14+456.95m	Reverse Crown	2.00%	-2.00%	318	14+711.69m	Begin Full Super	-4.60%	4.60%
294	13+935.41m	Level Crown	-2.00%	0.00%	302	14+233.17m	Reverse Crown	2.00%	-2.00%	310	14+469.39m	Begin Full Super	4.60%	-4.60%	318	14+733.80m	End Full Super	-4.60%	4.60%
294	13+945.02m	Reverse Crown	-2.00%	2.00%	302	14+245.61m	Begin Full Super	4.60%	-4.60%	310	14+479.67m	End Full Super	4.60%	-4.60%	318	14+746.23m	Reverse Crown	-2.00%	2.00%
294	13+960.41m	Begin Full Super	-5.20%	5.20%	302	14+251.37m	End Full Super	4.60%	-4.60%	310	14+492.10m	Reverse Crown	2.00%	-2.00%	318	14+755.80m	Level Crown	-2.00%	0.00%
294	13+966.98m	End Full Super	-5.20%	5.20%	302	14+263.81m	Reverse Crown	2.00%	-2.00%	310	14+501.67m	Level Crown	0.00%	-2.00%	318	14+765.37m	Begin Normal Crown	-2.00%	-2.00%
294	13+982.37m	Reverse Crown	-2.00%	2.00%	302	14+273.37m	Level Crown	0.00%	-2.00%	310	14+511.23m	Begin Normal Crown	-2.00%	-2.00%	319	14+728.72m	End Normal Crown	-2.00%	-2.00%
294	13+991.98m	Level Crown	-2.00%	0.00%	302	14+282.94m	Begin Normal Crown	-2.00%	-2.00%	311	14+477.40m	End Normal Crown	-2.00%	-2.00%	319	14+738.72m	Level Crown	0.00%	-2.00%
294	14+001.60m	Begin Normal Crown	-2.00%	-2.00%	303	14+252.96m	End Normal Crown	-2.00%	-2.00%	311	14+487.06m	Level Crown	0.00%	-2.00%	319	14+748.72m	Reverse Crown	2.00%	-2.00%
295	13+953.76m	End Normal Crown	-2.00%	-2.00%	303	14+262.48m	Level Crown	0.00%	-2.00%	311	14+496.73m	Reverse Crown	2.00%	-2.00%	319	14+750.72m	Begin Full Super	2.40%	-2.40%
295	13+963.31m	Level Crown	0.00%	-2.00%	303	14+272.01m	Reverse Crown	2.00%	-2.00%	311	14+515.37m	End Full Super	6.00%	-6.00%	319	14+765.21m	End Full Super	2.40%	-2.40%
295	13+972.85m	Reverse Crown	2.00%	-2.00%	303	14+282.48m	Begin Full Super	4.20%	-4.20%	311	14+516.06m	Begin Full Super	6.00%	-6.00%	319	14+767.21m	Reverse Crown	2.00%	-2.00%
295	13+984.31m	Begin Full Super	4.40%	-4.40%	303	14+285.45m	End Full Super	4.20%	-4.20%	311	14+534.70m	Reverse Crown	2.00%	-2.00%	319	14+777.21m	Level Crown	0.00%	-2.00%
295	13+993.36m	End Full Super	4.40%	-4.40%	303	14+295.93m	Reverse Crown	2.00%	-2.00%	311	14+544.37m	Level Crown	0.00%	-2.00%	319	14+787.21m	Begin Normal Crown	-2.00%	-2.00%
295	14+004.82m	Reverse Crown	2.00%	-2.00%	303	14+305.45m	Level Crown	0.00%	-2.00%	311	14+554.04m	Begin Normal Crown	-2.00%	-2.00%	320	14+767.73m	End Normal Crown	-2.00%	-2.00%
295	14+014.36m	Level Crown	0.00%	-2.00%	303	14+314.98m	Begin Normal Crown	-2.00%	-2.00%	312	14+500.22m	End Normal Crown	-2.00%	-2.00%	320	14+777.23m	Level Crown	0.00%	-2.00%
295	14+023.91m	Begin Normal Crown	-2.00%	-2.00%	304	14+280.65m	End Normal Crown	-2.00%	-2.00%	312	14+509.84m	Level Crown	0.00%	-2.00%	320	14+786.73m	Reverse Crown	2.00%	-2.00%
296	13+978.05m	End Normal Crown	-2.00%	-2.00%	304	14+290.20m	Level Crown	-2.00%	0.00%	312	14+519.45m	Reverse Crown	2.00%	-2.00%	320	14+796.23m	Begin Full Super	4.00%	-4.00%
296	13+987.65m	Level Crown	0.00%	-2.00%	304	14+299.74m	Reverse Crown	-2.00%	2.00%	312	14+534.83m	End Full Super	5.20%	-5.20%	320	14+805.61m	End Full Super	4.00%	-4.00%
296	13+997.25m	Reverse Crown	2.00%	-2.00%	304	14+309.39m	End Full Super	-4.40%	4.40%	312	14+534.84m	Begin Full Super	5.20%	-5.20%	320	14+815.11m	Reverse Crown	2.00%	-2.00%
296	14+011.65m	Begin Full Super	5.00%	-5.00%	304	14+311.20m	Begin Full Super	-4.40%	4.40%	312	14+550.22m	Reverse Crown	2.00%	-2.00%	320	14+824.61m	Level Crown	0.00%	-2.00%
296	14+015.18m	End Full Super	5.00%	-5.00%	304	14+320.85m	Reverse Crown	-2.00%	2.00%	312	14+559.83m	Level Crown	0.00%	-2.00%	320	14+834.11m	Begin Normal Crown	-2.00%	-2.00%
296	14+029.58m	Reverse Crown	2.00%	-2.00%	304	14+330.39m	Level Crown	-2.00%	0.00%	312	14+569.45m	Begin Normal Crown	-2.00%	-2.00%	321	14+794.52m	End Normal Crown	-2.00%	-2.00%
296	14+039.18m	Level Crown	0.00%	-2.00%	304	14+339.94m	Begin Normal Crown	-2.00%	-2.00%	313	14+521.44m	End Normal Crown	-2.00%	-2.00%	321	14+804.16m	Level Crown	-2.00%	0.00%
296	14+048.78m	Begin Normal Crown	-2.00%	-2.00%	305	14+293.93m	End Normal Crown	-2.00%	-2.00%	313	14+531.08m	Level Crown	-2.00%	0.00%	321	14+813.80m	Reverse Crown	-2.00%	2.00%
297	14+014.09m	End Normal Crown	-2.00%	-2.00%	305	14+303.59m	Level Crown	0.00%	-2.00%	313	14+540.72m	Reverse Crown	-2.00%	2.00%	321	14+831.16m	Begin Full Super	-5.60%	5.60%
297	14+023.59m	Level Crown	0.00%	-2.00%	305	14+313.24m	Reverse Crown	2.00%	-2.00%	313	14+558.08m	Begin Full Super	-5.60%	5.60%	321	14+848.35m	End Full Super	-5.60%	5.60%
297	14+033.09m	Reverse Crown	2.00%	-2.00%	305	14+325.18m	End Full Super	5.80%	-5.80%	313	14+569.88m	End Full Super	-5.60%	5.60%	321	14+865.70m	Reverse Crown	-2.00%	2.00%
297	14+042.59m	Begin Full Super	4.00%	-4.00%	305	14+331.59m	Begin Full Super	5.80%	-5.80%	313	14+587.23m	Reverse Crown	-2.00%	2.00%	321	14+875.35m	Level Crown	-2.00%	0.00%
297	14+055.38m	End Full Super	4.00%	-4.00%	305	14+343.52m	Reverse Crown	2.00%	-2.00%	313	14+596.88m	Level Crown	-2.00%	0.00%	321	14+884.99m	Begin Normal Crown	-2.00%	-2.00%
297	14+064.88m	Reverse Crown	2.00%	-2.00%	305	14+353.18m	Level Crown	0.00%	-2.00%	313	14+606.52m	Begin Normal Crown	-2.00%	-2.00%	322	14+849.03m	End Normal Crown	-2.00%	-2.00%
297	14+074.38m	Level Crown	0.00%	-2.00%	305	14+362.83m	Begin Normal Crown	-2.00%	-2.00%	314	14+569.67m	End Normal Crown	-2.00%	-2.00%	322	14+858.70m	Level Crown	-2.00%	0.00%
297	14+083.88m	Begin Normal Crown	-2.00%	-2.00%	306	14+328.74m	End Normal Crown	-2.00%	-2.00%	314	14+579.22m	Level Crown	0.00%	-2.00%	322	14+868.37m	Reverse Crown	-2.00%	2.00%
298	14+041.45m	End Normal Crown	-2.00%	-2.00%	306	14+338.18m	Level Crown	-2.00%	0.00%	314	14+588.76m	Reverse Crown	2.00%	-2.00%	322	14+883.19m	End Full Super	-6.00%	6.00%
298	14+051.07m	Level Crown	0.00%	-2.00%	306	14+347.63m	Reverse Crown	-2.00%	2.00%	314	14+600.22m	Begin Full Super	4.40%	-4.40%	322	14+887.70m	Begin Full Super	-6.00%	6.00%
298	14+060.68m	Reverse Crown	2.00%	-2.00%	306	14+355.18m	Begin Full Super	-3.60%	3.60%	314	14+606.97m	End Full Super	4.40%	-4.40%	322	14+902.53m	Reverse Crown	-2.00%	2.00%
298	14+076.07m	Begin Full Super	5.20%	-5.20%	306	14+356.38m	End Full Super	-3.60%	3.60%	314	14+618.42m	Reverse Crown	2.00%	-2.00%	322	14+912.19m	Level Crown	-2.00%	0.00%
298	14+082.62m	End Full Super	5.20%	-5.20%	306	14+363.94m	Reverse Crown	-2.00%	2.00%	314	14+627.97m	Level Crown	0.00%	-2.00%	322	14+921.86m	Begin Normal Crown	-2.00%	-2.00%
298	14+098.00m	Reverse Crown	2.00%	-2.00%	306	14+373.38m	Level Crown	-2.00%	0.00%	314	14+637.51m	Begin Normal Crown	-2.00%	-2.00%	323	14+866.91m	End Normal Crown	-2.00%	-2.00%
298	14+107.62m	Level Crown	0.00%	-2.00%	306	14+382.83m	Begin Normal Crown	-2.00%	-2.00%	315	14+621.89m	End Normal Crown	-2.00%	-2.00%	323	14+876.57m	Level Crown	0.00%	-2.00%
298	14+117.23m	Begin Normal Crown	-2.00%	-2.00%	307	14+346.55m	End Normal Crown	-2.00%	-2.00%	315	14+631.48m	Level Crown	-2.00%	0.00%	323	14+886.24m	Reverse Crown	2.00%	-2.00%
299	14+120.11m	End Normal Crown	-2.00%	-2.00%	307	14+355.99m	Level Crown	0.00%	-2.00%	315	14+641.06m	Reverse Crown	-2.00%	2.00%	323	14+905.57m	Begin Full Super	6.00%	-6.00%
299	14+129.34m	Level Crown	0.00%	-2.00%	307	14+365.43m	Reverse Crown	2.00%	-2.00%	315	14+651.81m	End Full Super	-4.80%	4.80%	323	14+911.85m	End Full Super	6.00%	-6.00%
299	14+138.57m	Reverse Crown	2.00%	-2.00%	307	14+372.99m	Begin Full Super	3.60%	-3.60%	315	14+654.48m	Begin Full Super	-4.80%	4.80%	323	14+931.18m	Reverse Crown	2.00%	-2.00%
299	14+141.34m	Begin Full Super	2.60%	-2.60%	307	14+376.89m	End Full Super	3.60%	-3.60%	315	14+665.23m	Reverse Crown	-2.00%	2.00%	323	14+940.85m	Level Crown	0.00%	-2.00%
299	14+157.97m	End Full Super	2.60%	-2.60%	307	14+384.45m	Reverse Crown	2.00%	-2.00%	315	14+674.81m	Level Crown	-2.00%	0.00%	323	14+950.51m	Begin Normal Crown	-2.00%	-2.00%
299	14+160.74m	Reverse Crown	2.00%	-2.00%	307	14+393.89m	Level Crown	0.00%	-2.00%	315	14+684.40m	Begin Normal Crown	-2.00%	-2.00%	324	14+895.42m	End Normal Crown	-2.00%	-2.00%
299	14+169.97m	Level Crown	0.00%	-2.00%	307	14+403.34m	Begin Normal Crown	-2.00%	-2.00%	316	14+635.71m	End Normal Crown	-2.00%	-2.00%	324	14+905.09m	Level Crown	0.00%	-2.00%
299	14+179.20m	Begin Normal Crown	-2.00%	-2.00%	308	14+384.13m	End Normal Crown	-2.00%	-2.00%	316	14+645.36m	Level Crown	0.00%	-2.00%	324	14+914.75m	Reverse Crown	2.00%	-2.00%
300	14+141.78m	End Normal Crown	-2.00%	-2.00%	308	14+393.78m	Level Crown	-2.00%	0.00%	316	14+655.02m	Reverse Crown	2.00%	-2.00%	324	14+932.97m	End Full Super	6.00%	-6.00%
300	14+151.43m	Level Crown	-2.00%	0.00%	308	14+403.42m	Reverse Crown	-2.00%	2.00%	316	14+665.03m	End Full Super	5.80%	-5.80%	324	14+934.09m	Begin Full Super	6.00%	-6.00%
300	14+161.07m	Reverse Crown	-2.00%	2.00%	308	14+420.78m	Begin Full Super	-5.60%	5.60%	316	14+673.36m	Begin Full Super	5.80%	-5.80%	324	14+952.31m	Reverse Crown	2.00%	-2.00%
300	14+178.43m	Begin Full Super	-5.60%	5.60%	308	14+421.51m	End Full Super	-5.60%	5.60%	316	14+683.37m	Reverse Crown	2.00%	-2.00%	324	14+961.97m	Level Crown	0.00%	-2.00%
300	14+183.29m	End Full Super	-5.60%	5.60%	308	14+438.86m	Reverse Crown	-2.00%	2.00%	316	14+693.03m	Level Crown	0.00%	-2.00%	324	14+971.64m	Begin Normal Crown	-2.00%	-2.00%
300	14+200.65m	Reverse Crown	-2.00%	2.00%	308	14+448.51m	Level Crown	-2.00%	0.00%	316	14+702.68m	Begin Normal Crown	-2.00%	-2.00%	325	14+932.59m	End Normal Crown	-2.00%	-2.00%
300	14+210.29m	Level Crown	-2.00%	0.00%	308	14+458.15m	Begin Normal Crown	-2.00%	-2.00%	317	14+650.59m	End Normal Crown	-2.00%	-2.00%	325	14+942.07m	Level Crown	-2.00%	0.00%
300	14+219.94m	Begin Normal Crown	-2.00%	-2.00%	309	14+407.24m	End Normal Crown	-2.00%	-2.00%	317	14+660.25m	Level Crown	0.00%	-2.00%	325	14+951.54m	Reverse Crown	-2.00%	2.00%
301	14+168.84m	End Normal Crown	-2.00%	-2.00%	309	14+416.91m	Level Crown	-2.00%	0.00%	317	14+669.90m	Reverse Crown	2.00%	-2.00%	325	14+960.07m	Begin Full Super	-3.80%	3.80%
301	14+178.44m	Level Crown	0.00%	-2.00%	309	14+426.57m	Reverse Crown	-2.00%	2.00%	317	14+688.25m	Begin Full Super	5.80%	-5.80%	325	14+983.50m	End Full Super	-3.80%	3.80%
301	14+188.04m	Reverse Crown	2.00%	-2.00%	309	14+445.91m	Begin Full Super	-6.00%	6.00%	317	14+694.00m	End Full Super	5.80%	-5.80%	325	14+992.02m	Reverse Crown	-2.00%	2.00%
301	14+202.44m	Begin Full Super	5.00%	-5.00%	309	14+450.92m	End Full Super	-6.00%	6.00%	317	14+712.34m	Reverse Crown	2.00%	-2.00%	325	15+001.50m	Level Crown	-2.00%	0.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010J

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
325	15+010.97m	Begin Normal Crown	-2.00%	-2.00%	334	15+354.03m	End Normal Crown	-2.00%	-2.00%	342	15+628.04m	Level Crown	0.00%	-2.00%	350	15+860.43m	Reverse Crown	-2.00%	2.00%
326	14+968.09m	End Normal Crown	-2.00%	-2.00%	334	15+363.37m	Level Crown	0.00%	-2.00%	342	15+637.61m	Reverse Crown	2.00%	-2.00%	350	15+879.76m	Begin Full Super	-6.00%	6.00%
326	14+977.76m	Level Crown	0.00%	-2.00%	334	15+372.70m	Reverse Crown	2.00%	-2.00%	342	15+650.04m	Begin Full Super	4.60%	-4.60%	350	15+888.72m	End Full Super	-6.00%	6.00%
326	14+987.42m	Reverse Crown	2.00%	-2.00%	334	15+377.37m	Begin Full Super	3.00%	-3.00%	342	15+661.57m	End Full Super	4.60%	-4.60%	350	15+908.06m	Reverse Crown	-2.00%	2.00%
326	15+006.76m	Begin Full Super	6.00%	-6.00%	334	15+388.07m	End Full Super	3.00%	-3.00%	342	15+674.00m	Reverse Crown	2.00%	-2.00%	350	15+917.72m	Level Crown	-2.00%	0.00%
326	15+018.91m	End Full Super	6.00%	-6.00%	334	15+392.73m	Reverse Crown	2.00%	-2.00%	342	15+683.57m	Level Crown	0.00%	-2.00%	350	15+927.39m	Begin Normal Crown	-2.00%	-2.00%
326	15+038.24m	Reverse Crown	2.00%	-2.00%	334	15+402.07m	Level Crown	0.00%	-2.00%	342	15+693.13m	Begin Normal Crown	-2.00%	-2.00%	351	15+877.00m	End Normal Crown	-2.00%	-2.00%
326	15+047.91m	Level Crown	0.00%	-2.00%	334	15+411.40m	Begin Normal Crown	-2.00%	-2.00%	343	15+671.23m	End Normal Crown	-2.00%	-2.00%	351	15+886.62m	Level Crown	-2.00%	0.00%
326	15+057.57m	Begin Normal Crown	-2.00%	-2.00%	335	15+382.71m	End Normal Crown	-2.00%	-2.00%	343	15+680.89m	Level Crown	0.00%	-2.00%	351	15+896.23m	Reverse Crown	-2.00%	2.00%
327	15+011.24m	End Normal Crown	-2.00%	-2.00%	335	15+392.71m	Level Crown	0.00%	-2.00%	343	15+690.56m	Reverse Crown	2.00%	-2.00%	351	15+911.62m	Begin Full Super	-5.20%	5.20%
327	15+020.87m	Level Crown	-2.00%	0.00%	335	15+402.71m	Begin Full Super	2.00%	-2.00%	343	15+709.89m	Begin Full Super	6.00%	-6.00%	351	15+920.56m	End Full Super	-5.20%	5.20%
327	15+030.50m	Reverse Crown	-2.00%	2.00%	335	15+402.71m	Reverse Crown	2.00%	-2.00%	343	15+713.82m	End Full Super	6.00%	-6.00%	351	15+935.94m	Reverse Crown	-2.00%	2.00%
327	15+046.87m	Begin Full Super	-5.40%	5.40%	335	15+411.62m	End Full Super	2.00%	-2.00%	343	15+733.15m	Reverse Crown	2.00%	-2.00%	351	15+945.56m	Level Crown	-2.00%	0.00%
327	15+052.56m	End Full Super	-5.40%	5.40%	335	15+411.62m	Reverse Crown	2.00%	-2.00%	343	15+742.82m	Level Crown	0.00%	-2.00%	351	15+955.17m	Begin Normal Crown	-2.00%	-2.00%
327	15+068.93m	Reverse Crown	-2.00%	2.00%	335	15+421.62m	Level Crown	0.00%	-2.00%	343	15+752.49m	Begin Normal Crown	-2.00%	-2.00%	352	15+916.01m	End Normal Crown	-2.00%	-2.00%
327	15+078.56m	Level Crown	-2.00%	0.00%	335	15+431.62m	Begin Normal Crown	-2.00%	-2.00%	344	15+709.29m	End Normal Crown	-2.00%	-2.00%	352	15+925.42m	Level Crown	0.00%	-2.00%
327	15+088.19m	Begin Normal Crown	-2.00%	-2.00%	336	15+413.63m	End Normal Crown	-2.00%	-2.00%	344	15+718.85m	Level Crown	0.00%	-2.00%	352	15+934.83m	Reverse Crown	2.00%	-2.00%
328	15+062.11m	End Normal Crown	-2.00%	-2.00%	336	15+423.25m	Level Crown	0.00%	-2.00%	344	15+728.42m	Reverse Crown	2.00%	-2.00%	352	15+941.42m	Begin Full Super	3.40%	-3.40%
328	15+071.48m	Level Crown	-2.00%	0.00%	336	15+432.86m	Reverse Crown	2.00%	-2.00%	344	15+734.51m	End Full Super	4.60%	-4.60%	352	15+944.83m	End Full Super	3.40%	-3.40%
328	15+080.86m	Reverse Crown	-2.00%	2.00%	336	15+445.92m	End Full Super	5.20%	-5.20%	344	15+740.85m	Begin Full Super	4.60%	-4.60%	352	15+951.42m	Reverse Crown	2.00%	-2.00%
328	15+086.48m	Begin Full Super	-3.20%	3.20%	336	15+448.25m	Begin Full Super	5.20%	-5.20%	344	15+746.94m	Reverse Crown	2.00%	-2.00%	352	15+960.83m	Level Crown	0.00%	-2.00%
328	15+096.53m	End Full Super	-3.20%	3.20%	336	15+461.30m	Reverse Crown	2.00%	-2.00%	344	15+756.51m	Level Crown	0.00%	-2.00%	352	15+970.24m	Begin Normal Crown	-2.00%	-2.00%
328	15+102.16m	Reverse Crown	-2.00%	2.00%	336	15+470.92m	Level Crown	0.00%	-2.00%	344	15+766.07m	Begin Normal Crown	-2.00%	-2.00%	353	15+942.20m	End Normal Crown	-2.00%	-2.00%
328	15+111.53m	Level Crown	-2.00%	0.00%	336	15+480.53m	Begin Normal Crown	-2.00%	-2.00%	345	15+733.74m	End Normal Crown	-2.00%	-2.00%	353	15+951.61m	Level Crown	-2.00%	0.00%
328	15+120.91m	Begin Normal Crown	-2.00%	-2.00%	337	15+428.19m	End Normal Crown	-2.00%	-2.00%	345	15+743.03m	Level Crown	-2.00%	0.00%	353	15+961.02m	Reverse Crown	-2.00%	2.00%
329	15+085.94m	End Normal Crown	-2.00%	-2.00%	337	15+437.85m	Level Crown	0.00%	-2.00%	345	15+752.31m	Reverse Crown	-2.00%	2.00%	353	15+967.61m	Begin Full Super	-3.40%	3.40%
329	15+095.39m	Level Crown	0.00%	-2.00%	337	15+447.50m	Reverse Crown	2.00%	-2.00%	345	15+753.75m	End Full Super	-2.80%	2.80%	353	15+980.84m	End Full Super	-3.40%	3.40%
329	15+104.83m	Reverse Crown	2.00%	-2.00%	337	15+465.85m	Begin Full Super	5.80%	-5.80%	345	15+756.03m	Begin Full Super	-2.80%	2.80%	353	15+987.43m	Reverse Crown	-2.00%	2.00%
329	15+112.39m	Begin Full Super	3.60%	-3.60%	337	15+480.03m	End Full Super	5.80%	-5.80%	345	15+757.47m	Reverse Crown	-2.00%	2.00%	353	15+996.84m	Level Crown	-2.00%	0.00%
329	15+144.97m	End Full Super	3.60%	-3.60%	337	15+498.38m	Reverse Crown	2.00%	-2.00%	345	15+766.75m	Level Crown	-2.00%	0.00%	353	16+006.25m	Begin Normal Crown	-2.00%	-2.00%
329	15+152.53m	Reverse Crown	2.00%	-2.00%	337	15+508.03m	Level Crown	0.00%	-2.00%	345	15+776.04m	Begin Normal Crown	-2.00%	-2.00%	354	15+972.11m	End Normal Crown	-2.00%	-2.00%
329	15+161.97m	Level Crown	0.00%	-2.00%	337	15+517.69m	Begin Normal Crown	-2.00%	-2.00%	346	15+749.56m	End Normal Crown	-2.00%	-2.00%	354	15+981.78m	Level Crown	0.00%	-2.00%
329	15+171.42m	Begin Normal Crown	-2.00%	-2.00%	338	15+489.77m	End Normal Crown	-2.00%	-2.00%	346	15+759.23m	Level Crown	-2.00%	0.00%	354	15+991.45m	Reverse Crown	2.00%	-2.00%
330	15+127.91m	End Normal Crown	-2.00%	-2.00%	338	15+499.21m	Level Crown	-2.00%	0.00%	346	15+768.89m	Reverse Crown	-2.00%	2.00%	354	15+994.81m	End Full Super	6.00%	-6.00%
330	15+137.52m	Level Crown	-2.00%	0.00%	338	15+508.66m	Reverse Crown	-2.00%	2.00%	346	15+788.23m	Begin Full Super	-6.00%	6.00%	354	16+010.78m	Begin Full Super	6.00%	-6.00%
330	15+147.14m	Reverse Crown	-2.00%	2.00%	338	15+516.21m	Begin Full Super	-3.60%	3.60%	346	15+793.49m	End Full Super	-6.00%	6.00%	354	16+014.15m	Reverse Crown	2.00%	-2.00%
330	15+162.52m	Begin Full Super	-5.20%	5.20%	338	15+517.64m	End Full Super	-3.60%	3.60%	346	15+812.82m	Reverse Crown	-2.00%	2.00%	354	16+023.81m	Level Crown	0.00%	-2.00%
330	15+176.78m	End Full Super	-5.20%	5.20%	338	15+525.20m	Reverse Crown	-2.00%	2.00%	346	15+822.49m	Level Crown	-2.00%	0.00%	354	16+033.48m	Begin Normal Crown	-2.00%	-2.00%
330	15+192.16m	Reverse Crown	-2.00%	2.00%	338	15+534.64m	Level Crown	-2.00%	0.00%	346	15+832.16m	Begin Normal Crown	-2.00%	-2.00%	355	15+981.45m	End Normal Crown	-2.00%	-2.00%
330	15+201.78m	Level Crown	-2.00%	0.00%	338	15+544.09m	Begin Normal Crown	-2.00%	-2.00%	347	15+777.32m	End Normal Crown	-2.00%	-2.00%	355	15+991.11m	Level Crown	0.00%	-2.00%
330	15+211.40m	Begin Normal Crown	-2.00%	-2.00%	339	15+510.77m	End Normal Crown	-2.00%	-2.00%	347	15+786.99m	Level Crown	-2.00%	0.00%	355	16+000.78m	Reverse Crown	2.00%	-2.00%
331	15+207.04m	End Normal Crown	-2.00%	-2.00%	339	15+520.24m	Level Crown	0.00%	-2.00%	347	15+796.65m	Reverse Crown	-2.00%	2.00%	355	16+017.48m	End Full Super	6.00%	-6.00%
331	15+216.63m	Level Crown	0.00%	-2.00%	339	15+529.72m	Reverse Crown	2.00%	-2.00%	347	15+815.66m	End Full Super	-6.00%	6.00%	355	16+020.11m	Begin Full Super	6.00%	-6.00%
331	15+226.21m	Reverse Crown	2.00%	-2.00%	339	15+538.24m	Begin Full Super	3.80%	-3.80%	347	15+815.99m	Begin Full Super	-6.00%	6.00%	355	16+036.81m	Reverse Crown	2.00%	-2.00%
331	15+239.63m	Begin Full Super	4.80%	-4.80%	339	15+552.11m	End Full Super	3.80%	-3.80%	347	15+834.99m	Reverse Crown	-2.00%	2.00%	355	16+046.48m	Level Crown	0.00%	-2.00%
331	15+242.43m	End Full Super	4.80%	-4.80%	339	15+560.64m	Reverse Crown	2.00%	-2.00%	347	15+844.66m	Level Crown	-2.00%	0.00%	355	16+056.14m	Begin Normal Crown	-2.00%	-2.00%
331	15+255.85m	Reverse Crown	2.00%	-2.00%	339	15+570.11m	Level Crown	0.00%	-2.00%	347	15+854.32m	Begin Normal Crown	-2.00%	-2.00%	356	16+000.89m	End Normal Crown	-2.00%	-2.00%
331	15+265.43m	Level Crown	0.00%	-2.00%	339	15+579.58m	Begin Normal Crown	-2.00%	-2.00%	348	15+799.80m	End Normal Crown	-2.00%	-2.00%	356	16+010.54m	Level Crown	0.00%	-2.00%
331	15+275.02m	Begin Normal Crown	-2.00%	-2.00%	340	15+543.03m	End Normal Crown	-2.00%	-2.00%	348	15+809.47m	Level Crown	0.00%	-2.00%	356	16+020.20m	Reverse Crown	2.00%	-2.00%
332	15+225.23m	End Normal Crown	-2.00%	-2.00%	340	15+552.59m	Level Crown	-2.00%	0.00%	348	15+819.13m	Reverse Crown	2.00%	-2.00%	356	16+038.54m	Begin Full Super	5.80%	-5.80%
332	15+234.90m	Level Crown	-2.00%	0.00%	340	15+562.16m	Reverse Crown	-2.00%	2.00%	348	15+836.05m	End Full Super	6.00%	-6.00%	356	16+039.48m	End Full Super	5.80%	-5.80%
332	15+244.56m	Reverse Crown	-2.00%	2.00%	340	15+574.59m	Begin Full Super	-4.60%	4.60%	348	15+838.47m	Begin Full Super	6.00%	-6.00%	356	16+057.83m	Reverse Crown	2.00%	-2.00%
332	15+263.90m	Begin Full Super	-6.00%	6.00%	340	15+580.24m	End Full Super	-4.60%	4.60%	348	15+855.39m	Reverse Crown	2.00%	-2.00%	356	16+067.48m	Level Crown	0.00%	-2.00%
332	15+267.74m	End Full Super	-6.00%	6.00%	340	15+592.67m	Reverse Crown	-2.00%	2.00%	348	15+865.05m	Level Crown	0.00%	-2.00%	356	16+077.14m	Begin Normal Crown	-2.00%	-2.00%
332	15+287.07m	Reverse Crown	-2.00%	2.00%	340	15+602.24m	Level Crown	-2.00%	0.00%	348	15+874.72m	Begin Normal Crown	-2.00%	-2.00%	357	16+028.18m	End Normal Crown	-2.00%	-2.00%
332	15+296.74m	Level Crown	-2.00%	0.00%	340	15+611.80m	Begin Normal Crown	-2.00%	-2.00%	349	15+830.72m	End Normal Crown	-2.00%	-2.00%	357	16+037.78m	Level Crown	0.00%	-2.00%
332	15+306.40m	Begin Normal Crown	-2.00%	-2.00%	341	15+574.70m	End Normal Crown	-2.00%	-2.00%	349	15+840.09m	Level Crown	0.00%	-2.00%	357	16+047.38m	Reverse Crown	2.00%	-2.00%
333	15+276.01m	End Normal Crown	-2.00%	-2.00%	341	15+584.26m	Level Crown	0.00%	-2.00%	349	15+849.47m	Reverse Crown	2.00%	-2.00%	357	16+061.78m	Begin Full Super	5.00%	-5.00%
333	15+285.68m	Level Crown	-2.00%	0.00%	341	15+593.83m	Reverse Crown	2.00%	-2.00%	349	15+855.09m	Begin Full Super	3.20%	-3.20%	357	16+070.43m	End Full Super	5.00%	-5.00%
333	15+295.35m	Reverse Crown	-2.00%	2.00%	341	15+606.26m	Begin Full Super	4.60%	-4.60%	349	15+861.02m	End Full Super	3.20%	-3.20%	357	16+084.83m	Reverse Crown	2.00%	-2.00%
333	15+314.68m	Begin Full Super	-6.00%	6.00%	341	15+615.92m	End Full Super	4.60%	-4.60%	349	15+866.64m	Reverse Crown	2.00%	-2.00%	357	16+094.43m	Level Crown	0.00%	-2.00%
333	15+342.44m	End Full Super	-6.00%	6.00%	341	15+628.35m	Reverse Crown	2.00%	-2.00%	349	15+876.02m	Level Crown	0.00%	-2.00%	357	16+104.03m	Begin Normal Crown	-2.00%	-2.00%
333	15+361.77m	Reverse Crown	-2.00%	2.00%	341	15+637.92m	Level Crown	0.00%	-2.00%	349	15+885.39m	Begin Normal Crown	-2.00%	-2.00%	358	16+057.90m	End Normal Crown	-2.00%	-2.00%
333	15+371.44m	Level Crown	-2.00%	0.00%	341	15+647.48m	Begin Normal Crown	-2.00%	-2.00%	350	15+841.09m	End Normal Crown	-2.00%	-2.00%	358	16+067.52m	Level Crown	-2.00%	0.00%
333	15+381.11m	Begin Normal Crown	-2.00%	-2.00%	342	15+618.48m	End Normal Crown	-2.00%	-2.00%	350	15+850.76m	Level Crown	-2.00%	0.00%	358	16+077.13m	Reverse Crown	-2.00%	2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN
SUBMITTED
RECOMMENDED
CHD./VER.
APPROVED

PROJECT:
REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE
SUPERELEVATION SCHEME

DATE
JANUARY, 2021

DWG NO.
38164/102/TD/ PD0010K

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
358	16+089.48m	End Full Super	-5.20%	5.20%	366	16+314.93m	Begin Full Super	-6.00%	6.00%	374	16+600.75m	Reverse Crown	2.00%	-2.00%	382	16+900.15m	Level Crown	-2.00%	0.00%
358	16+092.52m	Begin Full Super	-5.20%	5.20%	366	16+323.30m	Reverse Crown	-2.00%	2.00%	374	16+610.29m	Level Crown	0.00%	-2.00%	382	16+909.81m	Begin Normal Crown	-2.00%	-2.00%
358	16+104.87m	Reverse Crown	-2.00%	2.00%	366	16+332.97m	Level Crown	-2.00%	0.00%	374	16+619.84m	Begin Normal Crown	-2.00%	-2.00%	383	16+885.47m	End Normal Crown	-2.00%	-2.00%
358	16+114.48m	Level Crown	-2.00%	0.00%	366	16+342.63m	Begin Normal Crown	-2.00%	-2.00%	375	16+574.23m	End Normal Crown	-2.00%	-2.00%	383	16+895.47m	Level Crown	0.00%	-2.00%
358	16+124.10m	Begin Normal Crown	-2.00%	-2.00%	367	16+342.88m	End Normal Crown	-2.00%	-2.00%	375	16+583.89m	Level Crown	-2.00%	0.00%	383	16+905.47m	Reverse Crown	2.00%	-2.00%
359	16+076.82m	End Normal Crown	-2.00%	-2.00%	367	16+352.42m	Level Crown	0.00%	-2.00%	375	16+593.56m	Reverse Crown	-2.00%	2.00%	383	16+907.47m	Begin Full Super	2.40%	-2.40%
359	16+086.44m	Level Crown	0.00%	-2.00%	367	16+361.97m	Reverse Crown	2.00%	-2.00%	375	16+612.89m	Begin Full Super	-6.00%	6.00%	383	16+928.67m	End Full Super	2.40%	-2.40%
359	16+096.05m	Reverse Crown	2.00%	-2.00%	367	16+373.42m	Begin Full Super	4.40%	-4.40%	375	16+613.85m	End Full Super	-6.00%	6.00%	383	16+930.67m	Reverse Crown	2.00%	-2.00%
359	16+105.94m	End Full Super	5.20%	-5.20%	367	16+375.35m	End Full Super	4.40%	-4.40%	375	16+633.18m	Reverse Crown	-2.00%	2.00%	383	16+940.67m	Level Crown	0.00%	-2.00%
359	16+111.44m	Begin Full Super	5.20%	-5.20%	367	16+386.81m	Reverse Crown	2.00%	-2.00%	375	16+642.85m	Level Crown	-2.00%	0.00%	383	16+950.67m	Begin Normal Crown	-2.00%	-2.00%
359	16+121.32m	Reverse Crown	2.00%	-2.00%	367	16+396.35m	Level Crown	0.00%	-2.00%	375	16+652.51m	Begin Normal Crown	-2.00%	-2.00%	384	16+934.02m	End Normal Crown	-2.00%	-2.00%
359	16+130.94m	Level Crown	0.00%	-2.00%	367	16+405.90m	Begin Normal Crown	-2.00%	-2.00%	376	16+621.24m	End Normal Crown	-2.00%	-2.00%	384	16+943.55m	Level Crown	0.00%	-2.00%
359	16+140.55m	Begin Normal Crown	-2.00%	-2.00%	368	16+371.23m	End Normal Crown	-2.00%	-2.00%	376	16+630.88m	Level Crown	-2.00%	0.00%	384	16+953.07m	Reverse Crown	2.00%	-2.00%
360	16+100.95m	End Normal Crown	-2.00%	-2.00%	368	16+381.23m	Level Crown	-2.00%	0.00%	376	16+640.53m	Reverse Crown	-2.00%	2.00%	384	16+963.55m	Begin Full Super	4.20%	-4.20%
360	16+110.55m	Level Crown	-2.00%	0.00%	368	16+391.23m	Begin Full Super	-2.00%	2.00%	376	16+657.88m	Begin Full Super	-5.60%	5.60%	384	16+979.67m	End Full Super	4.20%	-4.20%
360	16+120.15m	Reverse Crown	-2.00%	2.00%	368	16+391.23m	Reverse Crown	-2.00%	2.00%	376	16+659.99m	End Full Super	-5.60%	5.60%	384	16+990.14m	Reverse Crown	2.00%	-2.00%
360	16+133.75m	End Full Super	-5.00%	5.00%	368	16+400.16m	End Full Super	-2.00%	2.00%	376	16+677.34m	Reverse Crown	-2.00%	2.00%	384	16+999.67m	Level Crown	0.00%	-2.00%
360	16+134.55m	Begin Full Super	-5.00%	5.00%	368	16+400.16m	Reverse Crown	-2.00%	2.00%	376	16+686.99m	Level Crown	-2.00%	0.00%	384	17+009.19m	Begin Normal Crown	-2.00%	-2.00%
360	16+148.15m	Reverse Crown	-2.00%	2.00%	368	16+410.16m	Level Crown	-2.00%	0.00%	376	16+696.63m	Begin Normal Crown	-2.00%	-2.00%	385	16+975.90m	End Normal Crown	-2.00%	-2.00%
360	16+157.75m	Level Crown	-2.00%	0.00%	368	16+420.16m	Begin Normal Crown	-2.00%	-2.00%	377	16+660.57m	End Normal Crown	-2.00%	-2.00%	385	16+985.50m	Level Crown	0.00%	-2.00%
360	16+167.35m	Begin Normal Crown	-2.00%	-2.00%	369	16+399.10m	End Normal Crown	-2.00%	-2.00%	377	16+670.13m	Level Crown	0.00%	-2.00%	385	16+995.10m	Reverse Crown	2.00%	-2.00%
361	16+123.65m	End Normal Crown	-2.00%	-2.00%	369	16+408.60m	Level Crown	0.00%	-2.00%	377	16+679.70m	Reverse Crown	2.00%	-2.00%	385	17+009.50m	Begin Full Super	5.00%	-5.00%
361	16+133.31m	Level Crown	0.00%	-2.00%	369	16+418.10m	Reverse Crown	2.00%	-2.00%	377	16+690.58m	End Full Super	4.60%	-4.60%	385	17+014.92m	End Full Super	5.00%	-5.00%
361	16+142.96m	Reverse Crown	2.00%	-2.00%	369	16+427.60m	Begin Full Super	4.00%	-4.00%	377	16+692.13m	Begin Full Super	4.60%	-4.60%	385	17+029.32m	Reverse Crown	2.00%	-2.00%
361	16+161.31m	Begin Full Super	5.80%	-5.80%	369	16+439.95m	End Full Super	4.00%	-4.00%	377	16+703.01m	Reverse Crown	2.00%	-2.00%	385	17+038.92m	Level Crown	0.00%	-2.00%
361	16+163.87m	End Full Super	5.80%	-5.80%	369	16+449.45m	Reverse Crown	2.00%	-2.00%	377	16+712.58m	Level Crown	0.00%	-2.00%	385	17+048.52m	Begin Normal Crown	-2.00%	-2.00%
361	16+182.21m	Reverse Crown	2.00%	-2.00%	369	16+458.95m	Level Crown	0.00%	-2.00%	377	16+722.14m	Begin Normal Crown	-2.00%	-2.00%	386	16+995.79m	End Normal Crown	-2.00%	-2.00%
361	16+191.87m	Level Crown	0.00%	-2.00%	369	16+468.45m	Begin Normal Crown	-2.00%	-2.00%	378	16+678.23m	End Normal Crown	-2.00%	-2.00%	386	17+005.46m	Level Crown	0.00%	-2.00%
361	16+201.52m	Begin Normal Crown	-2.00%	-2.00%	370	16+438.87m	End Normal Crown	-2.00%	-2.00%	378	16+687.83m	Level Crown	-2.00%	0.00%	386	17+015.12m	Reverse Crown	2.00%	-2.00%
362	16+154.59m	End Normal Crown	-2.00%	-2.00%	370	16+448.47m	Level Crown	0.00%	-2.00%	378	16+697.43m	Reverse Crown	-2.00%	2.00%	386	17+034.46m	Begin Full Super	6.00%	-6.00%
362	16+164.22m	Level Crown	-2.00%	0.00%	370	16+458.07m	Reverse Crown	2.00%	-2.00%	378	16+711.83m	Begin Full Super	-5.00%	5.00%	386	17+039.34m	End Full Super	6.00%	-6.00%
362	16+173.85m	Reverse Crown	-2.00%	2.00%	370	16+472.47m	Begin Full Super	5.00%	-5.00%	378	16+737.83m	End Full Super	-5.00%	5.00%	386	17+058.68m	Reverse Crown	2.00%	-2.00%
362	16+190.22m	Begin Full Super	-5.40%	5.40%	370	16+479.57m	End Full Super	5.00%	-5.00%	378	16+752.23m	Reverse Crown	-2.00%	2.00%	386	17+068.34m	Level Crown	0.00%	-2.00%
362	16+198.16m	End Full Super	-5.40%	5.40%	370	16+493.97m	Reverse Crown	2.00%	-2.00%	378	16+761.83m	Level Crown	-2.00%	0.00%	386	17+078.01m	Begin Normal Crown	-2.00%	-2.00%
362	16+214.53m	Reverse Crown	-2.00%	2.00%	370	16+503.57m	Level Crown	0.00%	-2.00%	378	16+771.43m	Begin Normal Crown	-2.00%	-2.00%	387	17+024.45m	End Normal Crown	-2.00%	-2.00%
362	16+224.16m	Level Crown	-2.00%	0.00%	370	16+513.17m	Begin Normal Crown	-2.00%	-2.00%	379	16+739.63m	End Normal Crown	-2.00%	-2.00%	387	17+034.10m	Level Crown	-2.00%	0.00%
362	16+233.79m	Begin Normal Crown	-2.00%	-2.00%	371	16+489.01m	End Normal Crown	-2.00%	-2.00%	379	16+748.96m	Level Crown	0.00%	-2.00%	387	17+043.74m	Reverse Crown	-2.00%	2.00%
363	16+185.72m	End Normal Crown	-2.00%	-2.00%	371	16+498.58m	Level Crown	0.00%	-2.00%	379	16+758.30m	Reverse Crown	2.00%	-2.00%	387	17+061.10m	Begin Full Super	-5.60%	5.60%
363	16+195.38m	Level Crown	0.00%	-2.00%	371	16+508.14m	Reverse Crown	2.00%	-2.00%	379	16+762.96m	Begin Full Super	3.00%	-3.00%	387	17+074.25m	End Full Super	-5.60%	5.60%
363	16+205.05m	Reverse Crown	2.00%	-2.00%	371	16+520.58m	Begin Full Super	4.60%	-4.60%	379	16+773.36m	End Full Super	3.00%	-3.00%	387	17+091.60m	Reverse Crown	-2.00%	2.00%
363	16+224.38m	Begin Full Super	6.00%	-6.00%	371	16+524.50m	End Full Super	4.60%	-4.60%	379	16+778.02m	Reverse Crown	2.00%	-2.00%	387	17+101.25m	Level Crown	-2.00%	0.00%
363	16+229.25m	End Full Super	6.00%	-6.00%	371	16+536.93m	Reverse Crown	2.00%	-2.00%	379	16+787.36m	Level Crown	0.00%	-2.00%	387	17+110.89m	Begin Normal Crown	-2.00%	-2.00%
363	16+248.58m	Reverse Crown	2.00%	-2.00%	371	16+546.50m	Level Crown	0.00%	-2.00%	379	16+796.69m	Begin Normal Crown	-2.00%	-2.00%	388	17+055.30m	End Normal Crown	-2.00%	-2.00%
363	16+258.25m	Level Crown	0.00%	-2.00%	371	16+556.06m	Begin Normal Crown	-2.00%	-2.00%	380	16+785.89m	End Normal Crown	-2.00%	-2.00%	388	17+064.95m	Level Crown	0.00%	-2.00%
363	16+267.92m	Begin Normal Crown	-2.00%	-2.00%	372	16+524.09m	End Normal Crown	-2.00%	-2.00%	380	16+795.49m	Level Crown	0.00%	-2.00%	388	17+074.61m	Reverse Crown	2.00%	-2.00%
364	16+210.54m	End Normal Crown	-2.00%	-2.00%	372	16+533.46m	Level Crown	-2.00%	0.00%	380	16+805.09m	Reverse Crown	2.00%	-2.00%	388	17+089.45m	End Full Super	5.80%	-5.80%
364	16+220.21m	Level Crown	0.00%	-2.00%	372	16+542.84m	Reverse Crown	-2.00%	2.00%	380	16+819.49m	Begin Full Super	5.00%	-5.00%	388	17+092.95m	Begin Full Super	5.80%	-5.80%
364	16+229.88m	Reverse Crown	2.00%	-2.00%	372	16+548.46m	Begin Full Super	-3.20%	3.20%	380	16+822.02m	End Full Super	5.00%	-5.00%	388	17+107.80m	Reverse Crown	2.00%	-2.00%
364	16+243.20m	End Full Super	6.00%	-6.00%	372	16+551.21m	End Full Super	-3.20%	3.20%	380	16+836.42m	Reverse Crown	2.00%	-2.00%	388	17+117.45m	Level Crown	0.00%	-2.00%
364	16+249.21m	Begin Full Super	6.00%	-6.00%	372	16+556.83m	Reverse Crown	-2.00%	2.00%	380	16+846.02m	Level Crown	0.00%	-2.00%	388	17+127.11m	Begin Normal Crown	-2.00%	-2.00%
364	16+262.53m	Reverse Crown	2.00%	-2.00%	372	16+566.21m	Level Crown	-2.00%	0.00%	380	16+855.62m	Begin Normal Crown	-2.00%	-2.00%	389	17+075.53m	End Normal Crown	-2.00%	-2.00%
364	16+272.20m	Level Crown	0.00%	-2.00%	372	16+575.58m	Begin Normal Crown	-2.00%	-2.00%	381	16+816.92m	End Normal Crown	-2.00%	-2.00%	389	17+085.20m	Level Crown	-2.00%	0.00%
364	16+281.86m	Begin Normal Crown	-2.00%	-2.00%	373	16+545.29m	End Normal Crown	-2.00%	-2.00%	381	16+826.59m	Level Crown	-2.00%	0.00%	389	17+094.86m	Reverse Crown	-2.00%	2.00%
365	16+250.97m	End Normal Crown	-2.00%	-2.00%	373	16+554.82m	Level Crown	-2.00%	0.00%	381	16+836.25m	Reverse Crown	-2.00%	2.00%	389	17+113.90m	End Full Super	-6.00%	6.00%
365	16+260.64m	Level Crown	-2.00%	0.00%	373	16+564.34m	Reverse Crown	-2.00%	2.00%	381	16+854.47m	End Full Super	-6.00%	6.00%	389	17+114.20m	Begin Full Super	-6.00%	6.00%
365	16+270.30m	Reverse Crown	-2.00%	2.00%	373	16+574.76m	End Full Super	-4.20%	4.20%	381	16+855.59m	Begin Full Super	-6.00%	6.00%	389	17+133.23m	Reverse Crown	-2.00%	2.00%
365	16+289.64m	Begin Full Super	-6.00%	6.00%	373	16+574.82m	Begin Full Super	-4.20%	4.20%	381	16+873.81m	Reverse Crown	-2.00%	2.00%	389	17+142.90m	Level Crown	-2.00%	0.00%
365	16+294.74m	End Full Super	-6.00%	6.00%	373	16+585.24m	Reverse Crown	-2.00%	2.00%	381	16+883.47m	Level Crown	-2.00%	0.00%	389	17+152.57m	Begin Normal Crown	-2.00%	-2.00%
365	16+314.07m	Reverse Crown	-2.00%	2.00%	373	16+594.76m	Level Crown	-2.00%	0.00%	381	16+893.14m	Begin Normal Crown	-2.00%	-2.00%	390	17+115.68m	End Normal Crown	-2.00%	-2.00%
365	16+323.74m	Level Crown	-2.00%	0.00%	373	16+604.29m	Begin Normal Crown	-2.00%	-2.00%	382	16+835.29m	End Normal Crown	-2.00%	-2.00%	390	17+124.91m	Level Crown	0.00%	-2.00%
365	16+333.41m	Begin Normal Crown	-2.00%	-2.00%	374	16+564.27m	End Normal Crown	-2.00%	-2.00%	382	16+844.96m	Level Crown	-2.00%	0.00%	390	17+134.14m	Reverse Crown	2.00%	-2.00%
366	16+276.27m	End Normal Crown	-2.00%	-2.00%	374	16+573.82m	Level Crown	0.00%	-2.00%	382	16+854.63m	Reverse Crown	-2.00%	2.00%	390	17+136.91m	Begin Full Super	2.60%	-2.60%
366	16+285.93m	Level Crown	-2.00%	0.00%	374	16+583.36m	Reverse Crown	2.00%	-2.00%	382	16+871.15m	End Full Super	-6.00%	6.00%	390	17+141.58m	End Full Super	2.60%	-2.60%
366	16+295.60m	Reverse Crown	-2.00%	2.00%	374	16+589.29m	End Full Super	4.40%	-4.40%	382	16+873.96m	Begin Full Super	-6.00%	6.00%	390	17+144.35m	Reverse Crown	2.00%	-2.00%
366	16+303.97m	End Full Super	-6.00%	6.00%	374	16+594.82m	Begin Full Super	4.40%	-4.40%	382	16+890.48m	Reverse Crown	-2.00%	2.00%	390	17+153.58m	Level Crown	0.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010L

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
390	17+162.81m	Begin Normal Crown	-2.00%	-2.00%	399	17+385.29m	End Normal Crown	-2.00%	-2.00%	407	17+661.12m	Level Crown	-2.00%	0.00%	415	17+973.98m	Reverse Crown	2.00%	-2.00%
391	17+123.49m	End Normal Crown	-2.00%	-2.00%	399	17+394.62m	Level Crown	0.00%	-2.00%	407	17+670.62m	Reverse Crown	-2.00%	2.00%	415	17+993.32m	Begin Full Super	6.00%	-6.00%
391	17+133.09m	Level Crown	0.00%	-2.00%	399	17+403.95m	Reverse Crown	2.00%	-2.00%	407	17+680.12m	Begin Full Super	-4.00%	4.00%	415	17+996.65m	End Full Super	6.00%	-6.00%
391	17+142.69m	Reverse Crown	2.00%	-2.00%	399	17+408.62m	Begin Full Super	3.00%	-3.00%	407	17+691.43m	End Full Super	-4.00%	4.00%	415	18+015.99m	Reverse Crown	2.00%	-2.00%
391	17+157.09m	Begin Full Super	5.00%	-5.00%	399	17+419.22m	End Full Super	3.00%	-3.00%	407	17+700.93m	Reverse Crown	-2.00%	2.00%	415	18+025.65m	Level Crown	0.00%	-2.00%
391	17+172.88m	End Full Super	5.00%	-5.00%	399	17+423.88m	Reverse Crown	2.00%	-2.00%	407	17+710.43m	Level Crown	-2.00%	0.00%	415	18+035.32m	Begin Normal Crown	-2.00%	-2.00%
391	17+187.28m	Reverse Crown	2.00%	-2.00%	399	17+433.22m	Level Crown	0.00%	-2.00%	407	17+719.93m	Begin Normal Crown	-2.00%	-2.00%	416	17+982.40m	End Normal Crown	-2.00%	-2.00%
391	17+196.88m	Level Crown	0.00%	-2.00%	399	17+442.55m	Begin Normal Crown	-2.00%	-2.00%	408	17+691.59m	End Normal Crown	-2.00%	-2.00%	416	17+992.04m	Level Crown	-2.00%	0.00%
391	17+206.48m	Begin Normal Crown	-2.00%	-2.00%	400	17+415.94m	End Normal Crown	-2.00%	-2.00%	408	17+701.06m	Level Crown	0.00%	-2.00%	416	18+001.68m	Reverse Crown	-2.00%	2.00%
392	17+156.33m	End Normal Crown	-2.00%	-2.00%	400	17+425.57m	Level Crown	-2.00%	0.00%	408	17+710.53m	Reverse Crown	2.00%	-2.00%	416	18+019.04m	Begin Full Super	-5.60%	5.60%
392	17+166.00m	Level Crown	-2.00%	0.00%	400	17+435.20m	Reverse Crown	-2.00%	2.00%	408	17+719.06m	Begin Full Super	3.80%	-3.80%	416	18+020.30m	End Full Super	-5.60%	5.60%
392	17+175.66m	Reverse Crown	-2.00%	2.00%	400	17+451.57m	Begin Full Super	-5.40%	5.40%	408	17+730.92m	End Full Super	3.80%	-3.80%	416	18+037.66m	Reverse Crown	-2.00%	2.00%
392	17+190.12m	End Full Super	-6.00%	6.00%	400	17+458.11m	End Full Super	-5.40%	5.40%	408	17+739.45m	Reverse Crown	2.00%	-2.00%	416	18+047.30m	Level Crown	-2.00%	0.00%
392	17+195.00m	Begin Full Super	-6.00%	6.00%	400	17+474.48m	Reverse Crown	-2.00%	2.00%	408	17+748.92m	Level Crown	0.00%	-2.00%	416	18+056.94m	Begin Normal Crown	-2.00%	-2.00%
392	17+209.45m	Reverse Crown	-2.00%	2.00%	400	17+484.11m	Level Crown	-2.00%	0.00%	408	17+758.40m	Begin Normal Crown	-2.00%	-2.00%	417	18+007.31m	End Normal Crown	-2.00%	-2.00%
392	17+219.12m	Level Crown	-2.00%	0.00%	400	17+493.74m	Begin Normal Crown	-2.00%	-2.00%	409	17+722.10m	End Normal Crown	-2.00%	-2.00%	417	18+016.85m	Level Crown	-2.00%	0.00%
392	17+228.79m	Begin Normal Crown	-2.00%	-2.00%	401	17+445.77m	End Normal Crown	-2.00%	-2.00%	409	17+731.74m	Level Crown	-2.00%	0.00%	417	18+026.40m	Reverse Crown	-2.00%	2.00%
393	17+182.26m	End Normal Crown	-2.00%	-2.00%	401	17+455.43m	Level Crown	0.00%	-2.00%	409	17+741.38m	Reverse Crown	-2.00%	2.00%	417	18+036.76m	End Full Super	-4.40%	4.40%
393	17+191.85m	Level Crown	0.00%	-2.00%	401	17+465.08m	Reverse Crown	2.00%	-2.00%	409	17+757.76m	End Full Super	-5.60%	5.60%	417	18+037.85m	Begin Full Super	-4.40%	4.40%
393	17+201.43m	Reverse Crown	2.00%	-2.00%	401	17+483.43m	Begin Full Super	5.80%	-5.80%	409	17+758.74m	Begin Full Super	-5.60%	5.60%	417	18+048.21m	Reverse Crown	-2.00%	2.00%
393	17+214.85m	Begin Full Super	4.80%	-4.80%	401	17+483.54m	End Full Super	5.80%	-5.80%	409	17+775.12m	Reverse Crown	-2.00%	2.00%	417	18+057.76m	Level Crown	-2.00%	0.00%
393	17+217.78m	End Full Super	4.80%	-4.80%	401	17+501.88m	Reverse Crown	2.00%	-2.00%	409	17+784.76m	Level Crown	-2.00%	0.00%	417	18+067.30m	Begin Normal Crown	-2.00%	-2.00%
393	17+231.19m	Reverse Crown	2.00%	-2.00%	401	17+511.54m	Level Crown	0.00%	-2.00%	409	17+794.40m	Begin Normal Crown	-2.00%	-2.00%	418	18+025.59m	End Normal Crown	-2.00%	-2.00%
393	17+240.78m	Level Crown	0.00%	-2.00%	401	17+521.19m	Begin Normal Crown	-2.00%	-2.00%	410	17+748.32m	End Normal Crown	-2.00%	-2.00%	418	18+035.26m	Level Crown	0.00%	-2.00%
393	17+250.36m	Begin Normal Crown	-2.00%	-2.00%	402	17+471.03m	End Normal Crown	-2.00%	-2.00%	410	17+757.99m	Level Crown	0.00%	-2.00%	418	18+044.93m	Reverse Crown	2.00%	-2.00%
394	17+239.59m	End Normal Crown	-2.00%	-2.00%	402	17+480.70m	Level Crown	-2.00%	0.00%	410	17+767.66m	Reverse Crown	2.00%	-2.00%	418	18+063.83m	End Full Super	6.00%	-6.00%
394	17+249.00m	Level Crown	0.00%	-2.00%	402	17+490.37m	Reverse Crown	-2.00%	2.00%	410	17+786.99m	Begin Full Super	6.00%	-6.00%	418	18+064.26m	Begin Full Super	6.00%	-6.00%
394	17+258.41m	Reverse Crown	2.00%	-2.00%	402	17+508.11m	End Full Super	-6.00%	6.00%	410	17+795.43m	End Full Super	6.00%	-6.00%	418	18+083.17m	Reverse Crown	2.00%	-2.00%
394	17+265.00m	Begin Full Super	3.40%	-3.40%	402	17+509.70m	Begin Full Super	-6.00%	6.00%	410	17+814.76m	Reverse Crown	2.00%	-2.00%	418	18+092.83m	Level Crown	0.00%	-2.00%
394	17+270.18m	End Full Super	3.40%	-3.40%	402	17+527.45m	Reverse Crown	-2.00%	2.00%	410	17+824.43m	Level Crown	0.00%	-2.00%	418	18+102.50m	Begin Normal Crown	-2.00%	-2.00%
394	17+276.77m	Reverse Crown	2.00%	-2.00%	402	17+537.11m	Level Crown	-2.00%	0.00%	410	17+834.09m	Begin Normal Crown	-2.00%	-2.00%	419	18+065.79m	End Normal Crown	-2.00%	-2.00%
394	17+286.18m	Level Crown	0.00%	-2.00%	402	17+546.78m	Begin Normal Crown	-2.00%	-2.00%	411	17+793.42m	End Normal Crown	-2.00%	-2.00%	419	18+075.46m	Level Crown	-2.00%	0.00%
394	17+295.59m	Begin Normal Crown	-2.00%	-2.00%	403	17+511.71m	End Normal Crown	-2.00%	-2.00%	411	17+803.03m	Level Crown	0.00%	-2.00%	419	18+085.12m	Reverse Crown	-2.00%	2.00%
395	17+261.98m	End Normal Crown	-2.00%	-2.00%	403	17+521.12m	Level Crown	0.00%	-2.00%	411	17+812.65m	Reverse Crown	2.00%	-2.00%	419	18+104.46m	Begin Full Super	-6.00%	6.00%
395	17+271.32m	Level Crown	-2.00%	0.00%	403	17+530.53m	Reverse Crown	2.00%	-2.00%	411	17+827.26m	End Full Super	5.20%	-5.20%	419	18+107.12m	End Full Super	-6.00%	6.00%
395	17+280.65m	Reverse Crown	-2.00%	2.00%	403	17+535.17m	End Full Super	3.40%	-3.40%	411	17+828.03m	Begin Full Super	5.20%	-5.20%	419	18+126.45m	Reverse Crown	-2.00%	2.00%
395	17+285.32m	Begin Full Super	-3.00%	3.00%	403	17+537.12m	Begin Full Super	3.40%	-3.40%	411	17+842.65m	Reverse Crown	2.00%	-2.00%	419	18+136.12m	Level Crown	-2.00%	0.00%
395	17+302.12m	End Full Super	-3.00%	3.00%	403	17+541.76m	Reverse Crown	2.00%	-2.00%	411	17+852.26m	Level Crown	0.00%	-2.00%	419	18+145.79m	Begin Normal Crown	-2.00%	-2.00%
395	17+306.78m	Reverse Crown	-2.00%	2.00%	403	17+551.17m	Level Crown	0.00%	-2.00%	411	17+861.88m	Begin Normal Crown	-2.00%	-2.00%	420	18+092.24m	End Normal Crown	-2.00%	-2.00%
395	17+316.12m	Level Crown	-2.00%	0.00%	403	17+560.58m	Begin Normal Crown	-2.00%	-2.00%	412	17+812.14m	End Normal Crown	-2.00%	-2.00%	420	18+101.91m	Level Crown	0.00%	-2.00%
395	17+325.45m	Begin Normal Crown	-2.00%	-2.00%	404	17+519.22m	End Normal Crown	-2.00%	-2.00%	412	17+821.75m	Level Crown	-2.00%	0.00%	420	18+111.58m	Reverse Crown	2.00%	-2.00%
396	17+295.37m	End Normal Crown	-2.00%	-2.00%	404	17+528.89m	Level Crown	-2.00%	0.00%	412	17+831.37m	Reverse Crown	-2.00%	2.00%	420	18+130.91m	Begin Full Super	6.00%	-6.00%
396	17+305.04m	Level Crown	0.00%	-2.00%	404	17+538.56m	Reverse Crown	-2.00%	2.00%	412	17+846.75m	Begin Full Super	-5.20%	5.20%	420	18+136.79m	End Full Super	6.00%	-6.00%
396	17+314.70m	Reverse Crown	2.00%	-2.00%	404	17+557.00m	End Full Super	-6.00%	6.00%	412	17+867.72m	End Full Super	-5.20%	5.20%	420	18+156.12m	Reverse Crown	2.00%	-2.00%
396	17+334.04m	Begin Full Super	6.00%	-6.00%	404	17+557.89m	Begin Full Super	-6.00%	6.00%	412	17+883.11m	Reverse Crown	-2.00%	2.00%	420	18+165.79m	Level Crown	0.00%	-2.00%
396	17+338.01m	End Full Super	6.00%	-6.00%	404	17+576.34m	Reverse Crown	-2.00%	2.00%	412	17+892.72m	Level Crown	-2.00%	0.00%	420	18+175.45m	Begin Normal Crown	-2.00%	-2.00%
396	17+357.35m	Reverse Crown	2.00%	-2.00%	404	17+586.00m	Level Crown	-2.00%	0.00%	412	17+902.34m	Begin Normal Crown	-2.00%	-2.00%	421	18+136.51m	End Normal Crown	-2.00%	-2.00%
396	17+367.01m	Level Crown	0.00%	-2.00%	404	17+595.67m	Begin Normal Crown	-2.00%	-2.00%	413	17+875.75m	End Normal Crown	-2.00%	-2.00%	421	18+145.93m	Level Crown	-2.00%	0.00%
396	17+376.68m	Begin Normal Crown	-2.00%	-2.00%	405	17+543.59m	End Normal Crown	-2.00%	-2.00%	413	17+885.42m	Level Crown	0.00%	-2.00%	421	18+155.34m	Reverse Crown	-2.00%	2.00%
397	17+319.49m	End Normal Crown	-2.00%	-2.00%	405	17+553.19m	Level Crown	-2.00%	0.00%	413	17+895.09m	Reverse Crown	2.00%	-2.00%	421	18+161.93m	Begin Full Super	-3.40%	3.40%
397	17+329.15m	Level Crown	0.00%	-2.00%	405	17+562.79m	Reverse Crown	-2.00%	2.00%	413	17+914.42m	Begin Full Super	6.00%	-6.00%	421	18+164.91m	End Full Super	-3.40%	3.40%
397	17+338.82m	Reverse Crown	2.00%	-2.00%	405	17+577.19m	Begin Full Super	-5.00%	5.00%	413	17+921.98m	End Full Super	6.00%	-6.00%	421	18+171.50m	Reverse Crown	-2.00%	2.00%
397	17+351.08m	End Full Super	6.00%	-6.00%	405	17+589.98m	End Full Super	-5.00%	5.00%	413	17+941.31m	Reverse Crown	2.00%	-2.00%	421	18+180.91m	Level Crown	-2.00%	0.00%
397	17+358.15m	Begin Full Super	6.00%	-6.00%	405	17+604.38m	Reverse Crown	-2.00%	2.00%	413	17+950.98m	Level Crown	0.00%	-2.00%	421	18+190.33m	Begin Normal Crown	-2.00%	-2.00%
397	17+370.41m	Reverse Crown	2.00%	-2.00%	405	17+613.98m	Level Crown	-2.00%	0.00%	413	17+960.64m	Begin Normal Crown	-2.00%	-2.00%	422	18+145.32m	End Normal Crown	-2.00%	-2.00%
397	17+380.08m	Level Crown	0.00%	-2.00%	405	17+623.58m	Begin Normal Crown	-2.00%	-2.00%	414	17+914.55m	End Normal Crown	-2.00%	-2.00%	422	18+154.96m	Level Crown	-2.00%	0.00%
397	17+389.74m	Begin Normal Crown	-2.00%	-2.00%	406	17+584.48m	End Normal Crown	-2.00%	-2.00%	414	17+924.22m	Level Crown	-2.00%	0.00%	422	18+164.61m	Reverse Crown	-2.00%	2.00%
398	17+348.54m	End Normal Crown	-2.00%	-2.00%	406	17+594.05m	Level Crown	-2.00%	0.00%	414	17+933.88m	Reverse Crown	-2.00%	2.00%	422	18+181.96m	Begin Full Super	-5.60%	5.60%
398	17+358.12m	Level Crown	-2.00%	0.00%	406	17+603.61m	Reverse Crown	-2.00%	2.00%	414	17+951.74m	End Full Super	-6.00%	6.00%	422	18+191.72m	End Full Super	-5.60%	5.60%
398	17+367.71m	Reverse Crown	-2.00%	2.00%	406	17+616.05m	Begin Full Super	-4.60%	4.60%	414	17+953.22m	Begin Full Super	-6.00%	6.00%	422	18+209.08m	Reverse Crown	-2.00%	2.00%
398	17+381.12m	Begin Full Super	-4.80%	4.80%	406	17+625.21m	End Full Super	-4.60%	4.60%	414	17+971.08m	Reverse Crown	-2.00%	2.00%	422	18+218.72m	Level Crown	-2.00%	0.00%
398	17+385.98m	End Full Super	-4.80%	4.80%	406	17+637.64m	Reverse Crown	-2.00%	2.00%	414	17+980.74m	Level Crown	-2.00%	0.00%	422	18+228.36m	Begin Normal Crown	-2.00%	-2.00%
398	17+399.40m	Reverse Crown	-2.00%	2.00%	406	17+647.21m	Level Crown	-2.00%	0.00%	414	17+990.41m	Begin Normal Crown	-2.00%	-2.00%	423	18+178.13m	End Normal Crown	-2.00%	-2.00%
398	17+408.98m	Level Crown	-2.00%	0.00%	406	17+656.77m	Begin Normal Crown	-2.00%	-2.00%	415	17+954.65m	End Normal Crown	-2.00%	-2.00%	423	18+187.78m	Level Crown	-2.00%	0.00%
398	17+418.56m	Begin Normal Crown	-2.00%	-2.00%	407	17+651.62m	End Normal Crown	-2.00%	-2.00%	415	17+964.32m	Level Crown	0.00%	-2.00%	423	18+197.44m	Reverse Crown	-2.00%	2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN | SUBMITTED | RECOMMENDED | CHD./VER. | APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/ PD0010M

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
423	18+215.59m	End Full Super	-5.80%	5.80%	431	18+451.56m	End Full Super	6.00%	-6.00%	439	18+710.37m	Reverse Crown	2.00%	-2.00%	447	19+027.87m	Level Crown	0.00%	-2.00%
423	18+215.78m	Begin Full Super	-5.80%	5.80%	431	18+470.89m	Reverse Crown	2.00%	-2.00%	439	18+719.97m	Level Crown	0.00%	-2.00%	447	19+037.49m	Begin Normal Crown	-2.00%	-2.00%
423	18+233.93m	Reverse Crown	-2.00%	2.00%	431	18+480.56m	Level Crown	0.00%	-2.00%	439	18+729.57m	Begin Normal Crown	-2.00%	-2.00%	448	18+997.82m	End Normal Crown	-2.00%	-2.00%
423	18+243.59m	Level Crown	-2.00%	0.00%	431	18+490.22m	Begin Normal Crown	-2.00%	-2.00%	440	18+678.09m	End Normal Crown	-2.00%	-2.00%	448	19+007.49m	Level Crown	-2.00%	0.00%
423	18+253.24m	Begin Normal Crown	-2.00%	-2.00%	432	18+456.48m	End Normal Crown	-2.00%	-2.00%	440	18+687.74m	Level Crown	-2.00%	0.00%	448	19+017.16m	Reverse Crown	-2.00%	2.00%
424	18+224.22m	End Normal Crown	-2.00%	-2.00%	432	18+465.95m	Level Crown	-2.00%	0.00%	440	18+697.38m	Reverse Crown	-2.00%	2.00%	448	19+034.91m	End Full Super	-6.00%	6.00%
424	18+233.89m	Level Crown	0.00%	-2.00%	432	18+475.42m	Reverse Crown	-2.00%	2.00%	440	18+712.89m	End Full Super	-5.60%	5.60%	448	19+036.49m	Begin Full Super	-6.00%	6.00%
424	18+243.55m	Reverse Crown	2.00%	-2.00%	432	18+483.95m	Begin Full Super	-3.80%	3.80%	440	18+714.74m	Begin Full Super	-5.60%	5.60%	448	19+054.24m	Reverse Crown	-2.00%	2.00%
424	18+262.89m	Begin Full Super	6.00%	-6.00%	432	18+496.83m	End Full Super	-3.80%	3.80%	440	18+730.25m	Reverse Crown	-2.00%	2.00%	448	19+063.91m	Level Crown	-2.00%	0.00%
424	18+270.99m	End Full Super	6.00%	-6.00%	432	18+505.36m	Reverse Crown	-2.00%	2.00%	440	18+739.89m	Level Crown	-2.00%	0.00%	448	19+073.58m	Begin Normal Crown	-2.00%	-2.00%
424	18+290.33m	Reverse Crown	2.00%	-2.00%	432	18+514.83m	Level Crown	-2.00%	0.00%	440	18+749.53m	Begin Normal Crown	-2.00%	-2.00%	449	19+022.85m	End Normal Crown	-2.00%	-2.00%
424	18+299.99m	Level Crown	0.00%	-2.00%	432	18+524.31m	Begin Normal Crown	-2.00%	-2.00%	441	18+695.96m	End Normal Crown	-2.00%	-2.00%	449	19+032.43m	Level Crown	-2.00%	0.00%
424	18+309.66m	Begin Normal Crown	-2.00%	-2.00%	433	18+499.02m	End Normal Crown	-2.00%	-2.00%	441	18+705.63m	Level Crown	0.00%	-2.00%	449	19+042.01m	Reverse Crown	-2.00%	2.00%
425	18+257.26m	End Normal Crown	-2.00%	-2.00%	433	18+508.68m	Level Crown	0.00%	-2.00%	441	18+715.29m	Reverse Crown	2.00%	-2.00%	449	19+055.43m	Begin Full Super	-4.80%	4.80%
425	18+266.93m	Level Crown	-2.00%	0.00%	433	18+518.33m	Reverse Crown	2.00%	-2.00%	441	18+733.76m	End Full Super	6.00%	-6.00%	449	19+056.51m	End Full Super	-4.80%	4.80%
425	18+276.60m	Reverse Crown	-2.00%	2.00%	433	18+534.06m	End Full Super	5.80%	-5.80%	441	18+734.63m	Begin Full Super	6.00%	-6.00%	449	19+069.92m	Reverse Crown	-2.00%	2.00%
425	18+286.00m	End Full Super	-6.00%	6.00%	433	18+536.68m	Begin Full Super	5.80%	-5.80%	441	18+753.09m	Reverse Crown	2.00%	-2.00%	449	19+079.51m	Level Crown	-2.00%	0.00%
425	18+295.93m	Begin Full Super	-6.00%	6.00%	433	18+552.40m	Reverse Crown	2.00%	-2.00%	441	18+762.76m	Level Crown	0.00%	-2.00%	449	19+089.09m	Begin Normal Crown	-2.00%	-2.00%
425	18+305.34m	Reverse Crown	-2.00%	2.00%	433	18+562.06m	Level Crown	0.00%	-2.00%	441	18+772.43m	Begin Normal Crown	-2.00%	-2.00%	450	19+051.30m	End Normal Crown	-2.00%	-2.00%
425	18+315.00m	Level Crown	-2.00%	0.00%	433	18+571.71m	Begin Normal Crown	-2.00%	-2.00%	442	18+731.79m	End Normal Crown	-2.00%	-2.00%	450	19+060.84m	Level Crown	0.00%	-2.00%
425	18+324.67m	Begin Normal Crown	-2.00%	-2.00%	434	18+525.34m	End Normal Crown	-2.00%	-2.00%	442	18+741.43m	Level Crown	-2.00%	0.00%	450	19+070.39m	Reverse Crown	2.00%	-2.00%
426	18+282.37m	End Normal Crown	-2.00%	-2.00%	434	18+535.01m	Level Crown	-2.00%	0.00%	442	18+751.07m	Reverse Crown	-2.00%	2.00%	450	19+081.84m	Begin Full Super	4.40%	-4.40%
426	18+292.04m	Level Crown	-2.00%	0.00%	434	18+544.67m	Reverse Crown	-2.00%	2.00%	442	18+768.43m	Begin Full Super	-5.60%	5.60%	450	19+085.64m	End Full Super	4.40%	-4.40%
426	18+301.70m	Reverse Crown	-2.00%	2.00%	434	18+561.54m	End Full Super	-6.00%	6.00%	442	18+782.23m	End Full Super	-5.60%	5.60%	450	19+097.10m	Reverse Crown	2.00%	-2.00%
426	18+317.49m	End Full Super	-6.00%	6.00%	434	18+564.01m	Begin Full Super	-6.00%	6.00%	442	18+799.58m	Reverse Crown	-2.00%	2.00%	450	19+106.64m	Level Crown	0.00%	-2.00%
426	18+321.04m	Begin Full Super	-6.00%	6.00%	434	18+580.87m	Reverse Crown	-2.00%	2.00%	442	18+809.23m	Level Crown	-2.00%	0.00%	450	19+116.19m	Begin Normal Crown	-2.00%	-2.00%
426	18+336.82m	Reverse Crown	-2.00%	2.00%	434	18+590.54m	Level Crown	-2.00%	0.00%	442	18+818.87m	Begin Normal Crown	-2.00%	-2.00%	451	19+069.28m	End Normal Crown	-2.00%	-2.00%
426	18+346.49m	Level Crown	-2.00%	0.00%	434	18+600.21m	Begin Normal Crown	-2.00%	-2.00%	443	18+774.98m	End Normal Crown	-2.00%	-2.00%	451	19+078.94m	Level Crown	0.00%	-2.00%
426	18+356.16m	Begin Normal Crown	-2.00%	-2.00%	435	18+547.79m	End Normal Crown	-2.00%	-2.00%	443	18+784.64m	Level Crown	0.00%	-2.00%	451	19+088.61m	Reverse Crown	2.00%	-2.00%
427	18+298.97m	End Normal Crown	-2.00%	-2.00%	435	18+557.39m	Level Crown	0.00%	-2.00%	443	18+794.31m	Reverse Crown	2.00%	-2.00%	451	19+107.94m	Begin Full Super	6.00%	-6.00%
427	18+308.64m	Level Crown	-2.00%	0.00%	435	18+566.99m	Reverse Crown	2.00%	-2.00%	443	18+813.64m	Begin Full Super	6.00%	-6.00%	451	19+120.02m	End Full Super	6.00%	-6.00%
427	18+318.31m	Reverse Crown	-2.00%	2.00%	435	18+577.46m	End Full Super	5.00%	-5.00%	443	18+819.34m	End Full Super	6.00%	-6.00%	451	19+139.36m	Reverse Crown	2.00%	-2.00%
427	18+336.32m	End Full Super	-6.00%	6.00%	435	18+581.39m	Begin Full Super	5.00%	-5.00%	443	18+838.67m	Reverse Crown	2.00%	-2.00%	451	19+149.02m	Level Crown	0.00%	-2.00%
427	18+337.64m	Begin Full Super	-6.00%	6.00%	435	18+591.86m	Reverse Crown	2.00%	-2.00%	443	18+848.34m	Level Crown	0.00%	-2.00%	451	19+158.69m	Begin Normal Crown	-2.00%	-2.00%
427	18+355.66m	Reverse Crown	-2.00%	2.00%	435	18+601.46m	Level Crown	0.00%	-2.00%	443	18+858.01m	Begin Normal Crown	-2.00%	-2.00%	452	19+104.30m	End Normal Crown	-2.00%	-2.00%
427	18+365.32m	Level Crown	-2.00%	0.00%	435	18+611.06m	Begin Normal Crown	-2.00%	-2.00%	444	18+845.39m	End Normal Crown	-2.00%	-2.00%	452	19+113.97m	Level Crown	-2.00%	0.00%
427	18+374.99m	Begin Normal Crown	-2.00%	-2.00%	436	18+564.81m	End Normal Crown	-2.00%	-2.00%	444	18+855.06m	Level Crown	0.00%	-2.00%	452	19+123.63m	Reverse Crown	-2.00%	2.00%
428	18+327.17m	End Normal Crown	-2.00%	-2.00%	436	18+574.43m	Level Crown	-2.00%	0.00%	444	18+864.72m	Reverse Crown	2.00%	-2.00%	452	19+138.51m	End Full Super	-6.00%	6.00%
428	18+336.84m	Level Crown	0.00%	-2.00%	436	18+584.05m	Reverse Crown	-2.00%	2.00%	444	18+881.30m	End Full Super	6.00%	-6.00%	452	19+142.97m	Begin Full Super	-6.00%	6.00%
428	18+346.50m	Reverse Crown	2.00%	-2.00%	436	18+599.43m	Begin Full Super	-5.20%	5.20%	444	18+884.06m	Begin Full Super	6.00%	-6.00%	452	19+157.85m	Reverse Crown	-2.00%	2.00%
428	18+360.86m	End Full Super	6.00%	-6.00%	436	18+610.69m	End Full Super	-5.20%	5.20%	444	18+900.63m	Reverse Crown	2.00%	-2.00%	452	19+167.51m	Level Crown	-2.00%	0.00%
428	18+365.84m	Begin Full Super	6.00%	-6.00%	436	18+626.07m	Reverse Crown	-2.00%	2.00%	444	18+910.30m	Level Crown	0.00%	-2.00%	452	19+177.18m	Begin Normal Crown	-2.00%	-2.00%
428	18+380.20m	Reverse Crown	2.00%	-2.00%	436	18+635.69m	Level Crown	-2.00%	0.00%	444	18+919.96m	Begin Normal Crown	-2.00%	-2.00%	453	19+129.05m	End Normal Crown	-2.00%	-2.00%
428	18+389.86m	Level Crown	0.00%	-2.00%	436	18+645.31m	Begin Normal Crown	-2.00%	-2.00%	445	18+863.42m	End Normal Crown	-2.00%	-2.00%	453	19+138.66m	Level Crown	0.00%	-2.00%
428	18+399.53m	Begin Normal Crown	-2.00%	-2.00%	437	18+596.98m	End Normal Crown	-2.00%	-2.00%	445	18+873.09m	Level Crown	0.00%	-2.00%	453	19+148.28m	Reverse Crown	2.00%	-2.00%
429	18+348.91m	End Normal Crown	-2.00%	-2.00%	437	18+606.52m	Level Crown	0.00%	-2.00%	445	18+882.76m	Reverse Crown	2.00%	-2.00%	453	19+163.66m	Begin Full Super	5.20%	-5.20%
429	18+358.58m	Level Crown	-2.00%	0.00%	437	18+616.07m	Reverse Crown	2.00%	-2.00%	445	18+902.09m	Begin Full Super	6.00%	-6.00%	453	19+182.92m	End Full Super	5.20%	-5.20%
429	18+368.24m	Reverse Crown	-2.00%	2.00%	437	18+627.52m	Begin Full Super	4.40%	-4.40%	445	18+903.13m	End Full Super	6.00%	-6.00%	453	19+198.30m	Reverse Crown	2.00%	-2.00%
429	18+384.27m	End Full Super	-6.00%	6.00%	437	18+637.43m	End Full Super	4.40%	-4.40%	445	18+922.46m	Reverse Crown	2.00%	-2.00%	453	19+207.92m	Level Crown	0.00%	-2.00%
429	18+387.58m	Begin Full Super	-6.00%	6.00%	437	18+648.89m	Reverse Crown	2.00%	-2.00%	445	18+932.13m	Level Crown	0.00%	-2.00%	453	19+217.53m	Begin Normal Crown	-2.00%	-2.00%
429	18+403.60m	Reverse Crown	-2.00%	2.00%	437	18+658.43m	Level Crown	0.00%	-2.00%	445	18+941.80m	Begin Normal Crown	-2.00%	-2.00%	454	19+171.82m	End Normal Crown	-2.00%	-2.00%
429	18+413.27m	Level Crown	-2.00%	0.00%	437	18+667.98m	Begin Normal Crown	-2.00%	-2.00%	446	18+907.17m	End Normal Crown	-2.00%	-2.00%	454	19+181.48m	Level Crown	-2.00%	0.00%
429	18+422.93m	Begin Normal Crown	-2.00%	-2.00%	438	18+630.24m	End Normal Crown	-2.00%	-2.00%	446	18+916.83m	Level Crown	-2.00%	0.00%	454	19+191.14m	Reverse Crown	-2.00%	2.00%
430	18+375.74m	End Normal Crown	-2.00%	-2.00%	438	18+639.90m	Level Crown	-2.00%	0.00%	446	18+926.50m	Reverse Crown	-2.00%	2.00%	454	19+209.48m	Begin Full Super	-5.80%	5.80%
430	18+385.32m	Level Crown	-2.00%	0.00%	438	18+649.57m	Reverse Crown	-2.00%	2.00%	446	18+945.83m	Begin Full Super	-6.00%	6.00%	454	19+218.53m	End Full Super	-5.80%	5.80%
430	18+394.90m	Reverse Crown	-2.00%	2.00%	438	18+668.90m	Begin Full Super	-6.00%	6.00%	446	18+948.85m	End Full Super	-6.00%	6.00%	454	19+236.88m	Reverse Crown	-2.00%	2.00%
430	18+408.32m	Begin Full Super	-4.80%	4.80%	438	18+669.97m	End Full Super	-6.00%	6.00%	446	18+968.18m	Reverse Crown	-2.00%	2.00%	454	19+246.53m	Level Crown	-2.00%	0.00%
430	18+409.31m	End Full Super	-4.80%	4.80%	438	18+689.31m	Reverse Crown	-2.00%	2.00%	446	18+977.85m	Level Crown	-2.00%	0.00%	454	19+256.19m	Begin Normal Crown	-2.00%	-2.00%
430	18+422.73m	Reverse Crown	-2.00%	2.00%	438	18+698.97m	Level Crown	-2.00%	0.00%	446	18+987.51m	Begin Normal Crown	-2.00%	-2.00%	455	19+204.43m	End Normal Crown	-2.00%	-2.00%
430	18+432.31m	Level Crown	-2.00%	0.00%	438	18+708.64m	Begin Normal Crown	-2.00%	-2.00%	447	18+961.22m	End Normal Crown	-2.00%	-2.00%	455	19+214.10m	Level Crown	0.00%	-2.00%
430	18+441.89m	Begin Normal Crown	-2.00%	-2.00%	439	18+661.58m	End Normal Crown	-2.00%	-2.00%	447	18+970.83m	Level Crown	0.00%	-2.00%	455	19+223.77m	Reverse Crown	2.00%	-2.00%
431	18+410.83m	End Normal Crown	-2.00%	-2.00%	439	18+671.18m	Level Crown	0.00%	-2.00%	447	18+980.45m	Reverse Crown	2.00%	-2.00%	455	19+243.10m	Begin Full Super	6.00%	-6.00%
431	18+420.50m	Level Crown	0.00%	-2.00%	439	18+680.78m	Reverse Crown	2.00%	-2.00%	447	18+995.83m	Begin Full Super	5.20%	-5.20%	455	19+256.32m	End Full Super	6.00%	-6.00%
431	18+430.17m	Reverse Crown	2.00%	-2.00%	439	18+695.18m	Begin Full Super	5.00%	-5.00%	447	19+002.87m	End Full Super	5.20%	-5.20%	455	19+275.66m	Reverse Crown	2.00%	-2.00%
431	18+449.50m	Begin Full Super	6.00%	-6.00%	439	18+695.97m	End Full Super	5.00%	-5.00%	447	19+018.25m	Reverse Crown	2.00%	-2.00%	455	19+285.32m	Level Crown	0.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010N

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
455	19+294.99m	Begin Normal Crown	-2.00%	-2.00%	464	19+489.28m	End Normal Crown	-2.00%	-2.00%	472	19+736.91m	Level Crown	0.00%	-2.00%	480	20+021.47m	Reverse Crown	-2.00%	2.00%
456	19+249.38m	End Normal Crown	-2.00%	-2.00%	464	19+498.51m	Level Crown	0.00%	-2.00%	472	19+746.57m	Reverse Crown	2.00%	-2.00%	480	20+040.80m	Begin Full Super	-6.00%	6.00%
456	19+258.93m	Level Crown	-2.00%	0.00%	464	19+507.74m	Reverse Crown	2.00%	-2.00%	472	19+761.88m	End Full Super	5.80%	-5.80%	480	20+048.03m	End Full Super	-6.00%	6.00%
456	19+268.47m	Reverse Crown	-2.00%	2.00%	464	19+509.10m	End Full Super	2.60%	-2.60%	472	19+764.91m	Begin Full Super	5.80%	-5.80%	480	20+067.37m	Reverse Crown	-2.00%	2.00%
456	19+279.93m	Begin Full Super	-4.40%	4.40%	464	19+510.51m	Begin Full Super	2.60%	-2.60%	472	19+780.22m	Reverse Crown	2.00%	-2.00%	480	20+077.03m	Level Crown	-2.00%	0.00%
456	19+288.31m	End Full Super	-4.40%	4.40%	464	19+511.87m	Reverse Crown	2.00%	-2.00%	472	19+789.88m	Level Crown	0.00%	-2.00%	480	20+086.70m	Begin Normal Crown	-2.00%	-2.00%
456	19+299.76m	Reverse Crown	-2.00%	2.00%	464	19+521.10m	Level Crown	0.00%	-2.00%	472	19+799.53m	Begin Normal Crown	-2.00%	-2.00%	481	20+044.41m	End Normal Crown	-2.00%	-2.00%
456	19+309.31m	Level Crown	-2.00%	0.00%	464	19+530.33m	Begin Normal Crown	-2.00%	-2.00%	473	19+767.26m	End Normal Crown	-2.00%	-2.00%	481	20+054.06m	Level Crown	0.00%	-2.00%
456	19+318.85m	Begin Normal Crown	-2.00%	-2.00%	465	19+506.63m	End Normal Crown	-2.00%	-2.00%	473	19+776.84m	Level Crown	0.00%	-2.00%	481	20+063.72m	Reverse Crown	2.00%	-2.00%
457	19+270.26m	End Normal Crown	-2.00%	-2.00%	465	19+516.08m	Level Crown	-2.00%	0.00%	473	19+786.42m	Reverse Crown	2.00%	-2.00%	481	20+080.66m	End Full Super	5.80%	-5.80%
457	19+279.93m	Level Crown	-2.00%	0.00%	465	19+525.52m	Reverse Crown	-2.00%	2.00%	473	19+799.84m	Begin Full Super	4.80%	-4.80%	481	20+082.06m	Begin Full Super	5.80%	-5.80%
457	19+289.60m	Reverse Crown	-2.00%	2.00%	465	19+533.08m	Begin Full Super	-3.60%	3.60%	473	19+800.36m	End Full Super	4.80%	-4.80%	481	20+099.00m	Reverse Crown	2.00%	-2.00%
457	19+305.21m	End Full Super	-6.00%	6.00%	465	19+547.30m	End Full Super	-3.60%	3.60%	473	19+813.78m	Reverse Crown	2.00%	-2.00%	481	20+108.66m	Level Crown	0.00%	-2.00%
457	19+308.93m	Begin Full Super	-6.00%	6.00%	465	19+554.85m	Reverse Crown	-2.00%	2.00%	473	19+823.36m	Level Crown	0.00%	-2.00%	481	20+118.31m	Begin Normal Crown	-2.00%	-2.00%
457	19+324.55m	Reverse Crown	-2.00%	2.00%	465	19+564.30m	Level Crown	-2.00%	0.00%	473	19+832.95m	Begin Normal Crown	-2.00%	-2.00%	482	20+070.46m	End Normal Crown	-2.00%	-2.00%
457	19+334.21m	Level Crown	-2.00%	0.00%	465	19+573.74m	Begin Normal Crown	-2.00%	-2.00%	474	19+803.28m	End Normal Crown	-2.00%	-2.00%	482	20+080.09m	Level Crown	-2.00%	0.00%
457	19+343.88m	Begin Normal Crown	-2.00%	-2.00%	466	19+533.72m	End Normal Crown	-2.00%	-2.00%	474	19+812.84m	Level Crown	-2.00%	0.00%	482	20+089.72m	Reverse Crown	-2.00%	2.00%
458	19+288.68m	End Normal Crown	-2.00%	-2.00%	466	19+543.38m	Level Crown	-2.00%	0.00%	474	19+822.41m	Reverse Crown	-2.00%	2.00%	482	20+101.55m	End Full Super	-5.40%	5.40%
458	19+298.35m	Level Crown	-2.00%	0.00%	466	19+553.05m	Reverse Crown	-2.00%	2.00%	474	19+831.51m	End Full Super	-4.60%	4.60%	482	20+106.09m	Begin Full Super	-5.40%	5.40%
458	19+308.02m	Reverse Crown	-2.00%	2.00%	466	19+570.66m	End Full Super	-6.00%	6.00%	474	19+834.84m	Begin Full Super	-4.60%	4.60%	482	20+117.92m	Reverse Crown	-2.00%	2.00%
458	19+327.35m	Begin Full Super	-6.00%	6.00%	466	19+572.38m	Begin Full Super	-6.00%	6.00%	474	19+843.94m	Reverse Crown	-2.00%	2.00%	482	20+127.55m	Level Crown	-2.00%	0.00%
458	19+332.36m	End Full Super	-6.00%	6.00%	466	19+589.99m	Reverse Crown	-2.00%	2.00%	474	19+853.51m	Level Crown	-2.00%	0.00%	482	20+137.18m	Begin Normal Crown	-2.00%	-2.00%
458	19+351.69m	Reverse Crown	-2.00%	2.00%	466	19+599.66m	Level Crown	-2.00%	0.00%	474	19+863.07m	Begin Normal Crown	-2.00%	-2.00%	483	20+095.75m	End Normal Crown	-2.00%	-2.00%
458	19+361.36m	Level Crown	-2.00%	0.00%	466	19+609.33m	Begin Normal Crown	-2.00%	-2.00%	475	19+815.06m	End Normal Crown	-2.00%	-2.00%	483	20+105.42m	Level Crown	0.00%	-2.00%
458	19+371.02m	Begin Normal Crown	-2.00%	-2.00%	467	19+570.87m	End Normal Crown	-2.00%	-2.00%	475	19+824.73m	Level Crown	-2.00%	0.00%	483	20+115.09m	Reverse Crown	2.00%	-2.00%
459	19+319.95m	End Normal Crown	-2.00%	-2.00%	467	19+580.54m	Level Crown	0.00%	-2.00%	475	19+834.39m	Reverse Crown	-2.00%	2.00%	483	20+130.43m	End Full Super	6.00%	-6.00%
459	19+329.62m	Level Crown	0.00%	-2.00%	467	19+590.20m	Reverse Crown	2.00%	-2.00%	475	19+853.73m	Begin Full Super	-6.00%	6.00%	483	20+134.42m	Begin Full Super	6.00%	-6.00%
459	19+339.29m	Reverse Crown	2.00%	-2.00%	467	19+608.81m	End Full Super	6.00%	-6.00%	475	19+862.73m	End Full Super	-6.00%	6.00%	483	20+149.76m	Reverse Crown	2.00%	-2.00%
459	19+354.21m	End Full Super	6.00%	-6.00%	467	19+609.54m	Begin Full Super	6.00%	-6.00%	475	19+882.07m	Reverse Crown	-2.00%	2.00%	483	20+159.43m	Level Crown	0.00%	-2.00%
459	19+358.62m	Begin Full Super	6.00%	-6.00%	467	19+628.14m	Reverse Crown	2.00%	-2.00%	475	19+891.73m	Level Crown	-2.00%	0.00%	483	20+169.10m	Begin Normal Crown	-2.00%	-2.00%
459	19+373.55m	Reverse Crown	2.00%	-2.00%	467	19+637.81m	Level Crown	0.00%	-2.00%	475	19+901.40m	Begin Normal Crown	-2.00%	-2.00%	484	20+118.46m	End Normal Crown	-2.00%	-2.00%
459	19+383.21m	Level Crown	0.00%	-2.00%	467	19+647.47m	Begin Normal Crown	-2.00%	-2.00%	476	19+871.50m	End Normal Crown	-2.00%	-2.00%	484	20+128.06m	Level Crown	-2.00%	0.00%
459	19+392.88m	Begin Normal Crown	-2.00%	-2.00%	468	19+617.93m	End Normal Crown	-2.00%	-2.00%	476	19+880.94m	Level Crown	-2.00%	0.00%	484	20+137.66m	Reverse Crown	-2.00%	2.00%
460	19+347.67m	End Normal Crown	-2.00%	-2.00%	468	19+627.43m	Level Crown	-2.00%	0.00%	476	19+890.39m	Reverse Crown	-2.00%	2.00%	484	20+145.24m	End Full Super	-5.00%	5.00%
460	19+357.32m	Level Crown	-2.00%	0.00%	468	19+636.93m	Reverse Crown	-2.00%	2.00%	476	19+897.94m	Begin Full Super	-3.60%	3.60%	484	20+152.06m	Begin Full Super	-5.00%	5.00%
460	19+366.98m	Reverse Crown	-2.00%	2.00%	468	19+644.04m	End Full Super	-4.00%	4.00%	476	19+907.02m	End Full Super	-3.60%	3.60%	484	20+159.64m	Reverse Crown	-2.00%	2.00%
460	19+385.19m	End Full Super	-5.80%	5.80%	468	19+646.43m	Begin Full Super	-4.00%	4.00%	476	19+914.58m	Reverse Crown	-2.00%	2.00%	484	20+169.24m	Level Crown	-2.00%	0.00%
460	19+385.32m	Begin Full Super	-5.80%	5.80%	468	19+653.54m	Reverse Crown	-2.00%	2.00%	476	19+924.02m	Level Crown	-2.00%	0.00%	484	20+178.84m	Begin Normal Crown	-2.00%	-2.00%
460	19+403.53m	Reverse Crown	-2.00%	2.00%	468	19+663.04m	Level Crown	-2.00%	0.00%	476	19+933.47m	Begin Normal Crown	-2.00%	-2.00%	485	20+141.96m	End Normal Crown	-2.00%	-2.00%
460	19+413.19m	Level Crown	-2.00%	0.00%	468	19+672.54m	Begin Normal Crown	-2.00%	-2.00%	477	19+896.78m	End Normal Crown	-2.00%	-2.00%	485	20+151.63m	Level Crown	-2.00%	0.00%
460	19+422.84m	Begin Normal Crown	-2.00%	-2.00%	469	19+651.11m	End Normal Crown	-2.00%	-2.00%	477	19+906.44m	Level Crown	0.00%	-2.00%	485	20+161.29m	Reverse Crown	-2.00%	2.00%
461	19+390.64m	End Normal Crown	-2.00%	-2.00%	469	19+660.55m	Level Crown	0.00%	-2.00%	477	19+916.11m	Reverse Crown	2.00%	-2.00%	485	20+174.88m	End Full Super	-6.00%	6.00%
461	19+400.31m	Level Crown	-2.00%	0.00%	469	19+670.00m	Reverse Crown	2.00%	-2.00%	477	19+935.44m	Begin Full Super	6.00%	-6.00%	485	20+180.63m	Begin Full Super	-6.00%	6.00%
461	19+409.97m	Reverse Crown	-2.00%	2.00%	469	19+677.55m	Begin Full Super	3.60%	-3.60%	477	19+941.11m	End Full Super	6.00%	-6.00%	485	20+194.21m	Reverse Crown	-2.00%	2.00%
461	19+424.09m	End Full Super	-6.00%	6.00%	469	19+682.97m	End Full Super	3.60%	-3.60%	477	19+960.45m	Reverse Crown	2.00%	-2.00%	485	20+203.88m	Level Crown	-2.00%	0.00%
461	19+429.31m	Begin Full Super	-6.00%	6.00%	469	19+690.52m	Reverse Crown	2.00%	-2.00%	477	19+970.11m	Level Crown	0.00%	-2.00%	485	20+213.55m	Begin Normal Crown	-2.00%	-2.00%
461	19+443.43m	Reverse Crown	-2.00%	2.00%	469	19+699.97m	Level Crown	0.00%	-2.00%	477	19+979.78m	Begin Normal Crown	-2.00%	-2.00%	486	20+177.47m	End Normal Crown	-2.00%	-2.00%
461	19+453.09m	Level Crown	-2.00%	0.00%	469	19+709.41m	Begin Normal Crown	-2.00%	-2.00%	478	19+923.70m	End Normal Crown	-2.00%	-2.00%	486	20+187.05m	Level Crown	0.00%	-2.00%
461	19+462.76m	Begin Normal Crown	-2.00%	-2.00%	470	19+671.91m	End Normal Crown	-2.00%	-2.00%	478	19+933.36m	Level Crown	-2.00%	0.00%	486	20+196.64m	Reverse Crown	2.00%	-2.00%
462	19+406.95m	End Normal Crown	-2.00%	-2.00%	470	19+681.48m	Level Crown	-2.00%	0.00%	478	19+943.03m	Reverse Crown	-2.00%	2.00%	486	20+206.57m	End Full Super	4.80%	-4.80%
462	19+416.62m	Level Crown	0.00%	-2.00%	470	19+691.04m	Reverse Crown	-2.00%	2.00%	478	19+962.36m	Begin Full Super	-6.00%	6.00%	486	20+210.05m	Begin Full Super	4.80%	-4.80%
462	19+426.29m	Reverse Crown	2.00%	-2.00%	470	19+703.48m	Begin Full Super	-4.60%	4.60%	478	19+968.34m	End Full Super	-6.00%	6.00%	486	20+219.99m	Reverse Crown	2.00%	-2.00%
462	19+444.18m	End Full Super	6.00%	-6.00%	470	19+709.76m	End Full Super	-4.60%	4.60%	478	19+987.67m	Reverse Crown	-2.00%	2.00%	486	20+229.57m	Level Crown	0.00%	-2.00%
462	19+445.62m	Begin Full Super	6.00%	-6.00%	470	19+722.19m	Reverse Crown	-2.00%	2.00%	478	19+997.34m	Level Crown	-2.00%	0.00%	486	20+239.15m	Begin Normal Crown	-2.00%	-2.00%
462	19+463.51m	Reverse Crown	2.00%	-2.00%	470	19+731.76m	Level Crown	-2.00%	0.00%	478	20+007.00m	Begin Normal Crown	-2.00%	-2.00%	487	20+192.47m	End Normal Crown	-2.00%	-2.00%
462	19+473.18m	Level Crown	0.00%	-2.00%	470	19+741.32m	Begin Normal Crown	-2.00%	-2.00%	479	19+971.36m	End Normal Crown	-2.00%	-2.00%	487	20+202.14m	Level Crown	0.00%	-2.00%
462	19+482.84m	Begin Normal Crown	-2.00%	-2.00%	471	19+694.93m	End Normal Crown	-2.00%	-2.00%	479	19+981.03m	Level Crown	0.00%	-2.00%	487	20+211.80m	Reverse Crown	2.00%	-2.00%
463	19+436.76m	End Normal Crown	-2.00%	-2.00%	471	19+704.59m	Level Crown	0.00%	-2.00%	479	19+990.69m	Reverse Crown	2.00%	-2.00%	487	20+231.14m	Begin Full Super	6.00%	-6.00%
463	19+446.34m	Level Crown	-2.00%	0.00%	471	19+714.26m	Reverse Crown	2.00%	-2.00%	479	20+010.03m	Begin Full Super	6.00%	-6.00%	487	20+232.34m	End Full Super	6.00%	-6.00%
463	19+455.93m	Reverse Crown	-2.00%	2.00%	471	19+733.59m	Begin Full Super	6.00%	-6.00%	479	20+013.79m	End Full Super	6.00%	-6.00%	487	20+251.67m	Reverse Crown	2.00%	-2.00%
463	19+469.34m	Begin Full Super	-4.80%	4.80%	471	19+741.45m	End Full Super	6.00%	-6.00%	479	20+033.12m	Reverse Crown	2.00%	-2.00%	487	20+261.34m	Level Crown	0.00%	-2.00%
463	19+475.15m	End Full Super	-4.80%	4.80%	471	19+760.79m	Reverse Crown	2.00%	-2.00%	479	20+042.79m	Level Crown	0.00%	-2.00%	487	20+271.01m	Begin Normal Crown	-2.00%	-2.00%
463	19+488.57m	Reverse Crown	-2.00%	2.00%	471	19+770.45m	Level Crown	0.00%	-2.00%	479	20+052.46m	Begin Normal Crown	-2.00%	-2.00%	488	20+214.29m	End Normal Crown	-2.00%	-2.00%
463	19+498.15m	Level Crown	-2.00%	0.00%	471	19+780.12m	Begin Normal Crown	-2.00%	-2.00%	480	20+002.14m	End Normal Crown	-2.00%	-2.00%	488	20+223.96m	Level Crown	-2.00%	0.00%
463	19+507.74m	Begin Normal Crown	-2.00%	-2.00%	472	19+727.26m	End Normal Crown	-2.00%	-2.00%	480	20+011.80m	Level Crown	-2.00%	0.00%	488	20+233.62m	Reverse Crown	-2.00%	2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN | SUBMITTED | RECOMMENDED | CHD./VER. | APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD00100

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
488	20+252.96m	Begin Full Super	-6.00%	6.00%	496	20+488.24m	End Full Super	4.80%	-4.80%	504	20+755.56m	Reverse Crown	-2.00%	2.00%	512	20+995.73m	Level Crown	-2.00%	0.00%
488	20+262.36m	End Full Super	-6.00%	6.00%	496	20+501.66m	Reverse Crown	2.00%	-2.00%	504	20+765.22m	Level Crown	-2.00%	0.00%	512	21+005.30m	Begin Normal Crown	-2.00%	-2.00%
488	20+281.69m	Reverse Crown	-2.00%	2.00%	496	20+511.24m	Level Crown	0.00%	-2.00%	504	20+774.87m	Begin Normal Crown	-2.00%	-2.00%	513	20+962.09m	End Normal Crown	-2.00%	-2.00%
488	20+291.36m	Level Crown	-2.00%	0.00%	496	20+520.82m	Begin Normal Crown	-2.00%	-2.00%	505	20+750.69m	End Normal Crown	-2.00%	-2.00%	513	20+971.71m	Level Crown	-2.00%	0.00%
488	20+301.03m	Begin Normal Crown	-2.00%	-2.00%	497	20+506.93m	End Normal Crown	-2.00%	-2.00%	505	20+760.07m	Level Crown	-2.00%	0.00%	513	20+981.32m	Reverse Crown	-2.00%	2.00%
489	20+257.79m	End Normal Crown	-2.00%	-2.00%	497	20+516.55m	Level Crown	0.00%	-2.00%	505	20+769.44m	Reverse Crown	-2.00%	2.00%	513	20+994.96m	End Full Super	-5.20%	5.20%
489	20+267.46m	Level Crown	0.00%	-2.00%	497	20+526.16m	Reverse Crown	2.00%	-2.00%	505	20+775.07m	Begin Full Super	-3.20%	3.20%	513	20+996.71m	Begin Full Super	-5.20%	5.20%
489	20+277.13m	Reverse Crown	2.00%	-2.00%	497	20+540.91m	End Full Super	5.20%	-5.20%	505	20+777.08m	End Full Super	-3.20%	3.20%	513	21+010.35m	Reverse Crown	-2.00%	2.00%
489	20+296.46m	Begin Full Super	6.00%	-6.00%	497	20+541.55m	Begin Full Super	5.20%	-5.20%	505	20+782.71m	Reverse Crown	-2.00%	2.00%	513	21+019.96m	Level Crown	-2.00%	0.00%
489	20+306.20m	End Full Super	6.00%	-6.00%	497	20+556.29m	Reverse Crown	2.00%	-2.00%	505	20+792.08m	Level Crown	-2.00%	0.00%	513	21+029.58m	Begin Normal Crown	-2.00%	-2.00%
489	20+325.53m	Reverse Crown	2.00%	-2.00%	497	20+565.91m	Level Crown	0.00%	-2.00%	505	20+801.46m	Begin Normal Crown	-2.00%	-2.00%	514	20+977.52m	End Normal Crown	-2.00%	-2.00%
489	20+335.20m	Level Crown	0.00%	-2.00%	497	20+575.52m	Begin Normal Crown	-2.00%	-2.00%	506	20+768.06m	End Normal Crown	-2.00%	-2.00%	514	20+987.18m	Level Crown	0.00%	-2.00%
489	20+344.87m	Begin Normal Crown	-2.00%	-2.00%	498	20+535.92m	End Normal Crown	-2.00%	-2.00%	506	20+777.51m	Level Crown	0.00%	-2.00%	514	20+996.85m	Reverse Crown	2.00%	-2.00%
490	20+295.81m	End Normal Crown	-2.00%	-2.00%	498	20+545.21m	Level Crown	-2.00%	0.00%	506	20+786.95m	Reverse Crown	2.00%	-2.00%	514	21+006.45m	End Full Super	6.00%	-6.00%
490	20+305.47m	Level Crown	-2.00%	0.00%	498	20+554.49m	Reverse Crown	-2.00%	2.00%	506	20+794.46m	End Full Super	3.60%	-3.60%	514	21+016.18m	Begin Full Super	6.00%	-6.00%
490	20+315.14m	Reverse Crown	-2.00%	2.00%	498	20+558.21m	Begin Full Super	-2.80%	2.80%	506	20+794.51m	Begin Full Super	3.60%	-3.60%	514	21+025.78m	Reverse Crown	2.00%	-2.00%
490	20+326.05m	End Full Super	-6.00%	6.00%	498	20+564.54m	End Full Super	-2.80%	2.80%	506	20+802.02m	Reverse Crown	2.00%	-2.00%	514	21+035.45m	Level Crown	0.00%	-2.00%
490	20+334.47m	Begin Full Super	-6.00%	6.00%	498	20+568.25m	Reverse Crown	-2.00%	2.00%	506	20+811.46m	Level Crown	0.00%	-2.00%	514	21+045.12m	Begin Normal Crown	-2.00%	-2.00%
490	20+345.38m	Reverse Crown	-2.00%	2.00%	498	20+577.54m	Level Crown	-2.00%	0.00%	506	20+820.91m	Begin Normal Crown	-2.00%	-2.00%	515	21+024.87m	End Normal Crown	-2.00%	-2.00%
490	20+355.05m	Level Crown	-2.00%	0.00%	498	20+586.82m	Begin Normal Crown	-2.00%	-2.00%	507	20+782.58m	End Normal Crown	-2.00%	-2.00%	515	21+034.87m	Level Crown	0.00%	-2.00%
490	20+364.71m	Begin Normal Crown	-2.00%	-2.00%	499	20+563.02m	End Normal Crown	-2.00%	-2.00%	507	20+792.10m	Level Crown	-2.00%	0.00%	515	21+044.87m	Reverse Crown	2.00%	-2.00%
491	20+313.83m	End Normal Crown	-2.00%	-2.00%	499	20+572.60m	Level Crown	0.00%	-2.00%	507	20+801.63m	Reverse Crown	-2.00%	2.00%	515	21+045.87m	Begin Full Super	2.20%	-2.20%
491	20+323.46m	Level Crown	-2.00%	0.00%	499	20+582.19m	Reverse Crown	2.00%	-2.00%	507	20+812.10m	Begin Full Super	-4.20%	4.20%	515	21+052.70m	End Full Super	2.20%	-2.20%
491	20+333.09m	Reverse Crown	-2.00%	2.00%	499	20+595.60m	Begin Full Super	4.80%	-4.80%	507	20+821.68m	End Full Super	-4.20%	4.20%	515	21+053.70m	Reverse Crown	2.00%	-2.00%
491	20+341.34m	End Full Super	-5.40%	5.40%	499	20+609.70m	End Full Super	4.80%	-4.80%	507	20+832.16m	Reverse Crown	-2.00%	2.00%	515	21+063.70m	Level Crown	0.00%	-2.00%
491	20+349.46m	Begin Full Super	-5.40%	5.40%	499	20+623.12m	Reverse Crown	2.00%	-2.00%	507	20+841.68m	Level Crown	-2.00%	0.00%	515	21+073.70m	Begin Normal Crown	-2.00%	-2.00%
491	20+357.71m	Reverse Crown	-2.00%	2.00%	499	20+632.70m	Level Crown	0.00%	-2.00%	507	20+851.20m	Begin Normal Crown	-2.00%	-2.00%	516	21+042.35m	End Normal Crown	-2.00%	-2.00%
491	20+367.34m	Level Crown	-2.00%	0.00%	499	20+642.28m	Begin Normal Crown	-2.00%	-2.00%	508	20+814.70m	End Normal Crown	-2.00%	-2.00%	516	21+051.95m	Level Crown	-2.00%	0.00%
491	20+376.97m	Begin Normal Crown	-2.00%	-2.00%	500	20+609.28m	End Normal Crown	-2.00%	-2.00%	508	20+824.26m	Level Crown	0.00%	-2.00%	516	21+061.55m	Reverse Crown	-2.00%	2.00%
492	20+324.16m	End Normal Crown	-2.00%	-2.00%	500	20+618.94m	Level Crown	-2.00%	0.00%	508	20+833.83m	Reverse Crown	2.00%	-2.00%	516	21+075.95m	Begin Full Super	-5.00%	5.00%
492	20+333.82m	Level Crown	0.00%	-2.00%	500	20+628.59m	Reverse Crown	-2.00%	2.00%	508	20+840.51m	End Full Super	4.60%	-4.60%	516	21+077.18m	End Full Super	-5.00%	5.00%
492	20+343.49m	Reverse Crown	2.00%	-2.00%	500	20+645.77m	End Full Super	-5.80%	5.80%	508	20+846.26m	Begin Full Super	4.60%	-4.60%	516	21+091.58m	Reverse Crown	-2.00%	2.00%
492	20+362.82m	Begin Full Super	6.00%	-6.00%	500	20+646.94m	Begin Full Super	-5.80%	5.80%	508	20+852.95m	Reverse Crown	2.00%	-2.00%	516	21+101.18m	Level Crown	-2.00%	0.00%
492	20+366.69m	End Full Super	6.00%	-6.00%	500	20+664.12m	Reverse Crown	-2.00%	2.00%	508	20+862.51m	Level Crown	0.00%	-2.00%	516	21+110.78m	Begin Normal Crown	-2.00%	-2.00%
492	20+386.03m	Reverse Crown	2.00%	-2.00%	500	20+673.77m	Level Crown	-2.00%	0.00%	508	20+872.08m	Begin Normal Crown	-2.00%	-2.00%	517	21+076.23m	End Normal Crown	-2.00%	-2.00%
492	20+395.69m	Level Crown	0.00%	-2.00%	500	20+683.43m	Begin Normal Crown	-2.00%	-2.00%	509	20+833.83m	End Normal Crown	-2.00%	-2.00%	517	21+085.73m	Level Crown	0.00%	-2.00%
492	20+405.36m	Begin Normal Crown	-2.00%	-2.00%	501	20+627.94m	End Normal Crown	-2.00%	-2.00%	509	20+843.21m	Level Crown	0.00%	-2.00%	517	21+095.23m	Reverse Crown	2.00%	-2.00%
493	20+362.93m	End Normal Crown	-2.00%	-2.00%	501	20+637.60m	Level Crown	-2.00%	0.00%	509	20+852.58m	Reverse Crown	2.00%	-2.00%	517	21+104.73m	Begin Full Super	4.00%	-4.00%
493	20+372.60m	Level Crown	-2.00%	0.00%	501	20+647.27m	Reverse Crown	-2.00%	2.00%	509	20+858.21m	Begin Full Super	3.20%	-3.20%	517	21+105.84m	End Full Super	4.00%	-4.00%
493	20+382.27m	Reverse Crown	-2.00%	2.00%	501	20+659.57m	End Full Super	-6.00%	6.00%	509	20+860.73m	End Full Super	3.20%	-3.20%	517	21+115.34m	Reverse Crown	2.00%	-2.00%
493	20+401.60m	Begin Full Super	-6.00%	6.00%	501	20+666.60m	Begin Full Super	-6.00%	6.00%	509	20+866.36m	Reverse Crown	2.00%	-2.00%	517	21+124.84m	Level Crown	0.00%	-2.00%
493	20+402.38m	End Full Super	-6.00%	6.00%	501	20+678.91m	Reverse Crown	-2.00%	2.00%	509	20+875.73m	Level Crown	0.00%	-2.00%	517	21+134.34m	Begin Normal Crown	-2.00%	-2.00%
493	20+421.72m	Reverse Crown	-2.00%	2.00%	501	20+688.57m	Level Crown	-2.00%	0.00%	509	20+885.11m	Begin Normal Crown	-2.00%	-2.00%	518	21+130.28m	End Normal Crown	-2.00%	-2.00%
493	20+431.38m	Level Crown	-2.00%	0.00%	501	20+698.24m	Begin Normal Crown	-2.00%	-2.00%	510	20+859.39m	End Normal Crown	-2.00%	-2.00%	518	21+140.28m	Level Crown	0.00%	-2.00%
493	20+441.05m	Begin Normal Crown	-2.00%	-2.00%	502	20+640.97m	End Normal Crown	-2.00%	-2.00%	510	20+869.06m	Level Crown	-2.00%	0.00%	518	21+150.28m	Reverse Crown	2.00%	-2.00%
494	20+388.01m	End Normal Crown	-2.00%	-2.00%	502	20+650.64m	Level Crown	-2.00%	0.00%	510	20+878.73m	Reverse Crown	-2.00%	2.00%	518	21+151.28m	Begin Full Super	2.20%	-2.20%
494	20+397.67m	Level Crown	0.00%	-2.00%	502	20+660.31m	Reverse Crown	-2.00%	2.00%	510	20+895.54m	End Full Super	-6.00%	6.00%	518	21+183.42m	End Full Super	2.20%	-2.20%
494	20+407.34m	Reverse Crown	2.00%	-2.00%	502	20+679.64m	Begin Full Super	-6.00%	6.00%	510	20+898.06m	Begin Full Super	-6.00%	6.00%	518	21+184.42m	Reverse Crown	2.00%	-2.00%
494	20+425.69m	End Full Super	6.00%	-6.00%	502	20+686.46m	End Full Super	-6.00%	6.00%	510	20+914.87m	Reverse Crown	-2.00%	2.00%	518	21+194.42m	Level Crown	0.00%	-2.00%
494	20+426.67m	Begin Full Super	6.00%	-6.00%	502	20+705.79m	Reverse Crown	-2.00%	2.00%	510	20+924.54m	Level Crown	-2.00%	0.00%	518	21+204.42m	Begin Normal Crown	-2.00%	-2.00%
494	20+445.02m	Reverse Crown	2.00%	-2.00%	502	20+715.46m	Level Crown	-2.00%	0.00%	510	20+934.21m	Begin Normal Crown	-2.00%	-2.00%	519	21+172.86m	End Normal Crown	-2.00%	-2.00%
494	20+454.69m	Level Crown	0.00%	-2.00%	502	20+725.13m	Begin Normal Crown	-2.00%	-2.00%	511	20+905.60m	End Normal Crown	-2.00%	-2.00%	519	21+182.39m	Level Crown	-2.00%	0.00%
494	20+464.36m	Begin Normal Crown	-2.00%	-2.00%	503	20+674.32m	End Normal Crown	-2.00%	-2.00%	511	20+914.89m	Level Crown	0.00%	-2.00%	519	21+191.91m	Reverse Crown	-2.00%	2.00%
495	20+418.10m	End Normal Crown	-2.00%	-2.00%	503	20+683.98m	Level Crown	0.00%	-2.00%	511	20+924.17m	Reverse Crown	2.00%	-2.00%	519	21+202.39m	Begin Full Super	-4.20%	4.20%
495	20+427.68m	Level Crown	-2.00%	0.00%	503	20+693.65m	Reverse Crown	2.00%	-2.00%	511	20+927.89m	Begin Full Super	2.80%	-2.80%	519	21+210.77m	End Full Super	-4.20%	4.20%
495	20+437.27m	Reverse Crown	-2.00%	2.00%	503	20+712.98m	Begin Full Super	6.00%	-6.00%	511	20+945.99m	End Full Super	2.80%	-2.80%	519	21+221.24m	Reverse Crown	-2.00%	2.00%
495	20+450.68m	Begin Full Super	-4.80%	4.80%	503	20+714.74m	End Full Super	6.00%	-6.00%	511	20+949.71m	Reverse Crown	2.00%	-2.00%	519	21+230.77m	Level Crown	-2.00%	0.00%
495	20+454.15m	End Full Super	-4.80%	4.80%	503	20+734.07m	Reverse Crown	2.00%	-2.00%	511	20+958.99m	Level Crown	0.00%	-2.00%	519	21+240.29m	Begin Normal Crown	-2.00%	-2.00%
495	20+467.56m	Reverse Crown	-2.00%	2.00%	503	20+743.74m	Level Crown	0.00%	-2.00%	511	20+968.28m	Begin Normal Crown	-2.00%	-2.00%	520	21+227.67m	End Normal Crown	-2.00%	-2.00%
495	20+477.15m	Level Crown	-2.00%	0.00%	503	20+753.41m	Begin Normal Crown	-2.00%	-2.00%	512	20+941.58m	End Normal Crown	-2.00%	-2.00%	520	21+236.95m	Level Crown	0.00%	-2.00%
495	20+486.73m	Begin Normal Crown	-2.00%	-2.00%	504	20+704.91m	End Normal Crown	-2.00%	-2.00%	512	20+951.15m	Level Crown	-2.00%	0.00%	520	21+246.24m	Reverse Crown	2.00%	-2.00%
496	20+439.64m	End Normal Crown	-2.00%	-2.00%	504	20+714.57m	Level Crown	-2.00%	0.00%	512	20+960.71m	Reverse Crown	-2.00%	2.00%	520	21+249.95m	Begin Full Super	2.80%	-2.80%
496	20+449.22m	Level Crown	0.00%	-2.00%	504	20+724.22m	Reverse Crown	-2.00%	2.00%	512	20+973.15m	Begin Full Super	-4.60%	4.60%	520	21+261.08m	End Full Super	2.80%	-2.80%
496	20+458.80m	Reverse Crown	2.00%	-2.00%	504	20+737.22m	End Full Super	-5.80%	5.80%	512	20+973.73m	End Full Super	-4.60%	4.60%	520	21+264.79m	Reverse Crown	2.00%	-2.00%
496	20+472.22m	Begin Full Super	4.80%	-4.80%	504	20+742.57m	Begin Full Super	-5.80%	5.80%	512	20+986.17m	Reverse Crown	-2.00%	2.00%	520	21+274.08m	Level Crown	0.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN
SUBMITTED
RECOMMENDED
CHD./VER.
APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO. 38164/102/TD/ PD0010P

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
520	21+283.36m	Begin Normal Crown	-2.00%	-2.00%	529	21+519.16m	End Normal Crown	-2.00%	-2.00%	537	21+724.91m	Level Crown	0.00%	-2.00%	545	21+914.49m	Reverse Crown	2.00%	-2.00%
521	21+263.20m	End Normal Crown	-2.00%	-2.00%	529	21+528.74m	Level Crown	0.00%	-2.00%	537	21+734.58m	Reverse Crown	2.00%	-2.00%	545	21+933.51m	End Full Super	6.00%	-6.00%
521	21+273.20m	Level Crown	0.00%	-2.00%	529	21+538.32m	Reverse Crown	2.00%	-2.00%	537	21+748.40m	End Full Super	6.00%	-6.00%	545	21+933.82m	Begin Full Super	6.00%	-6.00%
521	21+283.20m	Begin Full Super	2.00%	-2.00%	529	21+551.74m	Begin Full Super	4.80%	-4.80%	537	21+753.91m	Begin Full Super	6.00%	-6.00%	545	21+952.84m	Reverse Crown	2.00%	-2.00%
521	21+283.20m	Reverse Crown	2.00%	-2.00%	529	21+553.11m	End Full Super	4.80%	-4.80%	537	21+767.73m	Reverse Crown	2.00%	-2.00%	545	21+962.51m	Level Crown	0.00%	-2.00%
521	21+288.59m	End Full Super	2.00%	-2.00%	529	21+566.53m	Reverse Crown	2.00%	-2.00%	537	21+777.40m	Level Crown	0.00%	-2.00%	545	21+972.18m	Begin Normal Crown	-2.00%	-2.00%
521	21+288.59m	Reverse Crown	2.00%	-2.00%	529	21+576.11m	Level Crown	0.00%	-2.00%	537	21+787.07m	Begin Normal Crown	-2.00%	-2.00%	546	21+930.68m	End Normal Crown	-2.00%	-2.00%
521	21+298.59m	Level Crown	0.00%	-2.00%	529	21+585.70m	Begin Normal Crown	-2.00%	-2.00%	538	21+737.21m	End Normal Crown	-2.00%	-2.00%	546	21+940.34m	Level Crown	-2.00%	0.00%
521	21+308.59m	Begin Normal Crown	-2.00%	-2.00%	530	21+537.20m	End Normal Crown	-2.00%	-2.00%	538	21+746.88m	Level Crown	0.00%	-2.00%	546	21+950.01m	Reverse Crown	-2.00%	2.00%
522	21+291.10m	End Normal Crown	-2.00%	-2.00%	530	21+546.83m	Level Crown	-2.00%	0.00%	538	21+756.54m	Reverse Crown	2.00%	-2.00%	546	21+965.92m	End Full Super	-6.00%	6.00%
522	21+300.33m	Level Crown	-2.00%	0.00%	530	21+556.46m	Reverse Crown	-2.00%	2.00%	538	21+775.88m	Begin Full Super	6.00%	-6.00%	546	21+969.34m	Begin Full Super	-6.00%	6.00%
522	21+309.57m	Reverse Crown	-2.00%	2.00%	530	21+571.09m	End Full Super	-5.40%	5.40%	538	21+775.98m	End Full Super	6.00%	-6.00%	546	21+985.25m	Reverse Crown	-2.00%	2.00%
522	21+312.33m	Begin Full Super	-2.60%	2.60%	530	21+572.83m	Begin Full Super	-5.40%	5.40%	538	21+795.32m	Reverse Crown	2.00%	-2.00%	546	21+994.92m	Level Crown	-2.00%	0.00%
522	21+319.20m	End Full Super	-2.60%	2.60%	530	21+587.46m	Reverse Crown	-2.00%	2.00%	538	21+804.98m	Level Crown	0.00%	-2.00%	546	22+004.59m	Begin Normal Crown	-2.00%	-2.00%
522	21+321.97m	Reverse Crown	-2.00%	2.00%	530	21+597.09m	Level Crown	-2.00%	0.00%	538	21+814.65m	Begin Normal Crown	-2.00%	-2.00%	547	21+958.86m	End Normal Crown	-2.00%	-2.00%
522	21+331.20m	Level Crown	-2.00%	0.00%	530	21+606.72m	Begin Normal Crown	-2.00%	-2.00%	539	21+762.85m	End Normal Crown	-2.00%	-2.00%	547	21+968.43m	Level Crown	-2.00%	0.00%
522	21+340.43m	Begin Normal Crown	-2.00%	-2.00%	531	21+554.78m	End Normal Crown	-2.00%	-2.00%	539	21+772.40m	Level Crown	0.00%	-2.00%	547	21+977.99m	Reverse Crown	-2.00%	2.00%
523	21+302.69m	End Normal Crown	-2.00%	-2.00%	531	21+564.44m	Level Crown	0.00%	-2.00%	539	21+781.94m	Reverse Crown	2.00%	-2.00%	547	21+985.91m	End Full Super	-4.60%	4.60%
523	21+312.35m	Level Crown	0.00%	-2.00%	531	21+574.11m	Reverse Crown	2.00%	-2.00%	539	21+793.40m	Begin Full Super	4.40%	-4.40%	547	21+990.43m	Begin Full Super	-4.60%	4.60%
523	21+322.00m	Reverse Crown	2.00%	-2.00%	531	21+593.38m	End Full Super	6.00%	-6.00%	539	21+796.01m	End Full Super	4.40%	-4.40%	547	21+998.34m	Reverse Crown	-2.00%	2.00%
523	21+331.06m	End Full Super	5.80%	-5.80%	531	21+593.44m	Begin Full Super	6.00%	-6.00%	539	21+807.46m	Reverse Crown	2.00%	-2.00%	547	22+007.91m	Level Crown	-2.00%	0.00%
523	21+340.35m	Begin Full Super	5.80%	-5.80%	531	21+612.71m	Reverse Crown	2.00%	-2.00%	539	21+817.01m	Level Crown	0.00%	-2.00%	547	22+017.47m	Begin Normal Crown	-2.00%	-2.00%
523	21+349.40m	Reverse Crown	2.00%	-2.00%	531	21+622.38m	Level Crown	0.00%	-2.00%	539	21+826.56m	Begin Normal Crown	-2.00%	-2.00%	548	21+992.23m	End Normal Crown	-2.00%	-2.00%
523	21+359.06m	Level Crown	0.00%	-2.00%	531	21+632.05m	Begin Normal Crown	-2.00%	-2.00%	540	21+790.19m	End Normal Crown	-2.00%	-2.00%	548	22+001.56m	Level Crown	-2.00%	0.00%
523	21+368.71m	Begin Normal Crown	-2.00%	-2.00%	532	21+588.53m	End Normal Crown	-2.00%	-2.00%	540	21+799.84m	Level Crown	-2.00%	0.00%	548	22+010.89m	Reverse Crown	-2.00%	2.00%
524	21+322.07m	End Normal Crown	-2.00%	-2.00%	532	21+598.17m	Level Crown	-2.00%	0.00%	540	21+809.50m	Reverse Crown	-2.00%	2.00%	548	22+015.56m	Begin Full Super	-3.00%	3.00%
524	21+331.67m	Level Crown	-2.00%	0.00%	532	21+607.81m	Reverse Crown	-2.00%	2.00%	540	21+824.68m	End Full Super	-5.80%	5.80%	548	22+019.92m	End Full Super	-3.00%	3.00%
524	21+341.27m	Reverse Crown	-2.00%	2.00%	532	21+616.95m	End Full Super	-5.60%	5.60%	540	21+827.84m	Begin Full Super	-5.80%	5.80%	548	22+024.58m	Reverse Crown	-2.00%	2.00%
524	21+355.67m	Begin Full Super	-5.00%	5.00%	532	21+625.17m	Begin Full Super	-5.60%	5.60%	540	21+843.03m	Reverse Crown	-2.00%	2.00%	548	22+033.92m	Level Crown	-2.00%	0.00%
524	21+360.34m	End Full Super	-5.00%	5.00%	532	21+634.31m	Reverse Crown	-2.00%	2.00%	540	21+852.68m	Level Crown	-2.00%	0.00%	548	22+043.25m	Begin Normal Crown	-2.00%	-2.00%
524	21+374.74m	Reverse Crown	-2.00%	2.00%	532	21+643.95m	Level Crown	-2.00%	0.00%	540	21+862.34m	Begin Normal Crown	-2.00%	-2.00%	549	22+009.94m	End Normal Crown	-2.00%	-2.00%
524	21+384.34m	Level Crown	-2.00%	0.00%	532	21+653.60m	Begin Normal Crown	-2.00%	-2.00%	541	21+813.88m	End Normal Crown	-2.00%	-2.00%	549	22+019.60m	Level Crown	-2.00%	0.00%
524	21+393.94m	Begin Normal Crown	-2.00%	-2.00%	533	21+600.58m	End Normal Crown	-2.00%	-2.00%	541	21+823.38m	Level Crown	0.00%	-2.00%	549	22+029.27m	Reverse Crown	-2.00%	2.00%
525	21+374.72m	End Normal Crown	-2.00%	-2.00%	533	21+610.25m	Level Crown	0.00%	-2.00%	541	21+832.88m	Reverse Crown	2.00%	-2.00%	549	22+048.60m	Begin Full Super	-6.00%	6.00%
525	21+384.20m	Level Crown	0.00%	-2.00%	533	21+619.92m	Reverse Crown	2.00%	-2.00%	541	21+842.38m	Begin Full Super	4.00%	-4.00%	549	22+051.84m	End Full Super	-6.00%	6.00%
525	21+393.67m	Reverse Crown	2.00%	-2.00%	533	21+632.24m	End Full Super	6.00%	-6.00%	541	21+847.86m	End Full Super	4.00%	-4.00%	549	22+071.17m	Reverse Crown	-2.00%	2.00%
525	21+402.20m	Begin Full Super	3.80%	-3.80%	533	21+639.25m	Begin Full Super	6.00%	-6.00%	541	21+857.36m	Reverse Crown	2.00%	-2.00%	549	22+080.84m	Level Crown	-2.00%	0.00%
525	21+412.51m	End Full Super	3.80%	-3.80%	533	21+651.57m	Reverse Crown	2.00%	-2.00%	541	21+866.86m	Level Crown	0.00%	-2.00%	549	22+090.51m	Begin Normal Crown	-2.00%	-2.00%
525	21+421.04m	Reverse Crown	2.00%	-2.00%	533	21+661.24m	Level Crown	0.00%	-2.00%	541	21+876.36m	Begin Normal Crown	-2.00%	-2.00%	550	22+034.52m	End Normal Crown	-2.00%	-2.00%
525	21+430.51m	Level Crown	0.00%	-2.00%	533	21+670.90m	Begin Normal Crown	-2.00%	-2.00%	542	21+833.21m	End Normal Crown	-2.00%	-2.00%	550	22+044.19m	Level Crown	0.00%	-2.00%
525	21+439.98m	Begin Normal Crown	-2.00%	-2.00%	534	21+631.60m	End Normal Crown	-2.00%	-2.00%	542	21+842.77m	Level Crown	-2.00%	0.00%	550	22+053.86m	Reverse Crown	2.00%	-2.00%
526	21+406.85m	End Normal Crown	-2.00%	-2.00%	534	21+641.26m	Level Crown	-2.00%	0.00%	542	21+852.34m	Reverse Crown	-2.00%	2.00%	550	22+064.70m	End Full Super	6.00%	-6.00%
526	21+416.51m	Level Crown	-2.00%	0.00%	534	21+650.91m	Reverse Crown	-2.00%	2.00%	542	21+864.77m	Begin Full Super	-4.60%	4.60%	550	22+073.19m	Begin Full Super	6.00%	-6.00%
526	21+426.18m	Reverse Crown	-2.00%	2.00%	534	21+669.26m	Begin Full Super	-5.80%	5.80%	542	21+866.73m	End Full Super	-4.60%	4.60%	550	22+084.04m	Reverse Crown	2.00%	-2.00%
526	21+441.52m	End Full Super	-6.00%	6.00%	534	21+670.52m	End Full Super	-5.80%	5.80%	542	21+879.16m	Reverse Crown	-2.00%	2.00%	550	22+093.70m	Level Crown	0.00%	-2.00%
526	21+445.51m	Begin Full Super	-6.00%	6.00%	534	21+688.86m	Reverse Crown	-2.00%	2.00%	542	21+888.73m	Level Crown	-2.00%	0.00%	550	22+103.37m	Begin Normal Crown	-2.00%	-2.00%
526	21+460.85m	Reverse Crown	-2.00%	2.00%	534	21+698.52m	Level Crown	-2.00%	0.00%	542	21+898.29m	Begin Normal Crown	-2.00%	-2.00%	551	22+079.72m	End Normal Crown	-2.00%	-2.00%
526	21+470.52m	Level Crown	-2.00%	0.00%	534	21+708.17m	Begin Normal Crown	-2.00%	-2.00%	543	21+863.12m	End Normal Crown	-2.00%	-2.00%	551	22+089.38m	Level Crown	0.00%	-2.00%
526	21+480.19m	Begin Normal Crown	-2.00%	-2.00%	535	21+664.13m	End Normal Crown	-2.00%	-2.00%	543	21+872.72m	Level Crown	-2.00%	0.00%	551	22+099.05m	Reverse Crown	2.00%	-2.00%
527	21+437.86m	End Normal Crown	-2.00%	-2.00%	535	21+673.79m	Level Crown	0.00%	-2.00%	543	21+882.32m	Reverse Crown	-2.00%	2.00%	551	22+109.58m	End Full Super	6.00%	-6.00%
527	21+447.46m	Level Crown	0.00%	-2.00%	535	21+683.44m	Reverse Crown	2.00%	-2.00%	543	21+896.72m	Begin Full Super	-5.00%	5.00%	551	22+118.38m	Begin Full Super	6.00%	-6.00%
527	21+457.06m	Reverse Crown	2.00%	-2.00%	535	21+696.26m	End Full Super	5.80%	-5.80%	543	21+897.38m	End Full Super	-5.00%	5.00%	551	22+128.91m	Reverse Crown	2.00%	-2.00%
527	21+471.46m	Begin Full Super	5.00%	-5.00%	535	21+701.79m	Begin Full Super	5.80%	-5.80%	543	21+911.78m	Reverse Crown	-2.00%	2.00%	551	22+138.58m	Level Crown	0.00%	-2.00%
527	21+481.59m	End Full Super	5.00%	-5.00%	535	21+714.60m	Reverse Crown	2.00%	-2.00%	543	21+921.38m	Level Crown	-2.00%	0.00%	551	22+148.25m	Begin Normal Crown	-2.00%	-2.00%
527	21+495.99m	Reverse Crown	2.00%	-2.00%	535	21+724.26m	Level Crown	0.00%	-2.00%	543	21+930.98m	Begin Normal Crown	-2.00%	-2.00%	552	22+099.58m	End Normal Crown	-2.00%	-2.00%
527	21+505.59m	Level Crown	0.00%	-2.00%	535	21+733.91m	Begin Normal Crown	-2.00%	-2.00%	544	21+878.94m	End Normal Crown	-2.00%	-2.00%	552	22+109.15m	Level Crown	-2.00%	0.00%
527	21+515.19m	Begin Normal Crown	-2.00%	-2.00%	536	21+681.42m	End Normal Crown	-2.00%	-2.00%	544	21+888.61m	Level Crown	-2.00%	0.00%	552	22+118.71m	Reverse Crown	-2.00%	2.00%
528	21+478.61m	End Normal Crown	-2.00%	-2.00%	536	21+691.02m	Level Crown	-2.00%	0.00%	544	21+898.27m	Reverse Crown	-2.00%	2.00%	552	22+129.65m	End Full Super	-4.60%	4.60%
528	21+488.20m	Level Crown	-2.00%	0.00%	536	21+700.62m	Reverse Crown	-2.00%	2.00%	544	21+912.89m	End Full Super	-6.00%	6.00%	552	22+131.15m	Begin Full Super	-4.60%	4.60%
528	21+497.78m	Reverse Crown	-2.00%	2.00%	536	21+715.02m	Begin Full Super	-5.00%	5.00%	544	21+917.61m	Begin Full Super	-6.00%	6.00%	552	22+142.08m	Reverse Crown	-2.00%	2.00%
528	21+511.20m	Begin Full Super	-4.80%	4.80%	536	21+718.70m	End Full Super	-5.00%	5.00%	544	21+932.22m	Reverse Crown	-2.00%	2.00%	552	22+151.65m	Level Crown	-2.00%	0.00%
528	21+528.63m	End Full Super	-4.80%	4.80%	536	21+733.10m	Reverse Crown	-2.00%	2.00%	544	21+941.89m	Level Crown	-2.00%	0.00%	552	22+161.22m	Begin Normal Crown	-2.00%	-2.00%
528	21+542.04m	Reverse Crown	-2.00%	2.00%	536	21+742.70m	Level Crown	-2.00%	0.00%	544	21+951.55m	Begin Normal Crown	-2.00%	-2.00%	553	22+109.61m	End Normal Crown	-2.00%	-2.00%
528	21+551.63m	Level Crown	-2.00%	0.00%	536	21+752.30m	Begin Normal Crown	-2.00%	-2.00%	545	21+895.16m	End Normal Crown	-2.00%	-2.00%	553	22+119.27m	Level Crown	-2.00%	0.00%
528	21+561.21m	Begin Normal Crown	-2.00%	-2.00%	537	21+715.24m	End Normal Crown	-2.00%	-2.00%	545	21+904.82m	Level Crown	0.00%	-2.00%	553	22+128.94m	Reverse Crown	-2.00%	2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
			DRAWN
			SUBMITTED
			RECOMMENDED
			CHD./VER.
			APPROVED

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD00100

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
553	22+148.27m	Begin Full Super	-6.00%	6.00%	561	22+442.90m	End Full Super	-5.40%	5.40%	569	22+685.72m	Reverse Crown	2.00%	-2.00%	577	22+970.37m	Level Crown	-2.00%	0.00%
553	22+162.01m	End Full Super	-6.00%	6.00%	561	22+459.27m	Reverse Crown	-2.00%	2.00%	569	22+695.17m	Level Crown	0.00%	-2.00%	577	22+979.81m	Begin Normal Crown	-2.00%	-2.00%
553	22+181.35m	Reverse Crown	-2.00%	2.00%	561	22+468.90m	Level Crown	-2.00%	0.00%	569	22+704.61m	Begin Normal Crown	-2.00%	-2.00%	578	22+961.60m	End Normal Crown	-2.00%	-2.00%
553	22+191.01m	Level Crown	-2.00%	0.00%	561	22+478.53m	Begin Normal Crown	-2.00%	-2.00%	570	22+688.93m	End Normal Crown	-2.00%	-2.00%	578	22+971.13m	Level Crown	0.00%	-2.00%
553	22+200.68m	Begin Normal Crown	-2.00%	-2.00%	562	22+434.48m	End Normal Crown	-2.00%	-2.00%	570	22+698.35m	Level Crown	-2.00%	0.00%	578	22+980.65m	Reverse Crown	2.00%	-2.00%
554	22+147.24m	End Normal Crown	-2.00%	-2.00%	562	22+444.11m	Level Crown	0.00%	-2.00%	570	22+707.76m	Reverse Crown	-2.00%	2.00%	578	22+991.13m	Begin Full Super	4.20%	-4.20%
554	22+156.85m	Level Crown	0.00%	-2.00%	562	22+453.74m	Reverse Crown	2.00%	-2.00%	570	22+714.35m	Begin Full Super	-3.40%	3.40%	578	22+995.15m	End Full Super	4.20%	-4.20%
554	22+166.47m	Reverse Crown	2.00%	-2.00%	562	22+469.25m	End Full Super	5.40%	-5.40%	570	22+721.61m	End Full Super	-3.40%	3.40%	578	23+005.62m	Reverse Crown	2.00%	-2.00%
554	22+181.85m	Begin Full Super	5.20%	-5.20%	562	22+470.11m	Begin Full Super	5.40%	-5.40%	570	22+728.20m	Reverse Crown	-2.00%	2.00%	578	23+015.15m	Level Crown	0.00%	-2.00%
554	22+193.48m	End Full Super	5.20%	-5.20%	562	22+485.62m	Reverse Crown	2.00%	-2.00%	570	22+737.61m	Level Crown	-2.00%	0.00%	578	23+024.67m	Begin Normal Crown	-2.00%	-2.00%
554	22+208.86m	Reverse Crown	2.00%	-2.00%	562	22+495.25m	Level Crown	0.00%	-2.00%	570	22+747.02m	Begin Normal Crown	-2.00%	-2.00%	579	22+983.19m	End Normal Crown	-2.00%	-2.00%
554	22+218.48m	Level Crown	0.00%	-2.00%	562	22+504.88m	Begin Normal Crown	-2.00%	-2.00%	571	22+705.84m	End Normal Crown	-2.00%	-2.00%	579	22+992.86m	Level Crown	0.00%	-2.00%
554	22+228.09m	Begin Normal Crown	-2.00%	-2.00%	563	22+457.39m	End Normal Crown	-2.00%	-2.00%	571	22+715.41m	Level Crown	-2.00%	0.00%	579	23+002.52m	Reverse Crown	2.00%	-2.00%
555	22+185.99m	End Normal Crown	-2.00%	-2.00%	563	22+467.05m	Level Crown	-2.00%	0.00%	571	22+724.98m	Reverse Crown	-2.00%	2.00%	579	23+021.86m	Begin Full Super	6.00%	-6.00%
555	22+195.54m	Level Crown	-2.00%	0.00%	563	22+476.72m	Reverse Crown	-2.00%	2.00%	571	22+735.47m	End Full Super	-4.60%	4.60%	579	23+025.37m	End Full Super	6.00%	-6.00%
555	22+205.08m	Reverse Crown	-2.00%	2.00%	563	22+496.05m	Begin Full Super	-6.00%	6.00%	571	22+737.41m	Begin Full Super	-4.60%	4.60%	579	23+044.70m	Reverse Crown	2.00%	-2.00%
555	22+216.54m	Begin Full Super	-4.40%	4.40%	563	22+498.90m	End Full Super	-6.00%	6.00%	571	22+747.91m	Reverse Crown	-2.00%	2.00%	579	23+054.37m	Level Crown	0.00%	-2.00%
555	22+236.74m	End Full Super	-4.40%	4.40%	563	22+518.23m	Reverse Crown	-2.00%	2.00%	571	22+757.47m	Level Crown	-2.00%	0.00%	579	23+064.03m	Begin Normal Crown	-2.00%	-2.00%
555	22+248.20m	Reverse Crown	-2.00%	2.00%	563	22+527.90m	Level Crown	-2.00%	0.00%	571	22+767.04m	Begin Normal Crown	-2.00%	-2.00%	580	23+009.44m	End Normal Crown	-2.00%	-2.00%
555	22+257.74m	Level Crown	-2.00%	0.00%	563	22+537.56m	Begin Normal Crown	-2.00%	-2.00%	572	22+727.89m	End Normal Crown	-2.00%	-2.00%	580	23+019.10m	Level Crown	-2.00%	0.00%
555	22+267.29m	Begin Normal Crown	-2.00%	-2.00%	564	22+501.27m	End Normal Crown	-2.00%	-2.00%	572	22+737.49m	Level Crown	-2.00%	0.00%	580	23+028.77m	Reverse Crown	-2.00%	2.00%
556	22+228.57m	End Normal Crown	-2.00%	-2.00%	564	22+510.94m	Level Crown	0.00%	-2.00%	572	22+747.09m	Reverse Crown	-2.00%	2.00%	580	23+048.10m	Begin Full Super	-6.00%	6.00%
556	22+238.24m	Level Crown	0.00%	-2.00%	564	22+520.60m	Reverse Crown	2.00%	-2.00%	572	22+761.49m	Begin Full Super	-5.00%	5.00%	580	23+050.34m	End Full Super	-6.00%	6.00%
556	22+247.91m	Reverse Crown	2.00%	-2.00%	564	22+539.94m	Begin Full Super	6.00%	-6.00%	572	22+773.10m	End Full Super	-5.00%	5.00%	580	23+069.67m	Reverse Crown	-2.00%	2.00%
556	22+267.24m	Begin Full Super	6.00%	-6.00%	564	22+544.01m	End Full Super	6.00%	-6.00%	572	22+787.50m	Reverse Crown	-2.00%	2.00%	580	23+079.34m	Level Crown	-2.00%	0.00%
556	22+274.02m	End Full Super	6.00%	-6.00%	564	22+563.35m	Reverse Crown	2.00%	-2.00%	572	22+797.10m	Level Crown	-2.00%	0.00%	580	23+089.00m	Begin Normal Crown	-2.00%	-2.00%
556	22+293.35m	Reverse Crown	2.00%	-2.00%	564	22+573.01m	Level Crown	0.00%	-2.00%	572	22+806.70m	Begin Normal Crown	-2.00%	-2.00%	581	23+031.60m	End Normal Crown	-2.00%	-2.00%
556	22+303.02m	Level Crown	0.00%	-2.00%	564	22+582.68m	Begin Normal Crown	-2.00%	-2.00%	573	22+777.59m	End Normal Crown	-2.00%	-2.00%	581	23+041.26m	Level Crown	0.00%	-2.00%
556	22+312.68m	Begin Normal Crown	-2.00%	-2.00%	565	22+557.83m	End Normal Crown	-2.00%	-2.00%	573	22+787.22m	Level Crown	0.00%	-2.00%	581	23+050.93m	Reverse Crown	2.00%	-2.00%
557	22+256.93m	End Normal Crown	-2.00%	-2.00%	565	22+567.33m	Level Crown	-2.00%	0.00%	573	22+796.85m	Reverse Crown	2.00%	-2.00%	581	23+070.26m	Begin Full Super	6.00%	-6.00%
557	22+266.60m	Level Crown	0.00%	-2.00%	565	22+576.83m	Reverse Crown	-2.00%	2.00%	573	22+812.28m	End Full Super	5.40%	-5.40%	581	23+070.76m	End Full Super	6.00%	-6.00%
557	22+276.26m	Reverse Crown	2.00%	-2.00%	565	22+586.33m	Begin Full Super	-4.00%	4.00%	573	22+813.22m	Begin Full Super	5.40%	-5.40%	581	23+090.09m	Reverse Crown	2.00%	-2.00%
557	22+284.94m	End Full Super	6.00%	-6.00%	565	22+586.67m	End Full Super	-4.00%	4.00%	573	22+828.65m	Reverse Crown	2.00%	-2.00%	581	23+099.76m	Level Crown	0.00%	-2.00%
557	22+295.60m	Begin Full Super	6.00%	-6.00%	565	22+596.17m	Reverse Crown	-2.00%	2.00%	573	22+838.28m	Level Crown	0.00%	-2.00%	581	23+109.43m	Begin Normal Crown	-2.00%	-2.00%
557	22+304.27m	Reverse Crown	2.00%	-2.00%	565	22+605.67m	Level Crown	-2.00%	0.00%	573	22+847.91m	Begin Normal Crown	-2.00%	-2.00%	582	23+053.64m	End Normal Crown	-2.00%	-2.00%
557	22+313.94m	Level Crown	0.00%	-2.00%	565	22+615.17m	Begin Normal Crown	-2.00%	-2.00%	574	22+840.36m	End Normal Crown	-2.00%	-2.00%	582	23+063.31m	Level Crown	-2.00%	0.00%
557	22+323.61m	Begin Normal Crown	-2.00%	-2.00%	566	22+580.29m	End Normal Crown	-2.00%	-2.00%	574	22+850.03m	Level Crown	0.00%	-2.00%	582	23+072.98m	Reverse Crown	-2.00%	2.00%
558	22+276.69m	End Normal Crown	-2.00%	-2.00%	566	22+589.89m	Level Crown	0.00%	-2.00%	574	22+859.69m	Reverse Crown	2.00%	-2.00%	582	23+087.34m	End Full Super	-6.00%	6.00%
558	22+286.29m	Level Crown	0.00%	-2.00%	566	22+599.49m	Reverse Crown	2.00%	-2.00%	574	22+876.49m	End Full Super	6.00%	-6.00%	582	23+092.31m	Begin Full Super	-6.00%	6.00%
558	22+295.89m	Reverse Crown	2.00%	-2.00%	566	22+613.65m	End Full Super	5.00%	-5.00%	574	22+879.03m	Begin Full Super	6.00%	-6.00%	582	23+106.68m	Reverse Crown	-2.00%	2.00%
558	22+310.29m	Begin Full Super	5.00%	-5.00%	566	22+613.89m	Begin Full Super	5.00%	-5.00%	574	22+895.83m	Reverse Crown	2.00%	-2.00%	582	23+116.34m	Level Crown	-2.00%	0.00%
558	22+313.32m	End Full Super	5.00%	-5.00%	566	22+628.05m	Reverse Crown	2.00%	-2.00%	574	22+905.49m	Level Crown	0.00%	-2.00%	582	23+126.01m	Begin Normal Crown	-2.00%	-2.00%
558	22+327.72m	Reverse Crown	2.00%	-2.00%	566	22+637.65m	Level Crown	0.00%	-2.00%	574	22+915.16m	Begin Normal Crown	-2.00%	-2.00%	583	23+074.32m	End Normal Crown	-2.00%	-2.00%
558	22+337.32m	Level Crown	0.00%	-2.00%	566	22+647.25m	Begin Normal Crown	-2.00%	-2.00%	575	22+866.65m	End Normal Crown	-2.00%	-2.00%	583	23+083.96m	Level Crown	0.00%	-2.00%
558	22+346.92m	Begin Normal Crown	-2.00%	-2.00%	567	22+599.59m	End Normal Crown	-2.00%	-2.00%	575	22+876.31m	Level Crown	-2.00%	0.00%	583	23+093.60m	Reverse Crown	2.00%	-2.00%
559	22+309.07m	End Normal Crown	-2.00%	-2.00%	567	22+609.25m	Level Crown	-2.00%	0.00%	575	22+885.98m	Reverse Crown	-2.00%	2.00%	583	23+103.53m	End Full Super	5.60%	-5.60%
559	22+318.57m	Level Crown	0.00%	-2.00%	567	22+618.92m	Reverse Crown	-2.00%	2.00%	575	22+902.75m	End Full Super	-6.00%	6.00%	583	23+110.96m	Begin Full Super	5.60%	-5.60%
559	22+328.07m	Reverse Crown	2.00%	-2.00%	567	22+637.73m	End Full Super	-6.00%	6.00%	575	22+905.31m	Begin Full Super	-6.00%	6.00%	583	23+120.89m	Reverse Crown	2.00%	-2.00%
559	22+337.57m	Begin Full Super	4.00%	-4.00%	567	22+638.25m	Begin Full Super	-6.00%	6.00%	575	22+922.08m	Reverse Crown	-2.00%	2.00%	583	23+130.53m	Level Crown	0.00%	-2.00%
559	22+355.69m	End Full Super	4.00%	-4.00%	567	22+657.06m	Reverse Crown	-2.00%	2.00%	575	22+931.75m	Level Crown	-2.00%	0.00%	583	23+140.17m	Begin Normal Crown	-2.00%	-2.00%
559	22+365.19m	Reverse Crown	2.00%	-2.00%	567	22+666.73m	Level Crown	-2.00%	0.00%	575	22+941.41m	Begin Normal Crown	-2.00%	-2.00%	584	23+088.67m	End Normal Crown	-2.00%	-2.00%
559	22+374.69m	Level Crown	0.00%	-2.00%	567	22+676.40m	Begin Normal Crown	-2.00%	-2.00%	576	22+893.01m	End Normal Crown	-2.00%	-2.00%	584	23+098.31m	Level Crown	-2.00%	0.00%
559	22+384.19m	Begin Normal Crown	-2.00%	-2.00%	568	22+623.03m	End Normal Crown	-2.00%	-2.00%	576	22+902.68m	Level Crown	0.00%	-2.00%	584	23+107.95m	Reverse Crown	-2.00%	2.00%
560	22+361.27m	End Normal Crown	-2.00%	-2.00%	568	22+632.66m	Level Crown	0.00%	-2.00%	576	22+912.34m	Reverse Crown	2.00%	-2.00%	584	23+123.46m	End Full Super	-5.60%	5.60%
560	22+370.72m	Level Crown	-2.00%	0.00%	568	22+642.29m	Reverse Crown	2.00%	-2.00%	576	22+928.36m	End Full Super	6.00%	-6.00%	584	23+125.31m	Begin Full Super	-5.60%	5.60%
560	22+380.16m	Reverse Crown	-2.00%	2.00%	568	22+656.04m	End Full Super	5.40%	-5.40%	576	22+931.68m	Begin Full Super	6.00%	-6.00%	584	23+140.82m	Reverse Crown	-2.00%	2.00%
560	22+387.72m	Begin Full Super	-3.60%	3.60%	568	22+658.66m	Begin Full Super	5.40%	-5.40%	576	22+947.69m	Reverse Crown	2.00%	-2.00%	584	23+150.46m	Level Crown	-2.00%	0.00%
560	22+401.47m	End Full Super	-3.60%	3.60%	568	22+672.41m	Reverse Crown	2.00%	-2.00%	576	22+957.36m	Level Crown	0.00%	-2.00%	584	23+160.10m	Begin Normal Crown	-2.00%	-2.00%
560	22+409.03m	Reverse Crown	-2.00%	2.00%	568	22+682.04m	Level Crown	0.00%	-2.00%	576	22+967.02m	Begin Normal Crown	-2.00%	-2.00%	585	23+109.03m	End Normal Crown	-2.00%	-2.00%
560	22+418.47m	Level Crown	-2.00%	0.00%	568	22+691.67m	Begin Normal Crown	-2.00%	-2.00%	577	22+923.73m	End Normal Crown	-2.00%	-2.00%	585	23+118.70m	Level Crown	-2.00%	0.00%
560	22+427.92m	Begin Normal Crown	-2.00%	-2.00%	569	22+649.05m	End Normal Crown	-2.00%	-2.00%	577	22+933.18m	Level Crown	-2.00%	0.00%	585	23+128.37m	Reverse Crown	-2.00%	2.00%
561	22+404.04m	End Normal Crown	-2.00%	-2.00%	569	22+658.49m	Level Crown	0.00%	-2.00%	577	22+942.62m	Reverse Crown	-2.00%	2.00%	585	23+147.70m	Begin Full Super	-6.00%	6.00%
561	22+413.67m	Level Crown	-2.00%	0.00%	569	22+667.94m	Reverse Crown	2.00%	-2.00%	577	22+950.18m	Begin Full Super	-3.60%	3.60%	585	23+156.10m	End Full Super	-6.00%	6.00%
561	22+423.30m	Reverse Crown	-2.00%	2.00%	569	22+675.49m	Begin Full Super	3.60%	-3.60%	577	22+953.37m	End Full Super	-3.60%	3.60%	585	23+175.43m	Reverse Crown	-2.00%	2.00%
561	22+439.67m	Begin Full Super	-5.40%	5.40%	569	22+678.17m	End Full Super	3.60%	-3.60%	577	22+960.93m	Reverse Crown	-2.00%	2.00%	585	23+185.10m	Level Crown	-2.00%	0.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT
C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010R

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
585	23+194.77m	Begin Normal Crown	-2.00%	-2.00%	594	23+384.87m	End Normal Crown	-2.00%	-2.00%	602	23+634.71m	Level Crown	0.00%	-2.00%	610	23+870.65m	Reverse Crown	2.00%	-2.00%
586	23+149.92m	End Normal Crown	-2.00%	-2.00%	594	23+394.44m	Level Crown	0.00%	-2.00%	602	23+644.38m	Reverse Crown	2.00%	-2.00%	610	23+889.98m	Begin Full Super	6.00%	-6.00%
586	23+159.37m	Level Crown	0.00%	-2.00%	594	23+404.00m	Reverse Crown	2.00%	-2.00%	602	23+656.92m	End Full Super	6.00%	-6.00%	610	23+890.84m	End Full Super	6.00%	-6.00%
586	23+168.81m	Reverse Crown	2.00%	-2.00%	594	23+416.44m	Begin Full Super	4.60%	-4.60%	602	23+663.71m	Begin Full Super	6.00%	-6.00%	610	23+910.17m	Reverse Crown	2.00%	-2.00%
586	23+176.37m	Begin Full Super	3.60%	-3.60%	594	23+418.39m	End Full Super	4.60%	-4.60%	602	23+676.25m	Reverse Crown	2.00%	-2.00%	610	23+919.84m	Level Crown	0.00%	-2.00%
586	23+193.15m	End Full Super	3.60%	-3.60%	594	23+430.82m	Reverse Crown	2.00%	-2.00%	602	23+685.92m	Level Crown	0.00%	-2.00%	610	23+929.51m	Begin Normal Crown	-2.00%	-2.00%
586	23+200.71m	Reverse Crown	2.00%	-2.00%	594	23+440.39m	Level Crown	0.00%	-2.00%	602	23+695.58m	Begin Normal Crown	-2.00%	-2.00%	611	23+874.24m	End Normal Crown	-2.00%	-2.00%
586	23+210.15m	Level Crown	0.00%	-2.00%	594	23+449.95m	Begin Normal Crown	-2.00%	-2.00%	603	23+639.06m	End Normal Crown	-2.00%	-2.00%	611	23+883.91m	Level Crown	-2.00%	0.00%
586	23+219.59m	Begin Normal Crown	-2.00%	-2.00%	595	23+403.51m	End Normal Crown	-2.00%	-2.00%	603	23+648.73m	Level Crown	0.00%	-2.00%	611	23+893.57m	Reverse Crown	-2.00%	2.00%
587	23+178.43m	End Normal Crown	-2.00%	-2.00%	595	23+413.08m	Level Crown	-2.00%	0.00%	603	23+658.40m	Reverse Crown	2.00%	-2.00%	611	23+912.30m	End Full Super	-6.00%	6.00%
587	23+188.02m	Level Crown	0.00%	-2.00%	595	23+422.64m	Reverse Crown	-2.00%	2.00%	603	23+674.74m	End Full Super	6.00%	-6.00%	611	23+912.91m	Begin Full Super	-6.00%	6.00%
587	23+197.60m	Reverse Crown	2.00%	-2.00%	595	23+435.08m	Begin Full Super	-4.60%	4.60%	603	23+677.73m	Begin Full Super	6.00%	-6.00%	611	23+931.63m	Reverse Crown	-2.00%	2.00%
587	23+211.02m	Begin Full Super	4.80%	-4.80%	595	23+443.20m	End Full Super	-4.60%	4.60%	603	23+694.07m	Reverse Crown	2.00%	-2.00%	611	23+941.30m	Level Crown	-2.00%	0.00%
587	23+232.22m	End Full Super	4.80%	-4.80%	595	23+455.64m	Reverse Crown	-2.00%	2.00%	603	23+703.74m	Level Crown	0.00%	-2.00%	611	23+950.97m	Begin Normal Crown	-2.00%	-2.00%
587	23+245.64m	Reverse Crown	2.00%	-2.00%	595	23+465.20m	Level Crown	-2.00%	0.00%	603	23+713.40m	Begin Normal Crown	-2.00%	-2.00%	612	23+898.98m	End Normal Crown	-2.00%	-2.00%
587	23+255.22m	Level Crown	0.00%	-2.00%	595	23+474.77m	Begin Normal Crown	-2.00%	-2.00%	604	23+693.05m	End Normal Crown	-2.00%	-2.00%	612	23+908.65m	Level Crown	-2.00%	0.00%
587	23+264.81m	Begin Normal Crown	-2.00%	-2.00%	596	23+465.09m	End Normal Crown	-2.00%	-2.00%	604	23+702.49m	Level Crown	0.00%	-2.00%	612	23+918.31m	Reverse Crown	-2.00%	2.00%
588	23+224.89m	End Normal Crown	-2.00%	-2.00%	596	23+474.73m	Level Crown	0.00%	-2.00%	604	23+711.94m	Reverse Crown	2.00%	-2.00%	612	23+925.99m	End Full Super	-6.00%	6.00%
588	23+234.55m	Level Crown	0.00%	-2.00%	596	23+484.37m	Reverse Crown	2.00%	-2.00%	604	23+719.49m	Begin Full Super	3.60%	-3.60%	612	23+937.65m	Begin Full Super	-6.00%	6.00%
588	23+244.20m	Reverse Crown	2.00%	-2.00%	596	23+500.56m	End Full Super	5.60%	-5.60%	604	23+729.53m	End Full Super	3.60%	-3.60%	612	23+945.33m	Reverse Crown	-2.00%	2.00%
588	23+262.55m	Begin Full Super	5.80%	-5.80%	596	23+501.73m	Begin Full Super	5.60%	-5.60%	604	23+737.09m	Reverse Crown	2.00%	-2.00%	612	23+954.99m	Level Crown	-2.00%	0.00%
588	23+262.89m	End Full Super	5.80%	-5.80%	596	23+517.92m	Reverse Crown	2.00%	-2.00%	604	23+746.53m	Level Crown	0.00%	-2.00%	612	23+964.66m	Begin Normal Crown	-2.00%	-2.00%
588	23+281.24m	Reverse Crown	2.00%	-2.00%	596	23+527.56m	Level Crown	0.00%	-2.00%	604	23+755.98m	Begin Normal Crown	-2.00%	-2.00%	613	23+915.45m	End Normal Crown	-2.00%	-2.00%
588	23+290.89m	Level Crown	0.00%	-2.00%	596	23+537.20m	Begin Normal Crown	-2.00%	-2.00%	605	23+720.05m	End Normal Crown	-2.00%	-2.00%	613	23+925.12m	Level Crown	0.00%	-2.00%
588	23+300.55m	Begin Normal Crown	-2.00%	-2.00%	597	23+491.65m	End Normal Crown	-2.00%	-2.00%	605	23+729.65m	Level Crown	0.00%	-2.00%	613	23+934.78m	Reverse Crown	2.00%	-2.00%
589	23+250.81m	End Normal Crown	-2.00%	-2.00%	597	23+501.22m	Level Crown	0.00%	-2.00%	605	23+739.25m	Reverse Crown	2.00%	-2.00%	613	23+944.40m	End Full Super	6.00%	-6.00%
589	23+260.44m	Level Crown	0.00%	-2.00%	597	23+510.78m	Reverse Crown	2.00%	-2.00%	605	23+753.65m	Begin Full Super	5.00%	-5.00%	613	23+954.12m	Begin Full Super	6.00%	-6.00%
589	23+270.07m	Reverse Crown	2.00%	-2.00%	597	23+523.22m	Begin Full Super	4.60%	-4.60%	605	23+758.96m	End Full Super	5.00%	-5.00%	613	23+963.74m	Reverse Crown	2.00%	-2.00%
589	23+284.98m	End Full Super	5.40%	-5.40%	597	23+531.65m	End Full Super	4.60%	-4.60%	605	23+773.36m	Reverse Crown	2.00%	-2.00%	613	23+973.40m	Level Crown	0.00%	-2.00%
589	23+286.44m	Begin Full Super	5.40%	-5.40%	597	23+544.09m	Reverse Crown	2.00%	-2.00%	605	23+782.96m	Level Crown	0.00%	-2.00%	613	23+983.07m	Begin Normal Crown	-2.00%	-2.00%
589	23+301.35m	Reverse Crown	2.00%	-2.00%	597	23+553.65m	Level Crown	0.00%	-2.00%	605	23+792.56m	Begin Normal Crown	-2.00%	-2.00%	614	23+929.60m	End Normal Crown	-2.00%	-2.00%
589	23+310.98m	Level Crown	0.00%	-2.00%	597	23+563.22m	Begin Normal Crown	-2.00%	-2.00%	606	23+761.56m	End Normal Crown	-2.00%	-2.00%	614	23+939.26m	Level Crown	-2.00%	0.00%
589	23+320.61m	Begin Normal Crown	-2.00%	-2.00%	598	23+516.24m	End Normal Crown	-2.00%	-2.00%	606	23+770.85m	Level Crown	-2.00%	0.00%	614	23+948.93m	Reverse Crown	-2.00%	2.00%
590	23+269.31m	End Normal Crown	-2.00%	-2.00%	598	23+525.91m	Level Crown	0.00%	-2.00%	606	23+780.13m	Reverse Crown	-2.00%	2.00%	614	23+954.02m	End Full Super	-6.00%	6.00%
590	23+278.98m	Level Crown	-2.00%	0.00%	598	23+535.58m	Reverse Crown	2.00%	-2.00%	606	23+783.85m	Begin Full Super	-2.80%	2.80%	614	23+968.26m	Begin Full Super	-6.00%	6.00%
590	23+288.65m	Reverse Crown	-2.00%	2.00%	598	23+554.91m	Begin Full Super	6.00%	-6.00%	606	23+787.86m	End Full Super	-2.80%	2.80%	614	23+973.35m	Reverse Crown	-2.00%	2.00%
590	23+307.98m	Begin Full Super	-6.00%	6.00%	598	23+555.43m	End Full Super	6.00%	-6.00%	606	23+791.58m	Reverse Crown	-2.00%	2.00%	614	23+983.02m	Level Crown	-2.00%	0.00%
590	23+322.94m	End Full Super	-6.00%	6.00%	598	23+574.77m	Reverse Crown	2.00%	-2.00%	606	23+800.86m	Level Crown	-2.00%	0.00%	614	23+992.69m	Begin Normal Crown	-2.00%	-2.00%
590	23+342.28m	Reverse Crown	-2.00%	2.00%	598	23+584.43m	Level Crown	0.00%	-2.00%	606	23+810.15m	Begin Normal Crown	-2.00%	-2.00%	615	23+950.91m	End Normal Crown	-2.00%	-2.00%
590	23+351.94m	Level Crown	-2.00%	0.00%	598	23+594.10m	Begin Normal Crown	-2.00%	-2.00%	607	23+788.79m	End Normal Crown	-2.00%	-2.00%	615	23+960.58m	Level Crown	0.00%	-2.00%
590	23+361.61m	Begin Normal Crown	-2.00%	-2.00%	599	23+551.35m	End Normal Crown	-2.00%	-2.00%	607	23+798.26m	Level Crown	-2.00%	0.00%	615	23+970.25m	Reverse Crown	2.00%	-2.00%
591	23+309.12m	End Normal Crown	-2.00%	-2.00%	599	23+561.02m	Level Crown	0.00%	-2.00%	607	23+807.74m	Reverse Crown	-2.00%	2.00%	615	23+989.58m	Begin Full Super	6.00%	-6.00%
591	23+318.78m	Level Crown	0.00%	-2.00%	599	23+570.68m	Reverse Crown	2.00%	-2.00%	607	23+816.26m	Begin Full Super	-3.80%	3.80%	615	23+991.64m	End Full Super	6.00%	-6.00%
591	23+328.45m	Reverse Crown	2.00%	-2.00%	599	23+585.32m	End Full Super	6.00%	-6.00%	607	23+818.61m	End Full Super	-3.80%	3.80%	615	24+010.97m	Reverse Crown	2.00%	-2.00%
591	23+347.78m	Begin Full Super	6.00%	-6.00%	599	23+590.02m	Begin Full Super	6.00%	-6.00%	607	23+827.14m	Reverse Crown	-2.00%	2.00%	615	24+020.64m	Level Crown	0.00%	-2.00%
591	23+351.93m	End Full Super	6.00%	-6.00%	599	23+604.65m	Reverse Crown	2.00%	-2.00%	607	23+836.61m	Level Crown	-2.00%	0.00%	615	24+030.31m	Begin Normal Crown	-2.00%	-2.00%
591	23+371.26m	Reverse Crown	2.00%	-2.00%	599	23+614.32m	Level Crown	0.00%	-2.00%	607	23+846.08m	Begin Normal Crown	-2.00%	-2.00%	616	23+977.60m	End Normal Crown	-2.00%	-2.00%
591	23+380.93m	Level Crown	0.00%	-2.00%	599	23+623.99m	Begin Normal Crown	-2.00%	-2.00%	608	23+796.70m	End Normal Crown	-2.00%	-2.00%	616	23+987.26m	Level Crown	-2.00%	0.00%
591	23+390.59m	Begin Normal Crown	-2.00%	-2.00%	600	23+567.88m	End Normal Crown	-2.00%	-2.00%	608	23+806.37m	Level Crown	0.00%	-2.00%	616	23+996.91m	Reverse Crown	-2.00%	2.00%
592	23+334.19m	End Normal Crown	-2.00%	-2.00%	600	23+577.55m	Level Crown	-2.00%	0.00%	608	23+816.03m	Reverse Crown	2.00%	-2.00%	616	24+015.26m	Begin Full Super	-5.80%	5.80%
592	23+343.86m	Level Crown	-2.00%	0.00%	600	23+587.21m	Reverse Crown	-2.00%	2.00%	608	23+830.54m	End Full Super	6.00%	-6.00%	616	24+035.38m	End Full Super	-5.80%	5.80%
592	23+353.53m	Reverse Crown	-2.00%	2.00%	600	23+603.73m	End Full Super	-6.00%	6.00%	608	23+835.37m	Begin Full Super	6.00%	-6.00%	616	24+053.73m	Reverse Crown	-2.00%	2.00%
592	23+366.15m	End Full Super	-6.00%	6.00%	600	23+606.55m	Begin Full Super	-6.00%	6.00%	608	23+849.87m	Reverse Crown	2.00%	-2.00%	616	24+063.38m	Level Crown	-2.00%	0.00%
592	23+372.86m	Begin Full Super	-6.00%	6.00%	600	23+623.07m	Reverse Crown	-2.00%	2.00%	608	23+859.54m	Level Crown	0.00%	-2.00%	616	24+073.04m	Begin Normal Crown	-2.00%	-2.00%
592	23+385.48m	Reverse Crown	-2.00%	2.00%	600	23+632.73m	Level Crown	-2.00%	0.00%	608	23+869.21m	Begin Normal Crown	-2.00%	-2.00%	617	24+022.32m	End Normal Crown	-2.00%	-2.00%
592	23+395.15m	Level Crown	-2.00%	0.00%	600	23+642.40m	Begin Normal Crown	-2.00%	-2.00%	609	23+838.13m	End Normal Crown	-2.00%	-2.00%	617	24+031.99m	Level Crown	-2.00%	0.00%
592	23+404.82m	Begin Normal Crown	-2.00%	-2.00%	601	23+585.19m	End Normal Crown	-2.00%	-2.00%	609	23+847.57m	Level Crown	-2.00%	0.00%	617	24+041.65m	Reverse Crown	-2.00%	2.00%
593	23+355.85m	End Normal Crown	-2.00%	-2.00%	601	23+594.86m	Level Crown	-2.00%	0.00%	609	23+857.02m	Reverse Crown	-2.00%	2.00%	617	24+052.90m	End Full Super	-6.00%	6.00%
593	23+365.47m	Level Crown	0.00%	-2.00%	601	23+604.52m	Reverse Crown	-2.00%	2.00%	609	23+864.57m	Begin Full Super	-3.60%	3.60%	617	24+060.99m	Begin Full Super	-6.00%	6.00%
593	23+375.08m	Reverse Crown	2.00%	-2.00%	601	23+623.49m	End Full Super	-6.00%	6.00%	609	23+866.61m	End Full Super	-3.60%	3.60%	617	24+072.23m	Reverse Crown	-2.00%	2.00%
593	23+387.76m	End Full Super	5.20%	-5.20%	601	23+623.86m	Begin Full Super	-6.00%	6.00%	609	23+874.16m	Reverse Crown	-2.00%	2.00%	617	24+081.90m	Level Crown	-2.00%	0.00%
593	23+390.47m	Begin Full Super	5.20%	-5.20%	601	23+642.82m	Reverse Crown	-2.00%	2.00%	609	23+883.61m	Level Crown	-2.00%	0.00%	617	24+091.57m	Begin Normal Crown	-2.00%	-2.00%
593	23+403.15m	Reverse Crown	2.00%	-2.00%	601	23+652.49m	Level Crown	-2.00%	0.00%	609	23+893.05m	Begin Normal Crown	-2.00%	-2.00%	618	24+043.12m	End Normal Crown	-2.00%	-2.00%
593	23+412.76m	Level Crown	0.00%	-2.00%	601	23+662.15m	Begin Normal Crown	-2.00%	-2.00%	610	23+851.31m	End Normal Crown	-2.00%	-2.00%	618	24+052.79m	Level Crown	0.00%	-2.00%
593	23+422.38m	Begin Normal Crown	-2.00%	-2.00%	602	23+625.05m	End Normal Crown	-2.00%	-2.00%	610	23+860.98m	Level Crown	0.00%	-2.00%	618	24+062.45m	Reverse Crown	2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED

DRAWN	
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE: JANUARY, 2021

DWG NO.: 38164/102/TD/ PD0010S

Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane	Superelevation Region	Station	Description	Left Outside Lane	Right Outside Lane
618	24+069.58m	End Full Super	6.00%	-6.00%	624	24+258.11m	Level Crown	0.00%	-2.00%
618	24+081.79m	Begin Full Super	6.00%	-6.00%	624	24+267.77m	Begin Normal Crown	-2.00%	-2.00%
618	24+088.91m	Reverse Crown	2.00%	-2.00%	625	24+215.99m	End Normal Crown	-2.00%	-2.00%
618	24+098.58m	Level Crown	0.00%	-2.00%	625	24+225.65m	Level Crown	0.00%	-2.00%
618	24+108.24m	Begin Normal Crown	-2.00%	-2.00%	625	24+235.30m	Reverse Crown	2.00%	-2.00%
619	24+067.29m	End Normal Crown	-2.00%	-2.00%	625	24+247.69m	End Full Super	5.80%	-5.80%
619	24+076.74m	Level Crown	-2.00%	0.00%	625	24+253.65m	Begin Full Super	5.80%	-5.80%
619	24+086.18m	Reverse Crown	-2.00%	2.00%	625	24+266.04m	Reverse Crown	2.00%	-2.00%
619	24+091.33m	End Full Super	-3.60%	3.60%	625	24+275.69m	Level Crown	0.00%	-2.00%
619	24+093.74m	Begin Full Super	-3.60%	3.60%	625	24+285.35m	Begin Normal Crown	-2.00%	-2.00%
619	24+098.89m	Reverse Crown	-2.00%	2.00%	626	24+240.79m	End Normal Crown	-2.00%	-2.00%
619	24+108.33m	Level Crown	-2.00%	0.00%	626	24+250.44m	Level Crown	-2.00%	0.00%
619	24+117.78m	Begin Normal Crown	-2.00%	-2.00%	626	24+260.10m	Reverse Crown	-2.00%	2.00%
620	24+096.81m	End Normal Crown	-2.00%	-2.00%	626	24+272.19m	End Full Super	-5.80%	5.80%
620	24+106.31m	Level Crown	-2.00%	0.00%	626	24+278.44m	Begin Full Super	-5.80%	5.80%
620	24+115.81m	Reverse Crown	-2.00%	2.00%	626	24+290.54m	Reverse Crown	-2.00%	2.00%
620	24+122.93m	End Full Super	-4.00%	4.00%	626	24+300.19m	Level Crown	-2.00%	0.00%
620	24+125.31m	Begin Full Super	-4.00%	4.00%	626	24+309.85m	Begin Normal Crown	-2.00%	-2.00%
620	24+132.43m	Reverse Crown	-2.00%	2.00%	627	24+260.40m	End Normal Crown	-2.00%	-2.00%
620	24+141.93m	Level Crown	-2.00%	0.00%	627	24+269.95m	Level Crown	-2.00%	0.00%
620	24+151.43m	Begin Normal Crown	-2.00%	-2.00%	627	24+279.49m	Reverse Crown	-2.00%	2.00%
621	24+116.23m	End Normal Crown	-2.00%	-2.00%	627	24+285.09m	End Full Super	-4.40%	4.40%
621	24+125.78m	Level Crown	0.00%	-2.00%	627	24+290.95m	Begin Full Super	-4.40%	4.40%
621	24+135.32m	Reverse Crown	2.00%	-2.00%	627	24+296.55m	Reverse Crown	-2.00%	2.00%
621	24+146.78m	Begin Full Super	4.40%	-4.40%	627	24+306.09m	Level Crown	-2.00%	0.00%
621	24+149.41m	End Full Super	4.40%	-4.40%	627	24+315.64m	Begin Normal Crown	-2.00%	-2.00%
621	24+160.86m	Reverse Crown	2.00%	-2.00%	628	24+282.63m	End Normal Crown	-2.00%	-2.00%
621	24+170.41m	Level Crown	0.00%	-2.00%	628	24+292.20m	Level Crown	0.00%	-2.00%
621	24+179.96m	Begin Normal Crown	-2.00%	-2.00%	628	24+301.76m	Reverse Crown	2.00%	-2.00%
622	24+158.55m	End Normal Crown	-2.00%	-2.00%	628	24+308.00m	End Full Super	4.60%	-4.60%
622	24+168.00m	Level Crown	0.00%	-2.00%	628	24+314.20m	Begin Full Super	4.60%	-4.60%
622	24+177.44m	Reverse Crown	2.00%	-2.00%	628	24+320.43m	Reverse Crown	2.00%	-2.00%
622	24+185.00m	Begin Full Super	3.60%	-3.60%	628	24+330.00m	Level Crown	0.00%	-2.00%
622	24+188.32m	End Full Super	3.60%	-3.60%	628	24+339.56m	Begin Normal Crown	-2.00%	-2.00%
622	24+195.87m	Reverse Crown	2.00%	-2.00%	629	24+312.42m	End Normal Crown	-2.00%	-2.00%
622	24+205.32m	Level Crown	0.00%	-2.00%	629	24+322.09m	Level Crown	-2.00%	0.00%
622	24+214.76m	Begin Normal Crown	-2.00%	-2.00%	629	24+331.75m	Reverse Crown	-2.00%	2.00%
623	24+176.10m	End Normal Crown	-2.00%	-2.00%	629	24+339.96m	End Full Super	-6.00%	6.00%
623	24+185.77m	Level Crown	-2.00%	0.00%	629	24+351.09m	Begin Full Super	-6.00%	6.00%
623	24+195.43m	Reverse Crown	-2.00%	2.00%	629	24+359.30m	Reverse Crown	-2.00%	2.00%
623	24+206.80m	End Full Super	-6.00%	6.00%	629	24+368.96m	Level Crown	-2.00%	0.00%
623	24+214.77m	Begin Full Super	-6.00%	6.00%	629	24+378.63m	Begin Normal Crown	-2.00%	-2.00%
623	24+226.14m	Reverse Crown	-2.00%	2.00%	630	24+326.53m	End Normal Crown	-2.00%	-2.00%
623	24+235.80m	Level Crown	-2.00%	0.00%	630	24+336.10m	Level Crown	-2.00%	0.00%
623	24+245.47m	Begin Normal Crown	-2.00%	-2.00%	630	24+345.66m	Reverse Crown	-2.00%	2.00%
624	24+196.67m	End Normal Crown	-2.00%	-2.00%	630	24+351.79m	End Full Super	-4.60%	4.60%
624	24+206.34m	Level Crown	0.00%	-2.00%	630	24+358.10m	Begin Full Super	-4.60%	4.60%
624	24+216.00m	Reverse Crown	2.00%	-2.00%	630	24+364.22m	Reverse Crown	-2.00%	2.00%
624	24+229.11m	End Full Super	6.00%	-6.00%	630	24+373.79m	Level Crown	-2.00%	0.00%
624	24+235.34m	Begin Full Super	6.00%	-6.00%	630	24+383.35m	Begin Normal Crown	-2.00%	-2.00%
624	24+248.44m	Reverse Crown	2.00%	-2.00%		24+376.98m	End Alignment	-2.00%	-2.00%

KHYBER PAKHTUNKHWA INTEGRATED TOURISM AND ENTERPRISE DEVELOPMENT PROJECT C&W DEPARTMENT, KP

NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.

REV.	DATE	DESCRIPTION	APPROVED
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PROJECT:

REHABILITATION AND UPGRADING OF THANDIANI ROAD IN DISTRICT ABBOTTABAD – 24.00 KM

TITLE

SUPERELEVATION SCHEME

DATE

JANUARY, 2021

DWG NO.

38164/102/TD/ PD0010T