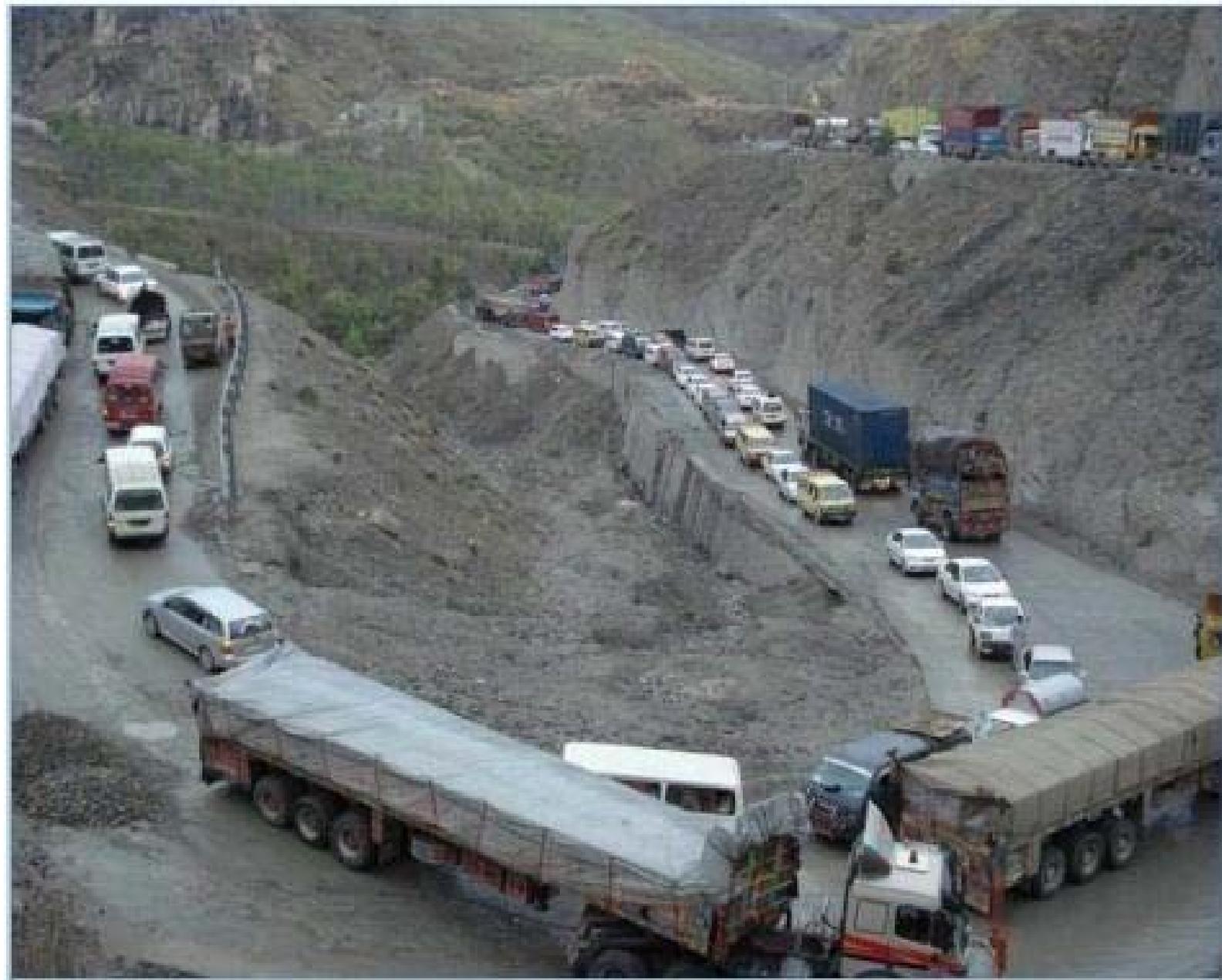




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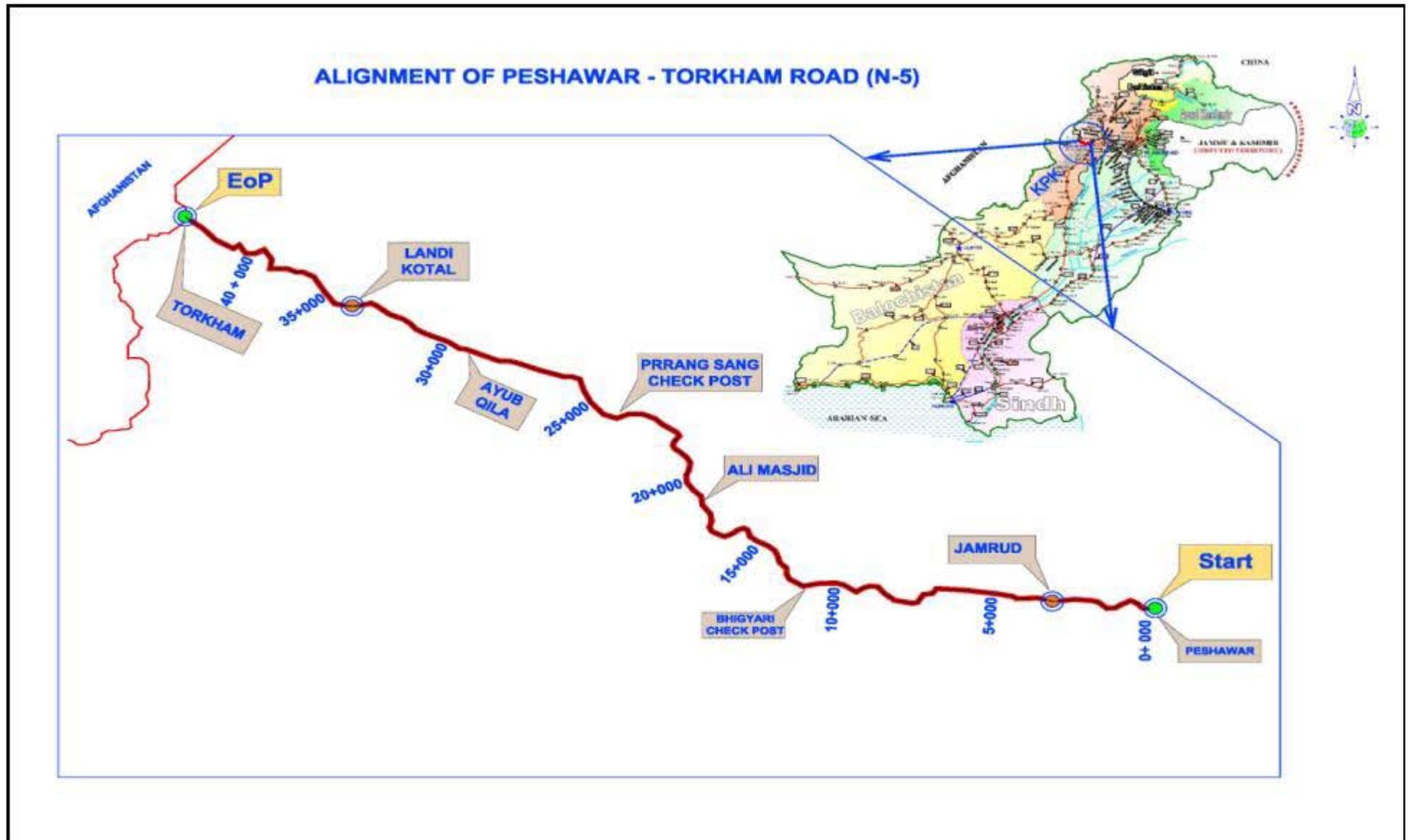
**STRENGTHENING & IMPROVEMENT OF PESHAWAR - TORKHAM ROAD  
KHYBER AGENCY, FATA**

**MONTHLY PROGRESS REPORT # 22  
NOVEMBER 2014**

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## SUMMARY

Peshawar – Torkham road is an integral part of National Highway (N-5), a vital piece of the nation’s infrastructure, which connects Pakistan with Afghanistan at Torkham border and plays an important role in the economic activities as well as providing timely logistic support to the security agencies deployed in Khyber Agency. The project “Strengthening & Improvement of Peshawar Torkham Road” is funded with United State Agency for International Development (USAID) grant amounting to USD 67 Millions and implemented by FATA Secretariat as project proponent through Frontier Works Organization (FWO) as EPC (Engineer, Procure, and Construct) Contractor.

The 46 KM Peshawar – Torkham road (PTR) has been split into multiple sections for designing / construction purposes due to inherited site specific conditions such as live traffic corridor, gigantic hilly terrain, safety and security restrictions etc. Work on project was commenced by FWO on October 15, 2012. As per Article 4 of the Activity Agreement No AID-015-DOD, the works needs to be completed by December 31, 2014. Under the circumstances and ground conditions, the Activity Completion Date needs to be extended. Three PILs signed for Sec I, II, and III & 01 PIL for 02 Bridges & 02 MCC is also going to expire on December 31, 2014.

During the reporting month (November, 2014), rigid pavement construction almost completed in Sec III, while works continued with full zeal on construction of D-3 drains both in Sec II & III. Similarly, construction work continued in Sec IV, V & VI. The contractor teams utilized 24 out of 26 available working days in the reporting month due to 09<sup>th</sup> & 10<sup>th</sup> Moharram Holidays. The overall certified amount till the end of reporting month was USD 27,412,523.

FWO was constantly advised for demonstrating good environmental practice in conformity with the construction environmental management plan.

Physical progress till the end of reporting period presented as under:

Section I - (KM: 0+000 To 9+000)	98%
Section II - (KM: 9+000 To 14+000)	93%
Section III - (KM: 14+000 To 19+000)	86%
Bridge (KM: 9+560)	97%
Bridge (KM: 18+475)	59%
Bridge (KM: 23+750)	56%
Bridge (KM: 27+250)	46%
Multicell Culvert (KM: 11+190)	98%
Multicell Culvert (KM: 22+925)	90%

19 KM of the road pavement is substantially completed and open for traffic. About 6 KM Asphaltic Base Course has been cumulatively completed in Sec IV (KM: 19+000 To 24+000), Sec V (KM: 24+000 To 29+000) & Sec VI (KM: 29+000 To 33+000). Roadway excavation has been started by FWO in Sec IX & Loop-III for widening & improvement in the geometry of the road.

# INTRODUCTION

## 1.1 PROJECT BACKGROUND

The Federally Administered Tribal Area (FATA) Secretariat of the Government of Pakistan (GoP) under the Quick Impact Projects (QIPs) in the Khyber Agency has inked an agreement with USAID for financial assistance in the form of a Grant for Strengthening and Improvement of 46 KM long existing two-lane, two-way carriageway from Peshawar to Torkham (N – 5). The Project will support the GoP in improving accessibility to the remotely located areas of Khyber agency and enhance logistic support to law enforcing agencies, besides assisting trade between Pakistan and Afghanistan. The Sponsoring agency for the Peshawar Torkham Road Project is FATA secretariat, headed by Additional Chief Secretary FATA. The Executing agency is Frontier Works Organization (FWO).

**Table: 1**

Civil Works Package Features									
Physical Limits	Peshawar to Torkham								
Feature	Section – I	Section – II	Section – III	Section – IV	Section – V	Section – VI	Section – VII	Section – VIII	Section – IX
Kilometers	0+000 to 9+000	9+000 to 14+000	14+000 to 19+000 & Loop-I	19+000 to 21+100 22+400 to 24+000 & Loop-II	21+100 to 22+400 24+000 to 29+000	29+000 to 33+000	33+000 to 37+000	37+000 to 41+000	41+000 to 43+041 & Loop-III
Black Top	Total 12.3 meter (7.3 meter carriageway & 2.5 meter structural shoulders on either side)								
Completion Period	807 Calendar Days								

## **1.2 SCOPE OF WORK**

The project involves widening, strengthening and improvement of the existing two lane carriageway, including construction of new cross drainage structures, bridges, rigid pavements and earth retaining structures spread over 46 KM. The entire road length has been split into multiple sections for designing / construction purposes. Length of each section varies according to topographical features and live traffic conditions along the project route.

Being an EPC form of contract, FWO is fully responsible for design and construction of the project in conformity with the NHA's specifications and standard engineering practices. NESPAK is providing design and quality control services to FWO. While AGES Consultants has been entrusted with the Construction Monitoring and Evaluation Services including Quality Assurance and Environmental Monitoring of the project on behalf of the USAID Pakistan Mission.

### 1.3 GENERAL CONTRACT DATA

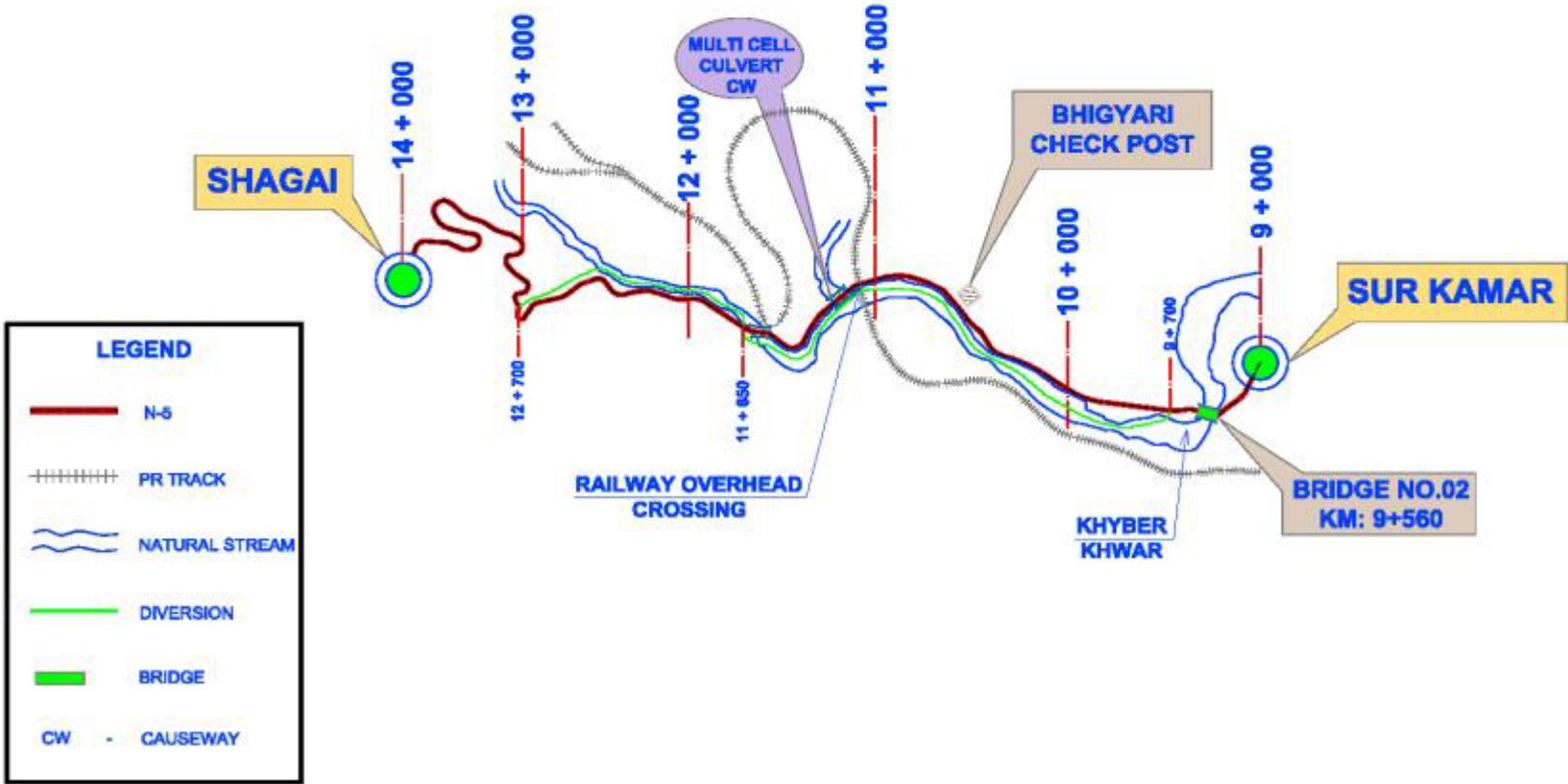
1.	Name of Project	<b>Strengthening and Improvement of Peshawar Torkham Road (N-5) Khyber Agency FATA</b>
2.	Project Construction Cost	<b>US \$ 67 Million</b>
3.	Donor Agency	<b>USAID PAKISTAN</b>
4.	Donor's Agency Representative	<b>Engr. Farhat Ali Shah Banori, USAID/COR</b>
5.	Sponsoring Agency	<b>FATA Secretariat, Peshawar</b>
6.	Sponsoring Agency Representative	<b>Mr. Muhammad Ali, Project Director, PMU FATA</b>
7.	Executing Agency	<b>Frontier Works Organization (FWO)</b>
8.	Executing Agency Representative	<b>Col. Shahzada Adil Sultan (Project Director FWO)</b>
9.	M&E Consultants	<b>AGES Consultants</b>
10.	M&E Consultants Representative	<b>Engr. Aziz-ul- Haq, Project Manager</b>
11.	Time for Completion	<b>807 Calendar Days</b>
12.	Mode of Construction Contract	<b>EPC (Engineer, Procure and Construct) Contract</b>
13.	Chronology	
	Signing of MoU (USAID–FATA–NHA)	<b>Sep 18, 2012</b>
	Signing of Consultancy Contract (USAID – AGES)	<b>Sep 30, 2012</b>
	M&E Consultants Mobilization	<b>Oct 01, 2012</b>
	Project Date of Commencement	<b>Oct 15, 2012</b>
	Project Date of Completion	<b>Dec 31, 2014</b>

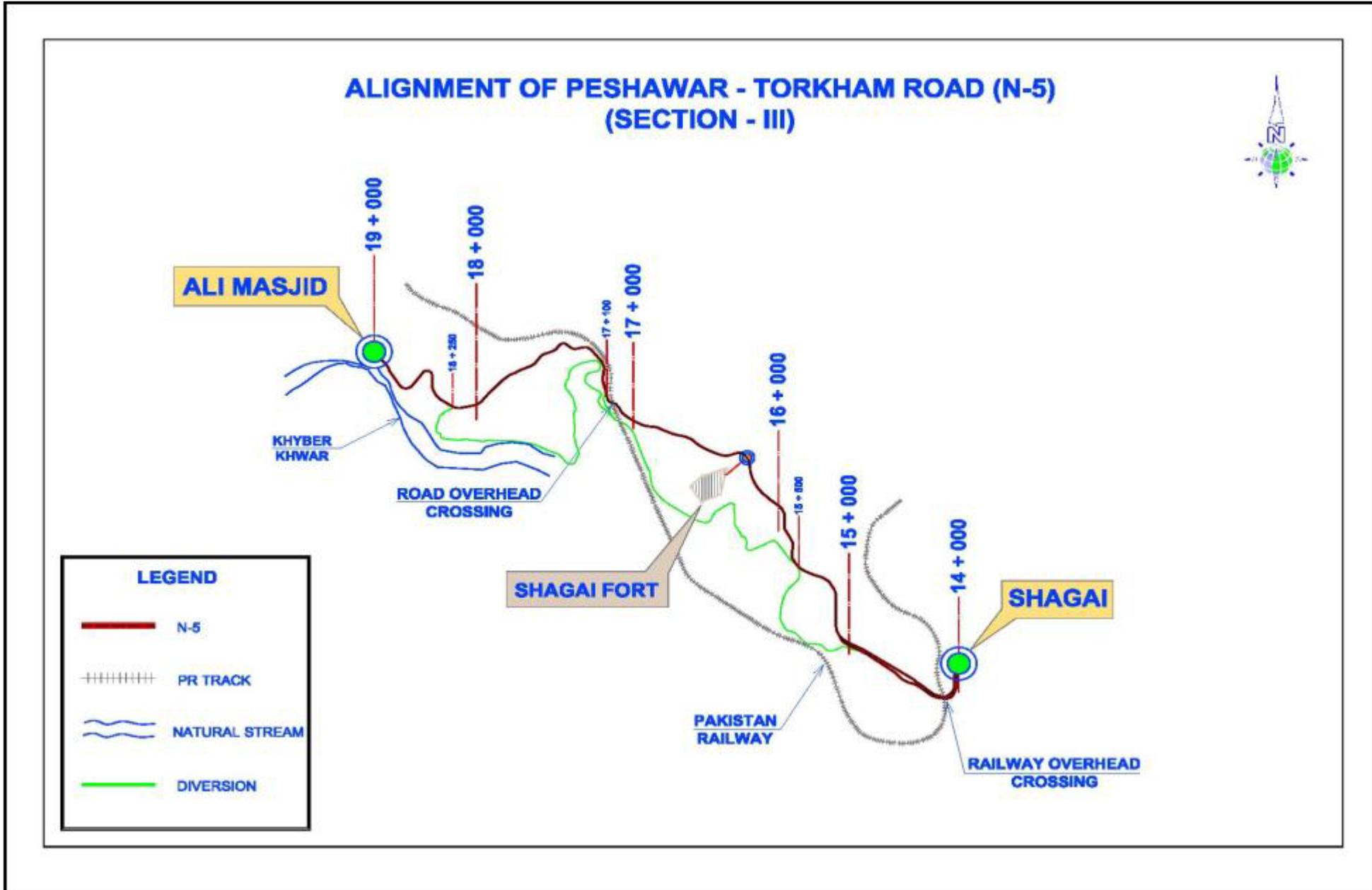
## 1.4 SECTIONS DATA

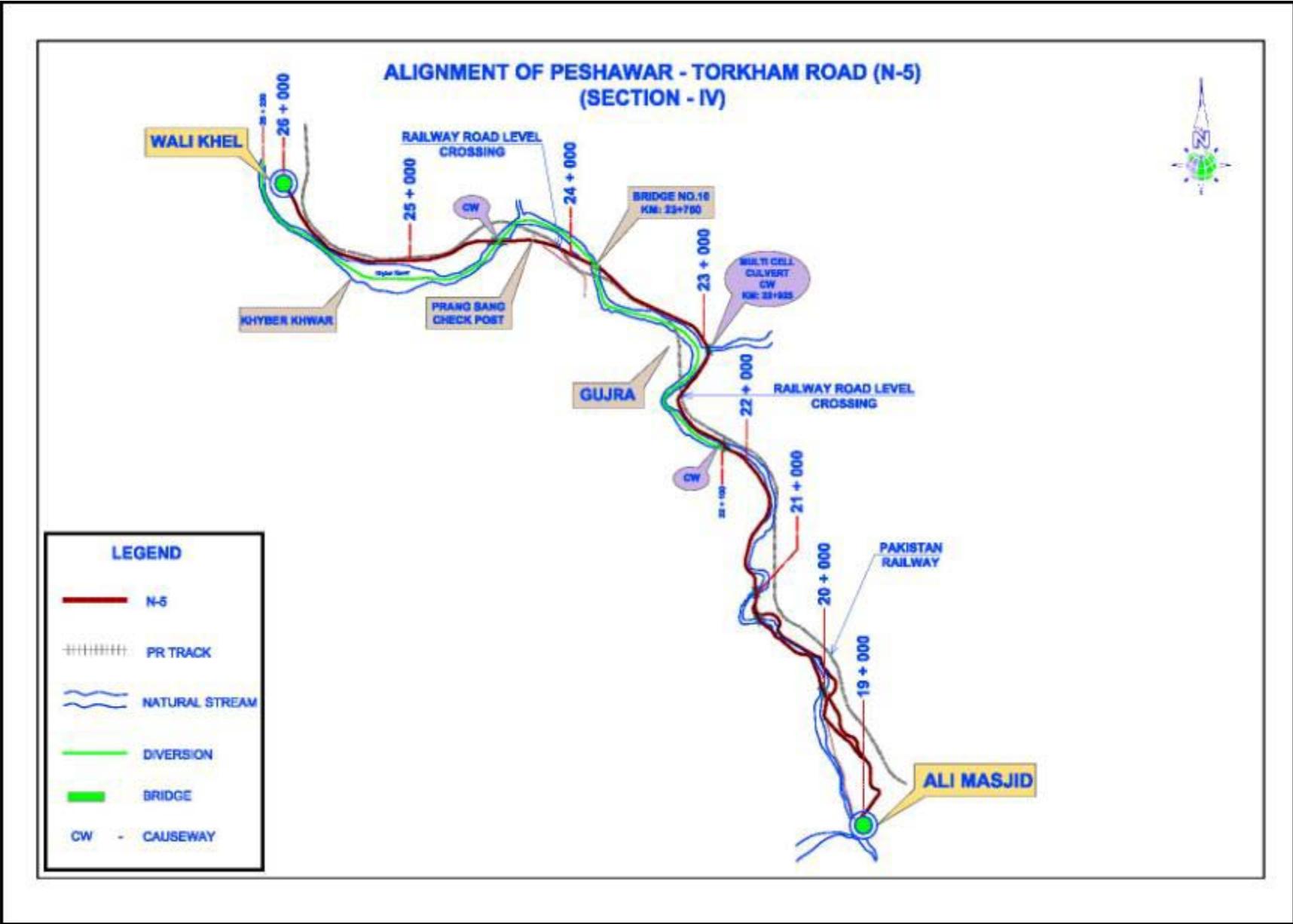
1.	Name of Package	<b>Section – I (CH: KM: 0+000 to CH: KM: 9+000)</b>
2.	PIL # 01 Cost (Section – I)	<b>Rs. 937.939 Million (US \$ 9.978 M)</b>
3.	Approval of PIL (Section – I)	<b>Jan 10, 2013</b>
1.	Name of Package	<b>Section – II (CH: KM: 9+000 to CH: KM: 14+000)</b>
2.	PIL # 02 Cost (Section – II)	<b>Rs. 985.266 Million (US \$ 9.383 M)</b>
3.	Approval of PIL (Section – II)	<b>Dec, 18, 2013</b>
1.	Name of Package	<b>Section – III (CH: KM: 14+000 to CH: KM: 19+000 &amp; Loop-I)</b>
2.	PIL # 03 Cost (Section – III)	<b>Rs. 989.320 Million (US \$ 9.512 M)</b>
3.	Approval of PIL (Section – III)	<b>Feb, 04, 2014</b>
1.	Name of Package	<b>Construction of Two Bridges and Two Multi-cell Culverts</b>
2.	PIL # 04 Cost	<b>Rs. 348.5 Million (US \$ 3.668 M)</b>
3.	Approval of PIL	<b>June 27, 2014</b>
1.	Name of Package	<b>Section – IV (CH: KM: 19+000 to 21+000 CH: KM: 22+400 to 24+000 &amp; Loop-II)</b>
2.	PIL # 05 Cost	<b>Rs. 927.102 Million</b>
3.	Approval of PIL	<b>Awaited</b>
1.	Name of Package	<b>Section –V (CH: KM: 21+100 to 22+400; CH: KM: 24+000 to 29+000)</b>
2.	PIL # 06 Cost	<b>Rs. 878.301 Million</b>
3.	Approval of PIL	<b>Awaited</b>
1.	Name of Package	<b>Construction of 06 Bridges (03 Rehabilitation &amp; 03 New Construction)</b>
2.	PIL # 07 Cost	<b>Rs. 270.823 Million</b>
3.	Approval of PIL	<b>Awaited</b>



### ALIGNMENT OF PESHAWAR - TORKHAM ROAD (N-5) (SECTION - II)

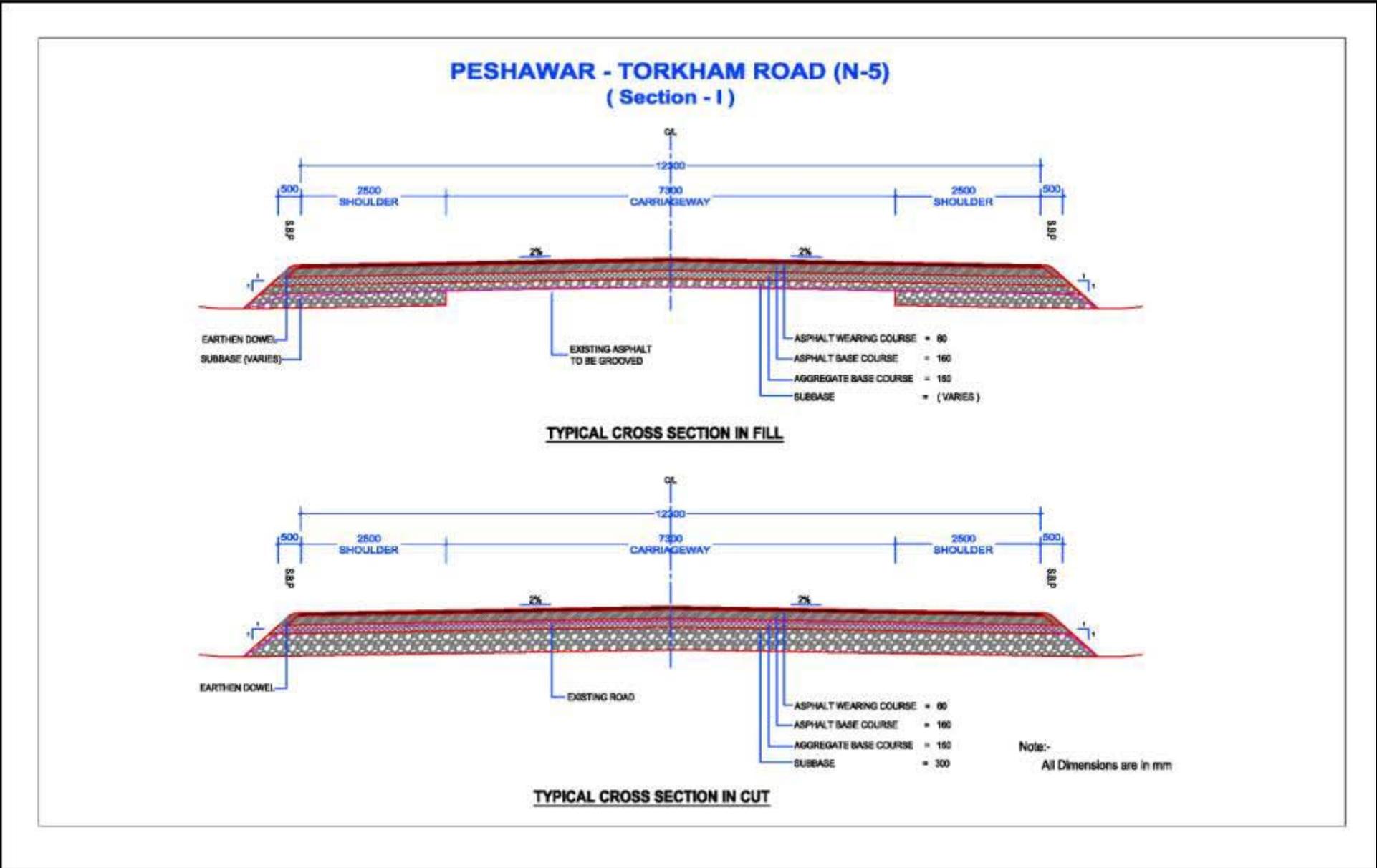


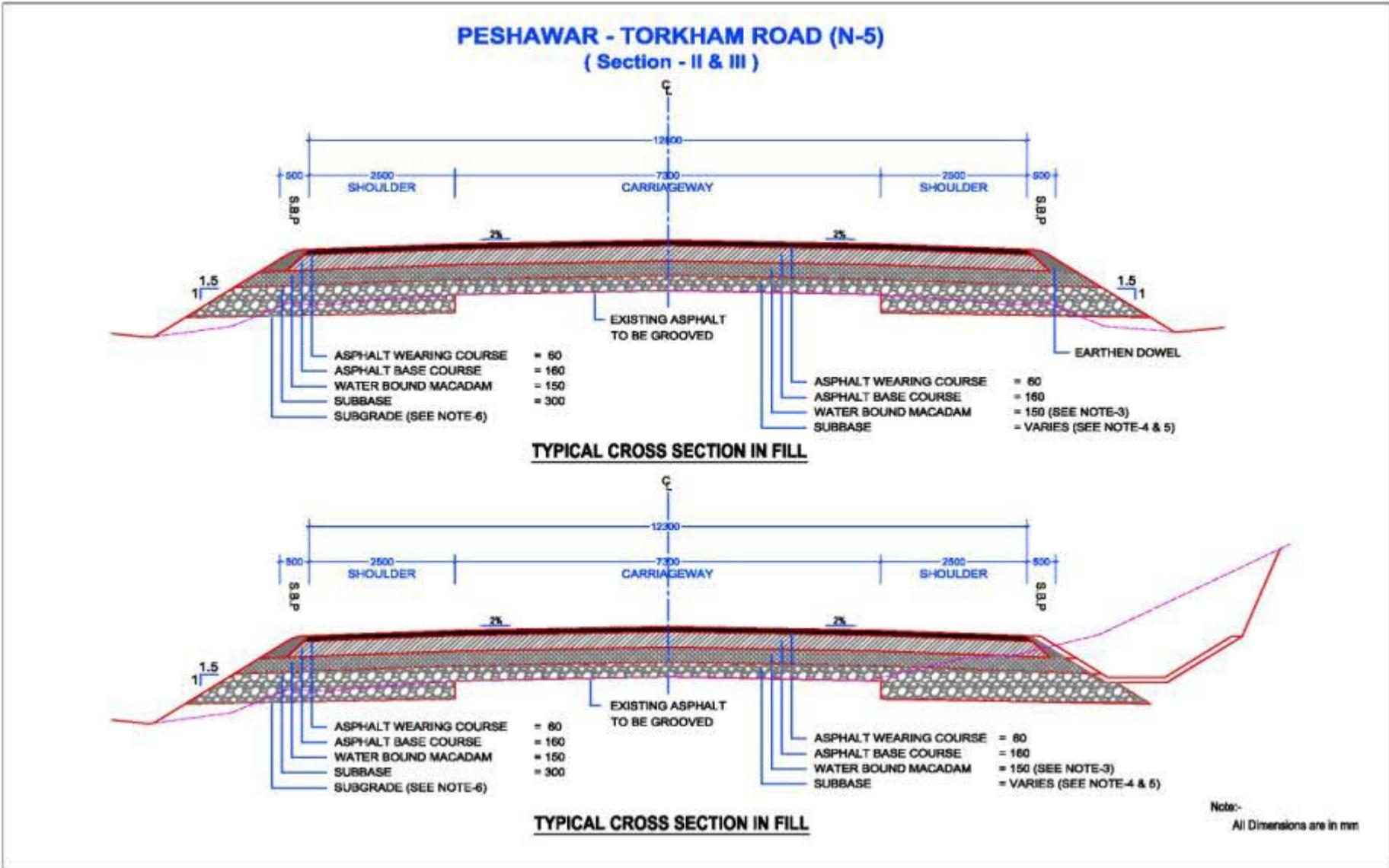


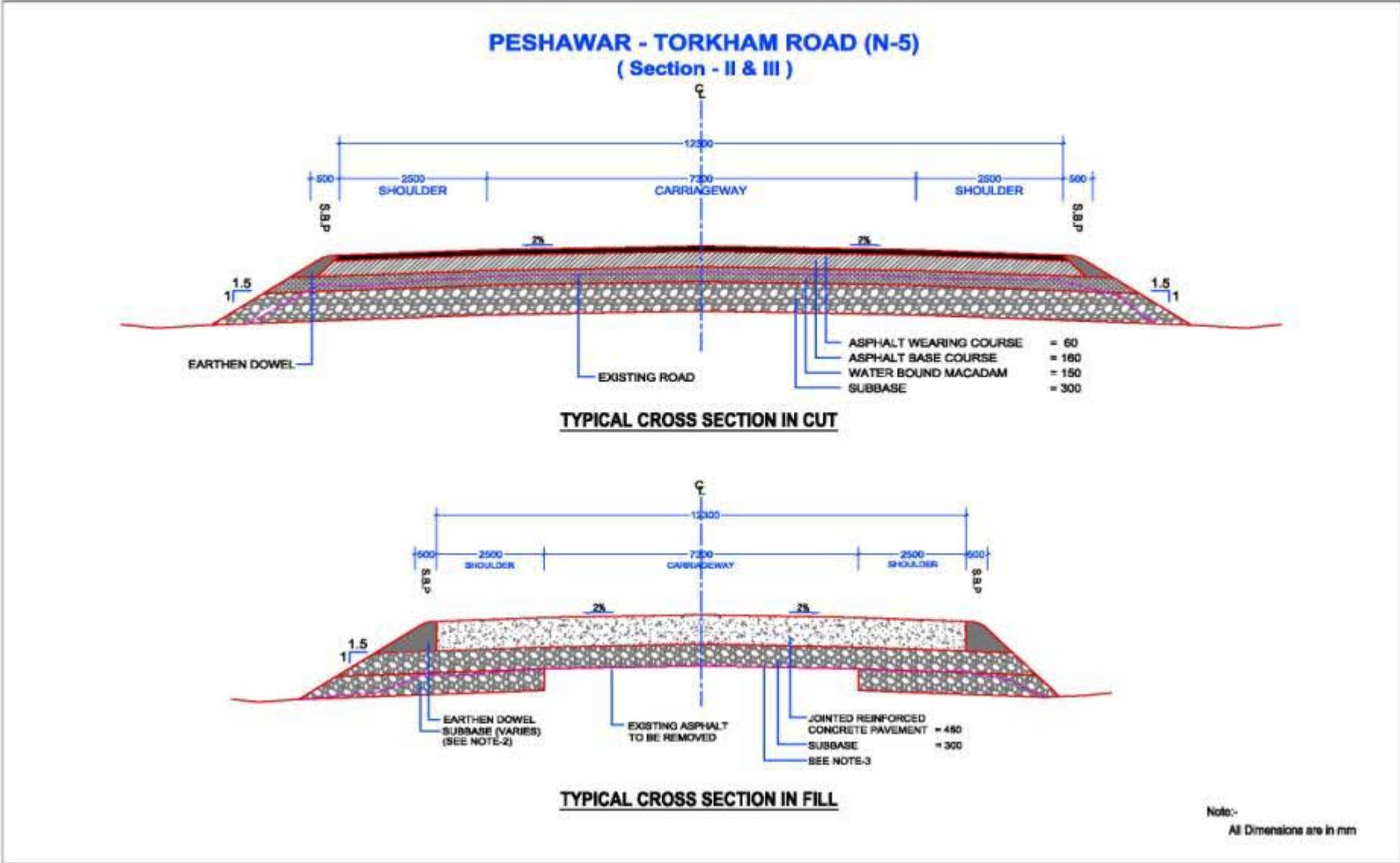




1.6 TYPICAL CROSS SECTIONS OF ROAD







# **M&E SERVICES & PROGRESS OF ACTIVITIES**

## **2.1 M&E CONSULTANTS MAJOR ACTIVITIES DURING THE REPORTING MONTH**

- The M&E Consultants continued to monitor the ongoing construction activities and conducted requisite material sampling & testing.
- Actively participated in on-site discussions with FWO/NESPAK regarding ongoing construction activities.
- Attended three joint co-ordination meetings at CRE / FWO office to discuss various aspects of QA/QC measures of the project, construction program/ completion status of section I, II and III prior to December 31st 2014.
- Attended FWO-NESPAK co-ordination meeting in the office of CO FWO Jamrud to discuss the completion status of section I, II and III.
- The M&E consultants continued to liaise with relevant stakeholders about environmental, planning and other concerns relating to the strengthening / improvement of the vital national traffic corridor.
- FWO was advised for demonstrating good environmental practice in compliance with the construction environmental management plan.

## **2.2 MATTERS REQUIRING ATTENTION**

### **2.2.1 STAKEHOLDER'S CONSULTATION**

During the construction phase of the project, the contractor frequently find it necessary to make changes in design based on field conditions, constructability issues or errors/omissions etc. Such sort of design modifications, after the approval of PIL documents from USAID, have both the financial and schedule impacts, which needs to be properly documented & reviewed by the FATA Secretariat & shared with USAID prior to issuance for construction.

### **2.2.2 COMPLETION OF SECTION I, II AND III BY THE END OF DEC, 2014**

In order to avoid complication of financial management, delays in construction and stream lining the cash flow, the aforementioned sections need to be finalized before end the year 2014. USAID has communicated the same to FWO in joint coordination meeting held in PD 495 engineers group Peshawar on August 27, 2014.

Moreover, as per Article 4 of the Activity Agreement No AID-015-DOD, the works need to be completed by December 31, 2014. Under the circumstances and ground conditions, the Activity Completion Date needs to be extended. Three PILs signed for Sec I, II and III & 01 PIL for 02 Bridges & 02 MCC are also going to expire on December 31, 2014.

### **2.2.3 PROCESS OF PC-1's APPROVAL**

Since project commencement in Oct 2012, 07 No: PC-1s (05 for sec-I, II, III, IV & V from KM: 0+000 to 29+000, and two PC-1; for 02 bridges plus 02 Multi cell culverts & 06 Bridges, amounting in total to PKR 5,336 Million have been approved by FATA Development Working Party (FDWP). As now the FDWP's special powers of sanctioning up to PKR 1000 Million for developmental projects has been restored, approval of the remaining PC-1s needs to be expedited.

### **2.2.4 COMPLEXITY IN MAINTAINING TRAFFIC ON DIVERSIONS**

Diversions have been provided at intervals b/w KM: 09+000 To 35+000. However, condition of the diversion tracks has been creating difficulties for the road commuters and population. Peak hour traffic congestion and its frequency are regularly escalating the problem. Even minor traffic accident on the corridor usually results in rapid disturbance to traffic movement and some time complete blockage of diversions.

In order to ensure smooth traffic movement along the corridor, minimizing traffic delays keeping dust & noise pollution to a minimum, a higher level of communication and liaison would be required throughout the work period to meet the expectations of stakeholders and commuters.

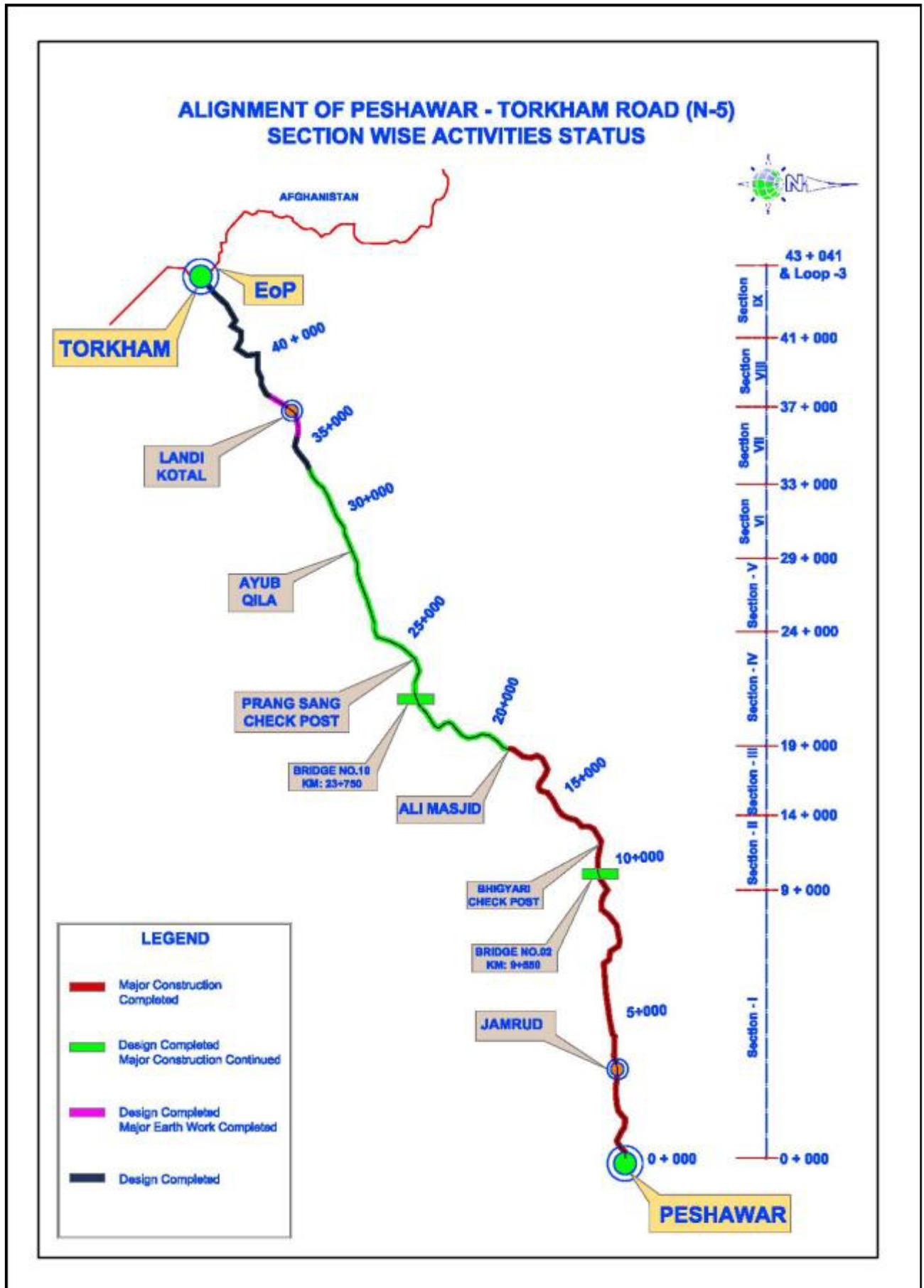
### **2.2.5 DELAY IN UTILITIES SHIFTING FROM CONSTRUCTION CORRIDOR**

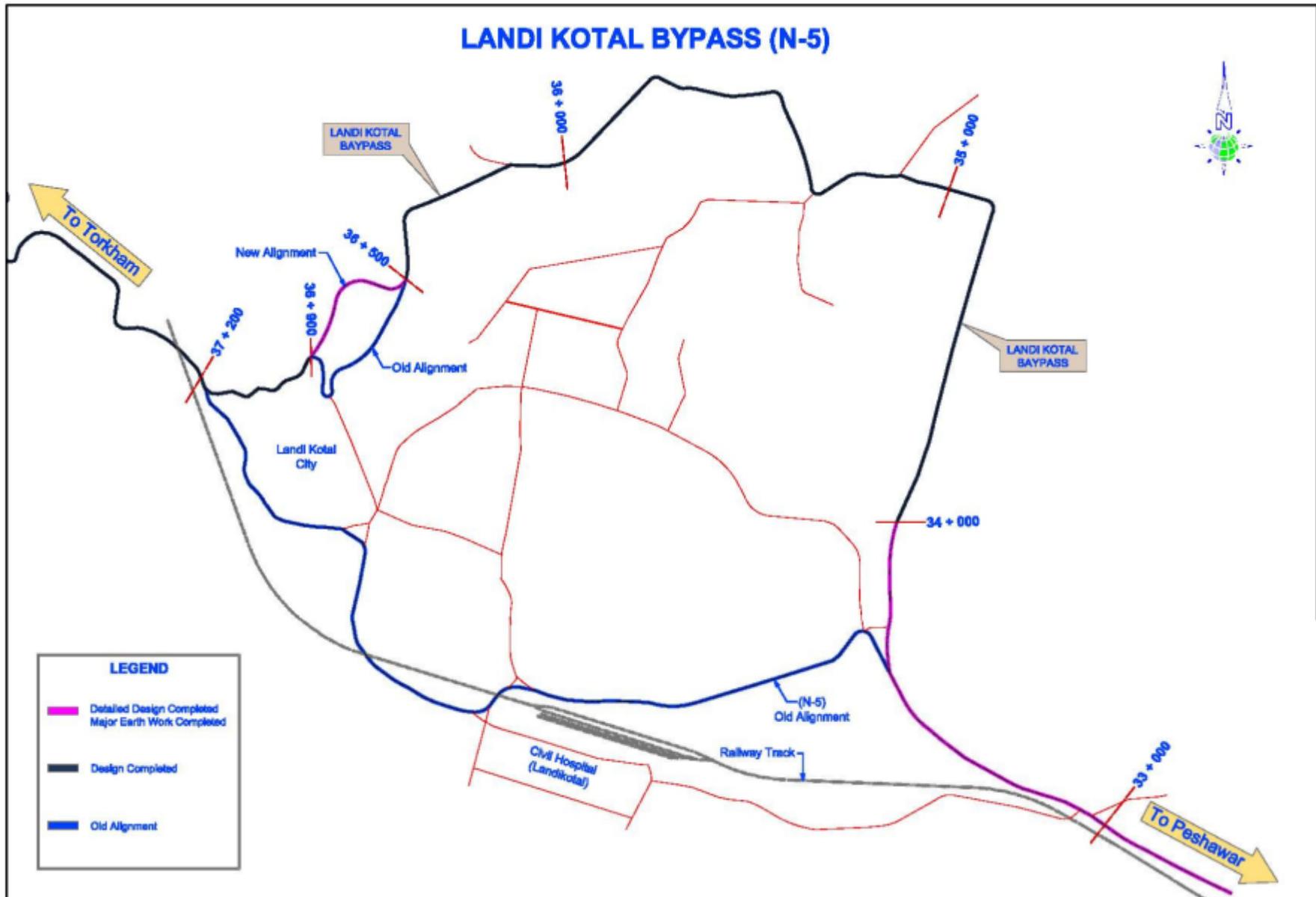
Shifting of overhead electric lines (including poles) and underground Optical Fiber Cable (OFC) got delayed despite payment by FWO to the concerned GoP departments, thereby putting a constraint on the contractor's capacity to undertake construction work in an un-interrupted and continuous manner.

### **2.2.6 ENVIRONMENTAL COMPLIANCE**

FWO needs to focus more on environmental compliance measures due to inherited site specific conditions such as live traffic corridor, heavy traffic, hilly terrain, and residential and commercial areas along the road.

### 2.3 SECTION WISE ACTIVITIES STATUS



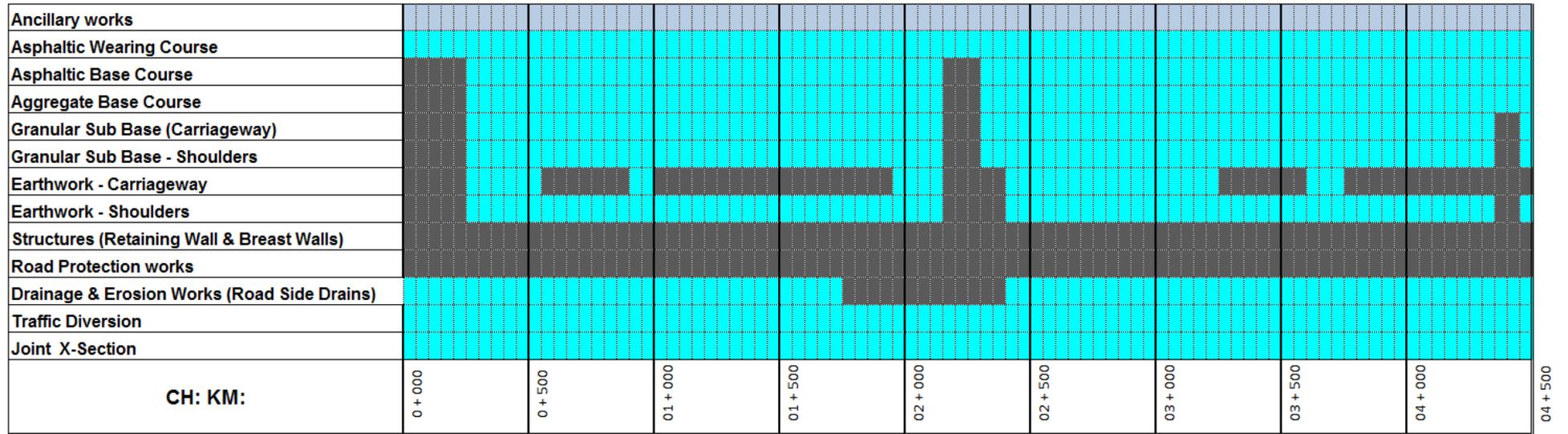


# **CIVIL WORKS SECTION-I**

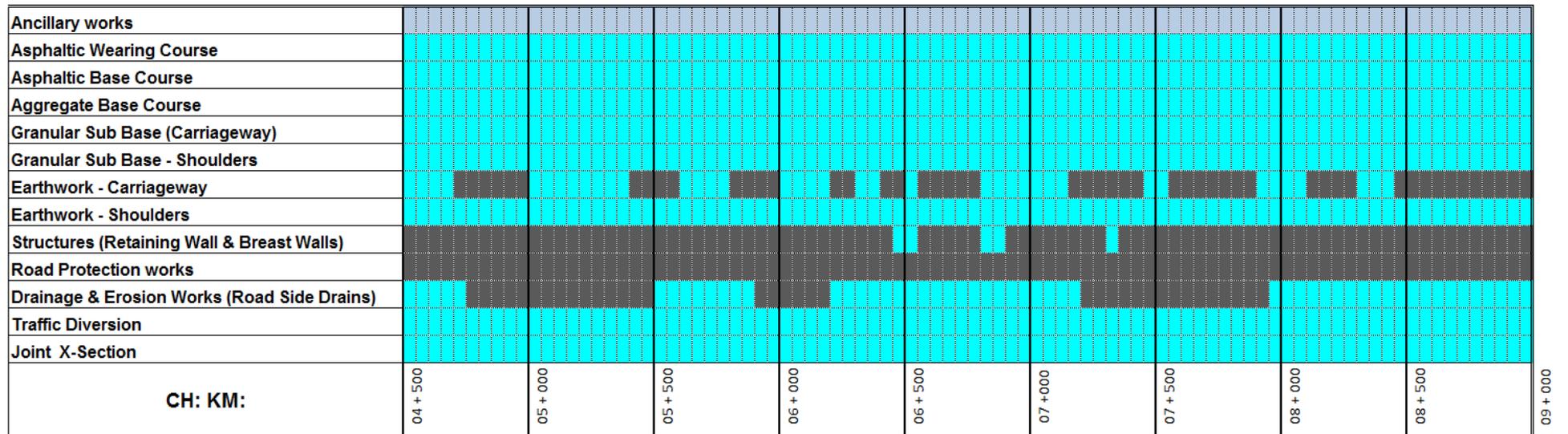
## 3.1 CUMULATIVE MILESTONE WISE PROGRESS STATUS (SECTION-I)

BILL NO	DESCRIPTION	MILESTONE UNIT	NUMBER OF MILESTONES	AMOUNT AS PER MILESTONE (US \$)	TOTAL AMOUNT (US \$)	PROGRESS UPTO PREVIOUS MONTH			PROGRESS IN THE REPORTING MONTH			MILESTONE WISE COMULATIVE PROGRESS		
						MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %
1	EARTH WORK	KM	9	6,339.85	57,058.65	9.00	57,059	100.00	-	-	-	9.00	57,058.65	100.00
2	SUB BASE AND BASE COURSE													
i	GRANULAR SUB BASE	KM	9	111,763.61	1,005,872.49	9.00	1,005,872	100.00	-	-	-	9.00	1,005,872.49	100.00
ii	AGGREGATE BASE COURSE	KM	9	73,611.56	662,504.04	9.00	662,504	100.00	-	-	-	9.00	662,504.04	100.00
iii	ASPHALTIC BASE COURSE	KM	9	416,608.69	3,749,478.21	9.00	3,749,478	100.00	-	-	-	9.00	3,749,478.21	100.00
3	SURFACE COURSES AND PAVEMENT	KM	9	213,785.71	1,924,071.39	9.00	1,924,071	100.00	-	-	-	9.00	1,924,071.39	100.00
4a	STRUCTURES ( RETAINING WALL/BREAST WALL	JOB	1	38,812.31	38,812.31	1.00	38,812	100.00	-	-	-	1.00	38,812.31	100.00
4b	STRUCTURES ( CULVERTS)													
i	WIDENING AND REPAIR OF EXISTING CULVERTS AT RD 1+290 & 5+692	NUMBER	2	10,657.55	21,315.10	2.00	21,315.10	100.00				2.00	21,315.10	100.00
ii	CONSTRUCTION OF NEW CULVERTS (No. of Span x Span Width x Height)													
	1 x 2 x 1.5	NUMBER	7	19,268.30	134,878.10	7.00	134,878.10	100.00	-	-	-	7.00	134,878.10	100.00
	1 x 3 x 1.5	NUMBER	3	25,204.07	75,612.21	3.00	75,612.21	100.00	-	-	-	3.00	75,612.21	100.00
	2 x 3 x 1.5	NUMBER	2	40,950.75	81,901.50	2.00	81,901.50	100.00	-	-	-	2.00	81,901.50	100.00
	3 x 3 x 1.5	NUMBER	1	54,597.59	54,597.59	1.00	54,597.59	100.00	-	-	-	1.00	54,597.59	100.00
	5 x 3 x 1.5	NUMBER	1	75,007.57	75,007.57	1.00	75,007.57	100.00	-	-	-	1.00	75,007.57	100.00
5a	DRAINAGE & EROSION WORKS ( ROAD SIDE DRAIN)													
i	DRAIN TYPE D-1 & D-2 (COVERED)	KM	5.5	249,002.78	1,369,515.29	4.95	1,232,563.76	90.00	0.05	12,450.14	0.91	5.00	1,245,013.90	90.91
ii	DRAIN TYPE D-1a & D-2a (UNCOVERED)	KM	3	110,128.52	330,385.56	3.00	330,385.56	100.00	0	-	-	3.00	330,385.56	100.00
iii	DRAIN TYPE D-3 (Converted to D-2 type)	KM	1.5	135,439.74	203,159.61	1.50	203,159.61	100.00	0	-	-	1.50	203,159.61	100.00
5b	ROAD PROTECTION WORKS (100 M)	JOB	1	11,047.54	11,047.54	-	-	-	0	-	-	-	-	-
6	ANCILLARY WORKS COMPLETE IN ALL RESPECT	JOB	1	54,375.49	54,375.49	0.90	48,937.94	90.00	0.03	1,631.26	3.00	0.93	50,569.21	93.00
7	DIVERSION	KM	9	12,978.72	116,808.48	9.00	116,808.48	100.00	0	-	-	9.00	116,808.48	100.00
8	PLANTATION OF TREES (450 Nos)	KM	9	1,297.87	11,680.83	-	-	-	-	-	-	-	-	-
	<b>TOTAL PROJECT COST (SECTION-I)</b>				<b>9,978,082</b>		<b>9,812,965</b>	<b>98.35</b>		<b>14,081.40</b>	<b>0.14</b>		<b>9,827,046</b>	<b>98.49</b>

### 3.2 PHYSICAL PROGRESS STATUS (SECTION-I)

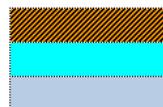


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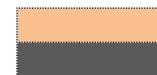


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#### LEGEND



WORKS COMPLETED IN NOVEMBER 2014  
 WORKS COMPLETED IN PREVIOUS MONTHS  
 PARTIAL COMPLETION



SINGLE LANE TRAFFIC MAINTAINED  
 ITEM NOT REQUIRED

### 3.3 CULVERTS PHYSICAL PROGRESS STATUS (SECTION-I)

RCC Railing	Deleted - Replaced with Pipe Culvert Extension				Culvert shifted to Section-III										
Roll Pointing															
RCC Slab Cast in situ															
Flooring/Cut-off wall/ Rip rap															
Back Filling															
Bed plate/Curtain wall															
Stone Masonry (Wing Walls)															
Stone Masonry (Abutments/ Pier)															
Lean Concrete															
Structural Excavation															
Dismantling of Existing Structure															
Size of Culvert (No. of Span*Width*Height)			1*2*1.5	1*2*1.5		1*3*1.5		1*2*1.5	1*3*1.5	1*2*1.5	3*3*1.5	2*3*1.5	5*3*1.5	1*2*1.5	1*2*1.5
Activity															
KM	1+230	2+611	3+081	4+480	4+590	5+202	5+354	5+905	6+050	6+191	6+501	6+648	6+883	7+384	



ACTIVITIES COMPLETED IN PREVIOUS MONTHS



ACTIVITIES NOT REQUIRED

# **CIVIL WORKS SECTION-II**

**4.1 CUMULATIVE MILESTONE WISE PROGRESS STATUS (SECTION – II)**

BILL NO	DESCRIPTION OF BILL	MILESTONE UNIT	NUMBER OF MILESTONES	AMOUNT AS PER MILESTONE (US \$)	TOTAL AMOUNT (US \$)	PROGRESS UPTO PREVIOUS MONTH			PROGRESS IN THE REPORTING MONTH			MILESTONE WISE COMULATIVE PROGRESS		
						MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %
1	EARTH WORK ( INCLUDING EARTHEN DOWELS)	500 m	10	101,245	1,012,450	10.00	1,012,450	100.00	0.00	-	-	10.00	1,012,450	100.00
2	<b>SUB BASE AND BASE COURSE</b>													
a	GRANULAR SUB BASE	500 m	10	27,073	270,730	10.00	270,730	100.00	0.00	-	-	10.00	270,730	100.00
b	WATER BOUND MACADAM	500 m	4.6	28,702	132,029	4.60	132,029	100.00	0.00	-	-	4.60	132,029	100.00
c	ASPHALTIC BASE COURSE	500 m	4.6	221,168	1,017,373	4.60	1,017,373	100.00	0.00	-	-	4.60	1,017,373	100.00
3	<b>SURFACE COURSES AND PAVEMENT</b>													
a	ASPHALTIC CONCRETE FOR WEARING COURSE AND ALLIED ACTIVITIES	500 m	4.6	104,708	481,657	4.60	481,657	100.00	0.00	-	-	4.60	481,657	100.00
b	RIGID PAVEMENT (6.15 m Width Lane of 500 m)	500 m	10.8	262,510	2,835,108	10.80	2,835,108	100.00	0.00	-	-	10.80	2,835,108	100.00
4a	<b>STRUCTURES (RETAINING WALL /BREAST WALL)</b>													
4a - i	RETAINING WALL - 1975 M	100 m	19.75	70,864	1,399,564	19.36	1,371,927	98.03	0.00	-	-	19.36	1,371,573	98.00
4a - ii	BREAST WALL - 325 M	100 m	3.25	28,169	91,549	3.19	89,858	98.15	0.00	-	-	3.19	89,718	98.00
4b	<b>STRUCTURES (CULVERTS)</b>													
	<b>CONSTRUCTION OF NEW CULVERTS (No. of Span x Span Width x Height)</b>													
	1 x 2 x 2.5 (15 skew, Flexible Pavement)	No	2	33,373	66,746	2.000	66,746	100.00	0.000	-	-	2.000	66,746	100.00
	1 x 2 x 2.5 (22 m long, Flexible Pavement)	No	1	49,109	49,109	1.00	49,109	100.00	0.00	-	-	1.00	49,109	100.00
	1 x 2 x 3 (Flexible Pavement)	No	2	43,350	86,700	2.00	86,700	100.00	0.00	-	-	2.00	86,700	100.00
	1 x 2 x 3 (Rigid Pavement)	No	0	-	-	-	-	-	-	-	-	-	-	-
	1 x 2 x 3 (15° skew)	No	1	44,585	44,585	1.00	44,585	100.00	0.00	-	-	1.00	44,585	100.00
	1 x 2 x 3 (30° skew)	No	1	48,068	48,068	1.00	48,068	100.00	0.00	-	-	1.00	48,068	100.00

**CUMULATIVE MILESTONE WISE PROGRESS STATUS (SECTION – II)**

BILL NO	DESCRIPTION OF BILL	MILESTONE UNIT	NUMBER OF MILESTONES	AMOUNT AS PER MILESTONE (US \$)	TOTAL AMOUNT (US \$)	PROGRESS UPTO PREVIOUS MONTH			PROGRESS IN THIS MONTH			MILESTONE WISE COMULATIVE PROGRESS		
						MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %
	<b>CONSTRUCTION OF NEW CULVERTS (REPLACEMENT OF OLD) (No. of Span x Span Width x Height)</b>													
	1 x 2 x 2.5 (Rigid Pavement)	No	3	33,083	99,249	3.00	99,249	100.00	0.00	-	-	3.00	99,249	100.00
	1 x 2 x 2.5 (30° skew)(Flexible Pavement)	No	1	36,376	36,376	1.00	36,376	100.00	0.00	-	-	1.00	36,376	100.00
	1 x 3 x 4.0	No	1	76,130	76,130	1.00	76,130	100.00	0.00	-	-	1.00	76,130	100.00
	1 x 2 x 4 (22 m length)	No	1	89,408	89,408	1.00	89,408	100.00	0.00	-	-	1.00	89,408	100.00
	1 x 2 x 4.5 (22 m length)	No	1	105,875	105,875	1.00	105,875	100.00	0.00	-	-	1.00	105,875	100.00
	1 x 2 x 4.5 (15° skew)	No	1	83,564	83,564	1.00	83,564	100.00	0.00	-	-	1.00	83,564	100.00
	1 x 3 x 2.5 (15° skew)	No	1	38,000	38,000	1.00	38,000	100.00	0.00	-	-	1.00	38,000	100.00
	1 x 3 x 4.5 (15° skew)	No	1	88,589	88,589	1.00	88,589	100.00	0.00	-	-	1.00	88,589	100.00
	Service Ducts	No	23	2,666	61,318	23.00	61,318	100.00	0.00	-	-	23.00	61,318	100.00
5a	<b>DRAINAGE &amp; EROSION WORKS ( ROAD SIDE DRAIN)</b>													
i	DRAIN TYPE D-1 (COVERED) - (0.8 KM)	JOB	1	161,945	161,945	0.38	60,729	37.50	0.00	-	-	0.38	60,729	37.50
ii	DRAIN TYPE D-4 (0.875 KM)	JOB	1	232,586	232,586	0.66	152,809	65.70	0.00	-	-	0.66	152,809	65.70
iii	DRAIN TYPE D-3a (3.725 KM)	KM	3.725	34,924	130,092	-	-	-	0.85	29,685.42	22.82	0.85	29,685	22.82
5b	ROAD PROTECTION WORKS (75 M)	JOB	1	404,279	404,279	-	-	-	0.34	137,454.93	34.00	0.34	137,455	34.00
6	ANCILLARY WORKS COMPLETE IN ALL RESPECTS	JOB	1	70,050	70,050	-	-	-	-	-	-	-	-	-
7	DIVERSION	KM	5	30,579	152,895	5.00	152,895.00	100.00	0.00	-	-	5.00	152,895.00	100.00
8	MISCELLANEOUS (Relocation of utilities and plantation)	JOB	1	17,460	17,460	-	-	-	-	-	-	-	-	-
	<b>TOTAL</b>				<b>9,383,484</b>		<b>8,551,282</b>	<b>91.13</b>		<b>167,140</b>	<b>1.78</b>		<b>8,717,928</b>	<b>92.91</b>

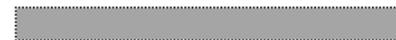


### 4.3 CULVERTS PHYSICAL PROGRESS STATUS (SECTION-II)

RCC Railing	U/S side																	
	D/S side																	
Roll Pointing	Abt No1																	
	Abt No2																	
Flooring/Cut-off wall/ Riprap	B/W Abts																	
RCC Slab cast insitu																		
Bed plate/Curtain wall	Abt No1																	
	Abt No2																	
Back filling	Abt No1																	
	Abt No2																	
	B/W Abts																	
Stone Masonry (Wing Walls)	U/S side																	
	D/S side																	
Stone Masonry (Abutments/ Pier)	Abt No1																	
	Abt No2																	
Lean Concrete	Abt No1																	
	Abt No2																	
Structural Excavation	Abt No1																	
	Abt No2																	
Dismantling of Existing Structure																		
Pavement Type	Rigid/Flex	Flexible	Flexible	Flexible	Flexible	Flexible	Flexible	Flexible	Rigid	Rigid	Rigid	Rigid	Rigid	Rigid		Rigid	Rigid	Rigid
Construction Sequence (FW/HW)		FW	FW	FW	FW	FW	FW	FW	FW	HW LHS	HW LHS	FW	FW	FW	FW	FW	FW	FW
Size of Culvert (No. of Span*Width*Height)		1*2*3	1*2*2.5 (22M)	1*2*4.5 (22M)	1*3*4 (22M)	1*2*2.5	1*2*3	1*2*2.5	1*2*2.5	1*2*3	1*2*2.5	1*3*4.5	1*2*2.5	1*3*2.5	1*2*4.5	1*2*4	1*2*3	1*2*2.5
KM as per site		10+050	10+502	10+562	10+602	10+788		10+961	11+372	11+691	11+841	12+178	12+337	12+460	12+975	13+212	13+333	13+565
KM as per Drawing		10+025	10+500	10+571	10+615	10+790 (skew)	10+850	10+965 (skew)	11+375	11+690 (skew)	11+840	12+200 (skew)	12+336 (skew)	12+460 (skew)	12+975 (skew)	13+215	13+325 (skew)	13+650



ACTIVITIES COMPLETED IN NOVEMBER 2014



ACTIVITIES NOT REQUIRED



ACTIVITIES COMPLETED IN PREVIOUS MONTHS



ACTIVITIES IN PROGRESS

# **CIVIL WORKS SECTION-III**

5.1 CUMULATIVE MILESTONE WISE PROGRESS STATUS (SECTION - III)

BILL NO	DESCRIPTION OF BILL	MILESTONE UNIT	NUMBER OF MILESTONES	AMOUNT AS PER MILESTONE (US \$)	TOTAL AMOUNT (US \$)	PROGRESS UPTO PREVIOUS MONTH				PROGRESS IN THE REPORTING MONTH			MILESTONE WISE CUMULATIVE PROGRESS		
						MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %		MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %
1	EARTH WORK	500m	10	104,451.00	1,044,510.00	9.9	1,034,064.90	99		0.1	10,445.10	1.00	10	1,044,510.00	100.00
2	<b>SUB BASE AND BASE COURSE</b>														
a	GRANULAR SUB BASE	500m	11.80	39,882.00	470,607.60	11.7	466,619.40	99.15		0.1	3,988.20	0.85	11.8	470,607.60	100.00
b	WATER BOUND MACADAM	500m	4.70	28,023.00	131,708.10	4.7	131,708.10	100.00		0.0	-	0.00	4.7	131,708.10	100.00
c	ASPHALTIC BASE COURSE	500m	4.70	212,362.00	998,101.40	4.7	998,101.40	100.00		0	-	0.00	4.7	998,101.40	100.00
d	EARTHEN DOWEL	JOB	1.00	24,249.00	24,249.00	-	-	-		0.9	21,824.10	90.00	0.9	21,824.10	90.00
3	<b>SURFACE COURSES AND PAVEMENT</b>														
a	ASPHALTIC CONCRETE FOR WEARING COURSE AND ALLIED ACTIVITIES	500m	4.70	101,000.00	474,700.00	4.7	474,700.00	100.00		0	-	0.00	4.7	474,700.00	100.00
b	RIGID PAVEMENT (HALF PAVEMENT WIDTH)	500m	14.30	216,504.00	3,096,007.20	13.9	3,009,405.60	97.20		0	-	0.00	13.9	3,009,405.60	97.20
4a	<b>STRUCTURES (RETAINING WALL /BREAST WALL)</b>														
4a - i	RETAINING WALL (RW-2) - TOTAL L = 2780 M														
a	RETAINING WALL (RW-2) : H= 1.5 M , L= 475 M	100M	4.75	9,353.00	44,428.75	1	9,353.00	21.05		1.41	13,187.73	29.68	2.41	22,540.73	50.74
b	RETAINING WALL (RW-2) : H= 2.0 M ; L= 100 M	JOB	1.00	13,980.00	13,980.00	-	-	-		0.00	-	0.00	-	-	0.00
c	RETAINING WALL (RW-2) : H= 2.5 M ; L= 1075 M	100M	10.75	19,044.00	204,723.00	10.00	190,440.00	93.02		0.75	14,283.00	6.98	10.75	204,723.00	100.00
d	RETAINING WALL (RW-2) : H= 3.0 M ; L= 150 M	JOB	1.00	37,862.00	37,862.00	0.83	31,425.46	83.00		0	-	0.00	0.83	31,425.46	83.00
e	RETAINING WALL (RW-2) : H= 4.0 M , L= 105 M	JOB	1.00	44,200.00	44,200.00	0.48	21,039.20	47.80		0.52	23,160.80	52.40	1.00	44,200.00	100.00
f	RETAINING WALL (RW-2) : H= 6.0 M ; L= 600 M	100M	6.00	93,510.00	561,060.00	4.25	397,417.50	70.83		0.25	23,377.50	4.17	4.50	420,795.00	75.00
g	RETAINING WALL (RW-2) : H= 7.0 M ; L= 175 M	100M	1.75	124,511.00	217,894.25	-	-	-		-	-	-	-	-	-
h	RETAINING WALL (RW-2) : H= 8.0 M ; L= 100 M	100M	1.00	164,173.00	164,173.00	0.75	123,129.75	75.00		0.00	-	0.00	0.75	123,129.75	75.00
4a - ii	BREAST WALL - 225 M	100M	2.25	34,037.00	76,583.25	-	-	-		-	-	-	-	-	-

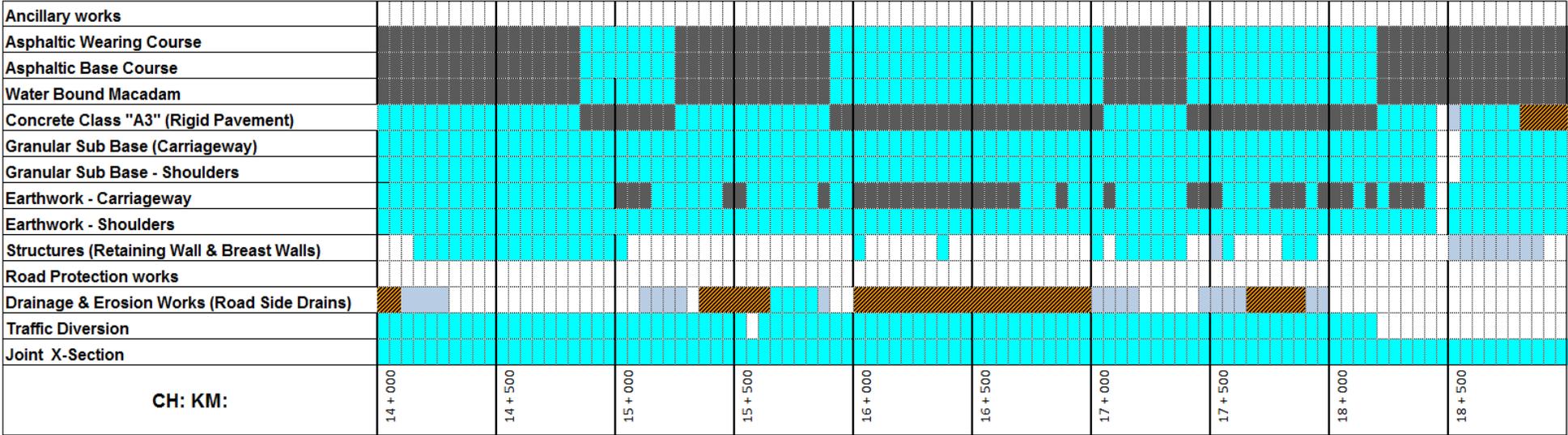
### CUMULATIVE MILESTONE WISE PROGRESS STATUS (SECTION – III)

BILL NO	DESCRIPTION OF BILL	MILESTONE UNIT	NUMBER OF MILESTONES	AMOUNT AS PER MILESTONE (US \$)	TOTAL AMOUNT (US \$)	PROGRESS UPTO PREVIOUS MONTH			PROGRESS IN THIS MONTH			MILESTONE WISE COMULATIVE PROGRESS		
						MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %
4b	<b>STRUCTURES (CULVERTS)</b>													
NS	<b>CONSTRUCTION OF NEW CULVERTS (No. of Span x Span Width x Height)</b>													
	1 x 2 x 2.5 (Flexible Pavement)	No	1	33,442.00	33,442.00	1.00	33,442.00	100.00	0	-	0.00	1.00	33,442.00	100.00
	1 x 2 x 3 ( Flexible Pavement)	No	1	44,315.00	44,315.00	1.00	44,315.00	100.00	0	-	0.00	1.00	44,315.00	100.00
	1 x 2 x 4.5 ( Flexible Pavement)	No	1	83,501.00	83,501.00	1.00	83,501.00	100.00	0	-	0.00	1.00	83,501.00	100.00
	1 x 2 x 3 (Loop-1 Rigid Pavement)	No	2	40,667.00	81,334.00	1.62	65,880.54	81.00	0.38	15,453.46	19.00	2	81,334.00	100.00
	2 x 2 x 3 (Loop-1 Rigid Pavement)	No	1	52,479.00	52,479.00	0.744	39,044.38	74.40	0	-	0.00	0.744	39,044.38	74.40
NS	<b>CONSTRUCTION OF NEW CULVERTS(REPLACEMENT OF OLD) (No. of Span x Span Width x Height)</b>													
	1 x 2 x 2	No	1	27,031.00	27,031.00	1.00	27,031.00	100.00	0.00	-	0.00	1.00	27,031.00	100.00
	1 x 2 x 2.5	No	2	33,621.00	67,242.00	2	67,242.00	100.00	0.00	-	0.00	2.00	67,242.00	100.00
	1 x 2 x 2.5 (Rigid Pavement)	No	2	33,818.00	67,636.00	2	67,636.00	100.00	0.00	-	0.00	2.00	67,636.00	100.00
	1 x 2 x 2.5(15° skew)	No	1	34,445.00	34,445.00	1.00	34,445.00	100.00	0.00	-	-	1.00	34,445.00	100.00
	1 x 2 x 2.5(30° skew)	No	1	37,186.00	37,186.00	1.00	37,186.00	100.00	0.00	-	-	1.00	37,186.00	100.00
	1 x 2 x 3 (15° skew)	No	1	45,559.00	45,559.00	1	45,559.00	100.00	0.00	-	-	1.00	45,559.00	100.00
	1 x 2 x 3 (30° skew)	No	1	49,119.00	49,119.00	1	49,119.00	100.00	0.00	-	0.00	1.00	49,119.00	100.00
	1 x 2 x 2.5 (Loop-1)	No	3	30,901.00	92,703.00	3	92,703.00	100.00	0.00	-	0.00	3.00	92,703.00	100.00
	2 x 2 x 2.5	No	1	39,933.00	39,933.00	0.91	36,339.03	91.00	0.00	-	0.00	0.91	36,339.03	91.00
	Service Ducts	No	6	2,725.00	16,350.00	6.00	16,350.00	100.00	0.00	-	0.00	6.00	16,350.00	100.00
5a	<b>DRAINAGE &amp; EROSION WORKS ( ROAD SIDE DRAIN)</b>													
i	DRAIN TYPE D-3a (7.0 KM)	500m	14	18,007.00	252,098.00	0.42	7,562.94	3.00	3.58	64465.06	25.57	4.00	72028.00	28.57
ii	DRAIN TYPE D-3b (0.225 KM)	JOB	1	16,610.00	16,610.00	-	-	-	-	-	-	-	0.00	0.00
5b	<b>ROAD PROTECTION WORKS</b>													
i	STONE PITCHING (100M)	JOB	1	5,416.00	5,416.00	-	-	-	-	-	-	-	-	0.00
ii	METAL GUARD RAIL (475M)	JOB	1	40,008.00	40,008.00	-	-	-	-	-	-	-	-	0.00
iii	BARRIER (150M)	JOB	1	45,775.00	45,775.00	0	-	0.00	0.48	21972.00	48.00	0.48	21,972.00	48.00

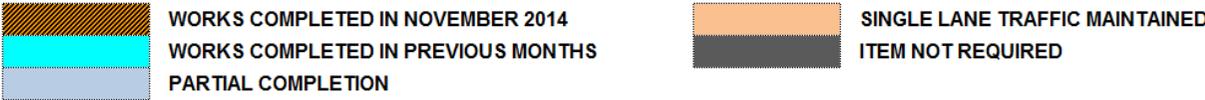
### CUMULATIVE MILESTONE WISE PROGRESS STATUS (SECTION – III)

BILL NO	DESCRIPTION OF BILL	MILESTONE UNIT	NUMBER OF MILESTONES	AMOUNT AS PER MILESTONE (US \$)	TOTAL AMOUNT (US \$)	PROGRESS UPTO PREVIOUS MONTH			PROGRESS IN THIS MONTH			MILESTONE WISE COMULATIVE PROGRESS		
						MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %	MILESTONE ACHIEVED	AMOUNT (US \$)	PROGRESS %
6	ANCILLARY WORKS (TRAFFIC ROAD SIGNS, PAVEMENT MARKING / STUDS & KM POSTS)													
i	TRAFFIC SIGNS / KM POSTS	JOB	1	18,894.00	18,894.00	-	-	-	-	-	-	-	-	-
ii	PAVEMENT MARKINGS / STUDS	JOB	1	50,671.00	50,671.00	-	-	-	-	-	-	-	-	-
7	DIVERSION	KM	5	31,259.00	156,295.00	4.5	140,665.50	90.00	0.50	15,629.50	10.00	5	156,295.00	100.00
8	MISCELLANEOUS													
a	PLANTATION OF TREES (450 NOS)	JOB	1	10,514.00	10,514.00	-	-	-	-	-	-	-	-	-
b	SHIFTING OF UTILITIES (OPTIC FIBRE UPTO KM 19)					-	-	-	-	-	-	-	-	-
i	SHIFTING OF O.F.C FROM KM: 04 TO KM: 09	JOB	1	58,744.00	58,744.00	1	58,744.00	100.00	0.00		0	1	58,744.00	100.00
ii	SHIFTING OF O.F.C FROM KM: 09 TO KM: 14	JOB	1	58,744.00	58,744.00	1	58,745.00	100.00	0.00		0	1	58,744.00	100.00
iii	SHIFTING OF O.F.C FROM KM: 14 TO KM: 19	JOB	1	58,744.00	58,744.00	-	-	-	-	-	0	-	-	0
c	RELOCATION OF ELECTRIC POLES (UPTO KM 30)													
i	RELOCATION OF 45 NO OF ELECTRIC POLES (KM: 09 TO KM:26)	JOB	1	57,708.00	57,708.00	1	57,708.00	100.00	0.00	-	0.00	1	57,708.00	100.00
ii	RELOCATION OF 45 NO OF ELECTRIC POLES (KM: 26 TO KM:32+325)	JOB	1	57,708.00	57,708.00	-	-	-	-	-	-	-	-	-
iii	RELOCATION OF 45 NO OF ELECTRIC POLES (KM:32+325 TO KM: 35+010 )	JOB	1	57,708.00	57,708.00	-	-	-	-	-	-	-	-	-
d	RELOCATION OF FC CHECK POSTS & RELOCATION OF SHOP AT KM 14+100													
i	RELOCATION OF FC CHECK POSTS BLOCK - 1 (454 SQ-M)	JOB	1	80,620.00	80,620.00	-	-	-	-	-	-	-	-	-
ii	RELOCATION OF FC CHECK POSTS BLOCK - 2 (298 SQ-M)	JOB	1	52,918.00	52,918.00	1	52,918.00	100.00	0.00	-	0.00	1	52,918.00	100.00
iii	RELOCATION OF FC CHECK POSTS BLOCK - 3 (298 SQ-M)	JOB	1	52,918.00	52,918.00	-	-	-	-	-	-	-	-	-
iv	RELOCATION OF SHOP AT KM 14+100 (20 SQ-M)	JOB	1	3,552.00	3,552.00	-	-	-	-	-	-	-	-	-
	<b>TOTAL</b>				<b>9,512,705.55</b>		<b>8,003,541</b>	<b>84.14</b>		<b>227,786</b>	<b>2.39</b>		<b>8,231,326</b>	<b>86.53</b>

5.2 PAVEMENT CONSTRUCTION PHYSICAL PROGRESS STATUS (SECTION – III)



LEGEND





### 5.3 CULVERTS PHYSICAL PROGRESS STATUS (SECTION – III)

RCC Railing	U/S side	[Pattern]																					
	D/S side	[Pattern]																					
Roll Pointing	Abt No1	[Pattern]	[Pattern]																				
	Abt No2	[Pattern]	[Pattern]																				
Flooring/Cut-off wall/ Riprap	B/W Abts	[Pattern]																					
RCC Slab/Precast Pannels		[Pattern]																					
Bed plate/Curtain wall	Abt No1	[Pattern]																					
	Abt No2	[Pattern]																					
Back filling	Abt No1	[Pattern]																					
	Abt No2	[Pattern]																					
	B/W Abts	[Pattern]																					
		[Pattern]																					
Stone Masonry (Wing Walls)	U/S side	[Pattern]																					
	D/S side	[Pattern]																					
Stone Masonry (Abutments/ Pier)	Abt No1	[Pattern]																					
	Abt No2	[Pattern]																					
Lean Concrete	Abt No1	[Pattern]																					
	Abt No2	[Pattern]																					
Structural Excavation	Abt No1	[Pattern]																					
	Abt No2	[Pattern]																					
Dismantling of Existing Structure		[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]	[Pattern]
Pavement Type	Rigid/ Flex	Rigid	Rigid	Rigid	Rigid	Rigid	Rigid	Rigid		Rigid	Rigid	Flexible	Flexible	Flexible	Flexible								
Construction Sequence( FW / HW)		FW	FW	FW	FW	FW	FW	FW	HW RHS	FW	FW	FW	FW	FW	FW	HW LHS	HW RHS	FW	FW	HW LHS	HW RHS	HW LHS	HW RHS
Size of Culvert (No. of Span*Width*Height)		2*2*2.5	2*2*3	1*2*2.5	1*2*3	1*2*2.5	1*2*3	1*2*2.5	1*2*2	1*2*2.5	1*2*2.5	1*2*2.5	1*2*3	1*2*2.5	1*2*2.5	1*2*2.5	1*2*4.5	1*2*3	1*2*3	1*2*2.5			
KM as per site						14+333			15+139	15+647	15+795	16+316	16+618	16+740	17+010	17+435	17+562	17+666	17+901	18+146			
KM as in Drawing		14+250	14+250 (Loop)	14+300	14+300 (Loop)	14+431	14+431 (Loop)	14+600	15+138	15+640	15+795	16+313	16+625	16+750	16+996	17+400	17+561	17+665	17+909 (Skew)	18+142			



ACTIVITIES COMPLETED IN NOVEMBER 2014



ACTIVITIES NOT REQUIRED



ACTIVITIES COMPLETED IN PREVIOUS MONTHS



ACTIVITIES IN PROGRESS

# BRIDGES

**6.1 BRIDGE (KM: 09+560) CUMULATIVE MILESTONE WISE PROGRESS STATUS**

S No	Description	Unit Cost (\$)	Progress upto Previous Month			Progress in this Month			Cumulative Progress		
			Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %
1	Pile Load Test	19,330	1	19,330	100	-	-	-	1	19,330	100
	Construction of Piles	290,674	1	290,674	100	-	-	-	1	290,674	100
2	Pile Caps	108,538	1	108,538	100	-	-	-	1	108,538	100
	Abut walls, wing walls, pier shafts & transoms	169,925	1	169,925	100	-	-	-	1	169,925	100
3	Girders	242,915	1	242,915	100	-	-	-	1	242,915	100
	Launching of Girders	15,169	1	15,169	100	-	-	-	1	15,169	100
4	Deck Slabs ,Diaphragms, Barrier & Railing	277,403	0.95	263,533	95	0.03	8,322	3	0.98	271,855	98.00
5	Surface course & Pavement	14,400	1.00	14,400	100	0	-	-	1	14,400	100.00
	Structural Excavation and Backfill	19,361	1.00	19,361	100	0	-	-	1	19,361	100.00
	Approach Slabs	14,152	1.00	14,152	100	0	-	-	1	14,152	100.00
	Drainage & Erosion works including 45.30M Stone Masonry Retaining Walls & Gabion protection works	52,425	0.50	26,213	50	-	-	-	0.5	26,213	50.00
	Ancillary Works including (i) 02 Number Road Sign Category -3a. (ii) 195M Pavement marking in Reflective TP Paint for Lines of 15 cm width (iii) 26 number Reflectorized pavement Studs Raised Profile Type - (Double)	1,673	-	-	-	-	-	-	-	-	-
		<b>1,225,965</b>		<b>1,184,209</b>	<b>96.59</b>		<b>8,322</b>	<b>1</b>		<b>1,192,531</b>	<b>97</b>

**6.2 BRIDGE (KM: 09+560) PHYSICAL PROGRESS STATUS**

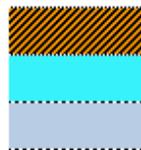
BRIDGES	DESCRIPTION	TOTAL	COMPLETED	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	REMARKS
<b>KM: 09+560</b>														
<b>BRIDGE #2 (KM: 09+560)</b>	Piles	36	36											
	Pile Caps	4	4											
	Abutments/ Piers	4	4											
	Transom/ Abutment Seats	4	4											
	Girder Casting	15	15											
	Girder Prestressing	15	15											
	Girder Launching	15	15											
	Deck Slab / Barrier	3	3											
	Expansion Joint	4	4											
	Approach Slab	2	2											



**WORKS COMPLETED IN NOVEMBER 2014**  
**WORKS COMPLETED IN PREVIOUS MONTHS**  
**PARTIAL COMPLETION**

**6.3 BRIDGE (KM: 18+475) PHYSICAL PROGRESS STATUS**

BRIDGES	DESCRIPTION	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	REMARKS	
		KM: 18+475											
BRIDGE #5 (KM:18+475)	Dismantling of Existing structure	[100% Completed in Previous Months]											
	Structural Excavation for Slab on Ground	[100% Completed in Previous Months]											
	Lean Concrete	[100% Completed in Previous Months]											
	Foundation Slab & cutoff wall concrete	[100% Completed in Previous Months]											
	Abutment walls construction	[65% Completed in Previous Months, 35% Completed in November 2014]											
	Abutment seat construction	[100% Partial Completion]											
	Curtain wall and Approach slab seat	[100% Partial Completion]											
	RCC Deck slab	[0%]											
	Protection Works	[0%]											
	Backfilling	[0%]											
	NJ Barrier	[0%]											
	Footpath Paving	[0%]											
	Bridge Railing	[0%]											
	Approach slabs	[0%]											
Ancillary Works	[0%]												



**WORKS COMPLETED IN NOVEMBER 2014**  
**WORKS COMPLETED IN PREVIOUS MONTHS**  
**PARTIAL COMPLETION**

## 6.4 BRIDGE (KM: 23+750) CUMULATIVE MILESTONE WISE PROGRESS STATUS

S/ No	Description	Unit Cost (\$)	Progress upto Previous Month			Progress in this Month			Cumulative Progress		
			Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %
1	Pile Load Test	19,330	1	19,330	100	-	-	-	1	19,330	100
	Construction of Piles	309,308	1	309,308	100	-	-	-	1	309,308	100
2	Pile Caps	106,579	1	106,579	100	-	-	-	1	106,579	100
	Abut walls, wing walls, pier shafts & transoms	90,180	1	90,180	100	0	-	-	1	90,180	100
3	Girders	187,363	1.0	187,363	100	0	-	-	1	187,363	100
	Launching of Girders	11,914	1.0	11,914	100	0	-	-	1	11,914	100
4	Deck Slabs ,Diaphragms, Barrier & Railing	254,785	-	-	-	0.25	63,696	25	0.25	63,696	25.00
5	Surface course & Pavement	13,125	-	-	-	0	-	-	-	-	-
	Structural Excavation and Backfill	57,939	-	-	-	0	-	-	-	-	-
	Approach Slabs	17,235	-	-	-	0	-	-	-	-	-
	Drainage & Erosion works including 45.30M Stone Masonry Retaining Walls & Gabion protection works	322,224	-	-	-	0	-	-	-	-	-
	Ancillary Works including (i) 02 Number Road Sign Category -3a. (ii) 195M Pavement marking in Reflective TP Paint for Lines of 15 cm width (iii) 26 number Reflectorized pavement Studs Raised Profile Type - (Double)	2,320	-	-	-	0	-	-	-	-	-
		<b>1,392,302</b>		<b>724,674</b>	<b>52.05</b>		<b>63,696</b>	<b>4.57</b>		<b>788,370</b>	<b>56.62</b>

**6.5 BRIDGE (KM: 23+750) PHYSICAL PROGRESS STATUS**

BRIDGES	DESCRIPTION	TOTAL	COMPLETED	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	REMARKS
KM: 23+850														
BRIDGE #10 (KM:23+850)	Piles	30	30	[Progress bar: 100% completed]										
	Pile Caps	3	3	[Progress bar: 100% completed]										
	Abutments/ Piers	3	3	[Progress bar: 100% completed]										
	Transom/ Abutment Seats	3	3	[Progress bar: 100% completed]										
	Girder Casting	10	10	[Progress bar: 100% completed]										
	Girder Prestressing	10	10	[Progress bar: 100% completed]										
	Girder Launching	10	10	[Progress bar: 100% completed]										
	Deck Slab / Barrier	2		[Progress bar: 50% completed]										
	Expansion Joint	3												
	Approach Slab	2												



**WORKS COMPLETED IN NOVEMBER 2014**  
**WORKS COMPLETED IN PREVIOUS MONTHS**  
**PARTIAL COMPLETION**

**6.6 BRIDGE (KM: 27+250) PHYSICAL PROGRESS STATUS**

BRIDGES	DESCRIPTION	TOTAL	COMPLETED	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	REMARKS
				KM: 27+250										
BRIDGE#12 (KM:27+250)	Piles	36	34	[Progress bar: 94.4% completed in previous months]										
	Pile Caps	6	3	[Progress bar: 50% completed in previous months, 50% completed in November 2014]										
	Abutments/ Piers	6		[Progress bar: 50% partial completion]										
	Transom/ Abutment Seats	6		[Progress bar: 0% completion]										
	Pre cast Panels Casting	65	48	[Progress bar: 73.8% completed in previous months, 26.2% completed in November 2014]										
	Girder Launching	65		[Progress bar: 0% completion]										
	Deck Slab / Barrier	5		[Progress bar: 0% completion]										
	Expansion Joint	6		[Progress bar: 0% completion]										
	Approach Slab	2		[Progress bar: 0% completion]										



**WORKS COMPLETED IN NOVEMBER 2014**  
**WORKS COMPLETED IN PREVIOUS MONTHS**  
**PARTIAL COMPLETION**

## 6.7 MCC (KM: 11+190)

## CUMULATIVE MILESTONE WISE PROGRESS STATUS

S No	Description	Unit Cost (\$)	Progress upto Previous Month			Progress in this Month			Cumulative Progress		
			Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %
1	Bottom Slab & Cutt-off wall	131,970	1	131,970	100.00	-	-	-	1	131,970	100.00
	Box Walls	86,096	1	86,096	100.00	-	-	-	1	86,096	100.00
2	Top Slab	150,422	1	150,422	100.00	-	-	-	1	150,422	100.00
	Wing Walls & Apron	149,336	1	149,336	100.00	-	-	-	1	149,336	100.00
3	Approach Slabs	14,537	1	14,537	100.00	-	-	-	1	14,537	100.00
	Stone Pitching 60 meter length	6,671	-	-	-	-	-	-	-	-	-
4	Surface course & Pavement	11,293	1	11,293	100.00	-	-	-	1	11,293	100.00
	Drainage & Erosion works including 51.0M stone masonry R/Walls including Gabion protection works	52,803	0.95	50,163	95.00	-	-	-	0.95	50,163	95.00
	Ancillary Works including (i) 02 Number Road Sign Category - 3a. (ii) 142M Pavement marking in Reflective TP Paint for Lines of 15 cm width (iii) 12 Number Reflectorized pavement Stud Raised Profile Type - (Double)	1,423	-	-	-	-	-	-	-	-	-
		<b>604,551</b>		<b>593,817</b>	<b>98.22</b>					<b>593,817</b>	<b>98.22</b>

## 6.8 MCC (KM: 22+925) CUMULATIVE MILESTONE WISE PROGRESS STATUS

S No	Units	Unit Cost (\$)	Progress upto Previous Month			Progress in this Month			Cumulative Progress		
			Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %	Milestone Value	Milestone Cost (\$)	Progress %
1	Bottom Slab & Cutt-off wall	113,545	1	113,545	100.00	-	-	-	1	113,545	100.00
	Box Walls	79,827	1	79,827	100.00	-	-	-	1	79,827	100.00
2	Top Slab	97,807	1	97,807	100.00	0	-	-	1	97,807	100.00
	Wing Walls & Aprron	96,200	0.5	48,100	50.00	0.5	48,100	50.00	1	96,200	100.00
3	Approach Slabs	15,008		-	-	-	-	-		-	-
	Stone Pitching 32.80 meter length	8,231		-	-	-	-	-		-	-
4	Surface course & Pavement	8,628		-	-	-	-	-		-	-
	Drainage & Erosion works including 51.0M stone masonry R/Walls including Gabion protection works	25,166		-	-	0.50	12,583	50.00	0.5	12,583	50.00
	Ancillary Works including (i) 02 Number Road Sign Category - 3a. (ii) 142M Pavement marking in Reflective TP Paint for Lines of 15 cm width (iii) 12 Number Reflectorized pavement Stud Raised Profile Type - (Double)	1,303		-	-	-	-	-		-	-
		<b>445,715</b>		<b>339,279</b>	<b>76.12</b>		<b>60,683</b>	<b>13.61</b>		<b>399,962</b>	<b>89.73</b>

### 6.9 MULTICELL CULVERT PHYSICAL PROGRESS STATUS

Gabion wall Construction	U/S Side					
	D/S Side					
Retaining wall Construction	Near end					
	Far end					
RCC Railing	Near end					
	Far end					
Approach Slab Construction	Near end					
	Far end					
Backfilling	Near end					
	Far end					
RCC Top Slab	HW Near End					
	HW Far End					
RCC Wing Walls	U/S Side					
	D/S Side					
Concrete Cutoff wall & Apron Construction	U/S Side					
	D/S Side					
RCC Walls (Box only)	outer Walls					
	Inner Walls					
RCC Bottom Slab	FW					
Lean Concrete	FW					
Structural Excavation	FW					
Dismantling of Existing Structure	Causeway					
Pavement Type	Rigid/Flex	Flexible	Flexible			
Construction Sequence( FW / HW)	(FW/HW)	FW	FW			
Size of Culvert	Nos*width*Height	15*3*3 15-cell	10*3*3 10-cell			
KM as per site	KM	11+190	22+925			
KM as in Drawing	KM	11+190	22+926			



ACTIVITIES COMPLETED IN NOVEMBER 2014



ACTIVITIES COMPLETED IN PREVIOUS MONTHS



ACTIVITIES NOT REQUIRED



ACTIVITIES IN PROGRESS

# QUALITY TEST REPORTS

## 7.1 SUMMARY OF FIELD DENSITY TESTS

<b>Sub Grade Field Density Tests Report.</b>												
S.No	Date	Location / (KM)	Description	Station (KM)	MDD (g/cc)	OMC (%)	Adj.MDD (g/cc)	Field M.C (%)	Field Density	Achieved Compaction	Required Compaction	Remarks
1	19-Nov-2014	24+337 ~ 24+468.4 F/W	Sub Grade 1st	24+345 L/S	2.310	5.8	2.310	5.3	2.236	96.8	95	Pass
2	20-Nov-2014	24+337 ~ 24+468.4 F/W	Sub Grade Top	24+400 L/S	2.310	5.8	2.316	5.6	2.230	96.3	95	Pass
3	23-Nov-2014	26+200 ~ 26+241.8 F/W	Sub Grade Top	26+215 L/S	2.331	5.4	2.331	5.2	2.2	95.8	95	Pass
<b>Sub Base Field Density Tests Report.</b>												
S.No	Date	Location / (KM)	Description	Station (KM)	MDD (g/cc)	OMC (%)	Adj.MDD (g/cc)	M.C (%)	Field Density	Achieved Compaction	Required Compaction	Remarks
1	24-Nov-2014	26+200 ~ 26+241.8 F/W	Sube Base 1st	26+225 L/S	2.383	5.1	2.388	5.0	2.362	98.9	98	Pass
2	26-Nov-2014	33+550 ~ 33+600 F/W	Sube Base Top	33+570 L/S	2.371	5.1	2.371	4.9	2.354	99.3	98	Pass
3	27-Nov-2014	32+075 ~ 32+100 F/W	Sube Base Top	32+090 R/S	2.371	5.1	2.371	4.8	2.357	99.4	98	Pass
4	27-Nov-2014	33+600 ~ 33+675 F/W	Sube Base Top	33+640 L/S	2.371	5.1	2.371	4.7	2.361	99.6	98	Pass
<b>Water Bound Macadam Field Density Tests Report.</b>												
S.No	Date	Location / (KM)	Description	Station (KM)	MDD (g/cc)	OMC (%)	Adj.MDD (g/cc)	M.C (%)	Field Density	Achieved Compaction	Required Compaction	Remarks
1	18-Nov-2014	30+650 ~ 30+750 F/W	WBM	30+670 R/S	2.402	4.6	2.515	2.7	2.401	95.5	100	Fail
2	18-Nov-2014	30+750 ~ 30+850 F/W	WBM	30+775 C/L	2.402	4.6	2.516	3.2	2.536	100.8	100	Pass
3	20-Nov-2014	31+200 ~ 31+300 F/W	WBM	31+250 C/L	2.410	4.5	2.498	3.0	2.46	98.5	100	Fail
4	21-Nov-2014	30+650 ~ 30+750 F/W	WBM	30+660 C/L	2.402	4.6	2.495	3.9	2.496	100.0	100	Pass
5	23-Nov-2014	31+400 ~ 31+500 F/W	WBM	31+450 L/S	2.410	4.5	2.505	3.3	2.528	100.9	100	Pass
6	21-Nov-2014	31+500 ~ 31+575 F/W	WBM	31+525 R/S	2.410	4.5	2.500	3.1	2.508	100.3	100	Pass

## 7.2 SUMMARY OF EARTH WORK QUALITY TEST

<b>Sub Base Material Quality Tests for the Month of November 2014</b>																		
S.No	Location (KM)	Description	Sieves Analysis							MDD (g/cc)	OMC %	L.A %	Sand Equivalent (%)	CBR % at		Specific gravity	Plastic Index	Remarks
			2"	1"	3/8"	#4	#10	#40	#200					0.1"	0.2"			
1	32+000 ~ 33+000	Sub Base	100	72.7	45.4	32.5	22.6	12.1	8.1	2.368	5.1	28.2	28.9	74	94	2.771	4.4	
2	30+000 ~ 32+000	Sub Base	100	79.2	44.9	33.2	22.8	12.9	8.3	2.372	5.4	27.8	22.4	-	-	2.712	-	
<b>Specification Limits for Sub Base</b>			<b>100</b>	<b>55~85</b>	<b>40~70</b>	<b>30~60</b>	<b>20~50</b>	<b>10~30</b>	<b>5~15</b>	-	-	<b>50% Max</b>	<b>25% Min</b>	<b>50% Min</b>		-	<b>6 Max</b>	
<b>Total Nos.of Tests</b>			<b>2</b>							<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	

## 7.3 ASPHALTIC BASE COURSE QUALITY TESTS REPORT

ASPHALTIC BASE COURSE QUALITY TESTS																		
Specific Gravity A.C (Gb) 1.030											Combined Specific Gravity of Aggregate (Gsb) 2.766 (Repeated)							
S. No.	Paving Date		% A.C By Wt of Mix Pb	Sieves analysis							Bulk Sp. Gr. (Gmb)	Maximum Sp.Gravity (G <sub>mm</sub> )	% Air Voids (V <sub>a</sub> )	VMA (%)	VFA (%)	Stability (Kg)	Los of Stability (%)	Flow (0.01") (0.25mm)
				2"	1½"	3/4"	#4	#8	#50	#200								
1	29-Oct-14	21+125 ~ 21+300	3.71	100	100	67.1	35.7	23	8.5	4.5	2.517	2.654	5.1	12.37	58.4	1645	16.5	10.3
2	7-Nov-14	21+400 ~ 21+600	3.68	100	100	70.2	30.2	20.6	8.8	6.0	2.523	2.634	4.2	12.14	65.3	1517	18.9	11.5
3	10-Nov-14	23+235 ~ 23+400	3.52	100	100	71.4	33.5	22.2	7.5	4.5	2.502	2.653	5.7	12.71	55.3	1331	19.2	11.1
4	11-Nov-14	23+235 ~ 23+550	3.68	100	100	72.8	30.6	20.1	8.2	5.3	2.523	2.665	5.3	12.15	56.1	1265	15.7	9.5
5	21-Nov-14	24+000 ~ 24+337	3	100	100	55.5	26.5	17	5.5	3.4	2.529	2.677	5.5	11.28	51.1	1346	17	11.6
JMF LIMITS			3.1 ~ 3.7	100	93~100	59~73	24~38	19~27	3.8~11.8	3~5	-	-	4 ~ 8	13 % Min	55 ~ 75	1000 Kg Min	25% Max	8 ~ 14 at (0.01")

## 7.4 AGGREGATE QUALITY TESTS FOR CONCRETE

<b>Aggregate Quality Tests for Concrete</b>																								
S.No	Location	Description	Agg. Size	Sieve Analysis													FM	L.A %	Sand Equivalent	Specific Gravity	Soundness	Remarks		
				2"	1½"	1"	¾"	½"	3/8"	#4	#8	#16	#30	#50	#100	#200								
1	Stock Pile	For "A-3" Concrete	38mm Agg	100	100	37.4	3.1	0.4	0.3	0.0	-	-	-	-	-	-	-	26.1	-	-	-			
			25mm Agg	-	-	100	79.3	6.2	3.2	0.8	-	-	-	-	-	-	-		-	-	-		-	-
			19mm Agg	-	-	-	100.0	94.7	76.9	20.9	-	-	-	-	-	-	-		-	-	-		-	-
	Combined Grading	48,30 & 22 %	100	100	70.0	47.3	22.9	18.0	4.8	-	-	-	-	-	-	-	-		-	-	-			
	Specification Limits		100	95~100	-	35~70	-	10~30	0~5	-	-	-	-	-	-	-	-		-	-	-		-	
2	Stock Pile	For "B" Concrete	38mm Agg	100	100	37.4	3.1	0.4	0.3	0.0	-	-	-	-	-	-	-	26.1	-	-	-			
			25mm Agg	-	-	100	79.3	6.2	3.2	0.8	-	-	-	-	-	-	-		-	-	-		-	
			19mm Agg	-	-	-	100.0	94.7	76.9	20.9	-	-	-	-	-	-	-		-	-	-		-	
	Combined Grading	65,20 & 15 %	100	100	59.3	32.9	15.7	12.4	3.3	-	-	-	-	-	-	-	-		-	-	-			
	Specification Limits		95~100	-	35~70	-	10~30	-	0~5	-	-	-	-	-	-	-	-		-	-	-		-	
3	Stock Pile	For "A-1" Concrete	25mm Agg	-	-	100	79.3	6.2	3.2	0.8	-	-	-	-	-	-	-	26.1	-	-	-			
			19mm Agg	-	-	-	100.0	94.7	76.9	20.9	-	-	-	-	-	-	-		-	-	-			
	Combined Grading	45 & 55 %	-	-	100.0	90.7	54.9	43.7	11.9	-	-	-	-	-	-	-	-		-	-	-			
	Specification Limits		-	-	100	90~100	-	20~55	0 ~ 10	-	-	-	-	-	-	-	-		-	-	-			
4	Stock Pile	For All Type of Concrete	Sand	-	-	-	-	-	100	95.1	80.5	54.2	41.1	17.0	3.2	1.3	3.1	-	-	-	-	Natural Sand		
			Specification Limits	-	-	-	-	-	100	95~100	-	45~80	-	10~30	2~10	0~3	2.3~3.1	-	-	-	-			

## 7.5 SUMMARY OF CONCRETE COMPRESSIVE STRENGTH

Description	Casting date	Testing date	Age/Days	Load in (KN)	Length (cm)	Dia (cm)	Area (cm <sup>2</sup> )	Load in Kg	Strength (Kg/cm <sup>2</sup> )			Remarks
									Achieved	Average	Required	
Concrete Class "A-3" Rigid Pavement 18+840.6 ~ 18+863.4 R/S	28/Oct/2014	4/Nov/2014	7 Days	451	30.48	15.24	182.4	45988	252.1	256.4	210	
				445	30.48			45377	248.8			
				480	30.48			48946	268.3			
Concrete Class "A-1" Jurssy Barior at KM:13+110 ~ 13+124 R/S	29/Oct/2014	5/Nov/2014	7 Days	520	30.48	15.24	182.4	53024	290.7	280.8	157.5	
				490	30.48			49965	273.9			
				497	30.48			50679	277.8			
Concrete Class "B" Side Drain 15+827 ~ 15+833 L/S	29/Oct/2014	5/Nov/2014	7 Days	329	30.48	15.24	182.4	33548	183.9	189.9	127.5	
				331	30.48			33752	185.0			
				359	30.48			36607	200.7			
Concrete Class "A-3" Rigid Pavement 18+863.4 ~ 18+886.2 R/S	30/Oct/2014	6/Nov/2014	7 Days	518	30.48	15.24	182.4	52820	289.6	297.4	210	
				553	30.48			56389	309.2			
				525	30.48			53534	293.5			
Concrete Class "A-3" Girder # 24,25 Bridge# 12 (27+350)	30/Oct/2014	6/Nov/2014	7 Days	517	30.48	15.24	182.4	52718	289.0	290.0	210	
				530	30.48			54044	296.3			
				509	30.48			51903	284.6			
Concrete Class "A-3" Girder # 30,31 Bridge# 12 (27+350)	6/Nov/2014	13/12/2014	7 Days	422	30.48	15.24	182.4	43031	235.9	238.3	210	
				427	30.48			43541	238.7			
				430	30.48			43847	240.4			
Concrete Class "A-3" Rigid Pavement 18+726.6 ~ 18+749.4 L/S	18/Oct/2014	15/Nov/2014	28 Days	605	30.48	15.24	182.4	61692	338.2	341.9	280	
				610	30.48			62202	341.0			
				620	30.48			63221	346.6			

## SUMMARY OF CONCRETE COMPRESSIVE STRENGTH

Description	Casting date	Testing date	Age/Days	Load in (KN)	Length (cm)	Dia (cm)	Area (cm <sup>2</sup> )	Load in Kg	Strength (Kg/cm <sup>2</sup> )			Remarks
									Achieved	Average	Required	
Concrete Class "A-2" Diaphragm Bridge# 12 (27+350)	8/Nov/2014	15/Nov/2014	7 Days	550	30.48	15.24	182.4	56084	307.5	294.4		
				510	30.48			52005	285.1			
				520	30.48			53024	290.7			
Concrete Class "B" Side Drain 9+700 ~	11/Nov/2014	18/Nov/2014	7 Days	400	30.48	15.24	182.4	40788	223.6	233.3	127.5	
				430	30.48			43847	240.4			
				422	30.48			43031	235.9			
Concrete Class "A-1" Jurssy Barior at KM:13+110 ~ 13+124 R/S	22/Oct/2014	19/Nov/2014	28 Days	392	30.48	15.24	182.4	39972	219.1	223.8	210	
				401	30.48			40890	224.2			
				408	30.48			41604	228.1			
Concrete Class "A-1" Bridge # 12 ,(27+350) Pile cap of Pier # 4	23/Oct/2014	20/Nov/2014	28 Days	497	30.48	15.24	182.4	50679	277.8	269.8	210	
				489	30.48			49863	273.4			
				462	30.48			47110	258.3			
Concrete Class "A-3" Rigid Pavement 18+840.6 ~ 18+863.4 R/S	28/Oct/2014	25/Nov/2014	28 Days	635	30.48	15.24	182.4	64751	355.0	363.8	280	
				676	30.48			68932	377.9			
				641	30.48			65363	358.3			
Concrete Class " " Wing walls of M.C.C KM: 22+925	18/Nov/2014	25/Nov/2014	7 Days	455	30.48	15.24	182.4	46396	254.4	254.0	157.5	
				458	30.48			46702	256.0			
				450	30.48			45887	251.6			
Concrete Class "A-1" Jurssy Barior at KM:13+110 ~ 13+124 R/S	29/Oct/2014	26/Nov/2014	28 Days	642	30.48	15.24	182.4	65465	358.9	360.2	210	
				652	30.48			66484	364.5			
				639	30.48			65159	357.2			

## SUMMARY OF CONCRETE COMPRESSIVE STRENGTH

Description	Casting date	Testing date	Age/Days	Load in (KN)	Length (cm)	Dia (cm)	Area (cm <sup>2</sup> )	Load in Kg	Strength (Kg/cm <sup>2</sup> )			Remarks
									Achieved	Average	Required	
Concrete Class "B" Side Drain 15+827 ~ 15+833 L/S	29/Oct/2014	26/Nov/2014	28 Days	450	30.48	15.24	182.4	45887	251.6	244.3	170	
				420	30.48			42827	234.8			
				441	30.48			44969	246.5			
Concrete Class "A-3" Rigid Pavement 18+863.4 ~ 18+886.2 R/S	30/Oct/2014	27/Nov/2014	28 Days	703	30.48	15.24	182.4	71685	393.0	395.6	280	
				727	30.48			74132	406.4			
				693	30.48			70665	387.4			
Concrete Class "A-3" Girder # 24,25 Bridge# 12 (27+350)	30/Oct/2014	27/Nov/2014	28 Days	670	30.48	15.24	182.4	68320	374.6	380.9	280	
				690	30.48			70359	385.7			
				684	30.48			69747	382.4			
Concrete Class "A-1" Jurssy Barior at KM:13+664 ~ 13+694 L/S	20/Nov/2014	27/Nov/2014	7 Days	478	30.48	15.24	182.4	48742	267.2	264.8	157.5	
				489	30.48			49863	273.4			
				454	30.48			46294	253.8			
Concrete Class "B" Side Drain 17+880 ~ 17+889 R/S 17+793 ~ 17+820 R/S	20/Nov/2014	27/Nov/2014	7 Days	226	30.48	15.24	182.4	23045	126.3	125.2	127.5	
				217	30.48			22127	121.3			
				229	30.48			23351	128.0			
Concrete Class "B" Side Drain 10+050 ~ 10+070 R/S	20/Nov/2014	27/Nov/2014	7 Days	239	30.48	15.24	182.4	24371	133.6	131.2	127.5	
				241	30.48			24575	134.7			
				224	30.48			22841	125.2			
Concrete Class "B" Side Drain 10+375 ~ 11+050 R/S	22/Nov/2014	29/Nov/2014	7 Days	277	30.48	15.24	182.4	28246	154.9	143.7	127.5	
				255	30.48			26002	142.6			
				239	30.48			24371	133.6			
Concrete Class "A-3" Girder # 42,43 Bridge# 12 (27+350)	22/Nov/2014	29/Nov/2014	7 Days	501	30.48	15.24	182.4	51087	280.1	285.9	210	
				525	30.48			53534	293.5			
				508	30.48			51801	284.0			

## 7.6 SUMMARY OF ASPHALTIC BASE COURSE CORE COMPACTION 1ST LAYER

Summary of Asphaltic Base Course Cores Compaction 1st Layer (November 2014)														
S. No	CORE NO.	DATE	COVERED AREA	STATION	OFFSET FROM C/L	WT. IN AIR(g)	WT. IN WATER(g)	SSD. WT (g)	VOLUME (cc)	DENSITY (g/cc)	LAB.DENSITY (GMB)	ACHIEVED COMPACTION	REQUIRED COMPACTION	REMARKS
1	C-1	30-Oct-2014	21+125 ~ 21+225	21+150	5.0 m R/S	1341	810	1358.8	548.8	2.444	2.517	97.1	97	OK
2	C-2			21+200	1.8m L/S	1158.4	693.4	1164.2	470.8	2.460	2.517	97.8	97	OK
3	C-3		21+225 ~ 21+300	21+270	4.5 m R/S	1277.7	762.7	1280.5	517.8	2.468	2.517	98.0	97	OK
4	C-4			21+290	1.7m L/S	1368.5	810.5	1372.6	562.1	2.435	2.517	96.7	97	Note-1
1	C-1	5-Nov-2014	21+400 ~ 21+500	21+440	1.7 m L/S	1237.1	739.9	1239.5	499.6	2.476	2.523	98.1	97	OK
2	C-2			21+480	4.0m R/S	1262.2	749.5	1266	516.5	2.444	2.523	97	97	OK
3	C-3		21+500 ~ 21+590	21+535	4.5 m L/S	1235.6	737.1	1240.3	503.2	2.455	2.523	97.3	97	OK
4	C-4			21+582	5.1m R/S	1340	799.5	1346.6	547.1	2.449	2.523	97.1	97	OK
1	C-1	24-Nov-2014	24+050 ~ 24+150	24+080	4.5m L/S	1312.9	791.4	1324.5	533.1	2.463	2.529	97.4	97	OK
2	C-2			24+130	3.0m R/S	1295.3	783.8	1307.5	523.7	2.473	2.529	97.8	97	OK
3	C-3		24+150 ~ 24+250	24+190	5.3m L/S	1642.4	982.8	1646.6	663.8	2.474	2.529	97.8	97	OK
4	C-4			24+230	1.0m R/S	1344.5	806.9	1350	543.1	2.476	2.529	97.9	97	OK
5	C-5		24+250 ~ 24+320	24+272	5.2m L/S	1405.6	840	1411.9	571.9	2.458	2.529	97.2	97	OK
6	C-6			24+310	5.0m R/S	1455	872	1463.2	591.2	2.461	2.529	97.3	97	OK

Note-1: Re-coring would be done at the above mentioned location.

## 7.7 SUMMARY OF ASPHALTIC BASE COURSE CORE COMPACTION 2ND LAYER

Summary of Asphaltic Base Course Cores Compaction 2nd Layer (November 2014)														
S. No	CORE NO.	DATE	COVERED AREA	STATION	OFFSET FROM C/L	WT. IN AIR (g)	WT. IN WATER(g)	SSD. WT (g)	VOLUME (cc)	DENSITY (g/cc)	LAB.DENSITY (GMB)	ACHIEVED COMPACTION	REQUIRED COMPACTION	REMARKS
1	C-1	5-Nov-2014	21+125 ~ 21+225	21+145	2.5m R/S	1249.7	755.6	1258	502.4	2.487	2.517	98.8	97	OK
2	C-2			21+200	3.9m L/S	1230.4	734.2	1240.8	506.6	2.429	2.517	96.5	97	Note-1
3	C-3		21+225 ~ 21+325	21+250	1.5m R/S	1310.8	789.2	1316	526.8	2.488	2.517	98.9	97	OK
4	C-4			21+305	5.0m L/S	1324.9	794	1334.1	540.1	2.453	2.517	97.5	97	OK
5	C-5		21+325 ~ 21+390	21+370	2.1m R/S	1196	713.5	1206.9	493.4	2.424	2.517	96.3	97	Note-1
1	C-1	24-Nov-2014	24+050 ~ 24+150	24+080	4.5m L/S	1003.7	611.8	1020	408.2	2.459	2.529	97.2	97	OK
2	C-2			24+130	3.0m R/S	1304.6	778.1	1310.6	532.5	2.450	2.529	97	97	OK
3	C-3		24+150 ~ 24+250	24+190	5.3m L/S	1258.2	756.8	1258.7	501.9	2.507	2.529	99.1	97	OK
4	C-4			24+230	1.0m R/S	1105.3	671.9	1115.1	443.2	2.494	2.529	98.6	97	OK
5	C-5		24+250 ~ 24+320	24+272	5.2m L/S	1279.3	768.5	1283.8	515.3	2.483	2.529	98.2	97	OK
6	C-6			24+310	5.0m R/S	1129.9	680.8	1141.5	460.7	2.453	2.529	97.0	97	OK

Note-1: Re-coring would be done at the above mentioned locations.

## 7.8 SUMMARY OF CORE THICKNESS OF ASPHALTIC BASE COURSE 1ST LAYER

Summary of Cores Thickness of Asphaltic Base Course 1st Layer (November 2014)												
S.No	CORE NO.	TESTING DATE	COVER AREA	STATION	OFF SET FROM C/L	CORES THICKNESS (cm)				Average Thickness (cm)	Required Thickness (cm)	REMARKS
						1	2	3	4			
1	T-1	30-Oct-2014	21+125 ~ 21+225	21+150	5.0 m R/S	8.4	8.6	8.6	8.2	8.5	8.0	OK
2	T-2			21+200	1.8m L/S	8.3	7.9	8.1	8.4	8.2	8.0	OK
3	T-3		21+225 ~ 21+300	21+270	4.5 m R/S	8.4	8.1	8.5	8.4	8.4	8.0	OK
4	T-4			21+290	1.7m L/S	8.8	8.4	8.9	8.3	8.6	8.0	OK
1	T-1	5-Nov-2014	21+400 ~ 21+500	21+440	3.0 m L/S	7.5	8.0	7.9	7.6	7.8	8.0	OK
2	T-2			21+480	2.0m R/S	8.6	8.6	8.1	8.3	8.4	8.0	OK
3	T-3		21+500 ~ 21+590	21+535	1.3 m L/S	7.7	8.0	8.2	8.1	8.0	8.0	OK
4	T-4			21+582	2.1m R/S	9.0	8.8	8.7	8.6	8.8	8.0	OK

## 7.9 SUMMARY OF CORE THICKNESS OF ASPHALTIC BASE COURSE 2nd LAYER

Summary of Cores Thickness of Asphaltic Base Course 2nd Layer (November 2014)												
S.No	CORE NO.	DATE	COVER AREA	STATION	OFF SET FROM C/L	CORES THICKNESS (cm)				Average Thickness (cm)	Required Thickness (cm)	REMARKS
						1	2	3	4			
1	T-1	5-Nov-2014	21+125 ~ 21+225	21+145	4.5m R/S	8.0	8.5	8.2	8.4	8.3	8.0	OK
2	T-2			21+200	1.9m L/S	8.8	8.5	8.4	8.6	8.6	8.0	OK
3	T-3		21+225 ~ 21+325	21+250	4.9m R/S	8.3	8.0	8.4	8.1	8.2	8.0	OK
4	T-4			21+305	2.5m L/S	9.1	8.7	8.6	9.0	8.9	8.0	OK
5	T-5		21+325 ~ 21+390	21+370	4.5m R/S	7.8	7.9	8.2	8.3	8.1	8.0	OK

## 7.10 SUMMARY OF CORE THICKNESS OF ASPHALTIC BASE COURSE BOTH LAYERS

Summary of Cores Thickness of Asphaltic Base Course Both Layers (November 2014)												
1	T-1	24-Nov-2014	24+050 ~ 24+150	24+080	2.0m L/S	15.5	15.9	15.9	15.4	15.7	16.0	OK
2	T-2			24+130	5.0m R/S	16.4	16.4	16.1	15.9	16.2	16.0	OK
3	T-3		24+150 ~ 24+250	24+190	1.5m L/S	16.6	16.4	16.7	16.4	16.5	16.0	OK
4	T-4			24+230	4.0m R/S	15.8	16.1	16.0	16.1	16.0	16.0	OK
5	T-5		24+250 ~ 24+320	24+272	1.6m L/S	16.2	16.7	16.6	16.3	16.5	16.0	OK
6	T-6			24+310	5.0m R/S	16.8	16.8	16.5	16.2	16.6	16.0	OK

## 7.11 ABSORPTION AND COMPRESSIVE STRENGTH OF BRICKS

ABSORPTION AND COMPRESSIVE STRENGTH OF BRICKS (AASHTO 32 / ASTM C-67-029)												
Description		Brick for Drain Type 2										
Source		From Site Stock			Station			9+740				
Location		Km: 10			Testing Date			26-Nov-2014				
Specimen No.	Identification (Trade Mark)	Absorption (%) of Full (Total) Bricks					Compressive Strength (Kg/cm <sup>2</sup> )					
		Oven Dry Weight in (grams)	SSD Weight (grams)	Weight of Water (grams)	Individual Absorption (%)	Average Absorption (%)	Dimintion of Half Brick (cm)		Area (cm <sup>2</sup> )	Load in (Kn)	Achieved Strength (kg/cm <sup>2</sup> )	Average Strength (kg/cm <sup>2</sup> )
							Length	Width				
1	PR1	2662	3137	475	17.8	20.0	10.92	10.67	116.5164	210	183.8	170.5
2	PR1	2793	3372	579	20.7		10.92	10.41	113.6772	181	162.4	
3	PR1	2787	3387	600	21.5		10.92	10.67	116.5164	189	165.4	
Maximum Allowable Absorption (%)						16.7	Required Strength (kg/cm <sup>2</sup> )				140.8	

**7.12 COMPRESSIVE STRENGTH OF KERB STONE CORES**

<b>COMPRESSIVE STRENGTH : AASHTO T 22 / (ASTM C 39)</b>							
Description		Compressive Strength of Kerb Stone Cores.					
Station/R.D.		0+800 L/S	Sampling Date		12/Nov/2014		
Location		KM : 01	Testing Date		14/Nov/2014		
S.No	Age (Days)	Load in (KN)	Load in (Kg)	Area (cm <sup>2</sup> )	Strength in PSI		
					Achieved	Average	Required
1	-	138	14072	78.6	2543.2	2604.6	3000
2		140	14276		2580.0		
3		146	14888		2690.6		

<b>COMPRESSIVE STRENGTH : AASHTO T 22 / (ASTM C 39)</b>							
Description		Compressive Strength of Kerb Stone Cores.					
Station/R.D.		0+600 L/S	Sampling Date		12/Nov/2014		
Location		KM : 01	Testing Date		14/Nov/2014		
S No	Age (Days)	Load in (KN)	Load in (Kg)	Area (cm <sup>2</sup> )	Strength in PSI		
					Achieved	Average	Required
1	-	119	12134	78.6	2193.0	2223.7	3000
2		118	12032		2174.6		
3		125	12746		2303.6		

# **ENVIRONMENTAL COMPLIANCE MONITORING**

**Environmental Compliance Officer: Shabir Ahmad Khan**

**Field Monitor (Social):**

**Jamil Khan**

**Road Section under Construction:**

Section-I KM: 0+000 to KM: 9+000

Section-II KM: 9+000 to KM: 14+000

Section-III KM: 14+000 to KM: 19+000

Section-IV KM: 19+000 to KM: 24+000

Section-V KM: 24+000 to KM: 34+000

**Persons Consulted at Site:**

1. Mr. Bilal, Site Surveyor, FWO
2. Mr. Farooq Khan, Site Sub-Engineer, FWO
3. Mr. Inayatullah, Site Surveyor, FWO
4. Mr. Mohammad Usman, Site Surveyor, FWO
5. Mr. Sarwar Din, Site Surveyor, FWO
6. Mr. Tariq, Site Surveyor, FWO

**Work Status:**

- Work in progress.
- Work Stopped
- Work Completed

**Quality of Environment Compliance:**

- Good
- Satisfactory
- Poor

**Issues at site:**

- Proper traffic sign boards were found missing along the road.
- Though water sprinkled on road to control dust pollution but the problem still remains at few work places along the road.
- FWO staff was found hesitant while sharing their EHS plan with AGES Socio-Environmental team at FWO Labor camp.
- Record concerning workers illness and treatment was found missing both at FWO labor camp and work places at site.
- While working at sites workers were found without using PPE's (Personal protective equipments).
- Risk assessment report not present at work site.
- Work sites are devoid of the EHS arrangements, such as first aid boxes and ambulance services are still not provided to the workers at site.
- Though promised in the previous meeting with FWO at their Labor camp, the EHS inspectors or Environmental Specialist still not deployed at site.

**Environmental Monitoring Check List for the Site**

S. #	Activity	Mitigation Measures	Monitoring indicators	Observations
<b>Construction Phase</b>				
1	<b>Use of heavy equipments</b>	a. Set protocols for vehicle Maintenance. b. Check fuel level, deliveries, and use. c. Check pipes and joints for leaks. d. Tight & check generators cables and fuel lines. e. Prevent over filling of main storage and vehicles tanks. f. Avoid parking of heavy equipments under trees to prevent soil compaction and damage to the roots of the trees.	Soil contaminations, stability and erosion	During site visit, proper maintenance of heavy and light machinery was observed at FWO labor camp. While noticing further, all the vehicles, machinery and equipments are also used and parked properly at work places. Therefore, there was seen no damage to the trees roots and prevented soil compaction at project site.
2	<b>Flood protection</b>	a. Culverts construction to control flood damages and provide safety to embankments. b. Take measures to protect road along the river side. c. Construction of retaining walls. d. Provide new causeways for smooth flow to flood water during rainy seasons.	Road protection and Safety	Road protection from flood water, and for providing a smooth flow to sewage disposal, safety measures, such as side drains, culverts and retaining walls construction in sections I, II III, IV and V are in progress.
3	<b>Handling and transportation of hazardous waste</b>	a. Prevent dumping of hazardous materials near villages and water bodies. b. Burn waste oil which is not reusable. c. Recyclable material should not contain heavy metals that are inflammable, investigate and use less toxic alternative products. d. Prohibit use of waste oil for cooking purposes.	Soil Contamination and Safety	During site visit, there was found no hazardous material along the road site; therefore, no further action as such is required.

4	<b>Handling of solid Waste</b>	<ul style="list-style-type: none"> <li>a. Site manager should feel responsible for collection and disposal of solid waste.</li> <li>b. Provide Training to the site personnel in waste management and its handling procedures.</li> <li>c. Separation of chemical waste for special handling.</li> <li>d. Record the amount of waste, generated recycled and reused.</li> <li>e. Proper storage and well managed site practices will minimize the damage to potentially contaminate construction materials.</li> <li>f. Store general refuse in enclosed bins to control its further mixing with construction materials.</li> <li>g. Engage a reputable waste collection firm for waste collection and removal of general refuse at site.</li> </ul>	Toxicity, Soil Contamination and Pollution	<p>During site visit, it was observed that there was missing a segregation plan for handling and disposal of solid waste at site area. Further, FWO staff was also suggested for strict compliance on solid waste management plan to prevent contamination of construction materials. So far arrangements at main storage, to handle construction materials were enough, while insufficient for such activities at project site. It was also advised to the FWO subcontractors to observe environmental compliance on health and safety protocols. However, it is advised to the subcontractors to provide bins for handling of solid waste, especially during retaining walls and culverts construction at sites.</p>
5	<b>Construction crews, camps &amp; Accommodation</b>	<ul style="list-style-type: none"> <li>a. Check quality and maintenance of accommodations for site crew.</li> <li>b. Avoid cutting of vegetation as much as possible.</li> <li>c. Provide sanitation, such as pit latrines to the site crew on temporary basis.</li> <li>d. Use of local labor.</li> <li>e. Screening test for potentially affected HIV and tuberculosis viruses' site crews.</li> <li>f. Provide education and enforced guidelines to local inhabitants.</li> <li>g. Set guidelines to prohibit poaching and plants collection.</li> <li>h. Provide an adequate and good quality of food to the work force.</li> <li>i. Drinking water should meet WHO standards, and clearly demarcated from water for construction purposes.</li> </ul>	Ground water pollution and conflicts with locals.	<p>During site visit, it was found that the FWO camp was properly renovated and maintained in order to provide basic facilities to the construction crew, such as washrooms, kitchen, TV lounge, café shop etc. The quality of food provided to the FWO labor force was good and found sufficiently enough. Other facilities, such as health hygiene were also found satisfactory. Further, guidelines given to FWO labor force to communicate with locals were also found satisfactory at camp.</p>

		<p>j. Prohibit domestic pets / livestock to enter into the site.</p>		
<p><b>6</b></p>	<p><b>Material handling, use, and storage</b></p>	<p>a. Securing of construction materials will ensure a safe passage between destinations for transport system. Loaded vehicles shall be properly covered to prevent spillage, and contractor should be held responsible to clear them off.</p> <p>b. Transfer and deposit construction materials directly to the site for use. Avoid stockpiles to create less visual impacts. Leftover of any foreign materials at site should clearly be off, and the project area should also be properly reinstated affected by any construction activity.</p> <p>c. Avoid spray of any bitumen products on vegetation outside the road area.</p> <p>d. Avoid concrete mixing on ground.</p> <p>e. Use of wet gravel at site.</p> <p>f. Avoid direct fall of drainage water into sensitive areas.</p> <p>g. Control all runoff from batching plants so that cement do not contaminate water, and if any, it should be collected, stored and disposed of at a designated site.</p> <p>h. Collect and deliver empty cement bags to recycling plants.</p> <p>i. Storage of contaminated water should not allow to over flow, and will be protected from rain water.</p>	<p>Dust pollution</p>	<p>FWO labor force was also suggested for providing a safe passage to dumpers while carrying construction materials from main storage to the work places. Further also, suggested that appropriate measures, such as properly secured loaded material will prevent material spillage to minimize visual impacts of stockpiles. Among the FWO subcontractors, there was also missing protocols compliance about proper placement and handling of building materials, especially during retaining walls and culvert construction at project site.</p>

<p>7</p>	<p><b>Materials extraction, Quarrying &amp; logging</b></p>	<ul style="list-style-type: none"> <li>a. Identify environment friendly materials within budget.</li> <li>b. Use materials from local road cuts first, only if it produces an aggregate of materials for stabilizing surfaces and filling embankments.</li> <li>c. Project area should be properly restored and treated with erosion control measures once materials removed at site.</li> <li>d. Develop logging, quarrying and borrowing plans, and also take into account its accumulative effects.</li> <li>e. Take photos at site before the start of excavation, so that restoration can match the original site as much as possible. Also make sure that site quarries and gravel pits are invisible to travelers on road.</li> <li>f. Adhere and monitor the plans to minimize side impacts due to extraction activities. Try to modify the plans as much as required.</li> <li>g. Restore and sustain the site area once the extraction activity is over.</li> <li>h. Install drainage structures to direct the water away from pits.</li> <li>i. Implement safety protocols to minimize the risks occurring due to collapse of quarry walls, rocks falling, debris, or any other accidental falls from clefts.</li> <li>j. Discuss the use of retaining walls pits and water ponds with local community as an option used for crops, grazing of cattle, or similar use.</li> </ul>	<p>Change in landscape &amp; Creation of water ponds.</p>	<p>During construction activities, there was found a general negligence about the environmental compliance at project area. FWO construction crew was hesitant while sharing their health and safety plans with AGES Socio-environmental monitoring team. Therefore, it is strictly advised to the FWO labor force to comply with H&amp; S protocols and avoid risk, if any during construction activities at site. Moreover, proper maintenance of building materials at quarry areas is also required once the activities accomplished.</p>
<p>8</p>	<p><b>Site clearing &amp; leveling</b></p>	<ul style="list-style-type: none"> <li>a. Minimize disturbance to local flora during construction activities as much as possible.</li> <li>b. Minimize the amount of clearance of small areas for active work once at a time.</li> <li>c. Avoid use of herbicides. Any such use should follow health and safety procedures</li> </ul>	<p>Loss of vegetation, soil erosion, stability, water pollution, health of workers and</p>	<p>During site visit, there was found no impact on vegetation as the project area is mostly rugged, and of hilly nature. However, excavation activities for widening of road continued at the shoulders of the existing road. Moreover, plantation along Peshawar-Torkham road</p>

		<p>to protect people and the environment.</p> <ul style="list-style-type: none"> <li>d. Limit for herbicides use should specified by the manufacturers.</li> <li>e. Clear the project area without destroying plants and turfs, and take measures to preserve and replant where ever is possible.</li> <li>f. Remove Vegetation during dry periods only, and preserve soil top surface if required re spreading. While if it is removed during wet periods, don't disturb soil just before the actual start of construction.</li> <li>g. Use of erosion control measures such as hay bales.</li> <li>h. Replant and re –vegetate the local flora on immediate basis once removed the equipment from site.</li> </ul>	<p>local community.</p>	<p>is also needed on emergency basis. In this regard, some project specific plants species to be identified as specified in the Environment Management Plan. Therefore, it is strongly recommended to the FWO contractor that they should on immediate basis coordinate with Forest department in this regard. There was found no use of herbicides at project site. Measures taken about soil conservation were enough and appropriate because of the soil being rocky and hilly nature consisting of sand, silt and gravels.</p>
<p><b>9</b></p>	<p><b>Excavation , cutting , and filling</b></p>	<ul style="list-style-type: none"> <li>a. Cover Piles with plastic sheets, prevent run off with hay bales, or use similar measures.</li> <li>b. Fencing around excavation activities.</li> <li>c. Investigate shallow over excavation and alternatives.</li> <li>d. Construction crews and supervisors must aware of the historic burials, socio-cultural and religious objects. And, if recovered should properly be guarded to avoid any destruction.</li> <li>e. Ensure that excavation is accompanied by a well-engineered drainage system.</li> <li>f. Don't fill the flow line of a watershed. In arid areas, even the occasional rains may create a strong flow of water in channels.</li> <li>g. Adopt best engineering practices, for example, don't use the soil alone, first lay a bed of rock and then gravel it.</li> <li>h. Balance cuts and fills, wherever is possible to minimize the earth work movement.</li> <li>i. Water sprinkling to avoid dust solution on</li> </ul>	<p>Soil erosion, stability and surface water contamination</p>	<p>The process of excavation in section III, IV and V for widening of road, culverts and retaining walls construction continues at project site. While compliance of H&amp;S protocols about such activities in the above sections are generally missing. At KM.18+100, 19+850, 20+000 Rocks excavation for the purpose of road widening continued, while compliance of safety protocols &amp; personal protective measures about such activities was missing. During site visit, it was also recommended to the subcontractors that they should properly cover and fence all culverts construction at work places. At the time of excavation activities, a proper drainage system is also needed for a smooth flow of water fall at site. Water Sprinkling and proper dumping of excavated materials are also required to avoid dust pollution at site.</p>

		road temporarily used for traffic.		
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10	<b>Traffic Control and management</b>	<ul style="list-style-type: none"> <li>a. Need for practical efforts in order to control and accommodate traffic along the road as far as much as possible.</li> <li>b. Provide sign boards in order to give directions, and guide drivers about diversions.</li> <li>c. Provide proper traffic management training to the contractor staff at the site before the construction activities take place.</li> <li>d. Avoid as much as possible temporary by passes during land clearing at site.</li> <li>e. Maximum speed limit at project site for heavy machinery should not exceed 20Km/hr.</li> <li>f. Try to keep the road partly closed to provide all time maximum safe passage to the vehicles/pedestrians</li> <li>g. Try to conduct work when traffic volume is low</li> <li>h. Organize a proper schedule in order to deliver sand trucks at the time of less traffic.</li> </ul>	Health and Safety of workers & local population	<p>Traffic flows with diversions along the existing road. Despite arrangements for diversions, proper traffic signboards for traffic control are missing which have further put traffic management at risk. Therefore, FWO contractors are strongly suggested: Install temporary traffic sign boards with reflective materials to maximize drivers' visibility at night. Construction of speed breakers to ensure maximum speed limit for heavy machinery at site, which should not exceed 20Km/hr.</p>
11	<b>Blasting</b>	<ul style="list-style-type: none"> <li>a. Allow minimum blasting as much as possible at site.</li> <li>b. Take Safety measures to provide protection to workers and locals from injuries due to falling of rocks and avalanches.</li> <li>c. Provide protective equipments to the workforce on individual basis.</li> </ul>	Noise pollution and occupational safety	<p>Currently, rock excavation for road widening in section-III and IV is in progress. Safety protocols compliance regarding such activities is generally missing at site. Therefore, FWO is advised to provide PPEs (personal protective equipments) to workers to ensure their safety at site.</p>
12	<b>Sources of building materials</b>	<ul style="list-style-type: none"> <li>a. Develop logging, quarrying and borrowing plans to provide cumulative effects of environmental compliance at site.</li> <li>b. Adherence to plans and monitoring over impacts of extraction activities at site. Try to modify these plans as much as required.</li> </ul>	Damages to the aquatic, terrestrial ecosystems erosion, siltation, and	<p>Health &amp; Safety plan or other monitoring measures, such as about extraction activities were found missing at quarry sites. Therefore, FWO is required to develop logging, quarrying and borrowing plans for environmental compliance and safety of labor at site.</p>

		<ul style="list-style-type: none"> <li>c. Fill in quarries and pits before the abandoning of the construction activity.</li> <li>d. Control runoff into pits.</li> </ul>	vector-borne diseases	
13	<b>Dust Pollution</b>	<ul style="list-style-type: none"> <li>a. Water spraying.</li> <li>b. Covering of Trucks with tarpaulins.</li> </ul>	Nuisance to the public, undermining the quality of air and water due to contamination	At this site visit, there were observed water sprayed on road, while problem of dust pollution still continues at some places.
14	<b>Borrow Areas</b>	These impacts of borrow areas can be reversed if a diligent restoration process is placed by the contractor as well as approved by the Highway Division.	Rugged landscape, its interference with the local aesthetics; posing of danger to livestock and local community children; holding of stagnant water and taking up of agricultural land.	No activities were seen about borrow areas at site. Moreover, borrow areas still to be identified, if required.
15	<b>Damages to the existing infrastructure</b>	<ul style="list-style-type: none"> <li>a. Locate different locations of existing infrastructure on both sides of road.</li> <li>b. Avoid damages to locations of water pipes and electricity pylons etc.</li> </ul>	Facilities to the locals	During site visit, it was advised to the FWO authorities to take care of the infrastructure, if any, and avoid damages to water pipes and electricity pylons etc. especially observed during culverts construction at site. It was also suggested to the workers to inform FWO/ NESPAK / WAPDA/PTCL departments before the excavation activities started at site.
16	<b>Health &amp; Safety of the workers</b>	<ul style="list-style-type: none"> <li>a. Prepare and implement a Health and Safety Plan at site.</li> <li>b. Exclude public from site area.</li> </ul>	Workers and public at risk due to	During the site visit, it is observed that the compliance of Health and Safety protocols is generally followed at camp, while remains neglected

		<ul style="list-style-type: none"> <li>c. Ensure that workers use Personal Protective Equipments.</li> <li>d. Provide Health &amp; Safety Training (including HIV/AIDS transmission process) to all personnel;</li> <li>e. Follow documented procedures for all activities at site;</li> <li>f. Keep reports and records of accidents.</li> </ul>	accidents at site	at site. In this regard, FWO officials are advised to observe safety protocols compliance, prepare H&S plan and take measures for keeping records of accidents, illness and treatments of workers etc. Moreover, H&S protocols' training to the workers is also very important to ensure their safety and good health at site. Health facilities, such as ambulance services, first aid etc. should also be provided to the workers at site. While PPEs (Personal protective equipments) were also missing at project area. All activities at site, such as retaining walls, culverts constructions and materials extracted for building activities at quarry areas should comply the guidelines mentioned above.
17	<b>Local Employment</b>	Contractor should hire at least 50% of local workforce at project site.	Economic benefits to the local people	Majority of the FWO workforce are regular employees. Local labor is also hired for a subcontract at site.
18	<b>Others concerns like Resettlement etc.</b>	<ul style="list-style-type: none"> <li>a. Resettlement, if any.</li> <li>b. Provide pedestrians and road access to local people.</li> <li>c. Avoid social disturbances over Infrastructure damages, such as telephone cables, sewerage, water supply schemes etc.</li> <li>d. Avoid Social Conflicts with locals.</li> </ul>	Resettlement & Social management	Relocation or Resettlement issues are missing at project area because the road construction continues on its existing corridor. At project site, infrastructure facilities, such as sewerage, telephone cables and electricity lines etc. should properly be cared, protected, and remain undisturbed . During site visit, there were noticed social conflicts with locals over the damages to existing infrastructure at site.
<b>Operation and Maintenance of newly constructed road</b>				
19	<b>Road maintenance</b>	<ul style="list-style-type: none"> <li>a. Monitor and Maintain cleanliness of drainage structures, channels, ditches and culverts.</li> <li>b. Fill mud and pot holes with a good quality of gravels, and also remove trees and wooden limbs lying down on road.</li> <li>c. Use water from retention ponds and basins settled for road maintenance.</li> </ul>	Road Maintenance	Most of the construction work in sections –I, II of the Peshawar-Torkham road has been completed

20	<b>Use and maintenance of equipments</b>	Install concrete pads, drains and oil/water for vehicles maintenance. Areas separation, where equipments, vehicles are maintained and fueled on regular basis.	Water and soil pollution	No compliance was shown at site. The required protocol may properly be addressed.
21	<b>Accidents due to hazardous materials</b>	<ul style="list-style-type: none"> <li>a. In case of a spill, concerned department should be consulted on emergency basis.</li> <li>b. Need for establishing of an administrative department which will administer and monitor the road accidents occurring due to hazardous substances</li> </ul>	Cases of accidents	No compliance was shown at site. The required protocol may properly be addressed.
22	<b>Vehicles management</b>	<ul style="list-style-type: none"> <li>a. Prohibit vehicles to travel on road which promote noise pollution.</li> <li>b. Proper education about noise and air pollution to locals, and how to keep the road clean.</li> </ul>	Visual inspection	No compliance was shown at site. The required protocol may properly be addressed.

# **APPENDICES**

**9.1 IPC'S SUMMARY TABLE**

S.No	SECTION	PIL AMOUNT (US\$)	AMOUNT CERTIFIED (US\$)	REMAINING AMOUNT (US\$)	CERTIFIED (%)
1	I	9,978,081	9,324,314	653,767	93.45
2	II	9,383,484	8,066,121	1,317,363	85.96
3	III	9,512,705	7,578,262	1,934,443	79.66
4	02 Bridges & 02 MCC	3,668,533	2,443,826	1,224,707	66.62
<b>TOTAL</b>		<b>32,542,803</b>	<b>27,412,523</b>	<b>5,130,280</b>	<b>84.24</b>

**9.2 CONTRACTOR IPC's (SECTION-I)**

IPC No:	TOTAL PIL AMOUNT		AMOUNT CLAIMED		DATE OF SUBMISSION BY CONTRACTOR TO FATA	DATE OF SUBMISSION BY FATA TO USAID	DATE OF CERTIFICATION BY M&E CONSULTANTS	AMOUNT CERTIFIED BY M&E CONSULTANTS	
	US \$	EQUIVALENT PKR	US \$	EQUIVALENT PKR				US \$	EQUIVALENT PKR
1	9,978,081	937,939,614	1,444,442	135,777,548	23-May-13	28-May-13	28-Jun-13	597,641	56,178,279
2			2,494,227	234,453,311	28-Jun-13	2-Jul-13	26-Jul-13	2,494,227	234,457,311
3			2,382,898	223,992,366	26-Jul-13	31-Jul-13	29-Aug-13	2,268,345	213,224,394
4			1,738,259	163,396,356	3-Sep-13	11-Sep-13	25-Sep-13	1,096,902	103,108,788
5			699,562	65,758,791	30-Sep-13	3-Oct-13	23-Oct-13	680,293	63,947,570
6			1,287,568	121,031,406	2-Dec-13	2-Dec-13	17-Dec-13	886,305	83,312,672
7			467,684	43,962,288	26-Dec-13	26-Dec-13	30-Dec-13	19,268	1,811,220
8			1,055,814	99,246,516	4-Mar-13	7-Mar-14	3-Apr-14	168,209	15,811,658
9			1,316,284	123,730,696	12-May-14	14-May-14	30-May-14	1,113,124	104,633,660
<b>UP-TO DATE CERTIFIED AMOUNT</b>								<b>9,324,314</b>	<b>876,485,552</b>

Conversion Rate 1 US \$ = 94 PKR

**9.3 CONTRACTOR IPC's (SECTION-II)**

	TOTAL PIL AMOUNT		AMOUNT CLAIMED		DATE OF SUBMISSION BY CONTRACTOR TO FATA	DATE OF SUBMISSION BY FATA TO USAID	DATE OF CERTIFICATION BY M&E CONSULTANTS	AMOUNT CERTIFIED BY M&E CONSULTANTS	
	US \$	EQUIVALENT PKR	US \$	EQUIVALENT PKR				US \$	EQUIVALENT PKR
1	9,383,484	985,265,820	1,159,388	121,735,792	26-Dec-13	26-Dec-13	31-Dec-13	661,911	69,500,655
2			1,791,571	188,114,955	18-Mar-14	20-Mar-14	3-Apr-14	666,175	69,948,380
3			2,541,722	266,880,810	12-May-14	14-May-14	30-May-14	2,541,722	266,880,797
4			2,347,005	246,435,540	23-Jul-14	23-Jul-14	9-Aug-14	2,347,005	246,435,540
5			791,415	83,098,567	25-Sep-14	29-Sep-14	30-Sep-14	791,415	83,098,567
6			1,231,421	129,299,241	13-Nov-14	14-Nov-14	21-Nov-14	1,057,893	111,078,752
<b>UP-TO DATE CERTIFIED AMOUNT</b>								<b>8,066,121</b>	<b>846,942,691</b>

Conversion Rate 1 US \$ = 105 PKR

**9.4 CONTRACTOR IPC's (SECTION-III)**

IPC No:	TOTAL PIL AMOUNT		AMOUNT CLAIMED		DATE OF SUBMISSION BY CONTRACTOR TO FATA	DATE OF SUBMISSION BY FATA TO USAID	DATE OF CERTIFICATION BY M&E CONSULTANTS	AMOUNT CERTIFIED BY M&E CONSULTANTS	
	US \$	EQUIVALENT PKR	US \$	EQUIVALENT PKR				US \$	EQUIVALENT PKR
1	9,512,705	989,321,320	2,203,603	229,174,712	26/12/2013	12-Mar-14	3-Apr-14	727,789	75,690,056
2			3,552,378	369,447,312	12-May-14	14-May-14	30-May-14	3,320,510	345,333,040
3			538,542	56,008,352	23-Jul-14	23-Jul-14	9-Aug-14	306,674	31,894,080
4			2,238,193	232,772,072	25-Sep-14	29-Sep-14	30-Sep-14	2,006,325	208,657,800
5			1,622,701	168,760,925	13-Nov-14	14-Nov-14	21-Nov-14	1,216,964	126,564,256
<b>UP-TO DATE CERTIFIED AMOUNT</b>								<b>7,578,262</b>	<b>788,139,232</b>

Conversion Rate 1 US \$ = 104 PKR

**9.5 CONTRACTOR IPC's (02 BRIDGES & 02 MC CULVERTS)**

IPC No:	TOTAL PIL AMOUNT		AMOUNT CLAIMED		DATE OF SUBMISSION BY CONTRACTOR TO FATA	DATE OF SUBMISSION BY FATA TO USAID	DATE OF CERTIFICATION BY M&E CONSULTANTS	AMOUNT CERTIFIED BY M&E CONSULTANTS	
	US \$	EQUIVALENT PKR	US \$	EQUIVALENT PKR				US \$	EQUIVALENT PKR
1	3,668,533	348,510,635	2,157,972	205,007,331	11-Aug-14	20-Aug-14	30-Sep-14	1,276,624	121,279,253
2			1,550,949	147,340,126	13-Nov-14	14-Nov-14	21-Nov-14	1,167,202	110,884,236
<b>UP-TO DATE CERTIFIED AMOUNT</b>								<b>2,443,826</b>	<b>232,163,489</b>

Conversion Rate 1 US \$ = 95 PKR

**9.6 RECORD OF COORDINATION MEETINGS / JOINT SITE VISITS**

<b>Date</b>	<b>Meeting</b>	<b>Participants</b>	<b>Venue</b>
10 Nov'14	Co-ordination Meeting	M&E Consultants, FWO, NESPAK	CRE office, Jamrud, Khyber Agency
18 Nov'14	Co-ordination Meeting	M&E Consultants, FWO, NESPAK	CRE office, Jamrud, Khyber Agency
21 Nov'14	Co-ordination Meeting	M&E Consultants, FWO, NESPAK	C.O (FWO) office, Jamrud, Khyber Agency
26 Nov'14	Co-ordination Meeting	M&E Consultants, FWO, NESPAK	CRE office, Jamrud, Khyber Agency

## 9.7 MOBILIZATION OF M&E STAFF

The following members of the M&E Team were mobilized as various activities of the project progressed. Other staff members will be mobilized according to demand of work load.

### PROJECT MANAGER OFFICE – STAFF DEPLOYMENT

S. No	Name	Designation	
1	Aziz-ul-Haq	Project Manager	ROAD COMPONENT
2	Nasir-ul-Mulk	Project Advisor	
3	Abdul Hakim	Senior Technical Specialist	
4	Shabir Ahmad Khan	Environmental Compliance Officer	
5	Muhammad Khurshid	Mid-Level Specialist	
6	Amjad Saeed	Mid-Level Specialist	
7	TBN	Reporting Specialist	
8	Saqib Maqbool	Junior Engineer	
9	Arshad Khan	CAD Operator	
10	Sohail Anjum	Senior Surveyor	
11	Abdul Waheed	Manager Admin/Finance	
12	Amir Habib	IT Officer	
13	Muhammad Bilal	Assistant Accountant	
14	Faizan Khan (Resigned wef Nov 30, 2014)	Computer Operator	
15	Jamil Khan	Field Monitor Social	
16	Anwar Dad	Quantity Surveyor	
17	Waqar ul Mulk	Junior Architect	
18	TBN	Senior Surveyor	
19	Muhammad Waqas	Survey Assistant	
20	Muhammad Ayaz	Survey Assistant	
21	TBN	Survey Assistant	
22	Sana Ullah	Accountant	
23	Ihsan Ali	Assistant Office Administrator	
24	TBN	Computer Operator	

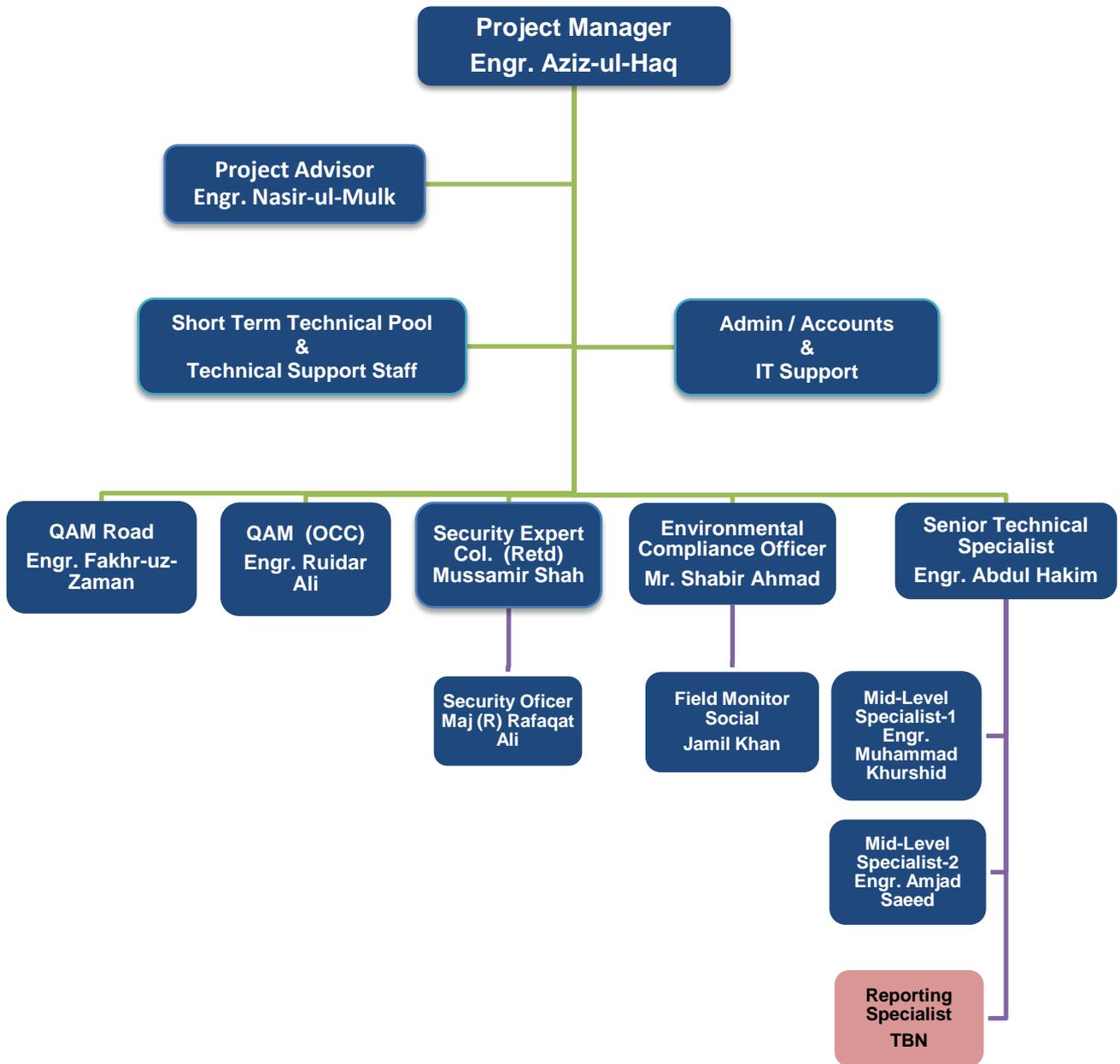
**QAM OFFICE (ROAD COMPONENT)**

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>
1	Fakhr-uz-Zaman	Quality Assurance Manager (Road)
2	Col. (Rtd) Zafar Alam Khan	M&E Specialist Road
3	Muhammad Ilyas	Field Manager M&E
4	Muhammad Naeem	Field Manager M&E
5	Muhammad Ibrar	Office Engineer
6	Rasheed Khan	Field Monitor Road
7	Muhammad Sher	Field Monitor Road
8	Ghulam Qasim Khan	Field Monitor Road
9	Atif-ul-Haq	Field Monitor Road
10	Tariq Ibrahim Khan	Quantity Surveyor
11	Asad Khan	CAD Operator
12	Major (Rtd.) Razaqat Ali	Security Officer
13	Ihsan Ullah	Accountant
14	Hafiz-ur-Rehman	Assistant Accountant
15	Nasir Alam	Admin Officer
16	Umar Shah	Assistant Office Admin
17	Hamid Ali	Computer Operator

**LABORATORY STAFF (ROAD COMPONENT)**

<b>S. No.</b>	<b>Name</b>	<b>Designation</b>
1	Gul Zada	Material Engineer
2	Amjad Ali Khan	Senior Lab. Technician
3	Khan Umar	Senior Lab. Technician
4	Shakeel Akbar	Lab. Technician
5	Noor Ali Jan	Lab. Technician
6	Izhar-ul-Haq	Assistant Lab. Technician
7	Babar Naeem	Assistant Lab. Technician

**ORGANIZATION CHART FOR CMEP OFFICE, PESHAWAR**



**LEGEND:**

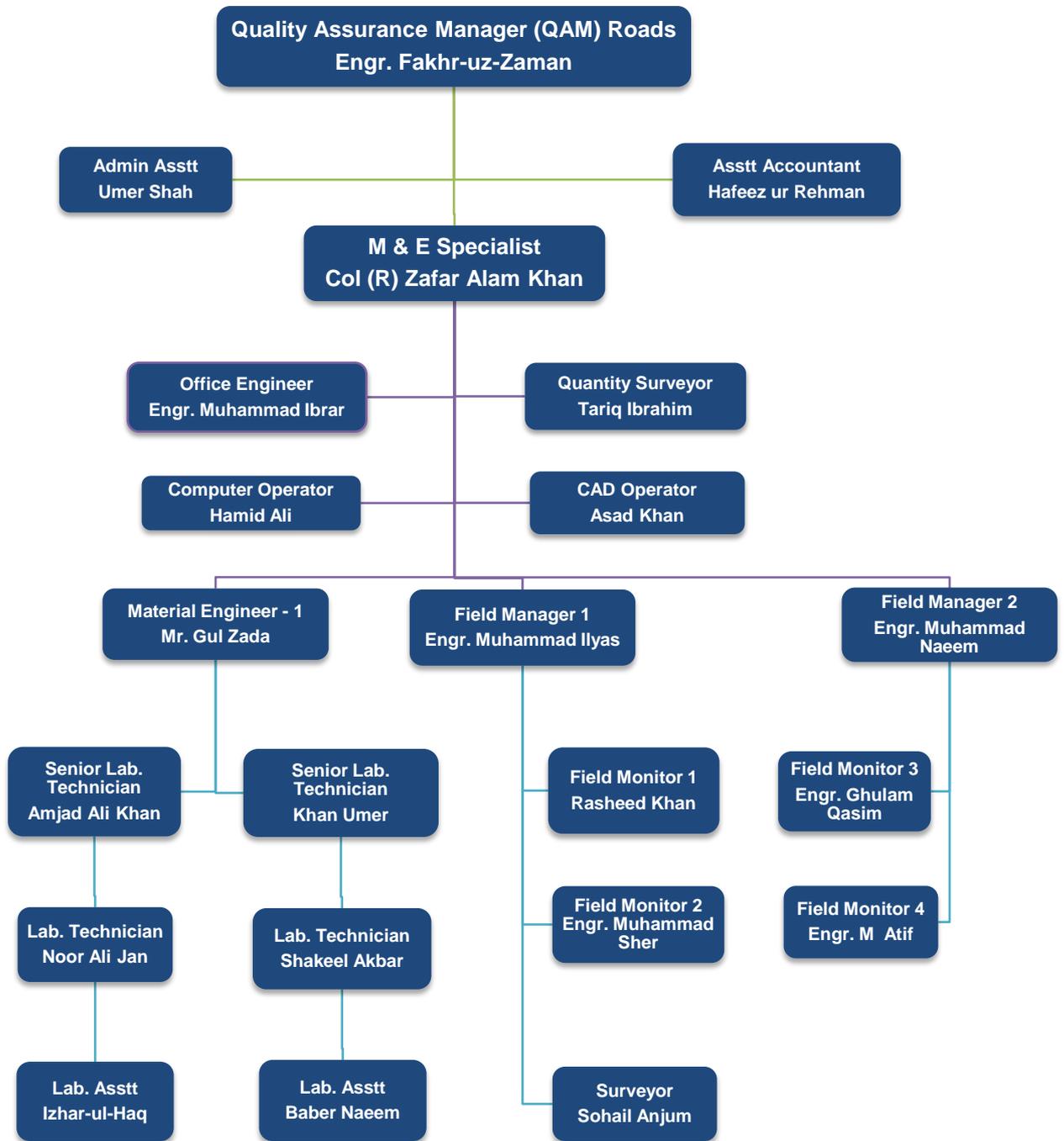


**Mobilized**



**To be mobilized**

**ORGANIZATION CHART FOR ROAD COMPONENT OF CMEP PROJECT**



**LEGEND:**



**Mobilized**



**To be mobilized with expansion of work**

# **PROJECT PHOTOGRAPHS**

# PAVEMENTS



KM 0+000~0+100 FW Loop-II: Sub grade compaction in progress



KM 0+525~0+600 FW Loop-II: Sub base 1st layer leveling & grading in progress



KM 0+900~1+000 RHS Loop-II: Hillside rock cutting in progress



KM 31+975~32+075 FW: WBM dry compaction in progress



KM 18+800~18+900 HW LHS: Rigid pavement concrete placing in progress.



KM 18+977~19+000 HW RHS: Rigid pavement concrete placing in progress.



KM 23+235~23+500 HW LHS: ACBC 1st layer laying & compaction in progress.



KM 24+000~24+335 HW LHS: ACBC 2nd layer laying & compaction in progress

# STRUCTURES

# BRIDGES



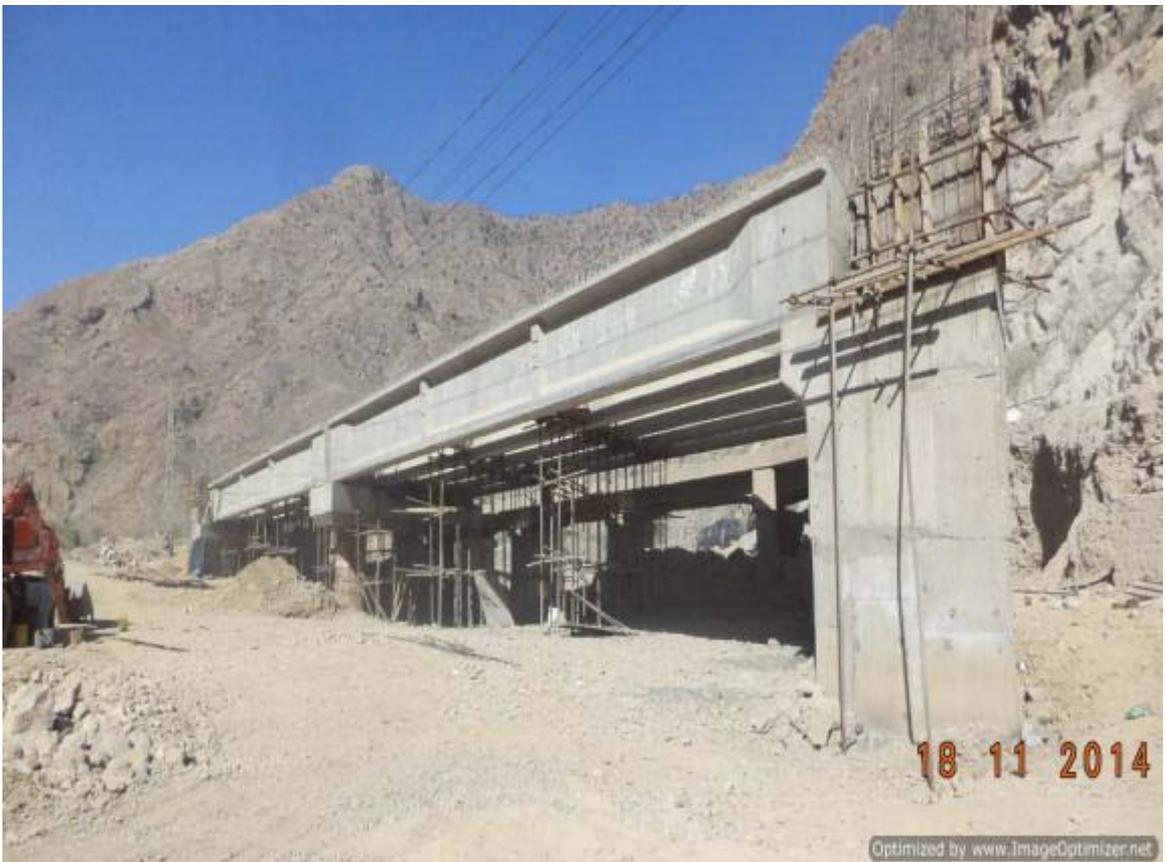
Bridge at KM 9+560: Expansion joint cleaning with water before concrete placing in progress



Bridge at KM 9+560: Opened for traffic



Bridge at KM 18+475: Formwork fixing for Abutment seat-1 in progress



Bridge at KM 23+750: Abutment-II curtain wall & diaphragm form work fixing in progress



Bridge at KM 23+750: Formwork fixing for deck slab span-1 is in progress



Bridge at KM 27+250: Formwork fixing for Pier shaft I & IV 1st lift complete



Bridge at KM 27+250: Curing for pile cap Abutment-II in progress

## **RETAINING WALLS**



KM 12+025~12+105 LHS: Breast wall stone masonry in progress.



KM 17+300~17+400 RHS: Breast wall stone masonry in progress.

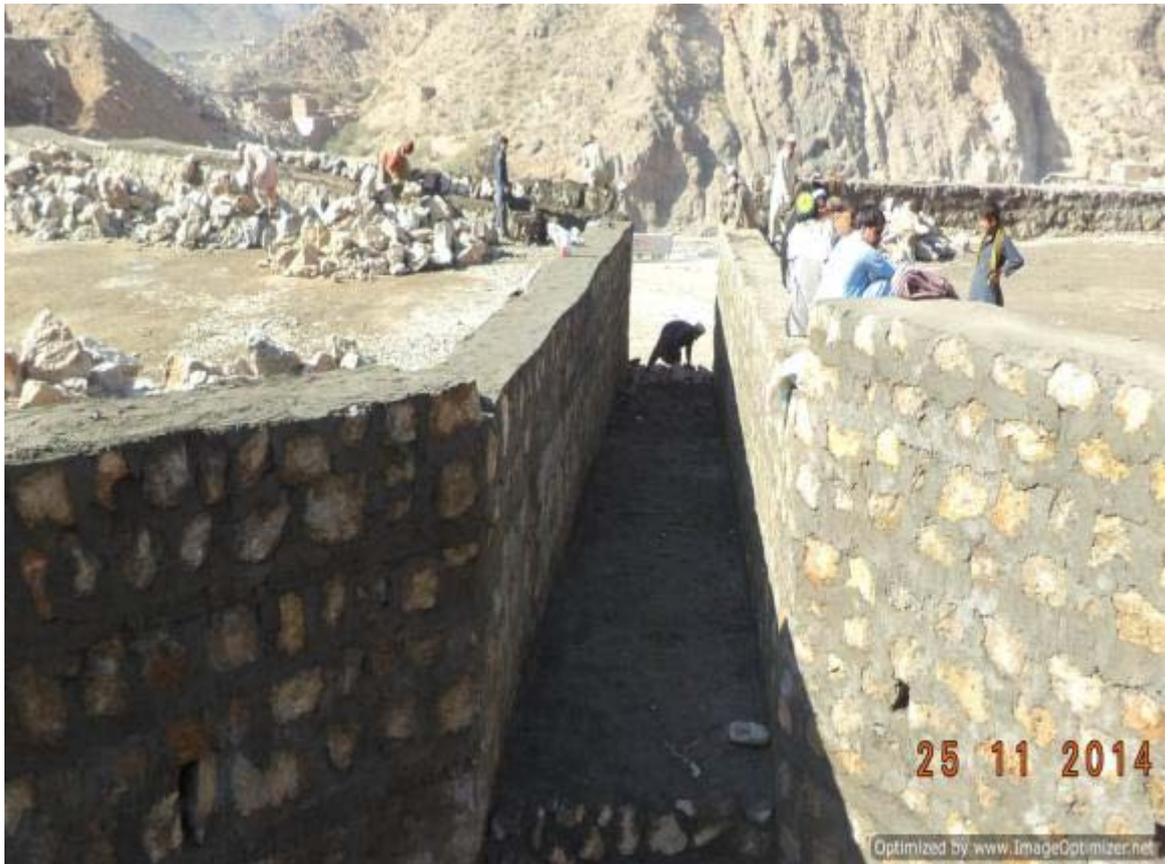


KM 19+350~19+450 LHS: Retaining wall stone masonry in progress



KM 18+800~18+900 LHS: Retaining wall stone masonry in progress

# CULVERTS



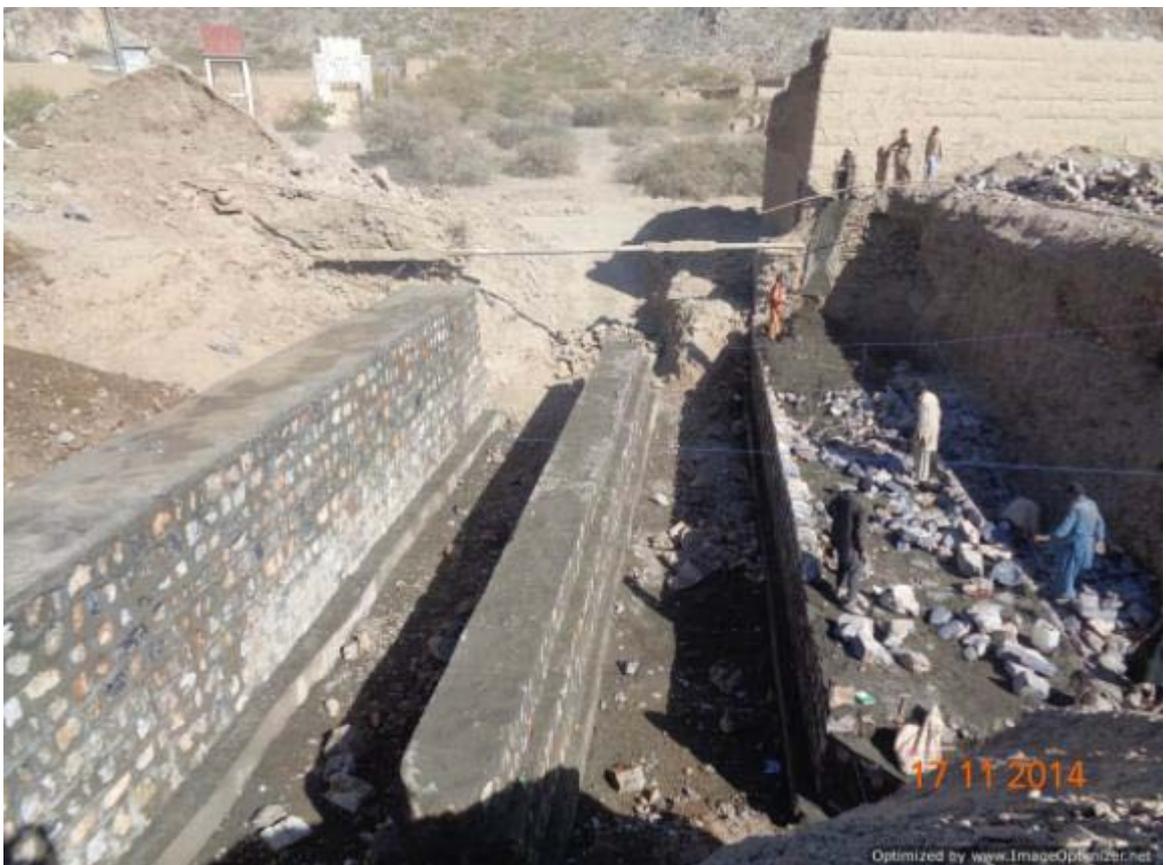
Culvert 19+126: Stone pitching in culvert bed in progress



Culvert 22+925 D/s Apron: M&E Consultant checking concrete levels



Culvert 27+993: Curtain wall concrete for both Abutment walls casted



Culvert 31+030: Stone masonry of Abutment walls & central pier in progress..

# **DRAINS**



KM 9+325~9+462 RHS: Drain type D4 class B concrete in progress



KM 11+250~11+300 RHS: Drain type D-3a PCC class B concrete in progress

## **FIELD / LAB TESTING**



Cutting of Kerb stone cores at FWO Lab



KM 30+775: FDT of WBM



KM 24+050~24+320: Jointly Coring of Asphaltic Base



KM 24+200: Monitoring of Asphalt



KM 16: Monitoring of Concrete at batching plant



KM 23+300: Checking of Asphaltic Base temperature at site

# **ENVIRONMENTAL MONITORING**



Side view of Verandah at FWO Labor Camp



View of fire extinguishers and safety facilities at FWO labor camp.



View of FWO Laboratory equipments at FWO labor camp.



KM 14+850: Labor during breast wall construction needs PPEs (personal protective equipments) and health & safety measures.



KM 18+100: Drilling and blasting for excavation of construction material & road widening needs Health& Safety measures and protection sign boards.



KM 18+475: Culvert construction needs protection and workplace safety measures.



KM 27+350: Water sprayed to control dust pollution.



KM 31+600: Sprinkling of water continues to control dust pollution