

CONTRACT AGREEMENT

BETWEEN

**ATEP LTD
(Employer)**

AND

**MARIPOMA ENTERPRISE LIMITED
(Contractor)**

CONTRACT AGREEMENT

This CONTRACT AGREEMENT is entered into this ___ day of _____ 2023 by and between **ATEP LTD**, a company incorporated under the laws of Ghana whose registered address is at the 9th Floor, World Trade Centre, Ridge Ambassadorial Enclave, 29 Independence Avenue, Accra, Ghana (hereinafter referred to as "the Employer")

and

MARIPOMA ENTERPRISE LIMITED, a company incorporated under the Laws of Ghana whose registered address is at....., Accra –Ghana, (hereinafter referred to as "the Contractor").

WHEREAS

- (1) The Government of Ghana (GoG) acting through the Ministry of Roads and Highways (MRH) and the Ghana Highway Authority (GHA) intends to undertake the redevelopment and expansion of a portion of the transportation corridor in Ghana known as the N1 Highway (the "Project"). The Project consists of three sections being two sections on the N1 and a related link between N6 and N1 as follows:
 - (i) Section 1 – the Accra Tema Motorway, 19.5km;
 - (ii) Section 2 - George Bush Highway, 5.7km; and
 - (iii) Section 3 – a portion of the Nsawam Road (N4) linking to the N1(from Neoplan interchange to Apenkwa) 2.5km.
- (2) Pursuant to section 51 of the Public Private Partnership Act, 2020 (Act 1039), GoG requested the Ghana Investment Infrastructure Fund (GIIF) to implement the Project.
- (3) For this purpose, the Employer, a wholly owned subsidiary of GIIF has been granted a concession by GoG to implement the Project pursuant to a concession agreement dated [●] (the "Concession Agreement").
- (4) The Employer desires that Section 1 should be executed by the Contractor and has accepted the proposal by the Contractor for the design, execution and completion of the Works and the remedying of any defects therein.

NOW THEREFORE the Parties agree as follows:

1. Unless defined herein or in the Particular Conditions, in this Contract Agreement and the Particular Conditions, words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract hereinafter referred to

in Clause 2(d).

2. The following documents shall be deemed to form and be read and construed as part of this Contract with the following order of priority and precedence.
 - (a) Contract Agreement;
 - (b) The Particular Conditions including any annexures and schedules;
 - (c) The General Conditions for EPC/Turnkey Projects published by the Fédération Internationale des Ingénieurs-Conseils (2017 edition)
 - (d) Minimum Performance Standards and Specification
 - (e) Contractor's Proposal together with the Appendices
 - (f) Schedule
 1. Concession Excerpts
 2. The Employer's Requirements
 3. Site
 4. Programme of Works
 5. Payment Milestones
 6. Bills of Quantities/ Details of Contract price
 7. Form of Advance Payment Guarantee
 8. Form of Performance Security
 9. Environmental, Health and Safety approved by the Employer's Representative
 10. Forms of Certificates approved by the Employer's Representative
 11. Design Reports approved by the Employer's Representative
 12. Review procedure
 13. Insurances applicable under the Contract
3. The Employer shall supply the Contractor with a Schedule which shall contain excerpts from the Concession Agreement which the Contractor should be aware of including portions which permit the Contractor to have recourse to the grantor of the Concession if the context requires ("Concession Excerpts").
4. Subject to any negotiations as may be required based on the design proposals in the Contractor's technical proposal the Contract Price shall be a fixed lump sum of Three Hundred and Thirty-Eight Million, Eight Hundred and Ninety-Seven Thousand, Five Hundred and Forty-Three United States Dollars and Fifty-Six Cents (US\$ 338,897,543.56).
5. In addition to the Contract Price set out in clause 4 above, the Employer shall pay the Contractor a sum of nine hundred thousand dollars (US\$900,000) being the management

fee for the Contractor's management of the Utility Relocation Works to be carried out on the Site.

6. The Contract Price is fixed and shall not be varied except as may be necessary pursuant to variation of the scope of Works that may occur under subclause 13.1 of the Particular Conditions.
7. The Contractor shall design the entire Project comprising Sections 1, 2 and 3. The Construction Works under this Contract shall cover only Section 1 unless otherwise stated in the Particular Conditions.
8. In consideration of the Contract Price to be paid by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects including latent defects therein, in conformity with the provisions of this Contract.
9. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price (as defined in this Contract at the times and in the manner prescribed by the Contract.
10. The Employer represents and warrants that:
 - (a) The Public Procurement Authority has approved the engagement of the Contractor for the implementation of the Project; and
 - (b) The Public Private Partnership (PPP) Committee and Cabinet have approved the Project pursuant to Act 1039;
 - (c) The Project Account has been set up.
11. Following approval by Parliament of the Project, the Contract shall be executed by the Parties and shall come into full force on the date of execution (the Effective Date).
12. The costs of stamp duties and similar charges (if any) imposed by law in connection with the entry into this Contract Agreement shall be borne by the Contractor.
13. If this Contract Agreement does not commence within one twenty (120) days (or such longer period as the Parties may agree) from the Effective Date, then the Contract shall become void in which event the Parties shall be fully discharged from further performance

of the Contract and shall not have any liability under or in connection with the Contract.

14. The Contractor is an independent contractor. Nothing in the Contract Agreement shall be construed or deemed to:
 - (i) establish or imply a partnership or joint venture or any other legal entity between the Employer and the Contractor;
 - (ii) constitute the Contractor as the agent of the Employer; and/or
 - (iii) allow the Contractor to hold itself out as acting on behalf of the Employer.
15. This Contract Agreement constitutes the entire agreement between the Parties in relation to its subject matter and supersedes all prior agreements and understandings whether oral or written with respect to such subject matter.
16. All provisions and the various Clauses of this Contract Agreement are, notwithstanding the manner in which they have been grouped together or linked grammatically, severable from each other.
17. If any term or provision of this Contract Agreement is invalid, illegal, or unenforceable in any jurisdiction, such invalidity, illegality, or unenforceability shall not affect any other term or provision of the Contract Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is invalid, illegal, or unenforceable, the Parties hereto shall negotiate in good faith to modify the Contract Agreement so as to effect the original intent of the Parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

IN WITNESS whereof the parties hereto have caused this Contract Agreement to be executed the day, month and year first before written in accordance with the laws of the Republic of Ghana.

SIGNED, SEALED AND DELIVERED FOR AND ON BEHALF OF THE PARTIES

The Employer

By:

Name:

Title:

In the presence of:

.....

Name:

Title:

Date:

The Contractor

By:

Name:

Title:

In the presence of:

.....

Name:

Title:

Date:

Particular Conditions of Contract

Part A

Contract Data

A. Brief Contract Details

Cost Plus Profit:	1.1.17	Five percent (5%)
Defects Notification Period (DNP):	1.1.24 & 11.3	Twelve (12) months
Employer's Representative:	1.1.30	Ghana Highway Authority
Sections:	1.1.66	To be provided by ER prior to Commencement Date
Time for Completion:	1.1.76	Thirty-Six (36) months
Agreed methods of electronic transmission:	1.3 (a)(ii)	Not Applicable.
Address of Employer for communications:	1.3(d)	ATEP Ltd Ridge Ambassadorial Enclave 29 Independence Avenue Accra Ghana
Address of Contractor for communications:	1.3(d)	Maripoma Enterprise Ltd
Contract shall be governed by the Law:	1.4	The Laws of the Republic of Ghana.
Ruling language:	1.4	English.
Language for communications:	1.4	English.
Number of additional paper Copies of Contractor's Documents:	1.8	Six (6) copies.
Total liability of the Contractor to the Employer:	1.14	Contract Price.
Right of Access to the Site:	2.1	Seven (7) days after the Commencement Date
Employer's financial arrangements:	2.4	Public funds from the Government of Ghana approved by Parliament
Performance Security:	4.2	10% of Contract Price

Maximum allowable accumulated value of work to be subcontracted	4.4(a)	Forty percent (40%)
Parts of the Works which subcontracting is not permitted:	4.4(b)	Not Applicable.
Notice of intended appointment of Subcontractor, intended commencement	4.4	Yes
Period of Payment for temporary utilities:	4.19	
Number of additional paper copies of progress reports:	4.20	(Six) 6 copies.
Normal working hours on the Site:	6.5 & 7.3	08:00 to 17:00 Hours GMT.
Number of additional copies of programmes:	8.3	(Six) 6 copies.
Delay Damages payable for each day of delay:	8.8	0.025% of the Contract Price per day.
Maximum Amount of Delay Damages:	8.8	Five percent (5%) of the Contract Price.
Percentage Rate to be Applied to Provisional Sums:	13.4(b)(ii)	Ten percent (10%).
Total Amount of Advance Payment:	14.2	Fifteen percent (15%) of the Contract Price.
Currency of Advance Payment:	14.2	United States Dollars (US\$) or the Ghana Cedi equivalent at day of payment
Percentage Deductions for the Repayment of the Advance Payment:	14.2.3	To be provided by ER
Period of payment:	14.3	To be provided by ER prior to Commencement Date
Number of additional paper copies of Statements:	14.3(b)	6 copies.
Percentage of retention:	14.3 (iii)	Ten percent (10%).
Limit of Retention Money (as a percentage of Contract Price):	14.3 (iii)	Five percent (5%).

Plant and Materials for payment when delivered to the Site:	14.5(b)(i)	None
Plant and Materials for payment when shipped:	14.5(c)(i)	None
Minimum amount of Interim Payment:	14.6.2	Three percent (3%) of the Contract Price
Period for payment of Advance Payment to the Contractor:	14.7(a)	Thirty-five (35) days after the Employer's Representative certifies the Advance Payment.
Period for the Employer to make interim payments to the Contractor – Sub-Clause 14.6 [Interim Payment]:	14.7(b)(i)	Forty-two (42) days after the Employer's Representative certifies the Statement and supporting documents.
Period for the Employer to make interim payments to the Contractor – Sub-Clause 14.13	14.7(b)(ii)	Forty-two (42) days after the Employer's Representative receives and certifies the Partially Agreed Final Statement; or if sub-paragraph (ii) of Sub-Clause 14.13 applies, within 56 days after the Employer's Representative receives and certifies the draft final Statement that is deemed to be a Partially Agreed Final Statement
Financing charges for delayed payment	14.8	One percent (1%) above the annual rate of SOFR
Number of additional paper copies of draft Final Statement:	14.11.1(b)	Six (6) copies.
Currencies for payment of Contract Price:	14.15	United States Dollars (US\$) or the Ghana Cedi equivalent at day of payment
Proportions or amount of local and foreign currencies and Fixed rates of exchange	14.15(a)(i)	Local: None Foreign: None
Currencies and proportions for payment of Delay Damages:	14.15(c)	United States Dollars (US\$) or the Ghana Cedi equivalent at day of payment
Rates of exchange:	14.15(g)	None

Forces of nature, the risk of which are allocated to the Contractor	17.2(d)	
Additional amount to be insured:	19.2(1)(b)	Fifteen percent (15%) of replacement value of 19.2(1)(a).
List of Exceptional Risks which shall not be excluded:	19.2(1)(iv)	
Extent of insurance required for Goods:	19.2.2	
Amount of insurance required for liability for breach of professional duty:	19.2.3.(a)	
Insurance required against liability for fitness for purpose:	19.2.3.(b)	Applicable.
Period of insurance required for liability for breach of professional duty:	19.2.3	Seven (7) years after the completion period
Other insurances required by Laws and by local practice:	19.2.6	
Time for appointment of DAB:	21.1	Twenty-eight (28) days after a Party gives notice to the other Party of its intention to refer a dispute to a DAB.
The DAB shall comprise:	21.1	Three (3) suitably qualified members
List of proposed members of DAB:	21.1	To be constituted when the event occurs.
Appointing entity (official) for DAB members:	21.2	The Ghana Institution of Engineering.

**PART B
PARTICULAR CONDITIONS
BETWEEN**

**ATEP LTD
(Employer)**

**AND
MARIPOMA ENTERPRISE LIMITED
(Contractor)**

PART B

PARTICULAR CONDITIONS

The Employer and the Contractor agree that these Particular Conditions are specifically adapted for the Contract between ATEP LTD ("Employer") and MARIPOMA ENTERPRISE LIMITED ("Contractor") and are part of the General Conditions of the Contract (Part A) (FIDIC Silver Book Conditions of Contract for EPC/Turnkey Projects (2017)) between the Employer and the Contractor. The Employer and the Contractor expressly agree that for the purposes of interpreting and understanding this Contract, these Particular Conditions shall take precedence over the General Conditions of Contract (Part A). Where these Particular Conditions of Contract are silent on an issue, but there is a General Condition addressing that issue, the General Conditions shall prevail.

1. GENERAL PROVISIONS

1.1. Definitions

1.1.2 "**Base Date**" shall refer to the 31st day of August 2023 when it is deemed that the Contractor had completed all site investigations thoroughly and knew all the intentions of the Employer including the intention to commence tolling and possessed knowledge of all key highlights of the transaction structure on the basis of which the Contractor built up its costs and agreed to the Contract Price.

1.1.4 "**Commencement Date**" means the date of Commencement of Works as indicated under sub-clause 8.1.

1.1.7 "**Contract**" means the Contract Agreement together with all the sets of documents listed in clause 2 of the Contract Agreement for the design of the Project and the redevelopment and expansion of Section 1.

The sub-clause is further amended by addition of 1.1.7.1 as follows:

1.1.7.1 "**Contracting Authority**" means the Ministry of Roads and Highways acting through the Ghana Highway Authority as stated in the Concession Agreement.

1.1.11 "**Contractor**" refers to "Maripoma Enterprise Limited."

1.1.15 "**Contractor's Representative**" refers to [] and/or any other person appointed by the Contractor and notified to the Employer as such.

1.1.18 "**Country**" means "Ghana".

1.1.24 **"Defects Notification Period"** means a period of twelve (12) months for the notifying of defects in the Works or a Section of the Works from the date the Works or the Section is taken over by the Employer in accordance with clause 10.2.

The sub-clause is further amended by addition as follows:

1.1.24.1 **"Latent Defects"** means defects in the Works detected by the Employer after the Defects Liability Period up to the last date of the Latent Defects Notification Period.

1.1.24.2 **"Latent Defects Notification Period"** means thirty-six (36) months commencing on the date of final take over by the Employer.

1.1.25 **"Delay Damages"** means 0.025% of the relevant Contract Price in respect of each day of delay in achieving completion of the Works, up to a maximum of 5% of the Contract Price.

1.1.27 **"Employer"** means "ATEP LTD"

1.1.30 **"Employer's Representative"** means the Ghana Highway Authority appointed by the Employer under the Employer's Representative Contract.

This sub-clause is further amended by addition of 1.1.30.1 as follows:

1.1.30.1 **"Independent Project Advisory Team (IPAT)"** means a suitably qualified and experienced multi-disciplinary team of experts appointed by the Employer as required under the Concession Agreement (therein referred to as IPAT) for purposes specified in the project management contract between the Employer and the IPAT.

1.1.31 **"Employer's Requirements"** means the document entitled Employer's Requirements issued by the Employer and any modification to that document in accordance with the Contract. Such document specifies the purpose, scope and/ or decision and/ or technical criteria for the Works.

1.1.35 **"FIDIC"**

The sub-clause is further amended by addition of 1.1.35.1 below:

1.1.35.1 **"Final Approval"** means all approvals required to carry out the Works in accordance with the Applicable Laws.

1.1.37 **"Foreign Currency"** means United States Dollars.

The sub-clause is further amended by addition of 1.1.37.1 as follows:

1.1.37.1 **"Government Authority"** means the Government of Ghana, or any ministry, department or Regional administration thereof or any person exercising executive, legislative, judicial, regulatory or administrative powers provided that the Employer shall not be considered a Government Authority for the purposes of the Contract.

1.1.43 **"Laws"** means the laws of the Republic of Ghana.

1.1.54 **"Performance Security"** means 10% of the Contract Price issued by the Contractor in accordance with Clause 4.2.

1.1.57 **"Programme"**

This sub-clause is amended by addition of 1.1.57.1 as follows:

1.1.57.1 **Project Account** means the bank account established and administered by the Employer exclusively for this Project.

1.1.58 **"Provisional Sum"** means the sum of Nine Million Nine Hundred Thousand United States Dollars (\$9,900,000) consisting of Nine Million United States Dollars(\$9,000,000) being the sum allocated for the Utility Relocation Works to be carried out on the Site by the Utilities Relocation Contractor and Nine Hundred Thousand United States Dollars (\$900,000) being the Contractor's management fee of 10% of the contract sum allocated for the Utility Relocation Works.

1.1.60 **"Retention Money"** means the accumulated retention monies which the Employer retains under Sub-Clause 14.3 and pays under Sub-Clause 14.9 subject to the condition that the maximum amount of Retention Money shall not exceed 5% of the Contract Price.

1.1.67 **"Site"** means Section 1 as defined under the Contract Agreement.

1.1.76 **"Time for Completion"** means thirty-six (36) months from the Commencement Date.

1.1.77 **"Unforeseeable"**

This sub-clause is amended by addition of 1.1.77.1 as follows:

1.1.77.1 **"Utility Relocation Works" or "URW"** has the meaning given in Sub-Clause 4.24 [Utility Relocation Works].

1.3 **Notice and other Communications**

This sub-clause is modified to include:

All notices required to be given under this Contract shall be in writing and in English and sent by registered mail or email or if hand delivered to the following addresses:

The Employer

ATEP LTD
9TH FLOOR, WORLD TRADE CENTRE
RIDGE AMBASSADORIAL ENCLAVE
29 INDEPENDENCE AVENUE
ACCRA GHANA

P.O. BOX CT 9300
Cantonments -Accra
Ghana
Attention: (Name)
Telephone:
Email:

The Contractor

MARIPOMA ENTERPRISE LIMITED
[address]

Attention: (Name)
Telephone:
Fax:
Email:

1.4 Law and Language

This sub-clause is modified as follows:

The Contract shall be governed by and construed in accordance with the laws of the Republic of Ghana excluding any conflict of laws rules and the language of the Contract shall be English.

1.5 Priority of Documents

This sub-clause is modified as follows:

The priority of the documents shall be as set out in the Contract Agreement.

1.12 Compliance with Laws

Paragraph (a) of the sub-clause is amended as follows:

“(a) the Contractor shall have obtained (or shall obtain) all the relevant Final Approvals to the extent that they are mandatory for the Contractor to obtain under applicable Laws

with reasonable assistance from the Employer. The Contractor shall indemnify and hold the Employer harmless against and from the consequences of any delay or failure to do so provided the delay or failure is not attributable to the Contractor or the failure is caused by the Employer.”

1.14 Limitation of Liability

The sub-clause is amended by addition of the following as the last paragraph:

“Liability of the Employer to the Contractor in respect of the payment under this Contract is limited to a maximum of the Contract Price herein.

As at the Base Date, the Contractor is deemed to have carried out all detailed pre-design tests and other tests necessary for its design. The Contract Price provided at the Base Date is fixed and the Employer shall bear no liability for anything the Contractor failed to foresee except as may arise pursuant to the Contract.”

2.1 Right of Access to the Site

The first sentence of the sub-clause is amended as follows:

“The Employer shall give the Contractor right of access to, and part possession of, the Site not later than seven (7) days after the Commencement Date.

The Contractor shall manage the works in such a manner to allow the continuous use of the road by all lawful road users during the construction period, and where necessary shall create alternate roads for roads users.”

2.2 Assistance

The sub-clause is amended by addition as follows:

“The Employer, shall using its best endeavours, liaise with the relevant Government Authority to undertake the following:

- (a) assist the Contractor in procuring all relevant approvals required subject to the Contractor having satisfied all reasonable criteria under applicable Law;
- (b) provide reasonable assistance to the Contractor in connection with implementing the Project and use its best endeavors to ensure that Government Authorities do not interfere with or prevent the Contractor from carrying out the Project provided the Contractor is complying with applicable Laws;

- (c) ensure that the appropriate Government Authority grants the Contractor sufficient possession of the Site as a whole or in subsections to enable the Contractor to carry out the Works per the approved Programme of Works.”

2.4 Employer’s Financial Arrangements

The sub-clause is amended by addition as follows:

“Both Parties shall cooperate in the manner of execution of the Works in accordance with the schedule of payment to be agreed by the Parties. Apart from the Advance Payment, all payments to the Contractor shall be made pursuant to the Payment Milestones which shall be annexed this Agreement pursuant to Clause 5.1.

The Works, Utility Relocation Works and the management fee of the Contractor with respect to such Utility Relocation Works shall be funded by the Employer through the Project Account.”

2.5 Site Data and Items of Reference

The first paragraph is deleted and replaced with the following:

“The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on subsurface and hydrological conditions at the Site, including environmental aspects. The Contractor shall be responsible for verifying and interpreting at its own cost all such data in accordance with good industry practices. This shall include conducting tests and relevant assessments of the soil conditions, topography of the Site, hydrological, climatic and environmental conditions at the Site before commencement of Works in accordance with good industry practices. The Employer shall have no responsibility for the accuracy, sufficiency or completeness of such data. “

3.1 The Employer’s Representative

The sub-clause is amended by addition of the following:

“the Employer shall not later than seven (7) days prior to the Commencement Date or as soon as convenient to do so, appoint a multi-disciplinary team of experts as an Independent Project Advisory Team (IPAT) to carry out specific duties which include providing relevant information and such special reports regarding the Works that the Employer may request under such terms to be set out in the Employer’s Independent Engineer’s contract between the Employer and the IPAT.” The Employer shall notify the Contractor of the appointment of the IPAT and the Contractor shall cooperate with the IPAT. The Employer will assume full responsibility for the acts or omissions of the IPAT.

4.1 Contractor's General Obligations

The sub-clause is amended by addition as follows:

"The Contractor's obligation for the design and performance of the Works, shall be carried out in regular consultation with the Employers Representative and any technical experts or advisors as may be appointed by the Employer to work with the Employer's Representative. The Contractor accepts that the consultation and collaboration with such experts appointed by the Employer shall not affect the liability of the Contractor for the design, execution and completion of the Works in accordance with the Contract".

4.2 Performance Security

The first paragraph of sub-clause is amended as follows:

"The Contractor shall obtain and maintain (at the Contractor's cost) a Performance Security to secure the Contractor's proper performance of the Contract. The Performance Security must be issued by a reputable bank approved by the Employer in the amount of 10% of the Contract Price. The bank providing the Performance Security should have a long- term credit rating equal to or greater than BBB as rated by Standard & Poor's or Baa2 as rated by Moody's;"

4.4 Subcontractors

The sub-clause is amended by addition as follows:

"The Contractor may, subject to the consent of the Employer (which consent shall not be unreasonably withheld or delayed) subcontract part/ parts of the Works that constitute not more than forty percent (40%) of the of the Works.

Engagement of Sub-Contractors pursuant to the above shall be subject to the prior approval of the Employer.

The request for consent shall include the following:

- (a) Corporate documents of the proposed subcontractor;
- (b) Description of parts of the Works to be executed by the subcontractor indicating the extent to which the sub-contract complies with this clause; and
- (c) Proposed agreement to be entered into between the Contractor and Subcontractor indicating the sub-contract price;"

4.13 Right of Way and Facilities

The first paragraph of this sub-clause is amended to read:

“The Contractor acknowledges that the right of way shall be given to the Employer under a Concession Agreement prior to the Commencement Date of this Contract and the grantor of the Concession (herein called the Contracting Authority) shall be responsible for the costs involved in acquiring any additional right of way which includes any payments of compensation to persons affected by the Works.”

4.24 Utilities Relocation Works

The Utilities Relocation Works shall be undertaken by a contractor pursuant to the Utilities Relocation Contract (“URC”) entered into between the GoG and the Utilities Relocation Contractor for the relocation of utilities defined under that contract. Utilities not specified under the URC shall be deemed to be part of the Works under the Contract unless expressly excluded in the Contractor’s Proposal as at the Base Date.

The Contracting Authority shall provide the Contractor with the specification, program of works, standard operating procedure and any additional technical design for the Utilities Relocation Works.

The Contractor shall also have the following responsibilities in regard of the Utility Relocation Works:

- (a) review of the URW specifications in order to confirm that there is sufficient space available within the existing right of way for the Works under this Contract;
- (b) management of the URW Subcontractor in accordance with Good Industry Practice;
- (c) obligations arising out of the Contractor’s general obligations under Sub-Clause 4.6 and its general obligations under this Contract; and
- (d) diverting traffic, ensuring the safety of the Site and allowing the nominated Subcontractor to access the Site for the purposes of carrying out the Utility Relocation Works.

Except to grant access to the relevant portions of the Site to the Contractors performing such Utility Relocation Works as is necessary therefor and responsibilities set out in (a) to (d) above the Contractor shall assume no responsibility or liability in connection with, or in relation to the performance or non-performance of the Utility Relocation Works (including in respect of the fitness for purpose of the Utility Relocation Works).

5.1 General Design Obligations

This is amended by addition of the following:

“The Contractor shall submit the completed detailed design drawings, according to the Employer’s Requirements for review and approval by the Employer prior to Commencement of construction of the Works. The approval of the Employer shall not absolve the Contractor from any liability relating to the design and fit for the purpose of the design in accordance with the methodology proposed by the Contractor in the Programme of Works.

The Contractor shall complete and submit the draft final design not later than three (3) months after the Commencement Date. Not later than sixty (60) days after the submission of the draft final design, the Contractor and the ER shall agree on and set out the Payment Milestones which shall be aligned with the draft final design and the Programme of Works.

Not later than twenty-eight (28) days after receipt of the Advance Payment, the Contractor shall commence preliminary Works which shall as a minimum include site camp, clearing, roads and the creation of such diversions and detours in line with the general arrangement as is necessary to avoid/ minimize any adverse impact on traffic and road users.

The final detailed design drawings shall be completed and submitted for approval by the Employer not later than six (6) months after signing this Agreement.”

6.5 Working Hours

This sub-clause is amended by addition of the following:

The Contractor shall submit to the Employer as part of its Method Statement the working hours of the Contractor taking into account the Contract Period.”

6.10 Contractor’s Record

The sub-clause is amended by addition of the following:

“The Contractor shall maintain all records on Site and the Employer is entitled, on giving reasonable notice, to inspect and make copies of the records.”

8.1 Commencement of Works

The second paragraph of the sub-clause is deleted and replaced with the following:

“The Commencement Date shall be seven (7) days following the date when all the following conditions precedent are satisfied:

- a. the Contractor has submitted Performance Security in accordance with sub-clause 4.2;
- b. the Contractor has submitted the Advance Payment Guarantee
- c. the Contractor has received the Advance Payment subject to sub-clause 14.2;
- d. the Employer has created the Project Account. and
- e. the Employer has granted sufficient possession of the Site as a whole or in subsections to enable the Contractor to carry out all or applicable portions of the Works per the approved Programme of Works.”

The Contractor shall commence mobilization for the Commencement of Works not later than fourteen (14) days upon receipt of the Advance Payment.

8.2 Time for Completion

The sub-clause is amended as follows:

“The Works shall be completed within thirty-six (36) months from the Commencement Date”.

8.3 Programme

The first paragraph is replaced with the following:

“The Contractor shall submit a detailed programme for the execution of the Works accompanied by a method statement within 14 days of the Commencement Date.

The sub-clause is further amended by addition as follows:

“The Employer shall give the Contractor reasonable notice of a date to commence tolling on Part or all of the Site or Works and the Contractor shall cooperate with the Employer to operationalize this.

The Contractor shall manage the Works to ensure that the commencement of tolling has no effect on the Completion Date of the Works.”

8.8 Delay Damages

This sub-clause is amended by addition as follows:

“Delay Damages shall be assessed at 0.025% of the relevant Contract Price in respect of each day of delay in achieving completion of the Works. The maximum amount of Delay Damages shall not exceed 5% of the Contract Price.”

10.2 Taking Over of Parts of the Works

This sub-clause is amended by addition as follows:

“The takeover or use of Parts of the Works shall not absolve the Contractor of any liability in the Works.”

11.1 Completion of Outstanding Works and Remedying Defects

This sub-clause is amended by addition as follows:

“The Defects Notification Period shall be twelve (12) months calculated from the date of Taking-Over Certificate for any completed section or the whole Works issued by the Employer’s Representative under sub-clause 10.1.

The Latent Defects Notification Period shall be thirty-six (36) months calculated from the date of Final Taking-Over Certificate for the whole of the Works issued by the Employer under sub clause 10.1.

In the event of Defects occurring during the Defects Notification Period or Latent Defects Notification Period as the case may be, the Contractor undertakes to remedy same at the earliest possible date by either repair or replacement.”

13.1 Right to vary

The sub-clause is amended by addition as follows:

“The Employer reserves the right to make a variation of omission or addition as necessary provided that in the case of a variation of omission of the scope of the Works, it shall consist of Works that do not exceed ten percent (10%) of the Contract Price based on the price stated in the Bill of Quantities for the Works.

The Contract Price shall remain a fixed lump sum contract and there shall be no risk of unforeseen or contingent liability to the Employer except any variation as may be occasioned by the Government of Ghana (GoG) (in which case the Employer will use its best endeavours to procure as required, additional funding for such variations if the context requires other than as may be due to GoG initiated variations, the Contractor will bear all other risks related to Cost.”

13.6 Adjustments for Changes in Laws

The sub-clause is amended by addition as follows:

"The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting directly from a Change in Laws provided the change leads to an increase in the cost of the Contractor by more than 5% of the Contract Price at the Base Date.

Where the Change in Laws causes an increase of more than 5% of the Contract Price, Employer shall use its best endeavours to procure that Contractor is paid any duly additional certified additional sums."

14.2.1 Advance Payment Guarantee

The sub-clause is amended by addition as follows:

The Advance Payment Guarantee must be issued by a reputable bank approved by the Employer and the bank must have a long- term credit rating equal to or greater than BBB as rated by Standard & Poor's or Baa2 as rated by Moody's.

14.2.2 Advance Payment

This sub-clause is amended as follows:

The Employer shall make the advance payment within twenty-eight (28) days after:

- (a) *"The Employer has received both the Advance Payment Guarantee and the Performance Security in the forms set out in Schedule 6 and Schedule 7 respectively, and, in the case of the Performance Security, issued in accordance with sub-clause 4.2 (Performance Security) by a bank approved by the Employer.*
- (b) *The Employer has received the Contractor's application for the advance payment under sub-clause 14.2.1 (Advance Payment Guarantee)."*

14.4 Schedule of Payments

This sub-clause is deleted and replaced as follows:

"Payment shall be made in accordance with the Schedule of Payment attached to this Contract based on certificates issued for the attainment of milestones specified in the schedule. The amount indicated in the Statement shall become due and payable upon being certified by the Employer's Representative that the Contractor has attained the milestone. The payment shall be less the percentage of the advance payment recoverable and the applicable portion of the Retention Money."

14.8 Delayed Payment

This sub-clause is amended by replacing the 2nd paragraph with the following:

“If the Contractor does not receive payment in accordance with Sub-clause 14.7 [Payment], the Contractor may be entitled to receive simple interest of [one percent (1%) above SOFR on the outstanding amounts per annum.”

14.9 Release of Retention Money

The sub-clause is replaced with the following:

“The Parties agree that the Retention Money applicable under this Contract to be applied under clause 14.9 shall not exceed 5% of the Contract Price.

Sub-clause 14.9 is modified as follows: 50% of the total Retention Sum shall be released following the issue of a Final Taking-Over Certificate and the remaining 50% shall be released upon the expiration of the Latent Defect Notification Period.”

14.15 Currencies of Payment

The Currency of all Payments shall be the United States Dollar.

15.5 Termination for Employer’s Convenience

The first paragraph is amended by the following addition to the first paragraph:

“The Employer may terminate this Contract in the event of termination of the Concession Agreement or failure of the Government of Ghana to disburse funds as required according to the Schedule of Payment within four (4) months of the payment being due. The Contractor shall have direct recourse to GoG in the event of any liability that may arise as a result of such failure on the part of GoG. “

15.6 Valuation after Termination for Employer’s Convenience

Paragraph (b) is deleted.

The paragraph: “The Employer shall pay the amount so agreed or determined to be due the Contractor, without the need for the Contractor to submit a Statement” is deleted.

15.8 Ownership of design after termination

In the event that this Contract is terminated by either party prior to the Commencement Date, the Employer shall pay the Contractor the value of the work done for the design subject to approval of the design by the Employer. Upon the payment of the design cost,

the Contractor shall transfer the ownership of the design to the Employer provided that such transfer shall not absolve the Contractor of any liability relating to the design.

19.1 General Requirements for Insurances

This sub-clause is amended by including the following:

“The Parties understand that this Clause 19 shall be construed at all times to mean that the Contractor shall take and maintain all insurance indicated in the Clause with a reputable insurance company in Ghana approved by the Employer.”

21.1 Constitution of DAB

The sub-clause is amended by addition of the following:

“Disputes shall be decided by a DAB which will be constituted on an ad hoc basis as and when disputes arise in accordance with Sub-Clause 21.4 [Obtaining DAB’s Decision].

The Dispute Adjudication Board (DAB) shall comprise three (3) suitably qualified members appointed within fourteen (14) days after the occurrence of a dispute with each Party appointing one (1) person to the DAB and the two (2) appointed persons appointing a third person who shall chair the DAB, provided that if the two (2) appointed persons fail to appoint the third, the appointment shall be made by the Ghana Institute of Engineers.”

The agreement between the Parties and each of the three members shall incorporate by reference the General Conditions of the DAB contained in the Appendix to these Particular Conditions.

The remuneration for the members will be provided in the Dispute Adjudication Agreement.”

21.6 Arbitration

21.6 (a) to (c) is deleted and replaced as follows:

“Any Dispute which is not resolved amicably pursuant to sub-clause 21.5 shall be settled by arbitration initiated by either Party by submission to arbitration under the Rules of Arbitration of the International Chamber of Commerce (or such amended rules in force on the date on which the proceeding is instituted) (the “ICC Rules”), which ICC Rules are deemed to be incorporated by reference to this Sub-Clause.

- (a) The number of arbitrators shall be three (3) appointed in accordance with the ICC Rules, the seat of arbitration shall be Ghana, and the venue shall be Accra, Ghana or any mutually acceptable venue within the Republic of Ghana.
- (b) The language of arbitration shall be English.

- (c) In respect of the Applicable Law the Parties agree that the laws of the Republic of Ghana including the Alternative Dispute Resolution Act, 2010 (Act 798) or any such law for the time being in force shall be the Applicable Law.

The Parties agree that the above arbitration shall be the sole and exclusive method of resolving disputes and the award shall be final and binding upon the Parties.

This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder.

SCHEDULES

TABLE OF SCHEDULES

Number	Document	Status
1.	Concession Excerpts	To be attached
2.	The Employer's Requirements	Attached
3.	Site	Attached
4.	Programme of Works	To be attached
5.	Payment Milestones	To be attached
6.	Bills of Quantities/ Details of Contract price	To be attached
7.	Form of Advance Payment Guarantee	Attached
8.	Form of Performance Security	Attached
9.	Environmental, Health and Safety approved by the Employer's Representative	To be attached
10.	Forms of Certificates approved by the Employer's Representative	To be attached
11.	Design Reports approved by the Employer's Representative	To be attached
12.	Review procedure	Attached
13.	Insurances applicable under the Contract	To be attached

ATMP CONCESSION

SCHEDULE 2

EMPLOYER'S REQUIREMENTS

DESIGN AND CONSTRUCTION OF ACCRA – TEMA MOTORWAY AND EXTENSIONS PROJECT (ATMP) 27.7km

THE CHIEF EXECUTIVE OFFICER

March 2022

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Acronyms / Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ATMP	Accra Tema Motorway Project
EPC	Engineering, Procurement and Construction
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
GHA	Government Highway Authority
GoG	Government of Ghana
IE	Independent Engineer
IRI	International Roughness Index
LOS	Level of Service
MRH	Ministry of Roads and Highway
MTDPF	Medium-Term National Development Policy Framework
NMMTMP	National Multimodal Transport Master Plan
OHS	Occupation Health and Safety
PCC	Portland Cement Concrete
PPE	Personal Protection Equipment
RAP	Resettlement Action Plan
ROW	Right-of-Way
SBS	Styrene-Butadine-Styrene

1 Description of Works

1.1 Project Background

Ghana is a natural gateway for international trade for its landlocked neighbours provided it has a year-round well maintained, economically efficient road infrastructure. Transportation infrastructure is identified as a key focus area to drive economic growth and sustainable poverty reduction in the Coordinated Programme of Economic and Social Development Policies (2017- 2024) which centers on:

- i. Enhancing Competitiveness of Ghana's Private Sector
- ii. Infrastructure and Human Settlement Development
- iii. Human Development, productivity and employment
- iv. Transparent, Responsive and Accountable Governance among others.

To this end the Transport Sector of Ghana is focused on providing "An integrated, efficient, cost-effective and sustainable transportation system responsive to the needs of society, supporting growth and poverty reduction and capable of establishing and maintaining Ghana as a Transportation Hub of West Africa".

The Government of the Republic of Ghana (GoG) in line with its Medium-Term National Development Policy Framework (MTDPF) of achieving a middle-income status by the year 2020 is pursuing a comprehensive National Multimodal Transport Master Plan (NMMTMP).

The Ministry of Roads and Highways (MRH) acting through the Ghana Highway Authority (GHA) intends to develop the Accra-Tema Motorway and Extensions Project as a Design-Build-Finance-Operate – Maintain (DBFOM) contract.

The Project commences from Tema Interchange through Tetteh Quarshie Interchange, George W. Bush Highway and Apenkwa Interchange on the N1 leading to Neoplan Junction on the N6. The project road forms part of the international transit corridors in the West African sub-region. There are existing traffic bottlenecks on this corridor which carries valuable goods to and from major cities such as Kumasi and Tamale in the North, Cape Coast and Takoradi in the West and commuters in the Greater Accra Region. These bottlenecks impede the movement of vehicles thereby causing delays. The implementation of the project will provide transportation solution from the Port of Tema to the major cities of Kumasi and Tamale.

The project name for this scope of works is "**Design and Construction of the Accra – Tema Motorway and Extensions Project (ATMP) – 27.7km**"

This Employer's Requirements:

1. Represent the scope of work to be undertaken under project.
2. Set out precisely the requirements of the Employer to facilitate Contractor to price the works accurately;
3. Describe and determine the result to be achieved by the Contractor
4. Specify the project requirement in terms of performance parameters or specifications;

1.2 Project Objectives

The project aims at enhancing regional integration and cooperation between Ghana and the rest of ECOWAS member states by carrying international traffic across the border. The project when implemented will enhance economic activities, movement of goods and people to markets and facilitate regional trade and economic integration. The project road also links several regional capital towns with the national capital, Accra.

1.3 Project Outline

1.3.1 Project Overview

The project corridor, located in the Greater Accra Region of Ghana, consists of three distinct sections of the National Road network that provide vital linkages from the capital city Accra and the Tema Port, to the northern and western part of the country and the land-locked Sahelian countries of West Africa. Figures 1-1 and 1-2 show the project location and project roads, respectively. The project scope covers 27.7 km and is organized into three (3) sections of roadway, as summarised in Table 3-1.

Figure 1-1: Project Location Map



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Figure 1-2: Overall Project Layout

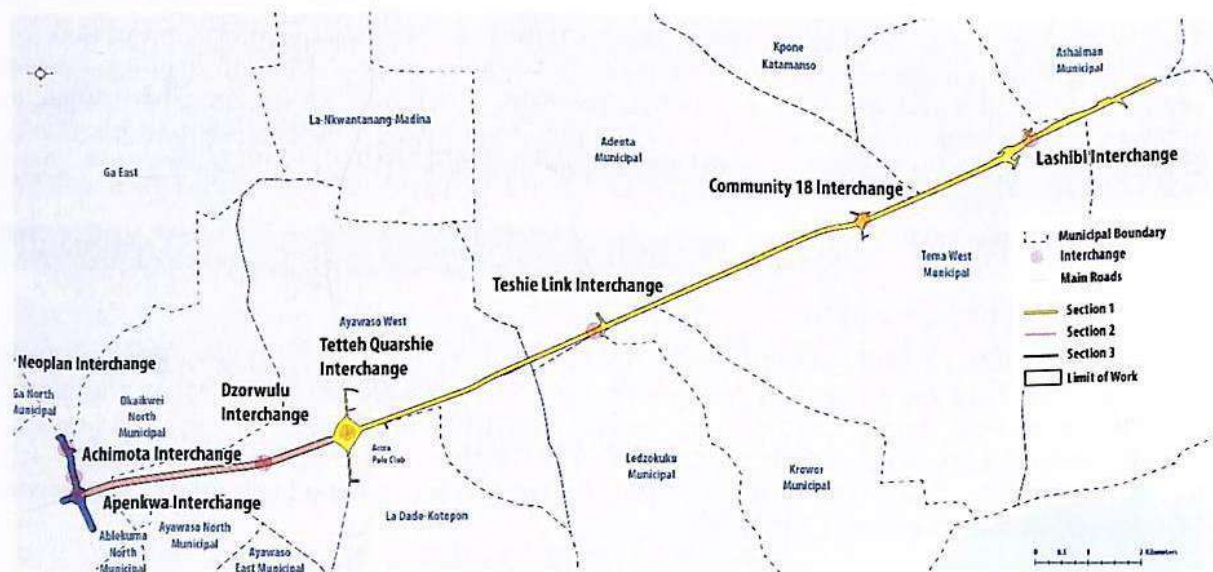


Table 1-1: Description of the Scope of Project Corridor

Section	Route No.	Road Name	Description	Length (km)
1	N1	Accra- Tema Motorway	Tema Interchange – Tetteh Quarshie Interchange	19.5
2	N1	George W. Bush Highway	Tetteh Quarshie Interchange - Apenkwa Interchange	5.7
3	N6	Nsawam Road	Apenkwa Interchange – Neoplan Junction	2.5
Total				27.7

1.3.2 Existing Site Condition

The road and traffic flow conditions for various sections of the projects roads as discussed below.

Section 1: Accra – Tema Motorway (Tetteh Quarshie Interchange – Tema Interchange) - 19.5km

This section is a 2x2-lane dual carriageway constructed with limited access. It has a concrete pavement but in fair to poor condition. It is accessed by three interchanges (Tetteh Quarshie, Ashaiman and Tema), right in and right-out accesses on the eastbound direction at the Bank of Ghana and Community 18 Junctions. There are three toll booths on this section.

The Tetteh Quarshie Interchange is a bottleneck where flow on the N1 is severely impeded during the morning and evening peak periods due to inadequate exit capacities on the N4 – Liberation Road that crosses at a grade below the N1. The activities of unplanned public transport terminals and the Accra Mall generate high pedestrian movement which also add to the interference in traffic flow compounded with access from the adjoining Spintex Road.

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During peak hours, limited overtaking opportunities exist with drivers tending to undertake risky maneuvers. The performance of the existing tollbooths at peak hours is inefficient leading to long tailbacks.

There have been significant urban developments along the N1 on both sides of the Accra – Tema Motorway since it was constructed as a fully access controlled facilities in the early sixties. There is therefore a heavy demand for access and by these developments. These have resulted in some illegal accesses that have developed with time. Some of these accesses are being regularized which include Bank of Ghana, Tema Community 18 and University Farms.

In sections between University farms and Ashaiman underpass, access spacing is close and it would seem appropriate to incorporate a service road as a collector for all these accesses. There is also the need for significant north-south travel to cross the motorway. The motorway has become a barrier to these movements. There are currently two single lane underpasses in use for north-south movement converted from underpasses provided for cattle in the sixties. Significant delays are experienced at these locations.

The Greater Accra regional network development plan has identified up to 5 locations where grade separated crossings are required over the motorway. Each of these interchange positions will be developed to incorporate controlled access and possible tolling. Fencing along the road to restrict other forms of access is completely lost and pedestrians are seen crossing the road at several locations. This is highly unsafe and these crossing needs have been identified with proposals to provide access and crossover facilities at the selected locations along the 19.7km road to reduce the high number of vehicular and pedestrian related accidents.

Section 2: Tetteh Quarshie Interchange – Apenkwa Interchange (5.7km)

This section is an asphaltic 2x3-lane dual carriageway with service lanes at some sections. It is constructed with limited access and in good condition. There is free flow of traffic on this section of the road. The traffic flows are however interrupted by the Dzorwulu traffic signals that have inadequate capacity for left turning traffic. This creates significant interruption to through traffic on the N1. The section also has a rotary interchange at Dimples with adequate capacity.

The Apenkwa Interchange is a partial cloverleaf that is limited by the exit capacity onto the North- South N6 and inadequate number of lanes on the N1 bridge for merging and diverging flows. Haul truck drivers tend to park close to the North East slip road of this interchange and their activities significantly impede northbound movement. Existing at-grade pedestrian crossing facilities have high pedestrian volumes and are also unsafe.

Section 3: Apenkwa Interchange – Neoplan Junction (2.5km)

This section is an asphaltic 2x3-lane dual carriageway constructed with limited access and in good condition. Existing at-grade pedestrian crossing facilities have high pedestrian volumes and are also unsafe. The section has one grade separated intersection with the Achimota Road and terminates at a signalized intersection at Neoplan Junction. Highway traffic and local traffic are segregated beyond this intersection.

Traffic flow is interrupted mainly by significant pedestrian and urban activities but flows at a steady pace below 50km/hr. The major bottleneck is at the traffic signal at the end of the section at Neoplan Junction. The large volume of local traffic that queue at this intersection spills onto lanes dedicated to highway traffic thereby impeding their movement. The traffic signals that also permit left turns to join the N1 in the south create bottlenecks.

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1.3.3 Drainage

Drainage consists of concrete side drainage structures consisting of a mixture of u-drains, rectangular and pipe concrete drains, and trapezoidal stone pitched drains on the George W. Bush Highway and Nsawam Road and mostly earth side drains on the Motorway. The cross-drainage structures are principally box culverts and pipe culverts.

1.3.4 Utility Lines

There are existing utilities along the full length of the Project Site. These utilities will need to be relocated to enable the construction of the roadway and associated facilities work. that will be impacted during the construction of the Works. The services (water, electricity, telecommunications etc) shall be mapped out and the necessary provision for their relocation be made under the project.

1.3.4 Right of Way (RoW) and Land Ownership

The Right of Way to be provided by the Employer is a nominal 90m along straight road sections. Provision is made under the project for payment by GoG of compensation to re- settle occupants of the ROW to in turn provide an unoccupied ROW to Employer. Additionally, where required, GoG will acquire the land within the limits of the Project Site, and will clear structures within the acquired land to in turn provide the full extent of the Project Site to Employer. In turn, Employer will provide access to an encumbered site to Contractor.

However, the acquisition of land and resettlement will be conducted over time in a sequenced manner which will in turn require a phased approach to the possession of the Project site as described in Section 3.4 of this document.

2 Site and Other Data

2.1 Geology and Climate

The project road lies within the tropical continental zone which is characterised by two distinct climatic seasons – dry season during which harmattan (North-East Trade Winds) predominate and the wet season characterised by the moist South Western Monsoons. Mean low temperatures range between 26.7°C and 25°C whereas the mean high temperature is between 26°C to 32°C.

The entire stretch of the project road is underlain by a variety of lithologies – igneous, metamorphic and sedimentary rock which belong to two main geological formations namely,

- The Upper Birimian System with its associated granitic intrusives which underlie the northern
- 18% of the road and
- The Voltain System which underlie the remainder of the project roads.

2.2 Telecommunications

International telephone, telex, e-mail and fax connections are available in Accra, and all the regional capitals. Telecommunication will be the responsibility of the Contractor.

2.3 Accommodation

Camp facilities at the construction sites including all lodging offices, canteens, portable cabins, workshops, water and electricity supply, sanitation, etc will be the responsibility of the Contractor.

2.4 Medical Facilities

Suitable first aid stations and medical staff at the sites will be the responsibility of the Contractor. Hospitals are located at Accra, all the regional capital and district capitals.

2.5 Construction Power

Construction power can be taped from the National Grid. However, power outages are common so the contractor may need to supplement this by providing appropriate back-up power

3 Scope of Work

The works shall be undertaken as an EPC/ Turnkey project based on the FIDIC 1999 Silver Book Edition Conditions of Contract. All construction and design will be carried out in accordance with the Laws and Regulations of the Republic of Ghana, Standards, Specifications and Guidelines stated in the Employer's Requirements and obligations stated in the Conditions of Contract.

3.1 Project Components

The Project comprises three sections of roadway work, with their respective tolling infrastructure and systems, and the relocation of utilities needed to support the expansion of the roadways and interchanges of the Project. A description of these components is provided below.

3.2 Overall Presentation of the Roadway work

The Toll Road System as described in the Feasibility Report includes but is not limited to the following:

Table 3-1: Project Road Components

Section	Route No.	Road Name	Road Name	Length (km)
1	N1	Accra Tema Motorway (Tetteh Quarshie Interchange – West of Tema Roundabout).	Rehabilitate and expand to a minimum of 10-lane divided Highway as a minimum, complying to LOS requirements, with full access control Highway including: <ul style="list-style-type: none"> ▶ Reconstruction of Tetteh Quarshie Interchange; ▶ Construction of Teshie Link Interchange; ▶ Construction of Community 18 Interchange; ▶ Construction of Lashibi Interchange; ▶ Construction of 8 No. Toll Plazas; ▶ Construction of 10 No. New Footbridges. ▶ Enhancement of roadway traffic in Lagos Avenue/Lagos Link Area, North of the Tetteh Quarshie Interchange ▶ Rehabilitation/widening of Liberation Road to Polo Club, and overpass to Polo Club, South of the Tetteh Quarshie Interchange 	19.5
2	N1	George W Bush Highway (Tetteh Quarshie Interchange -	Rehabilitation and widening to 12-lane divided Highway as a minimum, complying to LOS requirements, with	5.7

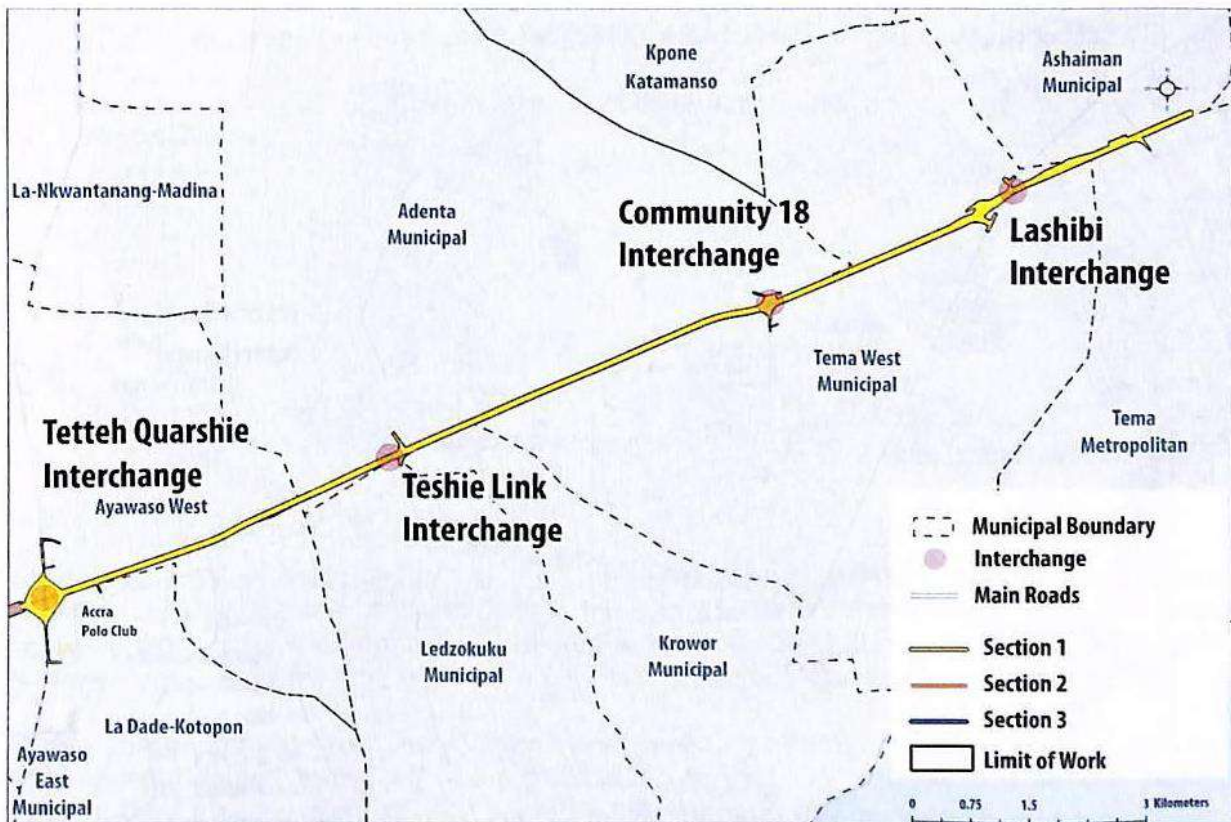
SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

		Apenkwa Interchange).	full access control for the freeway, including: <ul style="list-style-type: none"> ▶ Construction of Dzorwulu Interchange; and ▶ Construction of 2 No. Toll Plaza. ▶ Constructoin of 2 New footbridges 	
3	N6	Nsawam Road (Tesano Junction - Neoplan Junction).	Rehabilitate existing 6-lane divided Highway with full access control for the freeway, including: <ul style="list-style-type: none"> ▶ Reconstruction of Apenkwa Interchange; ▶ Rehabilitation of Achimota Interchange ▶ Construction of Neoplan Interchange; and ▶ Construction of 3 No. Footbridges. 	2.5
Total				27.7

3.2.1 Section 1

The overall limits of work of Section 1 are graphically represented in Figure 3-1.

Figure 3-1: Section 1 Limits of Work

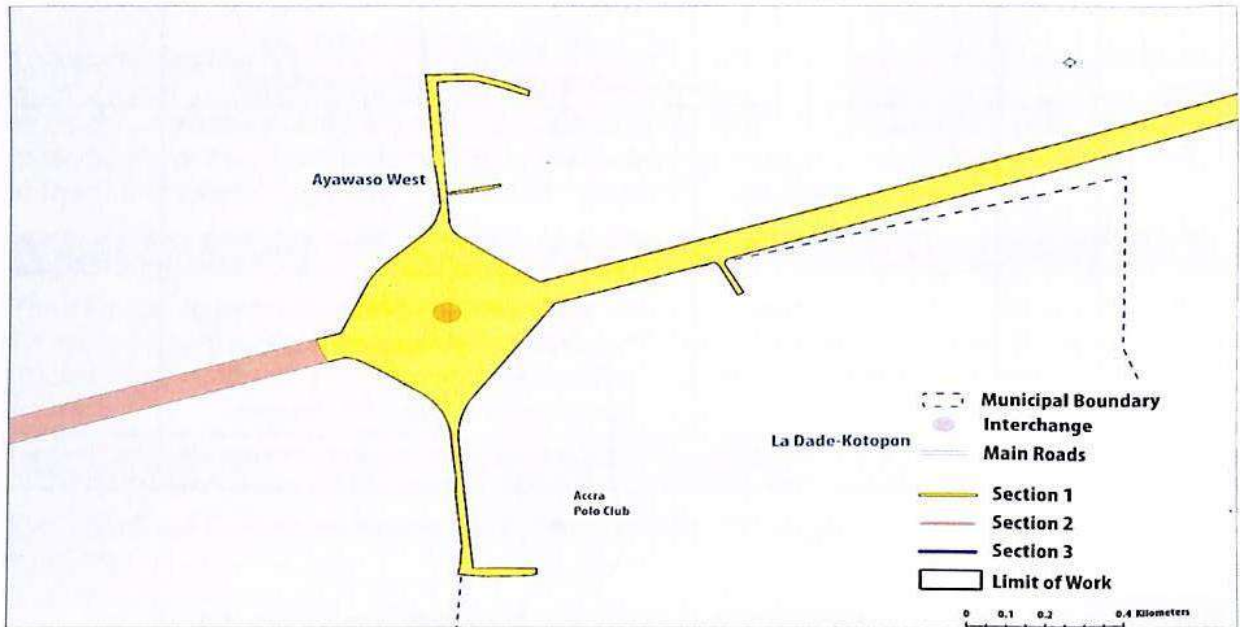


A specific attention will be provided at the Tetteh Quarshie interchange which will require extended work areas North and South of the interchange to enhance traffic flows at the interchange. On the South side of the interchange, the work area shall extend on Liberation Road to the Polo Club. On the North side, the work area shall include the area East of N4

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

between Lagos Avenue, Lagos Link and Shiashie Road. A graphic representation of the work limits at the Tetteh Quarshie Interchange is provided in Figure 3-2

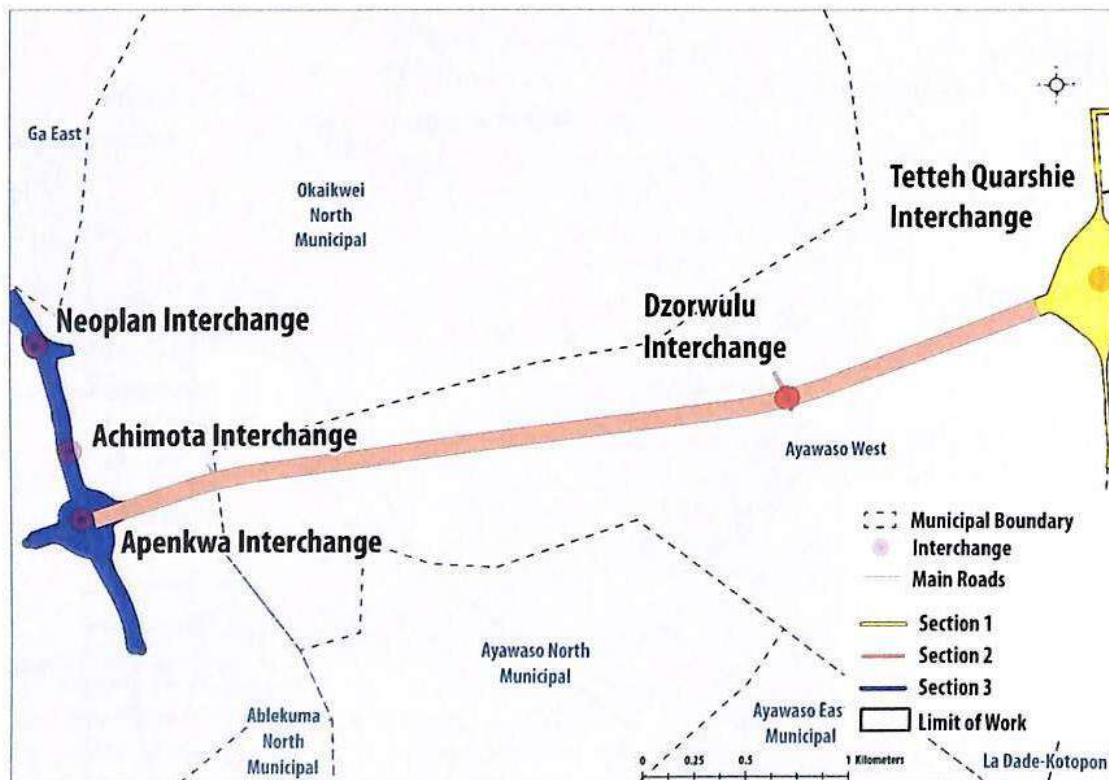
Figure 3-2 Work Limits at the Tetteh Quarshie Interchange



3.2.2 Section 2

The overall limits of work of Section 2 are graphically represented in Figure 3-3.

Figure 3-3: Section 2 Limits of Work



SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

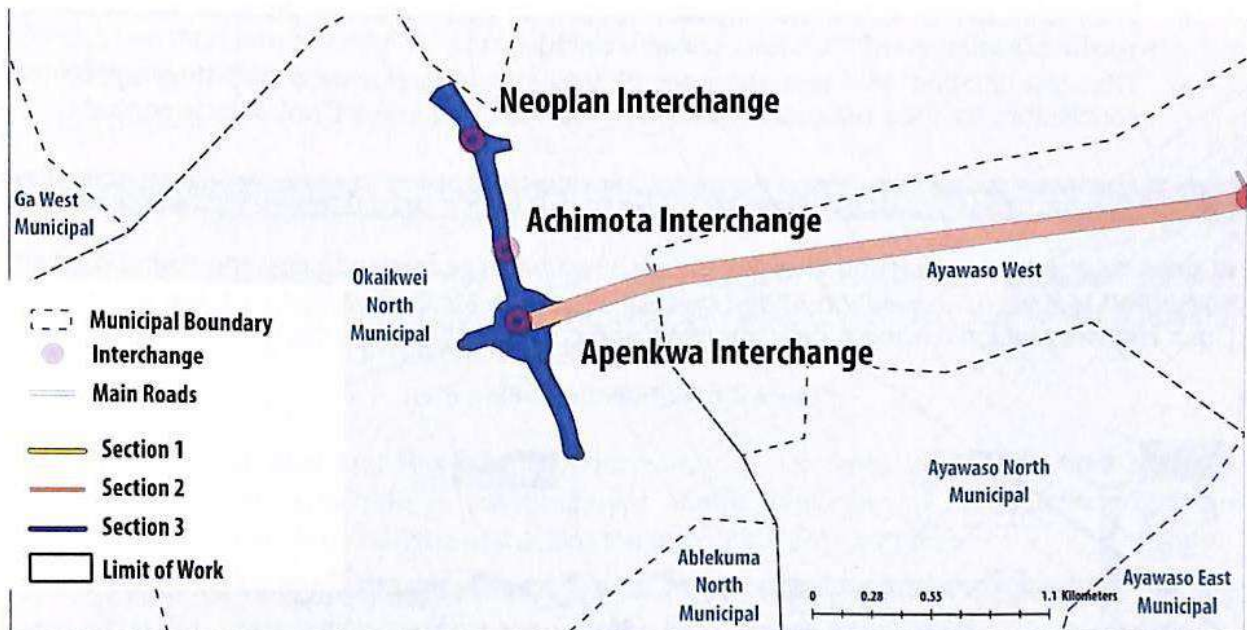
The exact work limits of this Section shall vary based on the concept design of the toll plaza to be designed and built for this Section. Given the many challenges, including environmental and social impacts, of the construction of the toll plaza in this area, the Contractor will develop a Preliminary Design of the proposed concept to be reviewed and agreed by the Concessionaire and Grantor of the Concession, prior to developing the Detailed Design. The objective of the Contractor shall be to deliver a toll plaza in accordance with KPIs of other toll plazas to the extent possible, while also minimizing the extent of land acquisition; the negative impact of land-use; the extent of resettlement; and the encroachment on the Achimota Forest.

It is understood that the Preliminary Design will be per one of the concept designs proposed in earlier stages of discussion of the project or a hybrid/extrapolated version of them. The concept designs of consideration are presented in 7Appendix B of this Employer's Requirements.

3.2.3 Section 3

The overall limits of work of Section 3 are graphically represented in Figure 3-4Figure 3-4.

Figure 3-4: Section 3 Limits of Work



3.2.4 Relocation of Utilities

Utilities are present within the limits of the Project Site. These utilities are expected to consist of power and potable water transmission lines in the 90m Right-of-Way along the three sections. More utility lines are to be expected at interchanges but no information is available for those locations at the time of preparation of this document.

These utilities shall be relocated where necessary to clear the footprint of the expanded roadways and interchanges, within the limits of the Project site. The relocation of the utilities does not include any planned upgrade of the facilities in terms of capacity or standards. However, given the unknown condition and age of some of the utility lines, it is to be expected that some of the lines may need to be upgraded if their condition does not warrant their safe relocation. If these conditions are encountered, they should be discussed with the Employer and the utility owners prior to upgrading the utility lines.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

The Contractor is informed that the physical relocation of some utility lines such as telecom lines will be carried out by utility providers themselves (or their selected contractor) and shall not be the responsibility of the Contractor. However, the Contractor shall inform the utility owners on the needed revised location of their utility lines to accommodate the overall utility and roadway "design".

For the utility lines to be physically relocated by the Contractor, the Contractor shall subcontract this work to nominated subcontractors selected by GoG.

The responsibilities of the Contractor are summarized as follows:

- "Design" of the relocation of all the utility lines to ensure its proper integration in the overall design of the road expansion project
- During construction, relocation of some utility lines only
- Management of nominated subcontractors and sequencing of their work in the overall project execution
- Oversight of construction location/depth in accordance with overall utility relocation "design" by Contractor and utility standards to be provided by utility owners

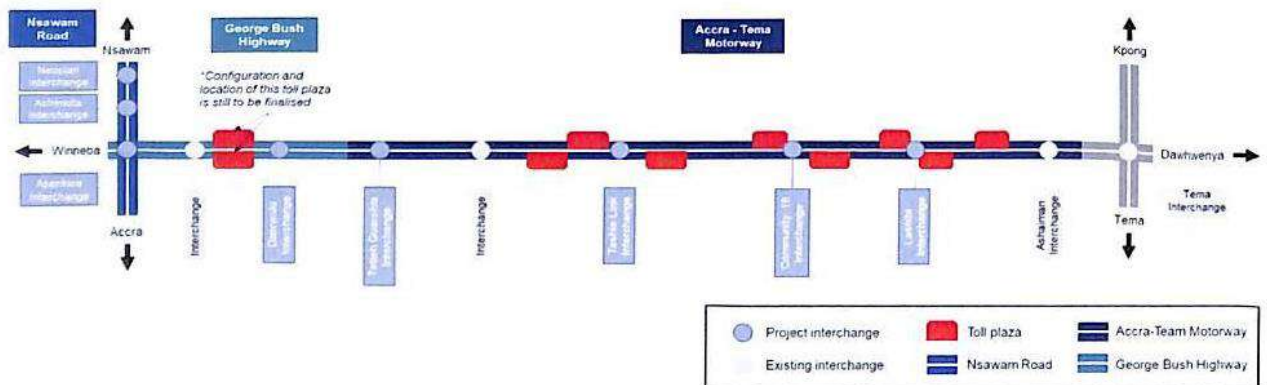
GoG shall be responsible for:

- The selection of nominated subcontractors to complete the physical relocation of specific utilities in the Concessionaire's contract
- The coordination and management of utility providers/owners and their appointed contractors for their relocation of utilities, not included in the Contractor's contract.

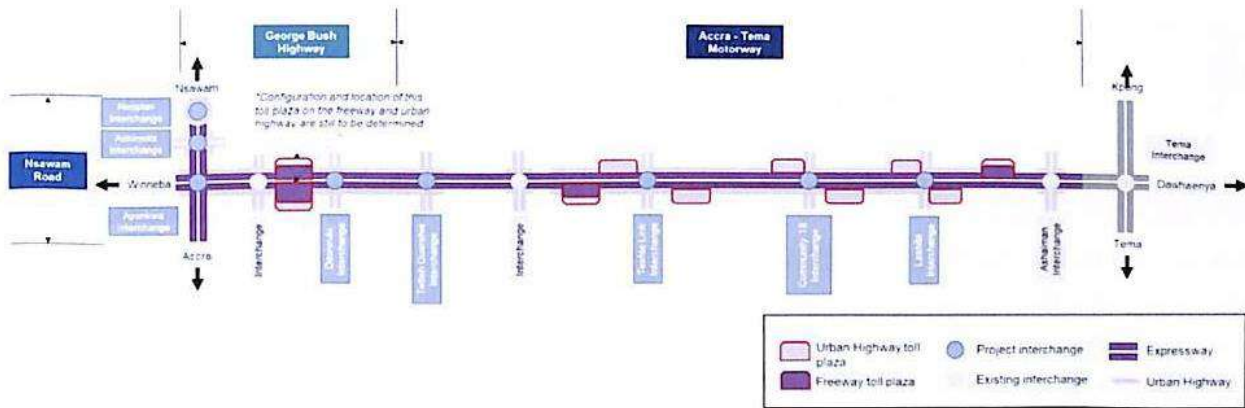
3.3 Overall Presentation of the Tolling Locations

In general, the type and location of toll plazas shall be in accordance with the tolling concept presented below. An exception shall however be made for the toll plaza on the George W. Bush Highway which warrants new attention and consideration as is discussed in 3.2.2

Figure 3-5 Schematic Tolling Plan



SCHEDULE 2 - EMPLOYER'S REQUIREMENTS



Source: CPCS

3.4 Availability of the Project Site and Phased Construction Works

The limits of the Project Site are presented in Figure 1-2. They represent the limits of work as defined in the accepted Preliminary Engineering Design (PED) documented in Appendix 1 of this document.

GoG will be responsible for acquiring the land not in its possession at signature of the Concession Agreement and for making it available free of encumbrances to the Employer per the following milestones:

a) Section 1:

- The full 90m Right-of-Way of this Section will be made available to the Employer as a Section 1 Works Condition Precedent.
- Additional land needed at interchanges or specific locations for toll plazas/weight stations will be made available to the Employer within 6 months of the Section 1 Commencement Date.

b) Sections 2 and 3:

- The land and Right-of-Way necessary to complete Sections 2 and 3 will be made available to the Employer at the beginning of construction of these sections as defined in the Contractor's Initial Programme.

All compensation and re-settlement needed to be addressed per the RAP within the Project Site will be the responsibility of and addressed by GoG before the phased areas of the Project Site are transferred to the Employer. GoG will also be responsible for the relocation of specific utilities excluded from the Contractor's contract, as described in Section 3.2.4, prior to transferring the phased areas of the Project Site to the Employer.

As soon as the site is transferred to the Employer, the Employer will make it available to the Contractor. The Contractor is to phase its construction Works programme in accordance with the phased availability of the Project Site described above. However, it is important to note that Sections 1, 2 and 3 will not be available at the same time. The Project shall commence with the design and construction of Section 1. At a later time, the design and construction of Sections 2 and 3 will follow. Regardless of timing, the following requirements apply to all three sections, unless otherwise specified.

4 Design of Works

4.1 Design Criteria

4.1.1 General Design Considerations

The Design will be done according to the Employer's Requirements and the following Standards and Specifications below. The Ghana Highway Authority Manuals and Guides shall be the first reference point. Other manuals and guides may be used (with justification) where the Ghana Highway Authority documents do not provide standards or specifications for a required feature.

- MRH Standard Specification for Road and Bridges Works, edition of July 2007,
- Pavement Design Manual – WSA August 1998,
- Road Design Guide March 1991,
- Overlay Design Method – Design Manual WSA July 1998,
- GHA Bridge Design Data
- Euro Code 0, Euro Code 1, Euro Code 1, Euro Code 2, Euro Code 3, Euro Code 4
- British Standard for design and construction of steel, concrete and composite bridges used in highway (BS 5400)
- Loads for Highway Bridges (BD 37/01)
- Standard Details, Road Signs and Markings for Urban And Trunk Roads
- Overseas Road Notes-Transport Research Laboratory (Trl)-5 & 40
- The Highway Capacity Manual (2010)
- American Association of State Highway and Transportation Officials (AASHTO) Standards
- GHA Test Manual
- GHA Standards for Road Signs and Markings
- GHA Standards for Traffic Calming Design
- GHA Work Zone Safety Manual
- GHA Manual for Road Safety Audit

4.1.2 Design for the Relocation of Utilities

The Contractor shall be responsible for the design of utilities he will be required to relocate, and for the preparation/submittal of permit applications as needed. The Contractor shall also be responsible for coordinating their design work with the relocation of utilities to be conducted

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

by other service provided to ensure proper coordination and use of the site. Design shall be in accordance with standards and specifications of each utility provider and national standards/specifications for utilities and safety.

4.1.3 Design for Roadway Works

Overview

The Contractor shall be responsible for the design of the Works and pay all fees associated with any specialist consultants that is deemed necessary to complete the design, inspection and testing of the Works.

The design and construction of the works shall conform to minimum requirements and design criteria set out by the Employer and presented in Table 4-1 and Table 4-2.

The design for the works shall ensure that all intersections are improved to meet minimum design geometry parameters of GHA or the current Highway Capacity Manual of Transportation Research Board of the National Academy of Science in the United States of America.

The design of intersections shall ensure that the design level of service is achieved throughout the project corridor. The design shall ensure that the road alignment conforms to the standards pertaining to the scope parameters. The design shall include the:

- Geometric Design
- Geotechnical and Material Design
- Pavement Design
- Structural Design
- Electrical and Mechanical Design
- Drainage Design
- Utility Design (for connection of ATMP facilities to existing utility network)

Design Criteria

The design criteria for roadway works are presented in Table 1-1Table 4-1.

Table 4-1 Roadway Design Criteria and Details

Criteria		Requirements
Geometric Guidelines	Design	The main reference document for geometric design is the Road Design Guide (March 1991) prepared by the Ghana Highway Authority. Where there are no provisions in the Guidelines on specific issues, the Policy on Geometric Design for Highways and Streets (AASHTO 2018) of the USA may be adopted to the satisfaction of GHA
Design Speed		Freeway - Desirable: 120km/h; Absolute minimum: 100km/h Urban Highway- Desirable: 80km/h; Absolute minimum: 60km/h Ramps- Desirable: 60km/h; Absolute minimum: 40km/h
Design Traffic		Directional Design Hour Volume (DDHV) projected at Design Period + 5years
Design Period (for pavement design)		20 years

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

Design Period for Geometric Requirements	Concession Period ¹
Level of Service (LOS)	<p>LOS at the end of Defect Notification Period</p> <ul style="list-style-type: none"> • Expressway: LOS A • Urban Highway: LOS B • Interchanges: LOS B <p>LOS at the end of Concession Period</p> <ul style="list-style-type: none"> • Expressway: LOS D • Urban Way: LOS E • Intechanges: LOS D
Traffic Lanes	<p>Lane Width: 3.65m (3.5 for urban highway) Cross</p> <p>Slope: Asphalt – 2.5%; Concrete – 2.0%</p>
Shoulders	<p>Width: 3.0m (2.5m for urban highway)</p> <p>Cross Slope: Asphalt – 2.5%; Concrete – 2.0%</p>
Walkways	<p>Not Required on the Expressway</p> <p>Urban highway – 3m (on sections)</p>
Curbs	<p>Expressway: Avoid curbs or use mountable type placed outside the outer edge of the shoulder</p> <p>Urban Highway: Non-Mountable curbs width drops at at-grade crossing points for pedestrians</p>
Superlevation	Maximum of 6%
Maximum Standard Grade	<p>Expressway: 4%</p> <p>Urban Highway Interchange Ramps: 6%</p>
Vertical Clearance	<p>Desirable Height: 5.5m</p> <p>Minimum Pedestrian: 3.0m</p>
Horizontal Clearance	<p>Expressway: No structure or road furniture is placed within the shoulder, the fore-slope roadside ditches, and/or within 6m of the edge of the travel way</p> <p>Urban Highway: No structure or road furniture is placed within the 2m of the inside edge of a non-mountable curb</p> <p>Any structure or furniture placed within these limits must be protected with an appropriate roadside barrier.</p>
Median Width	<p>Desirable Minimum: 15m (3m for Urban Highway)</p> <p>Absolute Minimum: 8m with median barrier (Section 1)</p> <p>Absolute Minimum : 3m with median barrier (Section 2 and Section 3)</p>

¹ The geometry of all infrastructure is to be designed for the traffic level of the design traffic forecasts at the end of the Concession Period. An exception will however be made for the geometry of all the interchanges being worked on in the Project, for which the geometry is to be designed for the 20-year traffic levels of the design traffic forecasts.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

	Note: The width provided for Expressway include median shoulders
Access Control	Fully fenced to prevent unauthorized vehicular and pedestrian access at the edge of the Expressway and Urban way. Vehicular access must be through acceleration and deceleration lanes designed to the design speed of the highway
Pedestrian Facilities	Expressway: All pedestrian crossings shall be grade separated Urban Highway: Pedestrian crossings shall be grade separated or controlled at grade
Public Transport Facilities	Expressway: No Bus stopping shall be permitted Urban Highway: Bus stopping zones and the passenger platforms shall be physically separated from the travel way. The access ramps to these stopping areas must be designed with consideration for the design speed and linked to grade separated pedestrian crosswalks. Bus laybys and passenger platforms must be provided based on demonstrated demand and linked to a network of walkways and crosswalks.
Road Signs and Marking	Draft Manual for Road Signs and Markings – 2007 must be used for the design of all road signs and markings for the project with the following additional requirements: <ul style="list-style-type: none"> i. Special details are provided based on an internationally acceptable system for details not provided in the Standard Details; Wherever not provided for in the MRH Standard details, an internationally acceptable standard details could be proposed by the Contractor and approved by the Employer ii. Road lines must be delineated with reflective road studs of acceptable standards to maximize night-time visibility. iii. Road signs must be illuminated for night-time vision and the power source must assure 24-hour availability; and iv. Information Signs must be provided in both English and French
Road Edge Restraints and Marker Posts	Standard Details, Road Sign and Markings for Urban and Trunk Roads, published by the MRH in March 1991 must be used with the following additional requirements: <ul style="list-style-type: none"> i. Special details are provided based on an internationally acceptable system for details not provided in the Standard Details; Wherever not provided for in the MRH Standard details, an internationally acceptable standard details could be proposed by the Contractor and approved by the Employee; and ii. The surfaces of all barriers and posts must have reflective material to provide night-time visibility.
Street Lighting	Standard Details, Road Sign and Markings for Urban and Trunk Roads, published by the MRH in March 1991 must be used with the following additional requirements: <ul style="list-style-type: none"> i. Special details are provided based on an internationally acceptable system for details not provided in the Standard

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

	<p>Details; Wherever not provided for in the MRH Standard details, an internationally acceptable standard details could be proposed by the Contractor and approved by the Employer</p> <p>ii. The power source for the lighting must ensure that there is 24- hour availability of power supply;</p> <p>iii. The lighting intensity must conform to the specification of Electricity Company of Ghana (ECG); and</p> <p>iv. The mounting post must satisfy the horizontal clearance criteria for the road or adequately protected by crash barriers.</p>
Traffic Signals	<p>Standard Details, Road Sign and Markings for Urban and Trunk Roads, published by the MRH in March 1991 must be used with the following additional requirements:</p> <p>i. Special details are provided based on an internationally acceptable system for details not provided in the Standard Details; Wherever not provided for in the MRH Standard details, an internationally acceptable standard details could be proposed by the Contractor and approved by the Employer and</p> <p>ii. The power source for the lighting must ensure that there is 24- hour availability of power supply.</p>
Method for Estimation of Peak Storm Discharge	<p>i. Modified Rational Formula for catchment areas up to 1km²</p> <p>ii. NRCS WinTR-20 method, or a similar method, used for catchments greater than 1km²</p> <p>iii. Intensity Duration Frequency for Ghana, 2016 iv. AASHTO Highway Drainage Guide</p>
Return Period for Estimation of Peak Storm Discharge	<p>i. 10 years for road surface drains</p> <p>ii. 25/50 years for culverts</p> <p>iii. 50/100 years for bridges</p>
Method for Estimation of Capacity of Drainage Structures	<p>Inlet and outlet control methodology with headwater/culvert height ratio limited to 0.8</p>
Flexible Pavement Design	<p>The GHA Pavement Design Manual must be used supplemented with AASHTO 1993</p> <p>Any AASHTO based software, acceptable to the Employer, could be used for the design</p> <p>The Gyratory Mix Design method must be used for asphaltic concrete design and testing</p> <p>The granular sub-base must be stabilized with Portland Cement</p>
Rigid Pavement Design	<p>The AASHTO guidelines must be used for Portland Cement Concrete (PCC) pavement</p> <p>Special Specifications must be prepared for the construction and testing of PCC pavement</p>

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

Structural Design	The GHA Bridge Design Data (2019), EURO Code supplemented by other requirements obtained from the GHA Bridges Division.
Specifications	The MRH Standard Specification for Roads and Bridges of 2007 will be generally applicable. Special Specifications shall be prepared based on the Standard Specification and submitted with the design report.
Bitumen for Asphaltic Concrete (Minimum Specification)	Styrene-Butadine-Styrene (SBS) Modified Bitumen complying to minimum PG 70 – 10 Grade
Specifications	The MRH Standard Specification for Roads and Bridges of 2007 will be generally applicable. Special Specifications shall be prepared based on the Standard Specification and submitted with the design report.

4.1.4 Design for Facilities, Infrastructure and Equipment for Toll and Route Operations and Maintenance

Overview

The Contractor shall design and construct or install all the necessary facilities, infrastructure and equipment required for the operations and maintenance of the route during the operational phase in line with the requirements of the Concession Agreement MPSS Section 6, good industry practice and the requirements of this document. The facilities, infrastructure and equipment shall ensure effective management of the route in accordance with the Performance Standards and KPIs defined under the Concession Agreement MPSS Sections 4 and 7.

Design Criteria

The design standards and criteria for the design of facilities, infrastructure and equipment for toll and route operations and maintenance shall be in accordance with the criteria presented in Table 4-2.

Table 4-2 Design Criteria and Details for Facilities, Toll and Route Operations and Maintenance

Criteria	Requirements
General	Any criteria presented in Table 4-1 if applicable.
Design Traffic	Directional Design Hour Volume (DDHV) projected at Design Period + 5years
Design Period	Concession Period for Section 1 Toll Plazas 10 years for Section 2 Toll Plazas Concession Period for the Weight Station
Road Safety Audit Requirements	All stages of the design process should be subject to the requirements of the GHA Road Safety Audit Manual, 2002.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

<p>Toll Plaza Design Requirements</p>	<p>Maximum Delay at Toll Booths:</p> <ul style="list-style-type: none"> - For toll plazas in Section 1: 180s - For toll plazas in Section 2: target is 180s but actual KPI will be decided jointly with GoG during the preliminary design of the toll plaza as presented in Section 3.2.2. <p>The design of toll plazas includes the following disciplines:</p> <ol style="list-style-type: none"> i. Civils (geometric alignments, pavement structures, drainage, water supply, sewerage, etc.) ii. Structures (toll islands, canopies, tunnels, foundations, manholes, etc.) iii. Buildings (plaza buildings, plant buildings, toll booths etc., inclusive of all internal Utilities) iv. Electrical (area lighting, uninterrupted power supply (UPS), generators and lightning protection) v. Mechanical (fresh air supply, pressurised air supply to toll booths, air-conditioning, heating, etc.) vi. Electronic lane equipment (toll collection equipment, toll collection control equipment, traffic event logger (TEL), etc.) vii. Management Information System (MIS) (this includes the computer hardware, computer software packages and MIS programmes.) <p>The design and operations of toll plazas must minimize land take and encourage the use of electronic payments methods that will not require road users to stop on the road.</p> <p>The standards and specifications for geometric design, pavement design, geotechnical design, structural design and drainage design as covered elsewhere in this document as well as relevant standard specifications for building works, electrical and mechanical works shall be used.</p> <p>The design for the toll plazas must cover the toll collection equipment, toll collection control equipment, traffic event logger (TEL), computer hardware, computer software packages and management information systems (MIS) programmes.</p> <p>All proposed changes to the lane equipment and MIS subsequent to the original approval(s) must be agreed with the Contracting Entity and the Independent Engineer. Furthermore any changes to lane equipment and MIS required by the Contracting Entity shall be implemented by the Concessionaire within three months from the date of serving notice.</p> <p>Protocols for Electronic Toll Collection (ETC) used by the Concessionaire shall be interoperable with other systems to be implemented by the Contracting Entity.</p>
<p>Toll System Requirements:</p>	<p>The toll systems</p> <ol style="list-style-type: none"> i. Accurate Vehicle Classification: Motorcycles: 99%

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

	<p>Light vehicles: 99%</p> <p>Trucks (2-axle): 95%</p> <p>Trucks (3 and 4-axle): 96%</p> <p>Trucks (5 and more axles): 98%</p> <p>Sample size to be 10 000 vehicles per class. Discrepancies between manual and automatic classifications must be verified for each event on a continuous basis.</p> <p>Exempted vehicles:</p> <p>The system should be able to report discounts or concessions with an accuracy of 98% for a sample size of 10 000 road users.</p> <p>Minimum Processing Rates (veh/hour/lane)</p> <p>Electronic toll: Cars: 450; Commercial Vehicles: 300</p> <p>Manual: Cars: 250; Commercial Vehicles: 200</p> <p>Availability of System</p> <p>The system should be available continuously</p> <p>Lane Selection assistance:</p> <p>Signage will be provided to assist the road user in selecting the correct lane</p> <p>Financial reconciliation</p> <p>Cash reconciliation. Cash control functions should reconcile collected and deposited cash.</p> <p>Card and Electronic payment reconciliation. Functions should control the transfer of card and electronically captured transactions and reconcile it with bank or other deposits.</p> <p>System Support: The System should implement the following functions:</p> <p>Remote access for support purpose</p> <p>Error notification</p> <p>Version control. Control over distributed software versions.</p> <p>Configuration control</p> <p>Back-up and recovery functions</p>
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4.1.5 Other Design Criteria

Drainage

The hydraulic capacity and structural integrity of all drainage structures located along the project corridor and cross drainage structures should be checked to determine their adequacies and their structural integrity. The design shall ensure that drainage structures are provided to ensure adequate drainage. The width of the bridges and culverts shall conform to the cross-section of the road.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

Typical cross sections

The proposed minimum typical cross sections along the route are described below:

1. Dual carriageway consisting of:
 - a. Motorway – Min. 5 lanes per direction of 3.65m lane width (4 lanes for freeway and 6 lanes for urban highway) with 2.5m shoulder and 1.2m inner shoulder.
 - b. George Walker Bush – Min. 6 lanes per direction of 3.65m lane width (6 lanes for freeway and 6 lanes for urban highway) with 2.5m shoulder.
 - c. Nsawam Road – current 3 lanes per direction of 3.65m lane width with 2.5m shoulder.
2. A cycle lane and pedestrian walkway along the service lane
3. Street lighting, typically tower type for the expressway and the service lanes, line marking, road traffic signs, road studs.
4. Road edge kerbs, embankment lining, grassing / stone pitching, road edge gutters, chutes, berms.
5. Improved drainage structures.
6. Central barrier to prevent U-turns on high speed road (main carriageway).
7. Appropriate fencing and barriers to limit uncontrolled access to the Expressway.

Road Safety Audit

The Employer shall undertake stages 2, 3, 4 and 5 Safety Audits of the project.

4.2 Design Stages and Submission Process

The design includes Draft Final Design Report and Final Detailed Design Report and Construction Drawings. And at the end of construction, as-built drawings will be provided in accordance with the Contract.

The topographic mapping and exploration are also deemed as part of the design work, as they provide all data, survey results, and geotechnical information in each and every stage of the design.

4.2.1 Design Submission and Review

General Aspects

Before submitting any drawings for reviews, the Contractor shall submit a schedule of design analysis and drawings, stating the purpose for the submission, sequence of submissions and the submission dates to meet the requirements of his construction schedule and to comply with the General Conditions.

Contractors' drawings and design data submitted formally shall bear a certification signed by an authorized representative of the Contractor that the information shown therein has been checked by the Contractor and is correct for use in the Project. This shall not apply to design analysis or drawings of a preliminary nature furnished for information, which shall be clearly identified as such.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

All submittals shall be made in editable digital form as well as in hard copy. In general design submittals shall be in English. The contractor shall provide a reasonable number of additional copies if so required by the Engineer or the Employer.

All analyses and calculations shall be submitted for the Engineer and/or Employer's review, if required, at various time throughout the design process. All analyses and calculations shall be submitted in an ordered manner with all design criteria stated, the analytical methods described and referenced, computer programmes identified, and specific input to the computer programmes identified. Computer analyses shall incorporate sensitivity analysis, and/or attached hand calculation to verify the critical results of computer analysis.

In order to facilitate the design review process, the Contractor shall give the Engineer complete access to the development of design concepts, detailed design process, and necessary explanation and interpretation.

Design Liability

Notwithstanding any approval carried out by the Engineer and/or Employer, the Contractor shall take full responsibility for his design for the purposes for which the Works are intended as defined in the Contract.

Review Process

The Contractor is informed that all submittals will be reviewed by the Employer and by the Independent Engineer to be jointly appointed by GoG and the Employer. The Contractor is to provide all submittals to the Employer who will in turn submit a copy to the Independent Engineer. The Independent Engineer will review all submittals to assess the compliance of the design/construction with the terms of the Concession Agreement.

The Contractor shall provide on each submittal a clear space for the Employer's and the IE's review stamps and comments.

After the Employer has performed his review of submittals, he will return one print to the Contractor with one of the following notations:

- a. Proceed without change
- b. Proceed as corrected
- c. Revise and resubmit
- d. Rejected.

When submittals are returned marked with either (c) or (d), the Employer shall explicit the reasons to do so, either against the criteria specified in Section 5.1, or against site conditions. The Contractor shall then make such revisions and/or corrections and resubmit the drawings or other materials in the same manner as specified.

When drawings and submittals are returned with authorization to proceed with the work, Contractor shall obtain and provide such number of prints or copies of drawings as is required for field distribution.

Miscellaneous

The Employer will review submittals only for conformance with the design criteria and for compliance with the Contract Documents. Contractor shall make any and all corrections required.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

Drawings and all supporting, data, catalogues, or similar information shall be prepared by the Contractor or his suppliers and sub-Contractor, but shall be submitted as instruments of the Contractor.

Contractor shall check the submittals of his suppliers and Sub-contractor, as well as his own submittals, before submitting them to the Employer. In particular, Contractor shall ascertain that the submittals meet all requirements of the Contract Drawings and Specifications and conform to all site conditions.

Submittals, including manufacturers' literature, catalogue cuts, or other printed material, shall be entitled with the name of the project on each sheet and shall otherwise be identified by listing the particular Division, Section, Article, or reference of the Work and Contract Documents pertaining thereto.

4.2.2 Change of Design

Basic principal of alteration in design

In the process of design and construction, all approved design shall be closely followed to guide and supervise construction. It is all prohibited to alter the original design, enlarge or reduce the scale of the construction or change in the design criteria.

Alteration in design is allowed only where the following apply:

- a. A new design standard/or specification is published in Ghana, and it shall apply to the Works
- b. The topography, geography and hydrological data entailing the design are seriously deviating from the actual situation, or there are design errors, mistakes, or unreasonableness, so that the quality and safety of the Works cannot be guaranteed if it is constructed as per the design
- c. There is a better design scheme which can reduce the quantities of the Works, save the investment and ensure the quality and safety of the Works without reducing the design criteria.
- d. Change in design can speed up site progress and shorten the construction period without increasing the cost of the Works.
- e. Change in design can enhance the quality and expand the life span of the Works, protect the environment and save national resource, and bring more convenience without increasing the cost of the Works.
- f. The Employer may put forward new requirements.

Changes to the design should be made not more than once for any section without very compelling reasons. The breakdown of a major change in design into many small parts is also not allowed. Design changes shall be done prior to the start of such work on site, in order to avoid unnecessary waste and rework.

The application, approval, and implementation of any change in design shall be in writing and in the specified form, if any.

The fundamental documents for change in design

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

All change in design shall be based on the scope as described in Section 3 Scope of Work,. The criteria for altered design shall also adopt the same codes and standards referenced throughout this document..

5 Construction of Works

The works to be constructed include but not limited to the content of Table 3-1.

5.1 Requirements

The construction on all the roads would involve the following

- Construction of drainage structures within all sections;
- Improvement of the alignment at the poor sections;
- Demolition and replacing weak and damaged bridges and culverts;
- Deepening existing drains in shallow areas and construction of new ones;
- Protection of slopes susceptible to slumping and collapse
- Raising the road in low lying areas
- Provision of graded crushed stone or natural gravel for base with approved stabilizing agent if required
- Provision of natural gravel or graded crushed stone for sub-base
- Provision of asphaltic concrete surfacing
- Provision of Portland cement concrete surfacing
- Provision of toll plazas
- Installation of necessary traffic control devices and supply necessary road marking;
- Provision of concrete curbs between side drains and shoulders
- Provision of the necessary Traffic Management System for the Works to be coordinated with O&M Contractor
- Adherence to the Environmental Management Plan
- Ensuring safety regulations are adhered to;
- Adherence to the Quality Management System with full documentation.
- Provision of laybys at appropriate locations.

5.2 Quality Control

The Contractor shall establish and maintain procedures in line with industry best practices and the GHA/MRH specifications to ensure that the Works, including the work of all Sub-Contractors, comply with specified requirements. He shall maintain full records, keep copies on site for inspection by the Employer, the Owner's Engineer or the Independent Engineer. The records include:

- Test certificates of Materials and Plant

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

- Test results of Materials
- Test results of completed sections of the Works
- The nature and extent of any non-conforming work found
- Details of any corrective action taken, etc

The Contractor shall have a Quality Control Plan which identifies the following areas of control:

- Allocation of responsibilities within the Contractor's organisation for achieving quality objectives
- Procedures for the control of contract documentation including approvals, the receipt of and issue of all drawings, instructions etc
- Schedules of the tests, inspections, and audits to be carried out during the progress of the work. Tests and inspection plans for sub-contracted work will be produced by the sub- contractors for approval by the Contractor who will then ensure that the approval procedures are maintained.
- Measures to deal with any work that does not conform to requirements
- Proposals for recording hidden works i.e. Reinforcement, filling, etc.
- The Contractor shall supply two copies of this document to the Owner's Engineer and Independent Engineer, and any time it is updated to reflect the current scope and state of the Works.

5.3 Environmental and Social Impact

The Employer is obligated to provide and maintain, so far as is practicable, a working environment for its employees and members of the public, that is safe and without risk to health. As a condition of this Contract, the Employer requires that the Contractor or its Subcontractor(s) that may be engaged to perform a service on its behalf will at all times identify and exercise all necessary precautions for the environment, health and safety (EH&S) of all persons including Contractor's Employees and members of the public who may be affected by the Works.

The Contractor will acquaint itself of all environmental, health and safety policies, procedures or measures implemented and adopted by the Employer of any premises at or within which the Contractor will perform Works under this Contract. The Contractor will comply with all such policies, guidelines, regulations, procedures or measures of the Environmental Protection Agency (EPA) of Ghana; and in the event of any inconsistency, will comply with such procedures or measures as they produce the highest level of environmental, health and safety.

5.3.1 Environmental and Social Impact Assessment

The Contractor shall prepare an Environmental and Social Impact Assessment (ESIA) report in line with Act 490 and the IFC Performance Standards on Environmental and Social Sustainability. The ESIA shall be used to obtain an Environmental Permit (EP) from the EPA for the commencement of the Works.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

The ESIA shall contain an Environmental and Social Management Plan that shall be submitted to the Employer for review and approval prior to commencement of Works under the Contract. The Management Plan must include as a minimum requirement:

- Mitigation measures in contract clauses
- Organisation structure & responsibilities
- Safe work practices and procedures
- Consultation procedures and
- Performance monitoring

5.3.2 Management Strategy and Implementation Plans

The Contractor shall submit management strategies which include the following as part of the proposal for approval:

1. Occupational Health and Safety plan
2. Traffic Management Plan
3. Water Resource Protection Plan to prevent contamination of drinking water, and manage the extent of usage by the Contracting Entity for construction purposes;
4. Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts;
5. Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit.
6. Gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan;
7. Plan for the recruitment and usage of local labour as well as the management of Labour Influx.

5.3.3 Resettlement Action Plan (RAP)

The Contractor shall prepare a resettlement action plan including compensation packages in cases where there will be resettlement in accordance with the 1992 Constitution of Ghana and other relevant legislation and implemented prior to commencement of civil works.

5.3.4 Contractor's Code of Conduct

The Contractor shall prepare an Environmental, Social, Health and Safety (ESHS) Code of Conduct. A satisfactory code of conduct will contain obligations on all Contractor's personnel (including sub-Contractors and day workers) that are suitable to address the following issues, as a minimum. The code of conduct shall contain a statement that the term "child" / "children" means any person(s) under the age of 18 years.

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations
2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Employer's

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

personnel, Consultant's personnel and the Contractor's personnel, including sub-Contractor's and day workers (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)

3. The use of illegal substances
4. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Employer's personnel, Project Manager's personnel, and the Contractor's personnel, including sub-Contractors and day workers (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)
5. Interactions with the local community(ies), members of the local community (ies), and any affected person(s) (for example to convey an attitude of respect, including their culture and traditions)
6. Sexual harassment (for example to prohibit use of language or behaviour, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
7. Violence, including sexual and/or gender-based violence (for example acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty)
8. Exploitation including sexual exploitation and abuse (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favours or other forms of humiliating, degrading behaviour, exploitative behaviour or abuse of power)
9. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behaviour towards children, limiting interactions with children, and ensuring their safety in project areas)
10. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
11. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favours, are not provided to any person with whom there is a financial, family, or personal connection)
12. Respecting reasonable work instructions (including regarding environmental and social norms)
13. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
14. Duty to report violations of this Code
15. Non-retaliation against workers who report violations of the Code, if that report is made in good faith.

The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code;

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

- had the code explained to them;
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor's personnel (including sub-Contractor's and day workers), Employer's and Project Manager's Personnel, and affected persons.

5.3.5 Environmental, Social, Health and Safety (ESHS) Requirements

Overview

The Contractor shall prepare and submit a monthly ESHS report as part of the monthly progress report using the metrics for progress report provided below.

Metrics for Progress Reports of ESHS

The metrics for regular reporting are the following:

- a. environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;
- b. health and safety incidents, accidents, injuries and all fatalities that require treatment;
- c. traffic management: management and control of traffic (motorized and non-motorized) around the environs of the Site. Provision of safe movement for motorist and pedestrians and monitoring of traffic delays to motorists.
- d. interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);
- e. status of all permits and agreements:
 - i. work permits: number required, number received, actions taken for those not received;
 - ii. status of permits and consents:
 - iii. list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);
 - list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);
 - identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

- for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).
- f. health and safety supervision:
 - i. safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
 - ii. number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
- g. work accommodations:
 - i. number of expats housed in accommodations, number of locals;
 - ii. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
 - iii. actions taken to recommend/require improved conditions, or to improve conditions.
- h. HIV/AIDS: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided)
- i. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);
- j. training:
 - i. number of new workers, number receiving induction training, dates of induction training;
 - ii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - iii. number and dates of HIV/AIDS sensitization and/or training, no. workers receiving training (this reporting period and in the past); same questions for gender sensitization, flag person training.
 - iv. number and date of GBV /SEA sensitization and/or training, number of workers receiving training on code of conduct (in the reporting period and in the past), etc.
- k. environmental and social supervision:
 - i. environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
- l. Grievances: list new grievances (e.g. allegations of GBV / SEA) received in the reporting period and unresolved past grievances by date received, complainant, how

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):

- i. Worker grievances;
 - ii. Community grievances
- m. Traffic and vehicles/equipment:
- i. Traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
 - ii. accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - iii. overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- n. Environmental mitigations and issues (what has been done):
- i. dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;
 - ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
 - iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
 - iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross- reference other sections as needed);
 - v. spill cleanups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
 - vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
 - vii. details of tree plantings and other mitigations required undertaken in the reporting period;
 - viii. details of water and swamp protection mitigations required undertaken in the reporting period.
- o. Compliance:
- i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

- ii. compliance status of Contractor's Environmental Social Management Plan / Environmental Social Implementation Plan (C-ESMP/ESIP) requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- iii. compliance status of Gender Based Violence/Sexual Exploitation Abuse (GBV/SEA) prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

Other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

5.4 Tests on Completion

Initial Performance Indicators

Pavement Layer	International Roughness Index (IRI) mm/m	FWD Pavement Deflection to determine Resilient Modulus M_r (MPa)
Portland Cement Concrete (PCC)	≤ 3.0 mm/m for Portland Cement Concrete Pavement	
Asphaltic Concrete (Wearing Course)	≤ 3.5 mm/m for Asphalt Concrete Pavement	2500 (min) – 5000(Max)
Asphaltic Concrete (Binder Course)		2000 (min) – 5000(Max)
Crushed Stone Base		150 (min)
Granular Subbase		100 (min)

5.5 Works at Completion

The quality of the finish is expected to be of a very high standard.

The Contractor is to ensure that the Site is free of all debris and all the drains and culverts are free of silt and debris.

The Stage Four (4) Safety Audit must be completed before Taking Over and all Road Furniture and Markings must be installed before the Taking Over of the Works.

5.6 Safety Issues

- Adequate advance direction signs should be considered for installation along the road corridor.

SCHEDULE 2 - EMPLOYER'S REQUIREMENTS

- Appropriate signage for towns and settlement should be incorporated in the design phase.
- Provide for Pre-opening and Construction safety audit stages.
- Provide for road line marking and road signs schedules.

6 Project Deliverables

The timeline and format of deliverables for design and construction are presented in this Chapter.

6.1 Timeline of Deliverables

The deliverables of the Project shall be submitted per the following timetable.

Table 6-1 Timetable of Project Deliverables

Description	Timelines
DESIGN SUBMISSION	
Draft Detailed Engineering Design Report and Drawings	90 days from the Commencement date
Final Detailed Engineering Design Report and Drawings	180 days from the Commencement date
Progress reports	Monthly
Time for Completion	1460 days
As-built drawings: Printed in A-1 Format in mylar sheets signed by Contractor and approved by the Independent Engineer.	Prior to the issuance of the Taking Over Certificate of each Section in hard (5 No.) and editable soft (5 flash drives) copies
Maintenance and Operation Manual detailing: <ul style="list-style-type: none"> Road maintenance and management system including: Routine maintenance plan/schedule for road pavements, road furniture, drainage systems, interchanges, footbridges, bridges, toll plaza infrastructure etc. Periodic maintenance plan/schedule for road pavements, road furniture, drainage systems, interchanges, footbridges, bridges, 	Prior to the issuance of the Taking Over Certificate of each Section in hard (5 No.) and editable soft (5 flash drives) copies

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6.2 Format of Deliverables

The format of each deliverable shall be as presented below.

Table 6-2 Deliverables Format

Deliverable	Format Description
Design Report	<p>A design report shall be prepared to the satisfaction of the Employer covering all the elements of the highway design through the following procedures:</p> <ul style="list-style-type: none"> i. A Draft Detailed Engineering Design Report (10 hard copies and 5 Flash Drive soft copies) for the review and comment of the Employer, MRH/GHA and the IE; and ii. A Final Detailed Engineering Design Report Report (10 hard copies and 5 Flash Drive soft copies), incorporating the comments of the Employer, MRH/GHA and the IE and must be approved for the project.
Design Drawings	<p>Design drawings (10 hard copies and 5 Flash Drive soft copies both in pdf & dwg) shall be submitted as part of the Design Engineering Report and shall include:</p> <ul style="list-style-type: none"> i. A table of content for the drawings; ii. A location map of the project, showing its relative position in the network and showing the major components of the project; iii. Standard Cross Sections for the various road sections; iv. Detailed plan and profile drawing of the project providing all the alignment details of roads, interchanges, drainage system and survey control pillars; v. Detailed plan of all at-grade and grade separated intersections; vi. Cross Sections of the road alignment at regular intervals; <p>Detail drawing for bridges, culverts and other major structures;</p> <ul style="list-style-type: none"> viii. Right of Way Drawings, showing the extent of land take and properties affected by the project; ix. Traffic Management Drawings, showing detail, the type, location and extent of features like road marking, signs, signals, street light, furniture, equipment, and the like; and x. Standard details for drainage systems, edge details, road furniture, signs, markings and the like.

7 Additional Documents

The following study reports and drawings will be made available to the Contractor.

- a. Preliminary Engineering Design Drawings
- b. Other Conceptual Designs

Appendix A Preliminary Engineering Design

Appendix B Concept Designs of Toll Plaza at the Achimota Forest

SCHEDULE 3

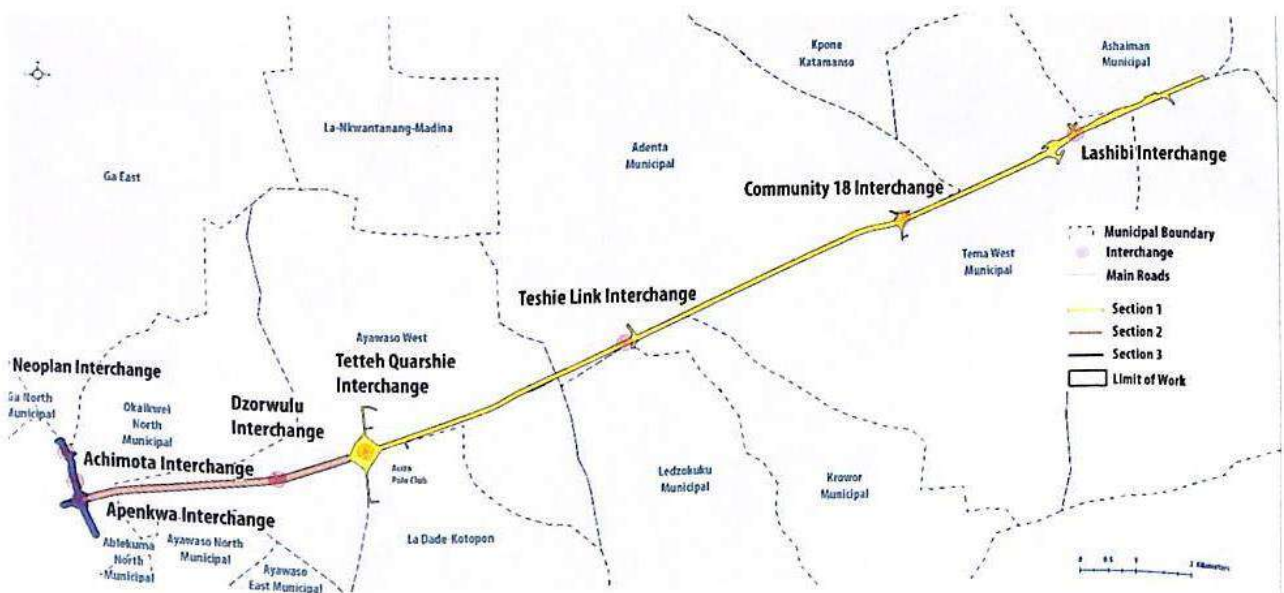
PROJECT SITE

The Project Site shall comprise the following three sections succinctly presented below and described in more details in Schedule 4 – Employer’s Requirements.

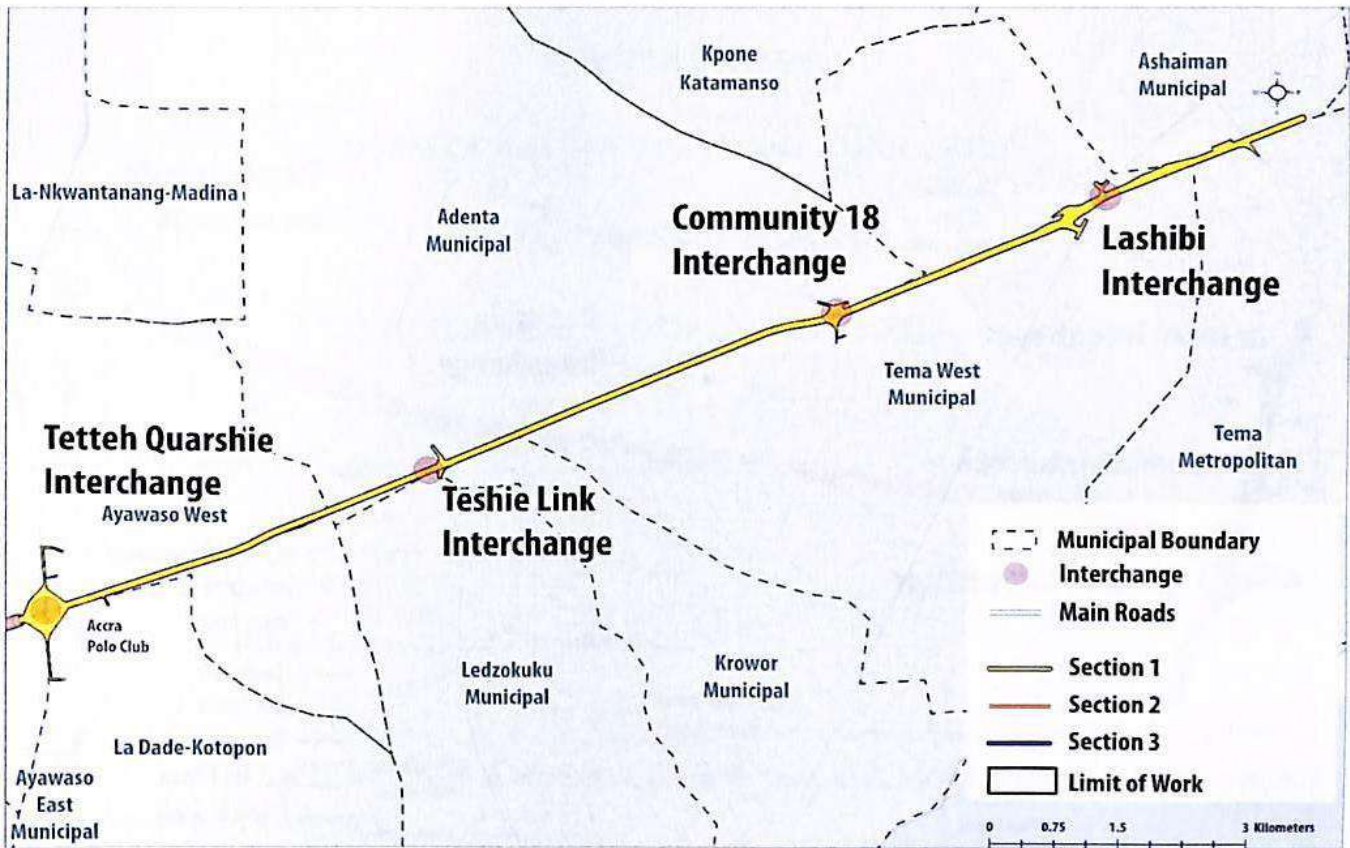
Project Sections

Section	Route No.	Road Name	Description	Length (km)
1	N1	Accra-Motorway Tema	Tema Interchange – Tetteh Quarshie Interchange	19.5
2	N1	George W. Bush Highway	Tetteh Quarshie Interchange - Apenkwa Interchange	5.7
3	N6	Nsawam Road	Apenkwa Interchange – Neoplan Junction	2.5
				27.7

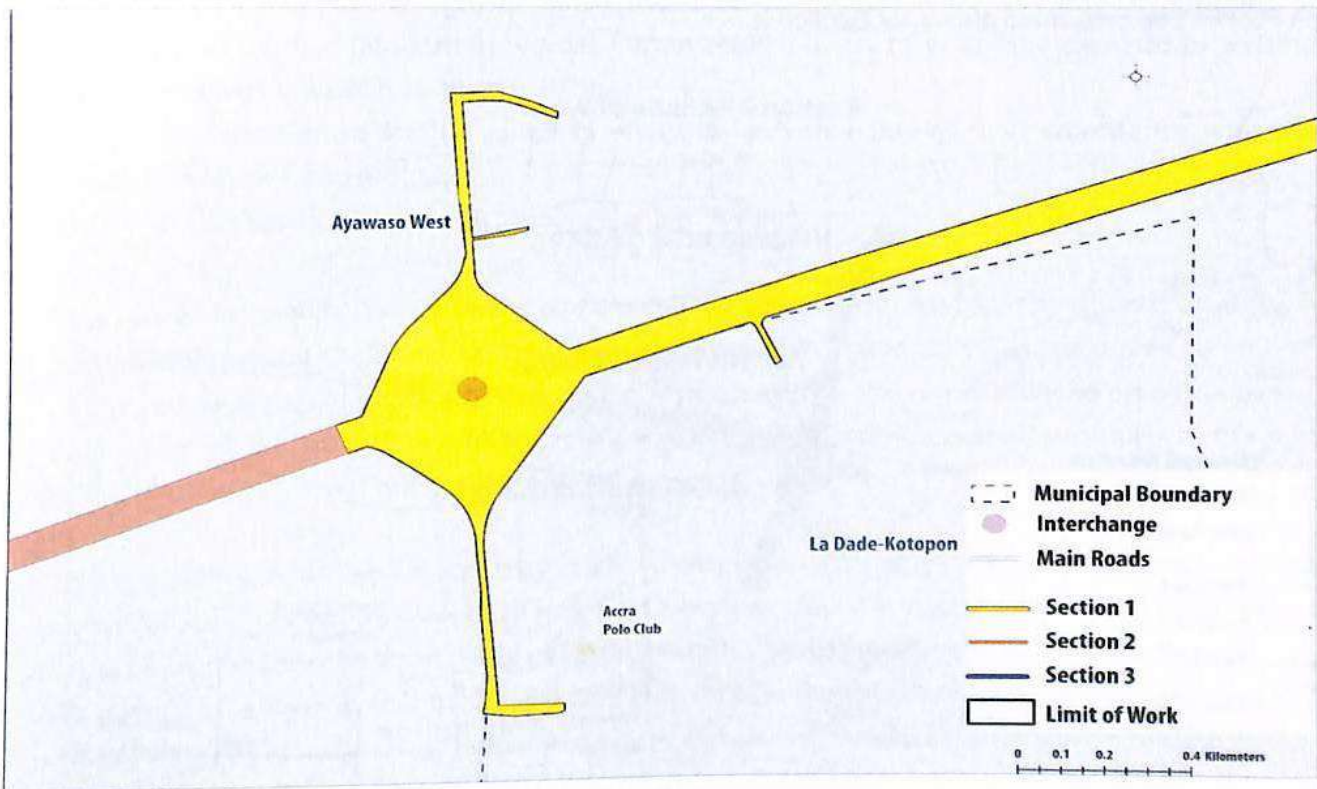
Overall Project Layout



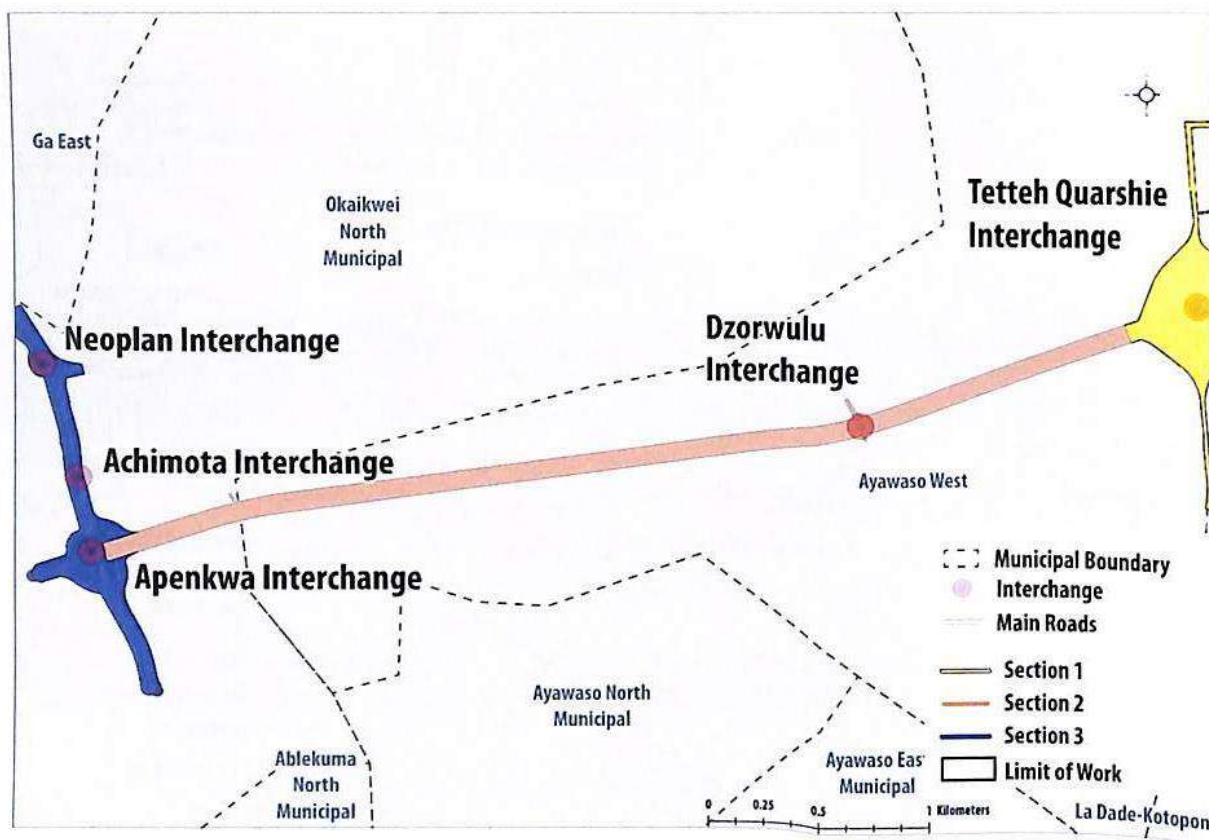
Section 1 Limits of Work



Works Limits at the Tetteh Quarshie Interchange

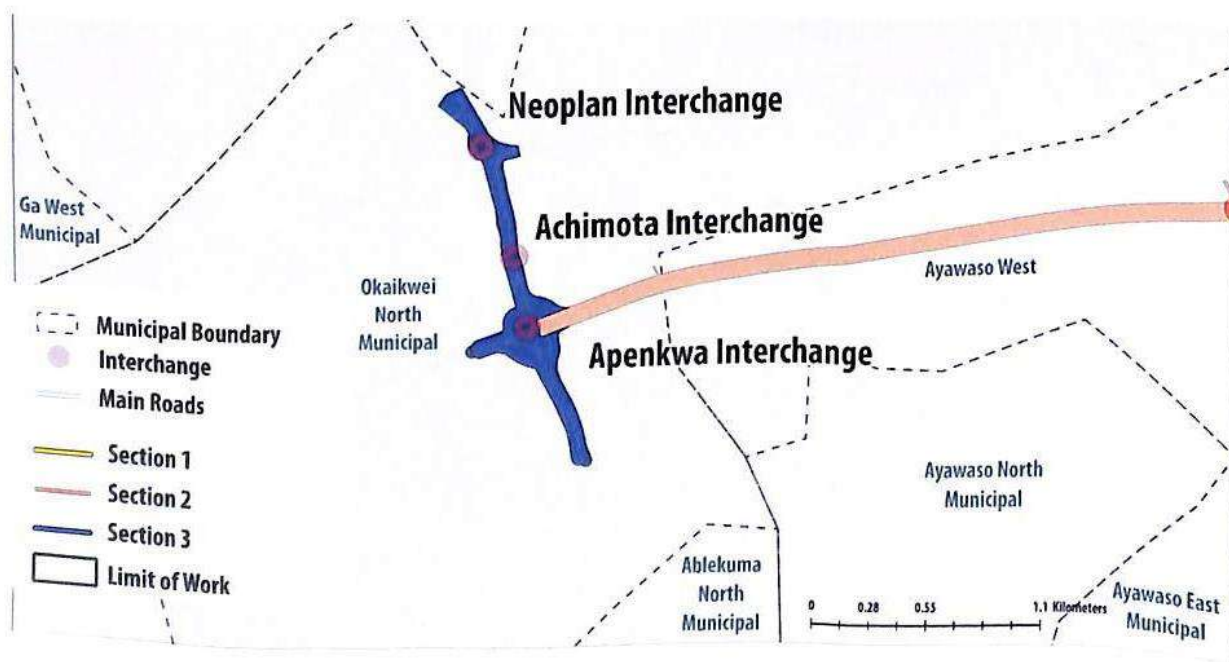


Section 2: Limits of Work



Note: These work limits do not comprise the areas needed to deliver the toll plaza(s) on the George Bush Highway. Those areas will need to be assessed and validated by GoG during the Design stage of the Project as described in Schedule 4 – Employer’s Requirements. Once validated by GoG, these areas will be added to the Project Site presented above for Section 2.

Section 3 - Limits of Work



SCHEDULE SEVEN

FORM OF ADVANCE PAYMENT GUARANTEE

(DEMAND BANK GUARANTEE)

[LETTER HEAD OF GUARANTOR]

Date:

Brief description of Contract.....

Name and address of Beneficiary.....

(whom the Contract defines as the Employer)

We have been informed that.....(hereinafter called the Principal) is your contractor under such Contract and wishes to receive an advance payment, for which the Contract requires him to obtain a guarantee.

At the request of the Principal, we [insert name of bank] irrevocably undertake to pay you, the Beneficiary/Employer, any sum or sums not exceeding in total an amount of [amount of Guarantee in figures] [amount in words], upon receipt by us of your first demand in writing accompanied by a written statement stating:

- (a) that the Contractor has failed to repay the advance payment in accordance with the conditions of the Contract; and
- (b) the amount which the Principal has failed to repay.

This guarantee shall become effective upon receipt of the advance payment by the Principal. Such guaranteed amount shall be reduced by the amounts of the advance payment repaid to you, as evidenced by copies of interim statements or payment certificates which shall be presented to us. Following receipt (from the Principal) of a copy of each statement, we shall promptly notify you of the revised guarantee amount accordingly.

This guarantee shall expire no later than twenty-eight (28) days from the issuance of the Certificate of Completion, calculated based on a copy of such Certificate which shall be provided to us, or on the [insert number] day of [insert month], [insert year], whichever is earlier.

We have been informed that the Beneficiary may require the Principal to extend this guarantee if the advance payment has not been repaid by the date twenty-eight (28) days prior to such expiry

date. We undertake to pay you such guaranteed amount upon receipt by us, within such period of twenty-eight (28) days of your demand in writing and your statement that the advance payment has not been repaid and that this guarantee has been extended. This Guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758, except that the requirement of a supporting demand document under article 15(a) is hereby excluded.

Seal of the Guarantor

Name of Bank

Address

Date

SIGNED on behalf of the Guarantor:

By: (Name and Signature)

in the capacity of

In the presence of (Witness)

(Name and Signature)

in the capacity of

SCHEDULE EIGHT

Form of Performance Security

DEMAND BANK GUARANTEE

[LETTER HEAD OF GUARANTOR]

Date:

Brief description of Contract.....

Name and address of Beneficiary.....

(whom the Contract defines as the Employer)

Whereas [*name and address of Contractor*] (hereinafter called "the Contractor") has undertaken, in pursuance of the Contract dated [*date*] to execute [*name of Contract and brief description of Works*] (hereinafter called "the Contract");

And whereas it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

And whereas we have agreed to give the Contractor such a Bank Guarantee;

Now therefore we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of [*amount of Guarantee*] [*amount in words*],¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of [*amount*

¹ An amount is to be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract, and denominated either in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer

of Guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall be valid until a date 28 days from the date of issue of the Performance Certificate.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire no later than twenty-eight days from the issuance of the Certificate of Completion, calculated based on a copy of such Certificate which shall be provided to us, or on the [insert number] day of [insert month], [insert year], whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This Guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758, except that the requirement of a supporting demand document under article 15(a) is hereby excluded.

Seal of the Guarantor

Name of Bank

Address

Date

SIGNED ON _____ on behalf of the Guarantor _____

By *(Name and Signature)* _____ in the capacity of

In the presence of *(Witness) (Name and Signature)* _____ in the capacity of

SCHEDULE 12

REVIEW PROCEDURE

1 Review Procedure

- 1.1 The provisions of this Schedule shall apply whenever any item, documents or course of action are required to be reviewed, approved or otherwise processed in accordance with the Review Procedure.
- 1.2 Each submission under the Review Procedure shall be accompanied by a copy of the document to be reviewed (including the Reviewable Data) (the entire contents of a submission being referred to in this Schedule as a "**Submitted Item**"). In relation to each Submitted Item, the following procedure shall apply:
- (a) Within fourteen (14) days in the case of Reviewable Data related to design and within five (5) days in the case of Reviewable Data unrelated to design of the date of receipt of a submission (or re-submission, as the case may be) of the Submitted Item to the Employer in accordance with paragraph 5 (or such other period as the Parties may agree), the Employer shall return one (1) copy of the relevant Submitted Item to the Contractor endorsed:
 - (i) "Level A – no comment";
 - (ii) "Level B – proceed subject to amendment as noted";
 - (iii) "Level C – subject to amendment as noted"; or
 - (iv) "Level D – rejected" as appropriate; and
 - (b) if the Employer fails to return a copy of any Submitted Item (including any re-submitted Submitted Item) duly endorsed in accordance with paragraph 1.2(a) or within the time periods stated therein (or within such other period as the Parties may agree in writing) of the date of its submission to the Employer, the Employer's response shall be deemed to be "Level A – no comment".
- 1.3 If the Employer raises comments on any Submitted Item in accordance with this Schedule it shall state the ground upon which such comments are based and the evidence or other information necessary to substantiate that ground.
- 1.4 If the Contractor considers that the Employer has commented on a Submitted Item other than on the basis set out in this Schedule, the Contractor may request written clarification of the basis for such comments and, if clarification is not received within three (3) days of such request, the Employer's response shall be deemed to be "Level A – no comment".

2 Further Information

- 2.1 The Contractor shall submit any further or other information, data and documents that the Employer reasonably requires in order to determine whether it has a basis for raising comments or making objections to any Submitted Item in accordance with this Schedule. If the Contractor does not submit any such information, data and documents within sufficient time to allow the Employer to comply with the timescales in paragraph 1.2, the Employer shall be entitled to:

- (a) comment on the Submitted Item on the basis of the information, data and documents which have been provided; or
- (b) object to the Submitted Item on the grounds that insufficient information, data and documents have been provided to enable the Employer to determine whether he has a legitimate basis for commenting or objecting in accordance with this Schedule.

3 Grounds of Objection

3.1 The expression "**raise comments**" in this paragraph shall be construed to mean "**raise comments or make objections**" unless the contrary appears from the context. The Employer may raise comments in relation to any Submitted Item on the grounds set out in the paragraph above or on the grounds that the Submitted Item would breach any Laws or not be in accordance with any Final Approval, but otherwise may raise comments in relation to a Submitted Item only as follows:

- (a) the Contractor's ability to perform its obligations under this Contract would be adversely affected by the implementation of the Submitted Item;
- (b) the implementation of the Submitted Item would adversely affect any right of the Employer under this Contract and its ability to enforce any such right;
- (c) the Submitted Item is not in accordance with the health and safety procedures set out in the Contract;
- (d) the Submitted Item is not in accordance with the Employer's Requirements; or

4 Effect of Review

4.1 Any Submitted Item which is returned (or deemed to be returned) by the Employer endorsed "**Level A no comment**" may be complied with or implemented (as the case may be) by the Contractor.

4.2 If the Employer returns the Submitted Item endorsed other than "**Level A – no comment**", the Contractor shall:

- (a) where the Employer has endorsed the Submitted Item "**Level B — proceed subject to amendment as noted**", either proceed to construct or proceed to the next level of design of the part of the Works to which the Submitted Item relates but take into account any amendments required by the Employer in his comments;
- (b) where the Employer has endorsed the Submitted Item "**Level C — subject to amendment as noted**", not act upon the Submitted Item, amend the Submitted Item in accordance with the Employer's comments and re-submit the same to the Employer in accordance with paragraph 1; or
- (c) where the Employer has endorsed the Submitted Item "**Level D — rejected**" not act upon the Submitted Item, amend the Submitted Item and re-submit the Submitted Item to the Employer in accordance with paragraph 1,

unless the Contractor disputes that any such comment or proposed amendment is on grounds permitted by this Contract, in which case, the Contractor or the Employer shall be entitled to refer the matter to the DAB pursuant to Sub-Clause 20.4 [*Obtaining Dispute Adjudication*]

Board's Decision] and the Contractor shall not act on the Submitted Item until such matter is so determined or otherwise agreed.

- 4.3 Within fourteen (14) days of receiving the comments of the Employer on any Submitted Item, the Contractor shall (except in the case contemplated in paragraph 4.2(a)) send a copy of the Submitted Item, as amended, to the Employer, and the provisions of paragraphs 1.2(a), 4.1 and 4.2 shall apply (changed according to context) to such re-submission.
- 4.4 The return (or deemed return) of any Submitted Item endorsed:
- (a) "Level A – no comment"; or
 - (b) "Level B – proceed subject to amendment as noted"; or
 - (c) "Level C – subject to amendment as noted",

shall mean that the relevant Submitted Item may be used or implemented for the purposes for which it is intended but, save to the extent expressly stated in this Contract, such return of any Submitted Item shall not otherwise relieve the Contractor of its obligations under this Contract nor is it an acknowledgement by the Employer that the Contractor has complied with such obligations.

5 Document Management

- 5.1 The Contractor shall issue four (4) hard copies and provide an electronic copy (in both PDF and CAD format) of all Submitted Items to the Employer. As soon as reasonably practicable after the issue of each Submitted Item, the Contractor shall also post an electronic copy (in both PDF and CAD format) of such Submitted Item to a file transfer protocol or similar internet-based site where the Employer and other authorised representatives of relevant Parties can access the site and view and download such electronic copy.
- 5.2 The Contractor shall compile and maintain a register of:
- (a) the date and contents of the submission of all Submitted Items;
 - (b) the status of each Submitted Item; and
 - (c) the date of receipt and content of all Submitted Items that are returned by the Employer.
- 5.3 No review, comment or approval by the Employer shall operate to exclude or limit the Contractor's rights, obligations or liabilities under this Contract (or the Employer's rights under this Contract).

6 Variations

- 6.1 No approval or comment or any failure to give or make an approval or comment under this Schedule or any alteration or modification to the design, quality and quantity of the Works arising from the co-ordination of the design shall constitute a Variation save to the extent provided in this Schedule 2.
- 6.2 Subject to paragraph 6.1 if, having received comments from the Employer, the Contractor considers that compliance with those comments would amount to a Variation, the Contractor shall, before complying with the comments, notify the Employer of the same. If the Employer agrees that a Variation would arise if the comments were complied with, the Employer shall,

subject Sub-Clause 13.3[*Variation Procedure*] cancel or vary the instruction and it shall be dealt with in accordance with Sub-Clause 13.3 [*Variation Procedure*].

- 6.3 Any failure by the Contractor to notify the Employer that it considers compliance with any comments of the Employer would amount to a Variation within seven (7) days of those comments being raised shall constitute an irrevocable acceptance by the Contractor that any compliance with the Employer's comments shall be without cost to the Employer and without any extension of the Time for Completion.