

**REGIONAL TRANSPORT RESEARCH AND EDUCATION CENTRE, KUMASI
[TRECK]
KWAME NKRUMAH UNIVERSITY OF SCIENCE
AND TECHNOLOGY**

**DLR 4.3: IMPROVED TEACHING AND RESEARCH ENVIRONMENT
MILESTONES FORMULATION**

DLR Action plan	Result/Activity/Task	Expected Timeline for Completion	Budget Estimates (USD)	Disbursement (USD/SDR/EUR)
DLI 4.3.1 – Milestone 1 1. Construction of Office Complex	<p>Activity 1: Begin building TRECK Office Complex and Laboratories (Appendix 1)</p> <ul style="list-style-type: none"> • Designs and drawings of the TRECK Office Complex and Laboratories prepared and uploaded on the TRECK’s Website; • Preparation of procurement plan (approved by World Bank) • Advertisement for expressions of interest/ procurement bids; Shortlisting; Tender Evaluation, Tender Review and Award Notification carried out and uploaded on the TRECK’s Website • Self-certification that all associated procurement followed approved institutional procurement rules done; • Signed award contract with bill of quantities for construction of Office Complex uploaded on TRECK’s Website; • Environmental and Social Management Plan (ESMP) conformity certificate available and uploaded on the TRECK’s Website; • All documents and pictures of sod-cutting and foundation laying ceremony uploaded on the TRECK’s website; 	November 30, 2020	\$490,000 (DLI 1.1, 1.2, will finance the difference))	\$300,000 (SDR 215,705)

<p>2. Procure Means of Transport</p>	<p>Activity 2: Procurement of TRECK Means of Transportation</p> <ul style="list-style-type: none"> • Advertisement for expressions of interest/ procurement bids; Shortlisting; Tender Evaluation, Tender Review and Contract Award Notification for supply of 1 No. 4 x 4 cross country vehicle and 1 No. 30 seater bus for TRECK uploaded on the TRECK’s Website; • Self-certification that all associated procurement followed approved institutional and national procurement rules done and uploaded on the TRECK’s Website; • Signed award contract with bills of quantities for supply uploaded on TRECK’s website; • Receipt, inspection of vehicles; • Vehicles received and marked as property of the institution, registered in the institution’s asset register and are in operation. • All documents and evidence of utilization including pictures of students and researchers using vehicles uploaded on TRECK website 	<p>November 30, 2021</p>	<p>\$150,000 (DLI 5.1 - 5.2 will finance the difference)</p>	
<p>Total</p>			<p>640,000</p>	

<p>DLI 4.3.2 Milestone 2</p>	<p>Activity 1: Completion of TRECK Office Complex and Laboratories (Appendix 1)</p> <ul style="list-style-type: none"> • Self-certification that all associated procurement followed approved institutional procurement rules available; • Installation of furnishing, fittings and equipment; • All equipment, furnishing and fitting clearly marked as property of the institution, and registered in the institution’s asset register • Evidence of 100% completion by external verifier and uploaded on the TRECK’s Website; • Commissioning of the building; • All documents including letter and pictures of handover of completed building to TRECK Management available on the TRECK’s website <p>Activity 2: Furnishing and Equipping of TRECK Office Complex and Laboratories</p> <ul style="list-style-type: none"> • Advertisement for expressions of interest/ procurement bids; Shortlisting; Tender Evaluation, Tender Review and Contract Award Notification for furnishing and equipping existing structure (as described in appendix), for TRECK and uploaded on the TRECK’s Website; • Self-certification that all associated procurement followed approved institutional and national procurement rules carried out; • Signed award contract with bills of quantities for supply and installation of equipment and furniture (as described in appendix), uploaded on TRECK’s website; • Receipts, inspection and installation of furnishing available; • All furnishings purchased are installed, clearly marked as property of the institution, registered in the institution’s asset register and are in operation. • Training of personnel to run the equipment • All documents and evidence of utilization including pictures of students and researchers using the facilities uploaded on TRECK website 	<p>December 31, 2022</p>	<p>410,000</p> <p>300,000</p>	<p>\$300,000 (SDR 215,705)</p>
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			\$1,350,000 (DLI 1.1, 1.2, 5.1, 5.2 will finance the difference)	\$600,000 (SDR 431,410)
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APPENDIX 1
DETAILED TECHNICAL SPECIFICATIONS OF THE ACTIVITIES

DLI 4.3.1 – Milestone 1: [TRECK]					
N°	ITEM	SPECIFICATION	QTY	UNIT COST (USD)	TOTAL COST (USD)
MILESTONE 1 – ACTIVITIES 1: Begin building TRECK Office Complex and Laboratories					
	Architectural Works	Building plan	1	30,000	30,000
	Civil Engineering	Structural plan	1	30,000	30,000
	Electrical Engineering	Electrical plan	1	30,000	30,000
	Civil Works	Cost of construction of building	Several	400,000	400,000
SUB-TOTAL 1					490,000
DLI 4.3.1 – Milestone 2: [TRECK]					
MILESTONE 2 - ACTIVITIES 1: Completion of TRECK Office Complex and Laboratories					
	Civil Works	Cost of Construction of building	Several	360000	360,000
	Civil Works	External Works	Several	15000	15,000
	Civil Works	Paintings and Decoration	Several	20000	20,000
	Contract Administration	Administrative Works	1	15000	15,000
SUB-TOTAL 2					410,000
MILESTONE 1 - ACTIVITIES 2: Procurement of TRECK Means of Transportation					

1.	Procure Means of Transport	Procure 1. No. 4 x 4 cross country vehicle	1	50,000	50,000
2.	Procure Means of Transport	Procure 1. No. 30 Seater Bus	1	100,000	100,000
				SUB-TOTAL 3	150,000
				GRAND TOTAL	1,050,000

DLI 4.3.2 – Milestone 2: [Furnishing and Equipping of TRECK Office Complex and Laboratories]

N ^o	ITEM	SPECIFICATION	QTY	UNIT COST	TOTAL COST
MILESTONE 2 – ACTIVITIES 2					
1	Laptops		8	1,500.00	12,000.00
2	Desktop computers		16	1,400.00	22,400.00
3	LCD projectors		2	1,300.00	2,600.00
4	68" LED TV for lecture rooms;		4	2,800.00	11,200.00
5	Smart Board;		1	10,186.61	10,186.61
6	Drone for Engineering survey with LIDAR camera;		1	10,656.10	10,656.10
7	Roadway Counter Stater Package (Picocount 2500) and accessories;		10	676.00	6,760.00
8	Miovision Automatic Traffic Classifier Kit and Accessories;		2	8,108.03	16,216.06
9	PC-TAS Count Pad Office Package; and		4	1,640.49	6,561.96
10	Modular Precision Sound Analyzer — 2260 Investigator™ Including BZ7201, BZ7202 and BZ7206 Sound Analysis Software		2	2,000.00	4,000.00
11	Outdoor Construction Noise Meter Kit PCE-432-EKIT		1	6,435.96	6,435.96
12	Speedy Moisture Tester;		1	2,197.58	2,197.58
13	Original Schmidt concrete Test Hammer N Type;		1	1,432.87	1,432.87
14	Muffle Furnace;		1	3,971.50	3,971.50
15	100mm internal Diametre Mould for gyrator compaction;		1	16,174.40	16,174.40
16	Marshal Electronic Compactor with Accessories;		1	3,516.21	3,516.21
17	Roughometer III Kit and accessories;		1	19,995.00	19,995.00

18	Non-Nuclear Asphalt Density Gauge;	1	17,177.16	17,177.16
219	Ductility Testing Machine with cooling Unit;	1	5,181.78	5,181.78
20	Thin Film Oven;	1	2,690.89	2,690.89
21	High Distillation Thermometer, -2+400°c;	1	2,211.92	2,211.92
22	Rotational Viscometer (RV), ASTM D4402 (AASHTO T316)	1	2,000.00	2,000.00
23	Dynamic Shear Rheometer (DSR), ASTM D7175 (AASHTO T315),	1	49,000.00	49,000.00
24	Bending Beam Rheometer (BBR), ASTM D6648 (AASHTO T313)	1	39,279.00	39,279.00
25	Rolling Thin Film Oven Test (RTFOT), ASTM D2872 (AASHTO T240),	1	2,688.02	2,688 .02
26	Pressurized Aging Vessel (PAV), ASTM D6521 (AASHTO R28)	1	18,538.98	18,538.98
27	Marshall Compaction Moulds and Sample Ejectors	1	2,680.00	2,680.00
28	Asphalt Sawing Machine	1	1,200.00	1,200.00
29	Coarse Aggregate Angularity, ASTM D 4791, ASTM D 5821	2	120.00	240.00
30	Gradation & Size, AASHTO T 27 and ASTM C 136	4	36.50	146.00
31	Accessory for PicoCount 2500.	2	99.00	198.00
32	Accessory for the PicoCount 2500 & 4500.	2	232.00	464.00
SUB-TOTAL 1				300,000