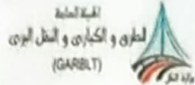


MATERIAL INSPECTION REQUEST



Location Name	Contractor Company		Designer Company							
Electric express train	AL- Tawakol Company		k.k							
Issued by Contractor	Name	Sign	Date		Time					
	Eng. Ahmed Haleem		10-8-2022							
Contractor reference	TW2 sub ballast - (01) -10-8-2022									
Received by ER		MIR	C1	C2	C3	DD	MM	YY	HH	MM
						10	8	23		

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Prepared subgrade material		
Location to be Used	From	To	LAYER
	509+000	509+560	+0.70
	509+000	509+560	+0.90

MAR Approval No			Date	
Supplier Name				
Test Requirement	Specification		Clause	
Reference Photos	Yes attached / No	Other		

Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m ³	3500	8-8-2023	
2	Classification	m ³	3500	8-8-2023	
3	Proctor & O.m.c	m ³	3500	9-8-2023	
4	L.L & P.L & PI	m ³	3500	8-8-2023	
5	C.B.R	m ³	3500	10-8-2023	
6	Loss angelus	m ³	3500	9-8-2023	
7	Specific gravity	m ³	3500	9-8-2023	

Comments by:	Comments by:
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed Haleem		10-8-2022	
QA/QC *				
GARB**				
Comments by				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



Location Name	Contractor Company		Designer Company							
Electric express train	AL- Tawakol COMPANY		k.k							
Issued by Contractor	Name	Sign	Date	Time						
	Eng Ahmed Haleem		10-08-2023							
Contractor Reference	TW2 SUB BALLAST - (1) - 10-08-2023									
Received by ER			C1	C2	C3	DD	MM	YY	HH	MM
		MAR				10	8	23		

NB :Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-a)			
Location to be Used	K.p (509)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	5.6 %	
4	ASTM D 4318	Atterberg limit	N.P	
5	ASTM D 2974	Moisture content	7.7%	
6	ASTM D 1557	Modified proctor	2.23	
7	ASTM D 1883	CBR	95.4%	
8	ASTM C 535	Loss Angeles	24%	
9	ASTM C 127	Specific gravity	2.52	
Comments by:			Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng Ahmed Haleem		10-08-2023	
Contractor QA/QC *				
GARB**				
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA To MARS MATROUH
 From Station 504+000 To Station 568+177



Operating lap

Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	08-08-2023	code	ZONE	509+000	509+560
LOCATION	K.P (509)	TW 2 Sub Ballast (1)	Material	Sub ballast	
NAME COMPANY	AL TAWAKOL 2		quantity	3500 m³	

1-visual inspection test

2-Gradient test

A-gradation of bulk materials			SAMPLE WEIGHT [g]		28280.00		gm	table classify	
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify
Mass retained (g)	75.0	900.0	3275.0	3200.0	3300.0	4400.0	4800.0		CLASS A-1-A
Cumulative Retained (g)	75.0	975.0	4250.0	7450.0	10750.0	15150.0	19950.0	8330.0	PRO 2.23
Cumulative Retained %	0.3	3.4	15.0	26.3	38.0	53.6	70.5		WC 7.7
Cumulative Passing %	99.7	97	85.0	74	62.0	46.4	29.5		CBR 95.4
									L.A 24.0
									S.G 2.52

B-soft material gradation			WT.OF sample		500.00		gm
sieve size	10	40	200				
Cumulative Retained (g)	145.00	320.00	405.00				
Cumulative Retained %	29.00	64.00	81.00				
Cumulative Passing %	71.00	36.00	19.00				

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	99.7	97	85.0	74	62.0	46.4	29.5	20.9	10.6	5.6

ATTERBERG LIMTS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.PI

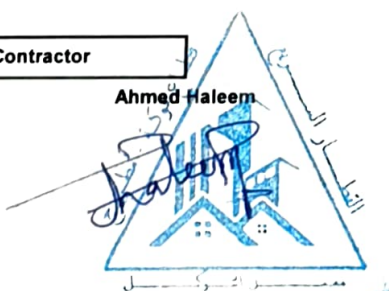
Contractor

Eng

Ahmed Haleem

Consultant

[Signature]



	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA TO MARSA MATROUH From Station 504+000 To Station 568+177		

PROCTOR TEST

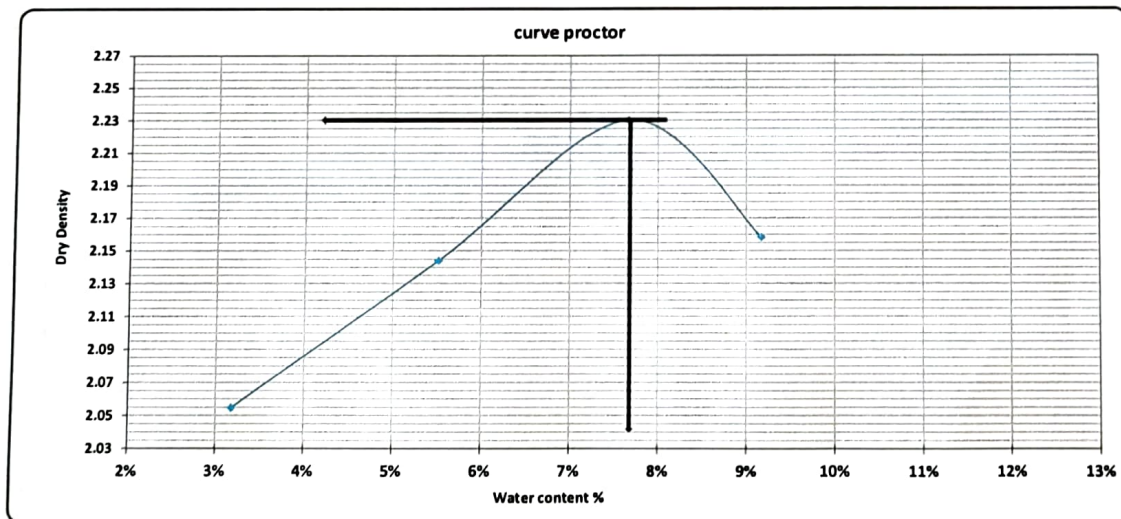
TESTING DATE:	09-08-2023	code	ZONE	509+000	509+660
LOCATION	K.P (509)	TW 2 Sub Ballast (1)	Material	Sub ballast	
NAME COMPANY	AL TAWAKOL 2		quantity	3500 m³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.23
Water content %	7.7%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10123.0	10425.0	10720.0	10625	
WT. WET SOIL	4503.0	4805.0	5100.0	5005.0	
Wt. Density	2.120	2.262	2.401	2.356	

Tare No.	22	23	24	15	16	17	18	19		
Tare wt.	53.2	52.12	54.35	58.26	56.76	54.92	58.65	59.21		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	147.0	147.0	144.9	145.3	143.0	143.6	142.0	142.7		
Wt. Of water	3.0	3.0	5.1	4.7	7.0	6.4	8.0	7.3		
Wt. Of dry soil	93.8	94.9	90.6	87.0	86.2	88.7	83.4	83.5		
Water content %	3.2%	3.2%	5.6%	5.4%	8.1%	7.2%	9.6%	8.7%		
AV. Water content %	3.2%		5.5%		7.7%		9.2%			
Dry Density	2.055		2.144		2.23		2.158			



Contractor

Eng. Ahmed Haleem

(Signature of Eng. Ahmed Haleem)

Consultant

(Signature of Consultant)

Absorbion & Aggregate specific gravity AASHTO-T85

TESTING DATE:	09/08/2023	code	Station	509+000	509+560
LOCATION	K.P (509)	TW 2 Sub Ballast (1)	Material	Sub ballast	
NAME COMPANY	AL TAWAKOL 2		quantity	3500 m ³	

Weight of sample	2500	gm
Weight of saturated surface dry sample (B)	2530	gm
Weight of saturated sample in water (C)	1544.5	gm
Weight of dry sample after heating (A)	2485	gm

Results:-

Bulk specific gravity = A / (B-C)	2.522	
Bulk specific gravity (S.S.D) = B / (B-C)	2.567	
Apparent specific gravity = A / (A-C)	2.642	
Absorbation = (B-A)/A	1.811	%

Los Anglos Abrasion AASHTO-T96

Results:-

Weight of sample before test (gm)	Weight of sample after test (gm)	Abrasion ratio (%)
5000	3800	24.00

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : Ahmed Hafeem

Sign :

(Signature)

Consultant Engineer

Name :

Sign :

(Signature)

California Bearing Ratio TEST

Testing Date :	10/8/2023	Code	FROM STA :	509+000	509+560
Location :	K.P (509)	TW 2 Sub Ballast(1)	: Material	Sub ballast	
Company Name	AL TAWAKOL 2		: Layer Thickness	3500m'	

:- Test Results

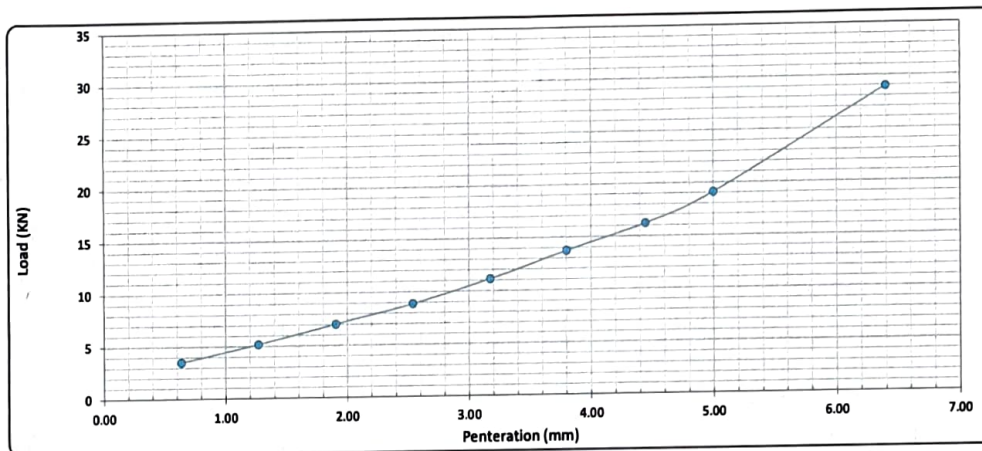
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2170
Mold WT. (gm)	5310
Mold WT. + Wet WT. (gm)	10502
Wet WT. (gm)	5192
Wet Density (g/cm ³)	2.393
Dry Density (g/cm ³)	2.228
Proctor Density (g/cm ³)	2.230
Compaction %	99.9

Moisture Ratio After Compacted Mold	
Tare No.	21
Tare WT. (gm)	55.63
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143.5
Water WT. (gm)	6.5
Dry WT. (gm)	87.9
Moisture Content %	7.4

Swelling	
Mold No.	1
Date	10/8/2023
Initial Height (mm)	20.00
Final Height (mm)	20.00
Difference	0.00
Sample Height (mm)	120
Swelling Ratio %	0.00%

Loading Reading :

Pentration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (Kg)	390	575	780	985	1236	1523	1800	2120	3214
Load (KN)	3.5	5.2	7.0	8.9	11.1	13.7	16.2	19.1	28.9



Calculations :-

Pentration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	% عند نسبة 100
2.50	8.87	13.4	66.4%	100	100	66.5%
5.00	19.08	20.0	95.3%			95.4%

Lab. Specialist

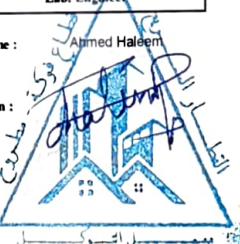
Name :

Sign :

Lab. Engineer

Name : Ahmed Halem

Sign :



Consultant Engineer

Name :

Sign :



Location Name	Contractor Company	Designer Company																		
Electric express train	AL- Tawakol COMPANY	k.k																		
Issued by Contractor	Name	Sign	Date	Time																
	Eng Ahmed Haleem		22-07-2023																	
Contractor Reference	TW2 P.S.G - (1) - 22-07-2023																			
Received by ER		MAR	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>C1</th><th>C2</th><th>C3</th><th>DD</th><th>MM</th><th>YY</th><th>HH</th><th>MM</th></tr> <tr> <td></td><td></td><td></td><td>22</td><td>7</td><td>23</td><td></td><td></td></tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM				22	7	23			
C1	C2	C3	DD	MM	YY	HH	MM													
			22	7	23															

NB :Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-a)			
Location to be Used	K.p (509+250)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	11.7 %	
4	ASTM D 4318	Atterberg limit	N.P	
5	ASTM D 2974	Moisture content	8.1%	
6	ASTM D 1557	Modified proctor	2.20	
7	ASTM D 1883	CBR	67.9 %	
8	ASTM C 535	Loss Angeles	28.2%	
Comments by:		Comments by:		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng Ahmed Haleem			
Contractor QA/QC *	mohamed elsaied	m.elsaied	22-7-2023	
GARB**				
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only

MATERIAL INSPECTION REQUEST



Location Name	Contractor Company		Designer Company							
Electric express train	AL- Tawakol Company		k.k							
Issued by Contractor	Name	Sign	Date	Time						
	Eng. Ahmed Haleem		22-07-2022							
Contractor reference	TW2 P.S.G - (01) -22-07-2022									
Received by ER	MIR		C1	C2	C3	DD	MM	YY	HH	MM
						22	7	23		

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	Prepared subgrade material				
Location to be Used	From	To	LAYER		
	509+000	509+500	+0.25		
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m ³	2000	19-07-2023	
2	Classification	m ³	2000	19-07-2023	
3	Proctor & O.m.c	m ³	2000	20-07-2023	
4	L.L & P.L & PI	m ³	2000	20-07-2023	
5	C.B.R	m ³	2000	22-07-2023	
6	Loss angelus	m ³	2000	19-07-2023	
Comments by:			Comments by:		
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed Haleem		22-07-2022	
QA/QC *	mohamed elsaie		22-7-2023	
GARB**				
Comments by				
Employers Representative				

* Designer
** Alignment / Bridges: Culvert Only

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي ا.د. خالد فنديل	 القطار السريع Electric Express Train SYSTRA SHAKER	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSА MATROUH From Station 504+000 To Station 568+177	 الهيئة العامة للنقل وزارة النقل (GAPBL)
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Opreating lap	Al Tawkol Central Lab
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PARTICLE SIZE DISTRIBUTION OF SOIL					
TESTING DATE:	19-07-2023	code	ZONE	509+000	509+560
LOCATION	K.P (509+250)	TW 2 P.S.G (1)	Material	Prepard subgrade	
NAME COMPANY	AL TAWAKOL 2		quantity	2000 m³	

1-visual inspection test

2-Gradient test

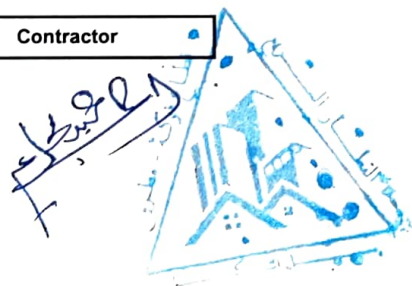
A-gradation of bulk materials				SAMPLE WEIGHT [g]		40995.00		gm	table classify	soil classify
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS		
Mass retained (g)	0.0	1235.0	5015.0	6100.0	5000.0	5150.0	3495.0		CLASS	A-1-a
Cumulative Retained (g)	0.0	1235.0	6250.0	12350.0	17350.0	22500.0	25995.0	15000.0	PRO	2.20
Cumulative Retained %	0.0	3.0	15.2	30.1	42.3	54.9	63.4		WC	8.1
Cumulative Passing %	100.0	97.0	84.8	70	57.7	45.1	36.6		CBR	67.9
									L.A	28.2

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	10	40	200					
Cumulative Retained (g)	70.00	200.00	340.00					
Cumulative Retained %	14.00	40.00	68.00					
Cumulative Passing %	86.00	60.00	32.00					

C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	97.0	84.8	70	57.7	45.1	36.6	31.5	22.0	11.7

ATTERBERG LIMTS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.PI

Contractor



Consultant

mohamed elsaied

 22-7-2023

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي اد. خالد فنجيل	 SVSIFA SHAKER	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA TO MARSA MATROUH From Station 504+000 To Station 568+177	 الهيئة العامة للقناة (S.A.E.C.)
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PROCTOR TEST

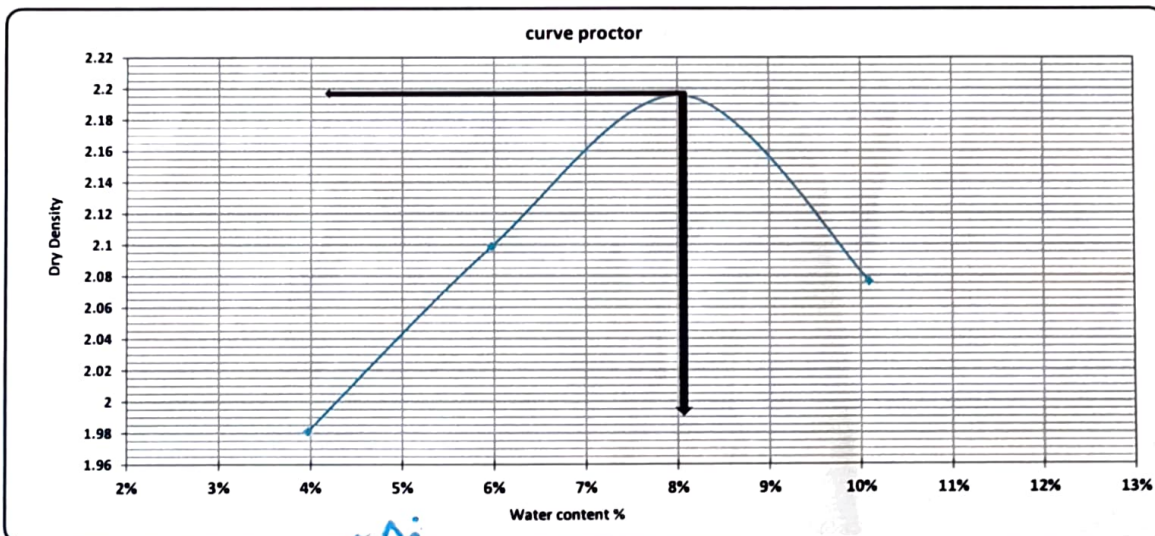
TESTING DATE:	20-07-2023	code	ZONE	509+000	509+560
LOCATION	K.P (509+250)	TW 2 P.S.G (1)	Material	Prepared subgrade	
NAME COMPANY	AL TAWAKOL 2		quantity	2000 m³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

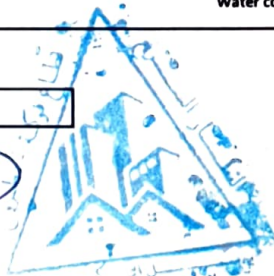
MAX Dry Density	2.20
Water content %	8.1%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	9995.0	10344.0	10659.0	10475	
WT. WET SOIL	4375.0	4724.0	5039.0	4855.0	
Wt. Density	2.060	2.224	2.372	2.286	

Tare No.	1	2	3	4	5	6	7	8		
Tare wt.	55.4	54.38	55.45	53.62	52.72	55.69	53.52	57.8		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	146.5	146.2	144.7	144.5	142.7	143.0	141.1	141.6		
Wt. Of water	3.5	3.8	5.3	5.5	7.3	7.0	8.9	8.4		
Wt. Of dry soil	91.1	91.9	89.3	90.9	90.0	87.3	87.6	83.8		
Water content %	3.8%	4.1%	5.9%	6.1%	8.1%	8.0%	10.2%	10.0%		
AV. Water content %	4.0%		6.0%		8.1%		10.1%			
Dry Density	1.981		2.099		2.20		2.076			



Contractor


(Handwritten signature)

Consultant

mohamed elsaid

m.elsaid

22-7-2023

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ.د. خالد قنديل	 SYSTA	Electric Express Train - HSR	 الهيئة العامة للنقل الهيئة العامة للتطوير الاقتصادي
		From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSА MATROUH From Station 504+000 To Station 568+177	
Los Anglos Abrasion AASHTO-T96			

TESTING DATE:	19-07-2023	code	Station	509+000	509+560
LOCATION	K.P (509+250)	TW 2 P.S.G (1)	Material	Prepard subgrade	
NAME COMPANY	AL TAWAKOL 2		quantity	2000 m'	

Results:-

Weight of sample before test (gm)	Weight of sample after test (gm)	Abrasion ratio (%)
5000	3590	28.20

Lab. Specialist

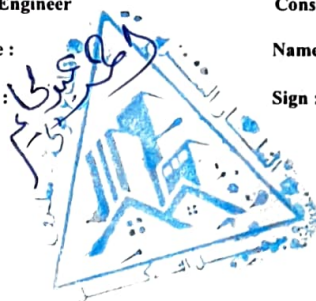
Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name : mohamed elsaied

Sign :

22-7-2023

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي ا.د. خالد النور	 ELECTRIC EXPRESS TRAIN - HSR	 وزارة النقل والبنية التحتية General
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California Bearing Ratio TEST

Testing Date :	22/7/2023	Code	FROM STA :	509+000	509+560
Location :	K.P (509+250)	TW 2 P.S.G(1)	: Material	Prepared subgrade	
Company Name	AL TAWAKOL 2		: Layer Thickness	2000m'	

- : Test Results

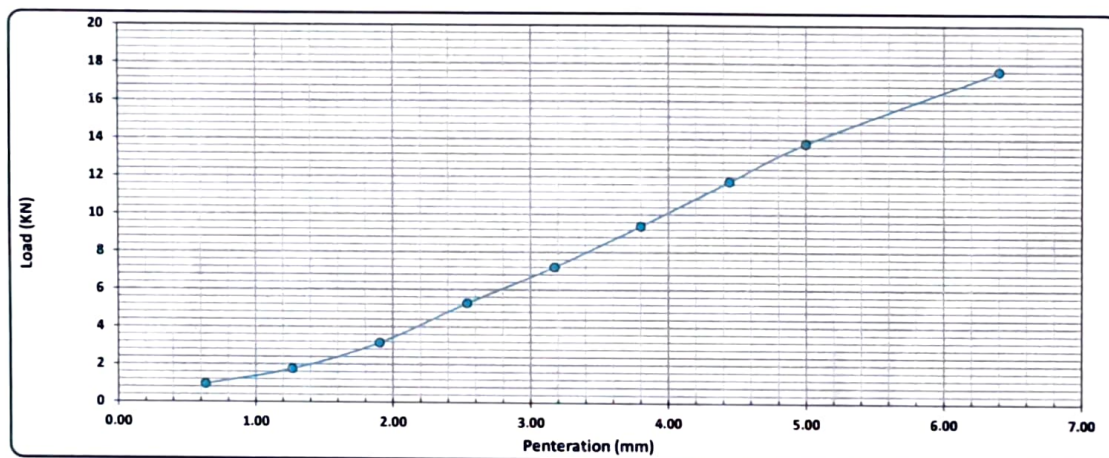
Compaction % for Mold	
Mold No.	1
Mold Vol.(cm ³)	2120
Mold WT. (gm)	5310
Mold WT. + Wet WT. (gm)	10302
Wet WT. (gm)	4992
Wet Density (g/cm ³)	2.355
Dry Density (g/cm ³)	2.185
Proctor Density (g/cm ³)	2.200
Compaction %	99.3

Moisture Ratio After Compacted Mold	
Tare No.	12
Tare WT. (gm)	55
Tare WT. +Wet WT. (gm)	150
Tare WT. +Dry WT. (gm)	143.15
Water WT. (gm)	6.8
Dry WT. (gm)	88.2
Moisture Content %	7.8

Swelling	
Mold No.	1
Date	22/7/2023
Initial Height (mm)	20.00
Final Height (mm)	20.00
Difference	0.00
Sample Height (mm)	120
Swelling Ratio %	0.00%

Loading Reading :

Penteration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (Kg)	105	195	350	585	800	1042	1304	1530	1955
Load (KN)	0.9	1.8	3.2	5.3	7.2	9.4	11.7	13.8	17.6



Calculations :-

Penteration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	98 عند نسبة 98
2.50	5.27	13.4	39.4%	99	98	38.9%
5.00	13.77	20.0	68.8%			67.9%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

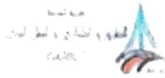
Name : mohamed elsaied

Sign :

m.elsaied

22-7-2023

MATERIAL INSPECTION REQUEST



Location Name Electric express train	Contractor Company AL- Tawakol Company		Designer Company k.k																	
Issued by Contractor	Name Eng. Ahmed Haleem	Sign 	Date 1-8-2023	Time																
	Contractor reference TW2 P.S.G - (02) -1-8-2022																			
Received by ER	MIR		<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>8</td> <td>23</td> <td></td> <td></td> </tr> </table>		C1	C2	C3	DD	MM	YY	HH	MM				1	8	23		
C1	C2	C3	DD	MM	YY	HH	MM													
			1	8	23															

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE-2	Work Activity		
CODE-3	Sub Element of Activity		

Description of Materials		Prepared subgrade material			
Location to be Used	From		To		LAYER
	509+000		509+560		+0.5
	509+500		509+560		+0.25
MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No		Other		
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	3000	29-07-2023	
2	Classification	m³	3000	29-07-2023	
3	Proctor & O.m.c	m³	3000	31-07-2023	
4	L.L & P.L & PI	m³	3000	29-07-2023	
5	C.B.R	m³	3000	1-8-2023	
6	Loss angelus	m³	3000	31-07-2023	
Comments by:			Comments by:		
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.					
APPROVAL STATUS					
Organisation	Name	Sign	Date	A-AWC-R	
Contractor	Eng. Ahmed Haleem		1-8-2023		
QA/QC *	mohamed elsaied		1-8-2023		
GARB**					
Comments by					
Employers Representative					

* Designer

** Alignment / Bridges : Culvert Only

MATERIAL APPROVAL REQUEST



Location Name	Contractor Company		Designer Company																	
Electric express train	AL- Tawakol COMPANY		k.k																	
Issued by Contractor	Name	Sign	Date	Time																
	Eng Ahmed Haleem	<i>[Signature]</i>	1-08-2023																	
Contractor Reference	TW2 P.S.G - (2) - 1-8-2023																			
Received by ER			MAR	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>8</td> <td>23</td> <td></td> <td></td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM				1	8	23		
C1	C2	C3	DD	MM	YY	HH	MM													
			1	8	23															

NB :Package 1 only (Package 2 via Content)				
The following test result are attached for review				
Description of Materials	Soil (A-1-a)			
Location to be Used	K.p (509+250)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	9.4 %	
4	ASTM D 4318	Atterberg limit	N.P	
5	ASTM D 2974	Moisture content	7.9 %	
6	ASTM D 1557	Modified proctor	2.20	
7	ASTM D 1883	CBR	75.0 %	
8	ASTM C 535	Loss Angeles	32.2%	
Comments by:			Comments by:	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng Ahmed Haleem	<i>[Signature]</i>	1-08-2023	
Contractor QA/QC *	mohamed elsaied	<i>[Signature]</i>	1-8-2023	
GARB**				
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only

 وزارة النقل والتنمية الاقتصادية Ministry of Transport and Economic Development	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 568+177	
	Al Tawakol Central Lab	

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE	30-07-2023	code	ZONE	509+000	509+560
LOCATION	K.P (509+250)	TW2 P.S.G (2)	Material	Prepared subgrade	
NAME COMPANY	AL TAWAKOL 2		quantity	3000 m³	

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT (g)		66870.00		gm	table classify	
sieve size	2	1.5	1	4/3	2/1	8/3	# 4	PASS	soil classify	
Mass retained (g)	0.0	1965.0	8610.0	8100.0	10175.0	12200.0	2650.0		CLASS	A-1-A
Cumulative Retained (g)	0.0	1965.0	10575.0	18675.0	28850.0	41050.0	43700.0	23170.0	PRO	2.20
Cumulative Retained %	0.0	2.9	15.8	27.9	43.1	61.4	65.4		WC	7.9
Cumulative Passing %	100.0	97.1	84.2	72	56.9	38.6	34.6		CBR	75.0
									LA	32.2

B-soft material gradation			WT.OF sample		500.00		gm
sieve size	10	40	200				
Cumulative Retained (g)	110.00	235.00	365.00				
Cumulative Retained %	22.00	47.00	73.00				
Cumulative Passing %	78.00	53.00	27.00				

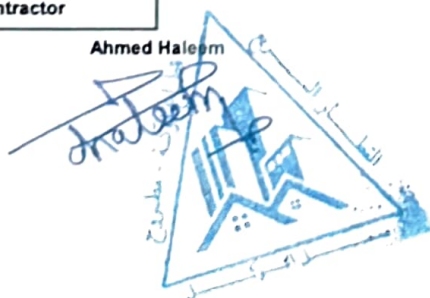
C-General gradient										
sieve size(in)	2	1.5	1	3/4	1/2	3/8	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	12.5	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	97	84.2	72	56.9	38.6	34.6	27.0	18.4	9.4

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.PI

Contractor

Eng

Ahmed Haleem



Consultant

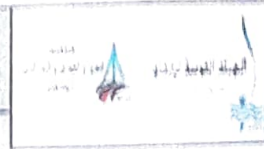
mohamed elsaied

m.elsaied

1-8-2023



Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section : 7 From FOKA TO MARSA MATROUH
From Station 804+000 To Station 868+177



PROCTOR TEST

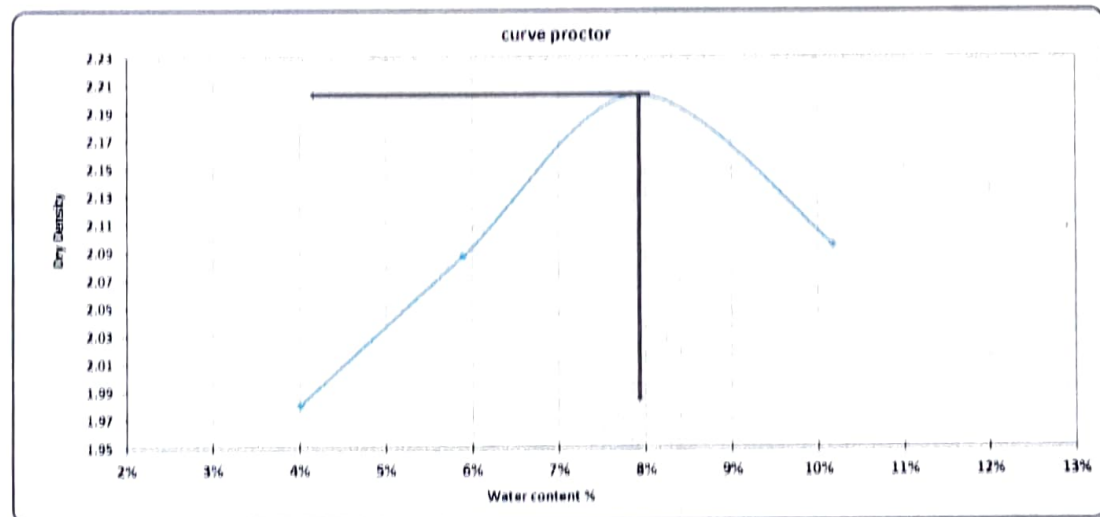
TESTING DATE :	31-07-2023	CODE	ZONE	809+000	809+860
LOCATION :	K.P (809+260)	TW 2 P 5.3 (2)	Material	Prepared subgrade	
NAME COMPANY :	AL TAWAKOL 2		quantity	3000 m³	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.20
Water content %	7.9%

trial no :	1	2	3	4	
Wt. Of Mold + wet soil	9995.0	10315.0	10670.0	10523	
Wt. Wt. SOIL	4375.0	4695.0	5050.0	4903.0	
Wt. Density	2.060	2.210	2.378	2.308	

Tare No.	11	12	13	14	15	16	17	18		
Tare wt.	85.62	85.42	82.32	84.12	82.12	83.21	86.32	86.3		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	146.5	146.2	144.7	144.5	142.7	143.0	141.1	141.6		
Wt. Of water	3.5	3.8	5.3	5.5	7.3	7.0	8.9	8.4		
Wt. Of dry soil	90.9	90.8	92.4	90.4	90.6	89.8	84.8	85.3		
Water content %	3.9%	4.2%	5.7%	6.1%	8.1%	7.8%	10.5%	9.8%		
AV. Water content %	4.0%		5.9%		7.9%		10.2%			
Dry Density	1.981		2.088		2.20		2.095			



Contractor

[Handwritten signature and stamp of the Contractor]

Consultant

mohamed elsaied

m. elsaied

1-8-2023

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ. د. خالد شندويل	 Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 568+177	
Los Anglos Abrasion AASHTO-T96		

TESTING DATE:	31-07-2023	code	Station	509+000	509+560
LOCATION	K.P (509+250)	TW 2 P.S.G (2)	Material	Prepard subgrade	
NAME COMPANY	AL TAWAKOL 2		quantity	3000 m ³	

Results:-

Weight of sample before test (gm)	Weight of sample after test (gm)	Abrasion ratio (%)
5000	3390	32.20

Lab. Specialist

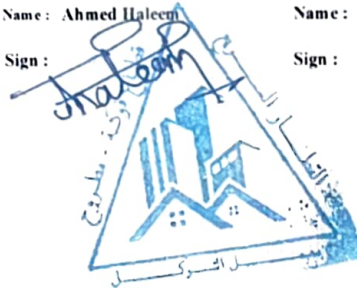
Name :

Sign :

Lab. Engineer

Name : Ahmed Haleem

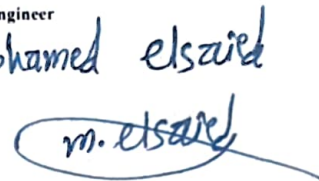
Sign :



Consultant Engineer

Name : mohamed elszied

Sign :


1-8-2023

California Bearing Ratio TEST

Testing Date	8/1/2023	Code	FROM STA.	509+000	509+560
Location	K.P (609+260)	TW 2 P.S.G (2)	Material	Prepared subgrade	
Company Name	AL TAWAKOL 2		Layer Thickness	1000mm	

Test Results

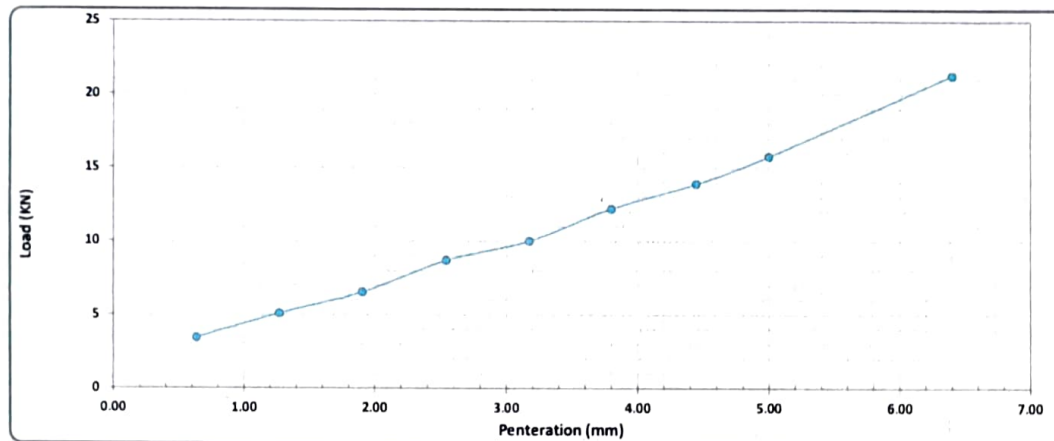
Compaction % for Mold	
Mold No.	1
Mold Vol.(cm ³)	2170
Mold WT. (gm)	5310
Mold WT. + Wet WT. (gm)	10445
Wet WT. (gm)	5135
Wet Density (g/cm ³)	2.366
Dry Density (g/cm ³)	2.194
Proctor Density (g/cm ³)	2.200
Compaction %	99.7

Moisture Ratio After Compacted Mold	
Tare No.	20
Tare WT. (gm)	56
Tare WT. +Wet WT. (gm)	150
Tare WT. +Dry WT. (gm)	143.15
Water WT. (gm)	6.8
Dry WT. (gm)	87.2
Moisture Content %	7.9

Swelling	
Mold No.	1
Date	8/1/2023
Initial Height (mm)	30.00
Final Height (mm)	30.00
Difference	0.00
Sample Height (mm)	120
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (Kg)	382	565	725	965	1112	1356	1544	1752	2365
Load (kN)	3.4	5.1	6.5	8.7	10.0	12.2	13.9	15.8	21.3



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(kN)	(lb)	(%)	(%)	(%)	% عند نسبة 95
2.50	8.69	13.4	65.1%	100	95	62.0%
5.00	15.77	20.0	78.7%			75.0%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

[Signature]

Consultant Engineer

Name : mohamed elsaid

Sign :

[Signature]

1-8-2023

MATERIAL INSPECTION REQUEST



Location Name	Contractor Company		Designer Company	
Electric express train	AL- Tawakol Company		k.k	
Issued by Contractor	Name	Sign	Date	Time
	Eng. Ahmed Haleem	<i>أحمد عبد الحليم</i>	17-07-2023	
Contractor reference	TW2 - (59) 17-07-2023			
Received by ER		MIR	C1	C2
			C3	DD
			MM	YY
			HH	MM
			17	07
			23	

CODE-1	S1 to S21 Station Reference	D1 to S3 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2	Work Activity		
CODE - 3	Sub Element of Activity		

Description of Materials	FILL MATERIAL RESULTS				
Location to be Used	From	To	LAYER		
	509+000	509+500	FERMA		
	509+540	509+560	-8.5		
	509+540	509+560	-8		
	509+540	509+560	-7.5		
	509+540	509+560	-7		
MAR Approval No			Date		
Supplier Name					
Test Requirement	Specification		Clause		
Reference Photos	Yes attached / No	Other			
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	5000	15-07-2023	
2	Classification	m³	5000	15-07-2023	
3	Proctor & O.m.c	m³	5000	16-07-2023	
4	L.L & P.L & PI	m³	5000	15-07-2023	
5	C.B.R	m³	5000	17-07-2023	
Comments by:			Comments by:		
A sample has been taken from fill material by K.K office to (Al Tawakol laboratory) and the results founded meet the specifications and accepted.					

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed Haleem		17-07-2023	
QA/QC *	<i>mohamed elsaied</i>	<i>m. elsaied</i>	17-7-2023	
GARB**				
Comments by				
Employers Representative				

* Designer

** Alignment / Bridges: Culvert Only

MATERIAL APPROVAL REQUEST



الهيئة العامة
للمرور والكباري والعلل كبرى
(GARBLT)



Location Name	Contractor Company		Designer Company																
Electric express train	AL- Tawakol Company		k.k																
Issued by Contractor	Name	Sign	Date	Time															
	Eng. Ahmed Haleem		17-07-2023																
Contractor Reference	TW2 - (59) - 17-07-2023																		
Received by ER		MAR	<table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>17</td> <td>07</td> <td>23</td> <td></td> <td></td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM				17	07	23		
C1	C2	C3	DD	MM	YY	HH	MM												
			17	07	23														

NB: Package 1 only (Package 2 via Content)

The following test result are attached for review

Description of Materials	Soil (A-1-A)			
Location to be Used	K.P (509) NO. (1)			
Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	13.60	
4	ASTM D 4318	Atterberg limit	N. PI	
5	ASTM D 2974	Moisture content	7.7 %	
6	ASTM D 1557	Modified proctor	2.16	
7	ASTM D 1883	CBR	56.1%	
Comments by:		Comments by:		

APPROVAL STATUS

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed Haleem		17-07-2023	
Contractor QA/QC *			17-7-2023	
GARB**				
Employers Representative				

* Designer

** Alignment/Bridges: Culvert only



ENGINEERING CONSULTING OFFICE
المكتب الاستشاري الهندسي
إد نادر غنديل



قطار تعبير سريع
Electric Express Train

Electric Express Train - HSR
From El Ain El Sokhna City To El Alamein - MATROUH
Section - 7 From FOKA To MARSA MATROUH
From Station 504+000 To Station 568+177



الهيئة القومية للإنتاج
المخطط
مصر

Operating lap

Al Tawkol Central Lab

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	15/07/2023	code	ZONE	509+000	509+580
LOCATION	K.P (509) NO. (1)	TW2 (59)	Material	fill material layer	
NAME COMPANY	Al Tawkol 2		quantity	5000m	

1-visual inspection test

2-Gradient test

A-gradation of bulk materials				SAMPLE WEIGHT [gm]		52350.00		gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2/1 "	3/8 "	# 4	PASS	soil classify
Mass retained (g)	0.0	2120.0	5430.0	4400.0	7870.0	6555.0	7245.0		CLASS A-1-A
Cumulative Retained (g)	0.0	2120.0	7550.0	11950.0	19820.0	26375.0	33620.0	18730.0	PRO 2.16
Cumulative Retained %	0.0	4.0	14.4	22.8	37.9	50.4	64.2		WC 7.7
Cumulative Passing %	100.0	96.0	85.6	77.2	62.1	49.6	35.78		CBR 56.1

B-soft material gradation				WT.OF sample		500.00		gm
sieve size	#10	#40	#200					
Cumulative Retained (g)	50.00	190.00	310.00					
Cumulative Retained %	10.00	38.00	62.00					
Cumulative Passing %	90.00	62.00	38.00					

C-General gradient										
sieve size(in)	2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	96.0	85.6	77.2	62.1	49.6	35.8	32.2	22.2	13.60

ATTERBERG LIMTS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.PI

Contractor

محمد عبد الحليم



Consultant

mokamed elsaied

m.elsaied

18-7-2023

	Electric Express Train - HSR From El Ain El Sokhna City To El Alamein - MATROUH Section - 7 From FOKA TO MARSA MATROUH From Station 504+000 To Station 568+177		

MODIFIED PROCTOR TEST ASTM D1557

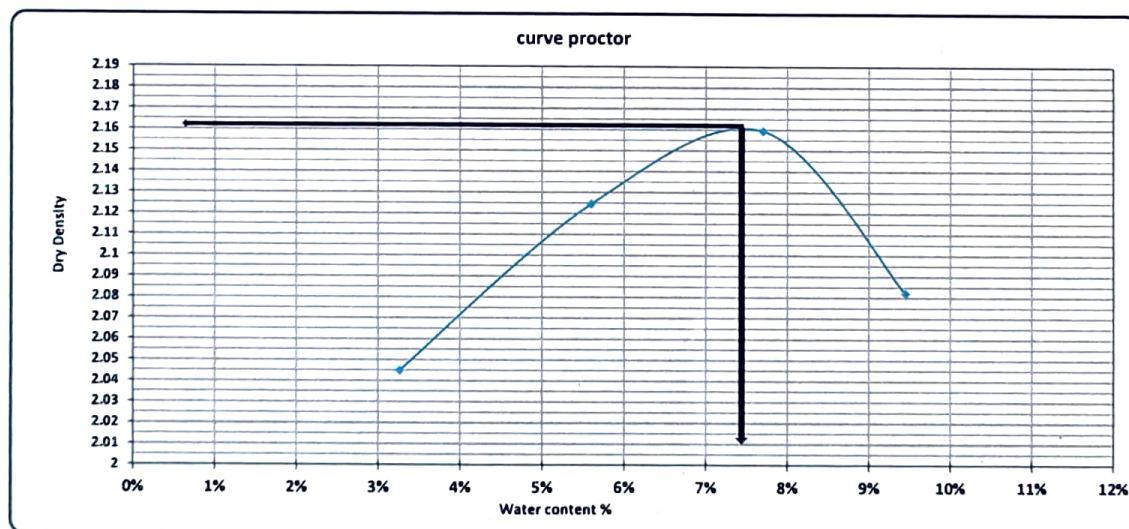
TESTING DATE:	16/07/2023	code	Station	509+000	509+580
LOCATION	K.P (509) NO. (1)	TW2 (59)	Material	fill material	
NAME COMPANY	Al Tawkol 2		quantity	5000m	

Weight of empty mold :	5620.0
Mold Volume:	2124.0

MAX Dry Density	2.16
Water content %	7.7%

trial no :	1	2	3	4	
Wt. Of Mold+ wet soil	10105.0	10385.0	10560.0	10460	
WT. WET SOIL	4485.0	4765.0	4940.0	4840.0	
Wt. Density	2.112	2.243	2.326	2.279	

Tare No.	19	17	21	16	24	1	13	17		
Tare wt.	54.38	55.61	55.86	55.58	56.57	54.66	54.22	54.66		
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0		
Wt. Of dry soil & tare	147.00	147.00	145.00	145.00	143.30	143.20	141.80	141.70		
Wt. Of water	3.0	3.0	5.0	5.0	6.7	6.8	8.2	8.3		
Wt. Of dry soil	92.6	91.4	89.1	89.4	86.7	88.5	87.6	87.0		
Water content %	3.2%	3.3%	5.6%	5.6%	7.7%	7.7%	9.4%	9.5%		
AV. Water content %	3.3%		5.6%		7.7%		9.4%			
Dry Density	2.045		2.124		2.159		2.082			



Contractor

محمد عبد الحليم



Consultant

mohamed elsaid

m.elsaid

17-7-2023

 ENGINEERING CONSULTING OFFICE المكتب الاستشاري الهندسي أ. د. خالد الصديقي	 Electric Express Train - HSR	 وزارة النقل والبنى التحتية (GABRI)
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California Bearing Ratio TEST

Testing Date :	17/07/2023	Code	FROM STA :	509+000	509+580
Location :	K.P (509) NO. (1)	TW2 (59)	Material	fill material	
Company Name	Al Tawkol 2		quantity	5000m	

:- Test Results

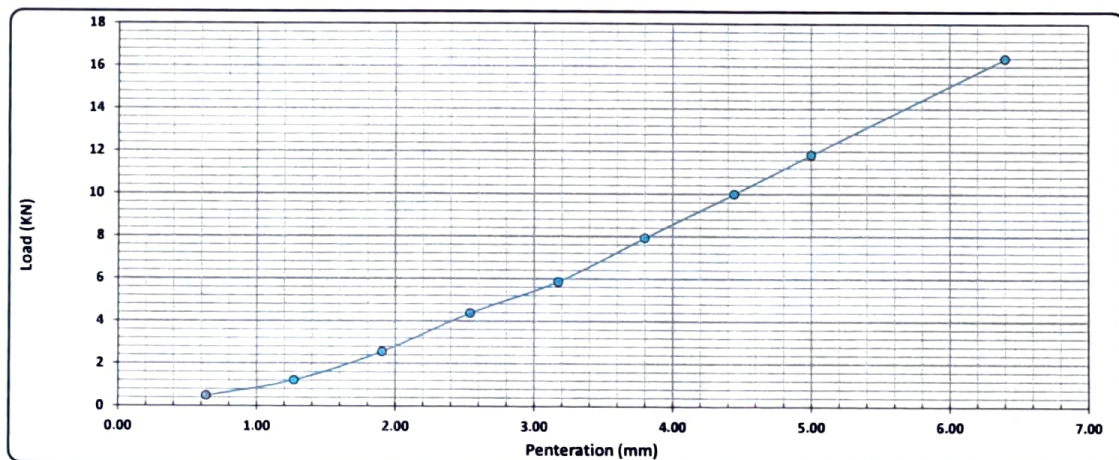
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2120
Mold WT. (gm)	5310
Mold WT. + Wet WT. (gm)	10200
Wet WT. (gm)	4890
Wet Density (g/cm ³)	2.307
Dry Density (g/cm ³)	2.161
Proctor Density (g/cm ³)	2.160
Compaction %	100.0

Moisture Ratio After Compacted Mold	
Tare No.	3
Tare WT. (gm)	55.22
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	144
Water WT. (gm)	6.0
Dry WT. (gm)	88.8
Moisture Content %	6.8

Swelling	
Mold No.	1
Date	17/07/2023
Initial Height (mm)	20.00
Final Height (mm)	20.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	6.40
Load Reading (Kg)	53	134	283	485	650	880	1110	1315	1820
Load (KN)	0.5	1.2	2.5	4.4	5.9	7.9	10.0	11.8	16.4



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(Kn)	(lb)	(%)	(%)	(%)	% عند نسبة 95
2.50	4.37	13.4	32.7%	100	95	31.1%
5.00	11.84	20.0	59.1%			56.1%

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :

Consultant Engineer

Name :

Sign :

mohamed elsaied
 m.elsaied
 17-7-2023



NAME: _____

COMPANY: _____

DATE: _____

Signature

NAME

NAME

DATE: 2023

UNIT

22	06	23
----	----	----

CODE-1
CODE-2
CODE-3

Static Reference

Dynamic Reference
Work Activity
Sub Elements of Activity

For Kibung'u point, only Static Ref is used

Description of Materials

FILL MATERIAL RESULTS

	From	To	Layer
Location to be Used	509-280	509-500	0.5
	509-000	509-500	0.25
	509-000	509-100	terrace

MAR Approval No

Date

Supplier Name

Test Requirement

Specification

Clause

Retainer Photos

Yes attached / No

Other

Item	Description	Unit	Quantity	Arrival Date	Note
	Gravel	m ³	5000	20/06/2023	
	Coarse sand	m ³	5000	20/06/2023	
	Medium & fine sand	m ³	5000	21/06/2023	
	3 x 6 x 9	m ³	5000	20/06/2023	
	CBR	m ³	5000	22/06/2023	

Comments by:

Comments by:

sample has been taken from fill material by K.K office to
(Tactical laboratory) and the results founded meet the
specification and as per plan



Name

Organization/Company

Project/Job/Company

Address

Telephone/Cellphone

E-mail

Name

Signature

Date

Time

Place

[Signature]

22/06/2022

Project/Job/Company

Address

Telephone/Cellphone

NAME

22 06 22

NR: Package 1 only (Package 2 via Content)

The following test result are attached for review

Client/Owner/End User/Authority

Soil (K, P, A)

Location (to be used)

K, P (509) NO. (1)

Item	Specification	Test requirement	Test result attachment	Remarks
1	ASTM D 75	Aggregate Sampling	According to specifications	
2	ASTM C 136	Sieve Analysis	According to specifications	
3	ASTM D 1440	Passing Sieve, No 200	13.71	
4	ASTM D 4318	Atterberg Limit	(N, P)	
5	ASTM D 2974	Moisture content	5.8 %	
6	ASTM D 1557	Modified proctor	2.17	
7	ASTM D 1883	CBR	69.0%	

Comments by:

Comments by:

APPROVAL STATUS

Organization	Name	Sign	Date	A. A. M. K.
Contractor	Eng. Ashraf Ibrahim	<i>[Signature]</i>	22/06/2022	
Contractor QA/QC	<i>Youssef Rafiq</i>	<i>Youssef Rafiq</i>		
QA/QC				
Employers Representative				



Electric Express Train - HSR

From El An El Service City To El Alamein - MATROUSH

Section - 7 From FORA To MARSA MATRUH

From Station 566+500 To Station 595+577

PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATA	20/08/2023	TEST NO.	ZONE	500+500	500+500
LOCATION	K.P. (500) M.C.	TEST (50)	Material	fill material layer	
NAME / COMPANY	A. Elwan / Z		quantity	500gms	

1- Gravel (mm) 500

2- Gravel (mm) 500

A-gradation of bulk materials

				SAMPLE WEIGHT (gm)		34490.00		gm		
SIERS SIZE	2"	1.5"	1"	3/4"	2 1/2"	3/8"	#4	PASS	CLASS	sub classify
Retained (g)	0.0	2560.0	2544.0	4590.0	2566.0	3921.0	3652.0			
Cumulative Retained (g)	0.0	2560.0	5104.0	9694.0	12260.0	16181.0	19833.0	15283.0	PRO	2.97
Cumulative Retained %	0.0	7.4	14.8	28.1	35.5	45.2	55.8		MC	5.8
Cumulative Passing %	100.0	92.6	85.2	71.9	64.5	54.8	44.2		CBR	59.0

B- soft material gradation

			WT. OF sample		500.00		gm
SIERS SIZE	#10	#40	#200				
Cumulative Retained (g)	55.00	175.00	345.00				
Cumulative Retained %	11.00	35.00	69.00				
Cumulative Passing %	89.00	65.00	31.00				

C-General gradation

SIERS SIZE (mm)	2"	1.5"	1"	3/4"	1/2"	3/8"	#4	#10	#40	#200
SIERS SIZE (mm)	50.0	37.5	25.0	19.0	9.5	9.5	4.75	2.00	0.425	0.075
Cumulative Retained %	100.0	92.6	85.2	71.9	64.5	54.8	44.2	35.1	25.1	15.7

ATTERBERG LIMITS	LIQUID LIMIT (L.L.)	PLASTIC LIMIT (P.L.)	PLASTIC INDEX (P.I.)
	N.L	N.P	N.P

CHARACTER

Consultant

Abbas

Youssef Ragab



Electric Express Train - HSR
 From El Ahd El Bekhra City To El Alaman - MATROUK
 Section - 7 From FOVA TO MARSA MATROUK
 From Station 504+001 To Station 508+377

100% PROJECT REPORT - 15/11/2022

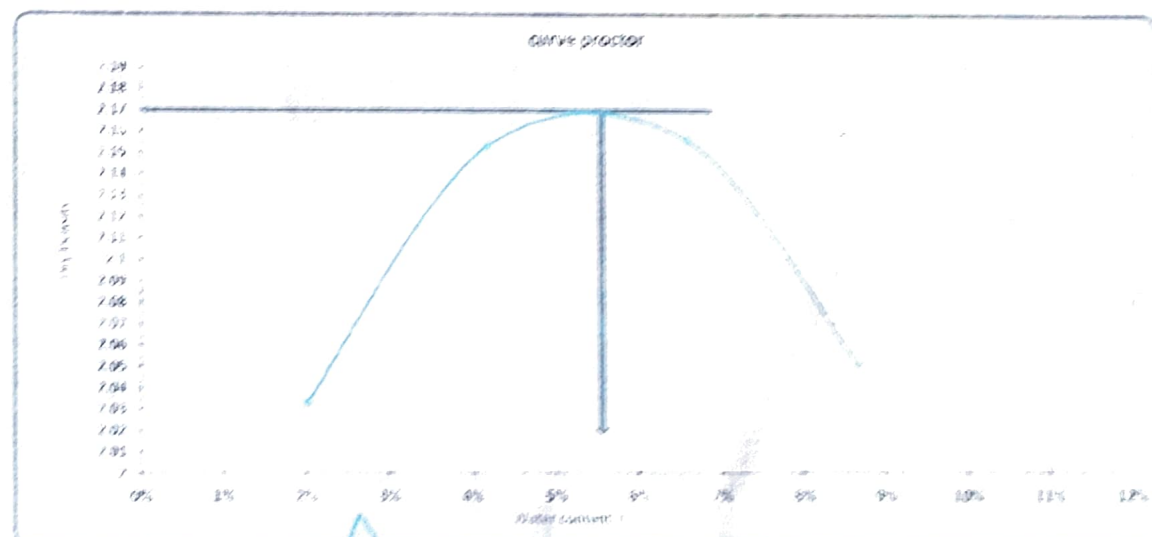
Project No.	15/2022	Station	504+001	508+377
Section No.	7	Material	No. materials	
Scale	1:1000	Quantity	5990m	

Weight of empty mold:	5020.0
Mold Volume:	2324.0

MAX Dry Density:	2.36
Water content %:	6.0%

Sample No.	1	2	3	4
Net Wt. Mold - wet soil	10025.0	10005.0	10000.0	10045.0
Net Wt. of soil	10000.0	9980.0	9980.0	10020.0
Wt. of Water	2.0%	2.2%	2.2%	2.2%

Sample No.	12	1	2	3	4	5	6	15
Sample Wt.	55.80	52.45	52.55	55.58	56.45	52.60	52.60	56.64
Wt. of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
Wt. of dry soil & tare	148.00	148.10	148.20	146.80	144.50	144.80	142.50	142.50
Wt. of water	1.9	1.9	2.3	3.2	5.5	5.2	-	-
Wt. of dry soil	92.7	96.7	98.7	96.8	94.5	94.6	89.8	85.9
Water content %	2.0%	2.0%	2.3%	3.3%	5.8%	5.5%	6.0%	6.7%
Max. Water content %	2.0%		2.3%		6.0%		6.7%	
Dry Density	2.035		2.050		2.050		2.045	



Contractor

Consultant



Youssef Ragab



Electric Express Train - HSR

California Bearing Ratio Test

Test No.	202023	Code	PROJ No.	400-000	800-880
Location	KU 1502 No. 1	TW2-581	Material	fill material	
Company Name	Al Tawkei		quantity	5000m	

Test Results

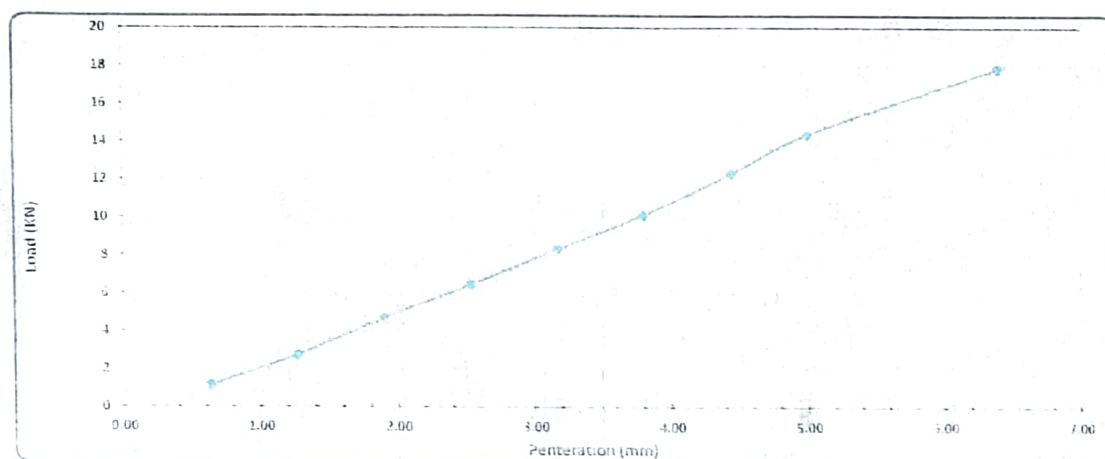
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm ³)	2120
Mold WT. (gm)	5310
Mold WT. + Wet WT. (gm)	19115
Wet WT. (gm)	4805
Wet Density g/cm ³	2.267
Dry Density g/cm ³	2.147
Proctor Density g/cm ³	2.170
Compaction %	99.0

Moisture Ratio After Compacted Mold	
Tare No.	5
Tare WT. (gm)	55
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	145
Water WT. (gm)	5.0
Dry WT. (gm)	90.0
Moisture Content %	5.6

Swelling	
Mold No.	1
Date	22-6-2023
Initial Height (mm)	20.00
Final Height (mm)	20.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.09	6.40
Load Reading (Kg)	124	302	520	715	925	1123	1369	1598	1985
Load (kN)	1.1	2.7	4.7	6.4	8.3	10.1	12.3	14.4	17.9



Calculations :-

Penetration (mm)	Load (kN)	Standard Load (lb)	CBR %	Mold Compaction %	Compaction %	CBR %
2.50	6.44	13.4	48.2%	98	98	46.3%
5.00	14.38	20.0	71.8%	98	98	69.0%

Lab. Specialist

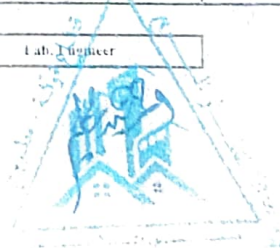
Name

Sign

Lab. Engineer

Name

Sign



Consultant Engineer

Name

Sign

Youssef Ragab