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مكتب معامل الاستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 28 / 11 /2023
Soil type : Middle Embankment
Location : ST from 668+520 / 668+600
Level : - 1.5 M
Report No. : 105

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+545	1263	2.36	6	2.22	98.9%	Comply
2	668+595	1280	2.33	6.4	2.19	97.3%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.25 gm/cm^3
- At optimum moisture content = 6.4 %

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم

Project : **Electric Express Train – HSR From Qous To Armant**

Location : **STa 667+840 E=32°48′10″ N=25°40′45″**

Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**

Delivery Date : **08/11/2023**

Reporting Date : **12/11/2023**

Reporting No. : **04-6**

Dear Gentleman,

Attached here with the delivered on 8 / 11 / 2023

This sample is representative for 5.000 M^3

-

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : STa 667+840 E=32°48′10″ N=25°40′45″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 04-6

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.3
37.5	1.5	92.1
25	1	87.3
19	¾	75.7
12.50	½	66.2
9.50	3/8	61.2
4.75	4	54.2
2.00	10	27.2
0.425	40	19.1

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : STa 667+840 E=32°48′10″ N=25°40′45″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 04-6

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	7.6

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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : STa 667+840 E=32°48′10″ N=25°40′45″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 04-6

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : STa 667+840 E=32°48′10″ N=25°40′45″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 04-6

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	27.2	Max 50 %	------	------
0.425 mm (No. 40).	19.1	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	7.6	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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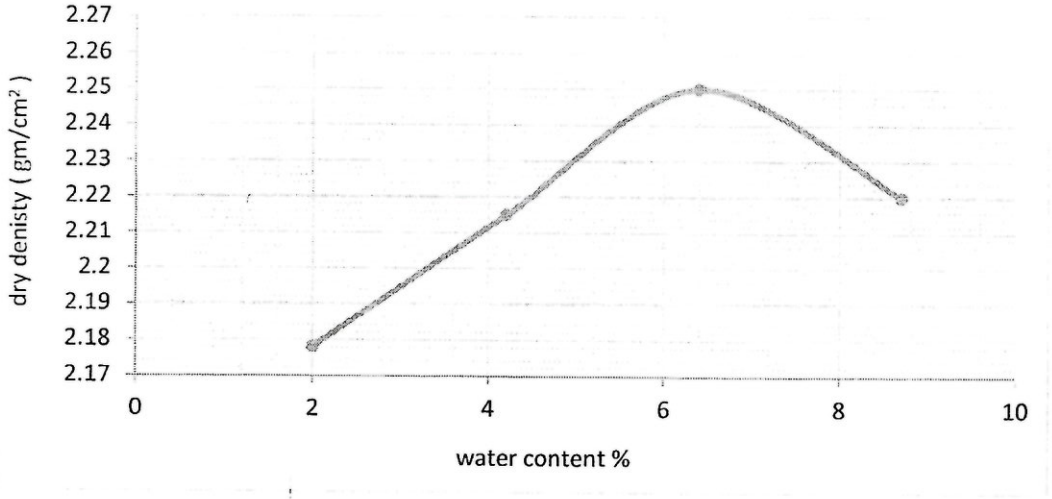
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : STa 667+840 E=32°48′10″ N=25°40′45″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 04-6

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.25
- **Optimum moisture content %** : 6.4 %

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **STa 667+840 E=32°48′10″ N=25°40′45″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **08/11/2023**
Reporting Date : **12/11/2023**
Reporting No. : **04-6**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.47
1.27	0.050	1.57
1.91	0.075	2.61
2.54	0.100	3.60
3.18	0.125	4.46
3.81	0.150	5.20
4.45	0.175	5.81
5.08	0.200	6.14
6.35	0.250	6.36

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	52.2 %
	6.90	3.60	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.25 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

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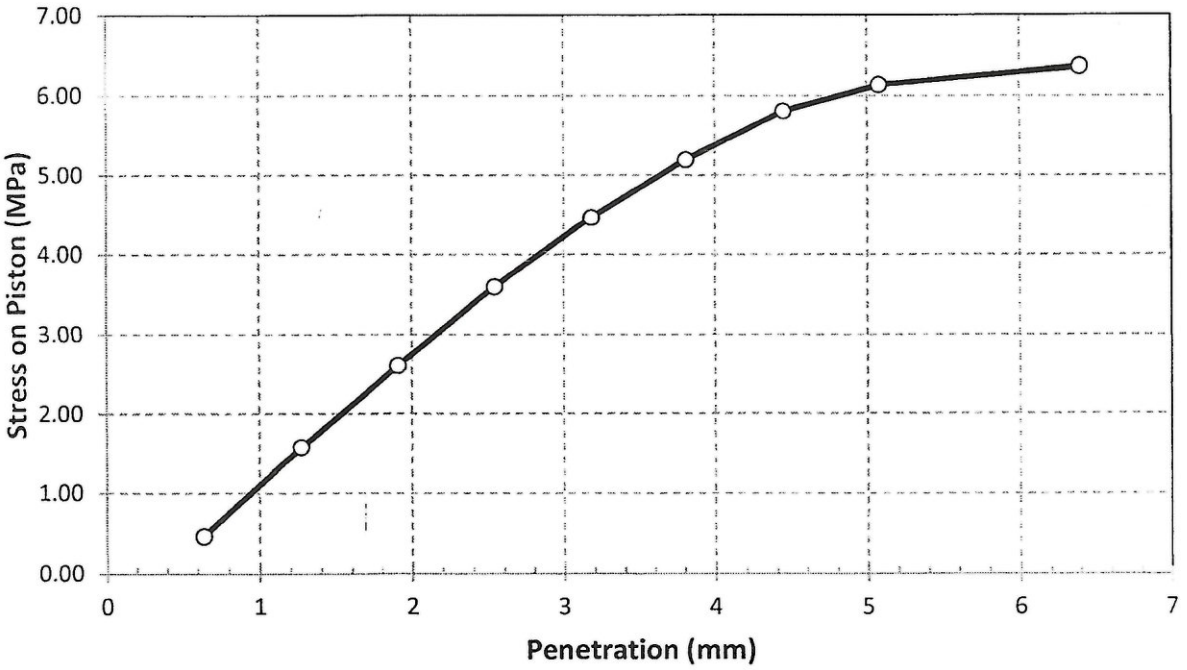
Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : STa 667+840 E=32°48′10″ N=25°40′45″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 04-6

Load Penetration Curve of CBR Test

ASTM D-1883



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مكتب معامل الإستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 28 / 11 /2023
Soil type : Middle Embankment
Location : ST from 668+680 / 668+787
Level : - 1.5 M
Report No. : 106

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/ cm^3	Moisture Content %	Dry Density (gm/ cm^3)	Degree of Compaction (%)	Acceptance
1	668+730	1276	2.34	6.4	2.20	98.5%	Comply
2	668+755	1656	2.33	6.4	2.19	98.0%	Comply
3	668+780	1337	2.29	6.4	2.16	96.7%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm^3
- At optimum moisture content = 6.4 %

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **08/11/2023**
Reporting Date : **12/11/2023**
Reporting No. : **05-2**

Dear Gentleman,

Attached here with the delivered on 08 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.5
37.5	1.5	87.5
25	1	77.1
19	¾	71.0
12.50	½	60.8
9.50	3/8	53.5
4.75	4	41.7
2.00	10	31.2
0.425	40	18.3

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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	4.1

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	31.2	Max 50 %	------	------
0.425 mm (No. 40).	18.3	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	4.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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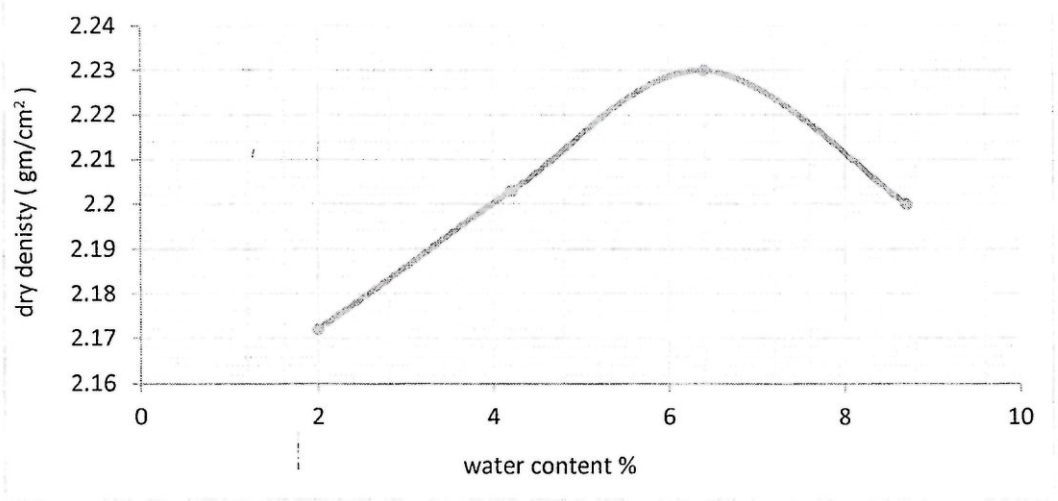
Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **08/11/2023**
Reporting Date : **12/11/2023**
Reporting No. : **05-2**

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : **2.23**
- **Optimum moisture content %** : **6.4 %**

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **08/11/2023**
Reporting Date : **12/11/2023**
Reporting No. : **05-2**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.47
1.27	0.050	1.47
1.91	0.075	2.51
2.54	0.100	3.46
3.18	0.125	4.44
3.81	0.150	5.17
4.45	0.175	5.68
5.08	0.200	6.04
6.35	0.250	6.14

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.46	50.2 %

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.23 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

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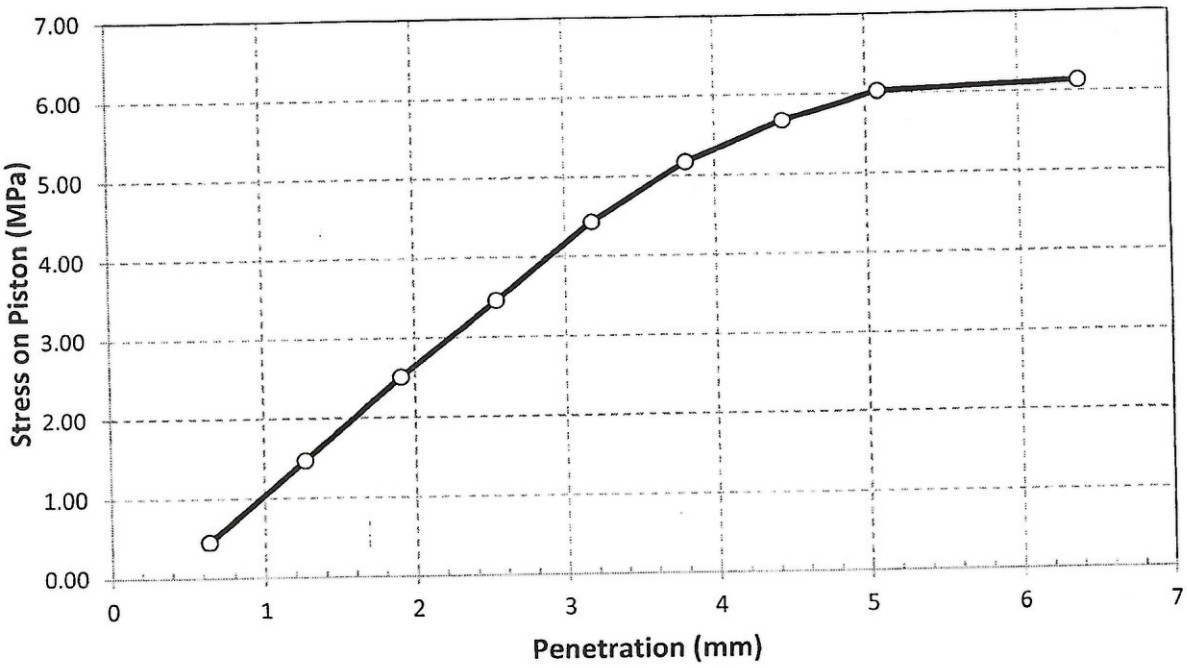
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Load Penetration Curve of CBR Test

ASTM D-1883



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Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 29 / 11 /2023
Soil type : Upper Embankment
Location : ST from 667+787 TO 667+980
Level : - 0.25 M
Report No. : 110

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	667+820	1485	2.33	6	2.20	98.5%	Comply
2	667+850	1439	2.36	6.4	2.22	99.6%	Comply
3	667+870	1281	2.33	6.4	2.19	98.2%	Comply
4	667+895	1321	2.33	5.8	2.20	98.7%	Comply
5	667+910	1300	2.30	6.4	2.16	96.8%	Comply
6	667+930	1371	2.25	5.3	2.14	95.8%	Comply
7	667+55	1438	2.26	5	2.15	96.4%	Comply
8	667+975	1537	2.26	5.3	2.14	96.1%	Comply

Degree of compaction based on proctor test dated At

- Max. dry density = 2.23 gm/cm^3
- At optimum moisture content = 6.4 %

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3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **08/11/2023**
Reporting Date : **12/11/2023**
Reporting No. : **05-2**

Dear Gentleman,

Attached here with the delivered on 08 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.5
37.5	1.5	87.5
25	1	77.1
19	¾	71.0
12.50	½	60.8
9.50	3/8	53.5
4.75	4	41.7
2.00	10	31.2
0.425	40	18.3

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	4.1

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	31.2	Max 50 %	------	------
0.425 mm (No. 40).	18.3	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	4.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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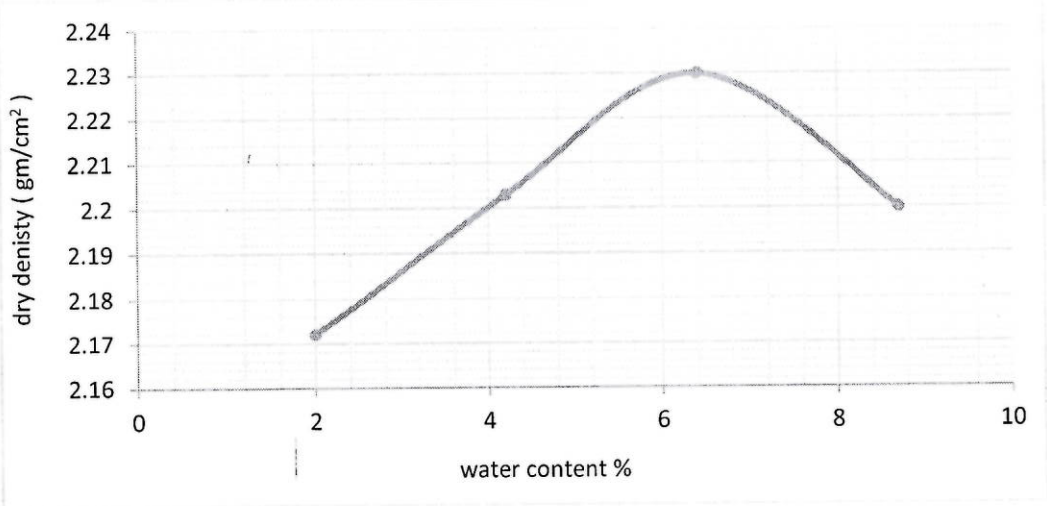
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.23
- **Optimum moisture content %** : 6.4 %

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Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **08/11/2023**
Reporting Date : **12/11/2023**
Reporting No. : **05-2**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.47
1.27	0.050	1.47
1.91	0.075	2.51
2.54	0.100	3.46
3.18	0.125	4.44
3.81	0.150	5.17
4.45	0.175	5.68
5.08	0.200	6.04
6.35	0.250	6.14

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.46	50.2 %

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.23 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

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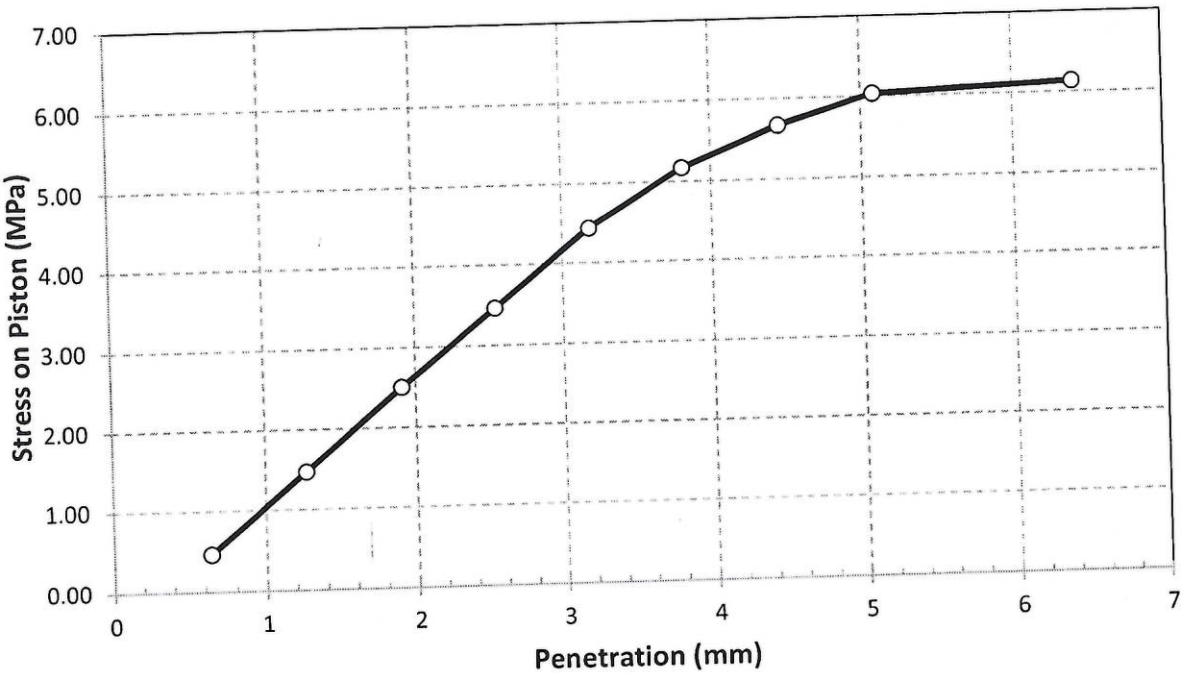
Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 08/11/2023
Reporting Date : 12/11/2023
Reporting No. : 05-2

Load Penetration Curve of CBR Test

ASTM D-1883



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Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 7 / 12 /2023
Soil type : Middle Embankment
Location : ST from 668+160/668+400
Level : - 1.5 M
Report No. : 117

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+185	1470	2.29	6	2.16	97.8%	Comply
2	668+250	1526	2.32	6.4	2.18	98.8%	Comply
3	668+330	1498	2.28	5.8	2.16	97.7%	Comply
4	668+385	1476	2.25	5.3	2.14	96.7%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.21 gm/cm^3

At optimum moisture content = 6.4 %

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **16/11/2023**
Reporting Date : **20/11/2023**
Reporting No. : **06-3**

Dear Gentleman,

Attached here with the delivered on 16 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 16/11/2023
Reporting Date : 20/11/2023
Reporting No. : 06-3

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	91.1
37.5	1.5	83.5
25	1	78.2
19	¾	72.9
12.50	½	68.4
9.50	3/8	56.0
4.75	4	50.5
2.00	10	32.2
0.425	40	23.1

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Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **16/11/2023**
Reporting Date : **20/11/2023**
Reporting No. : **06-3**

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	5.8

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 16/11/2023
Reporting Date : 20/11/2023
Reporting No. : 06-3

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **16/11/2023**
Reporting Date : **20/11/2023**
Reporting No. : **06-3**

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	32.2	Max 50 %	------	------
0.425 mm (No. 40).	23.1	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	5.8	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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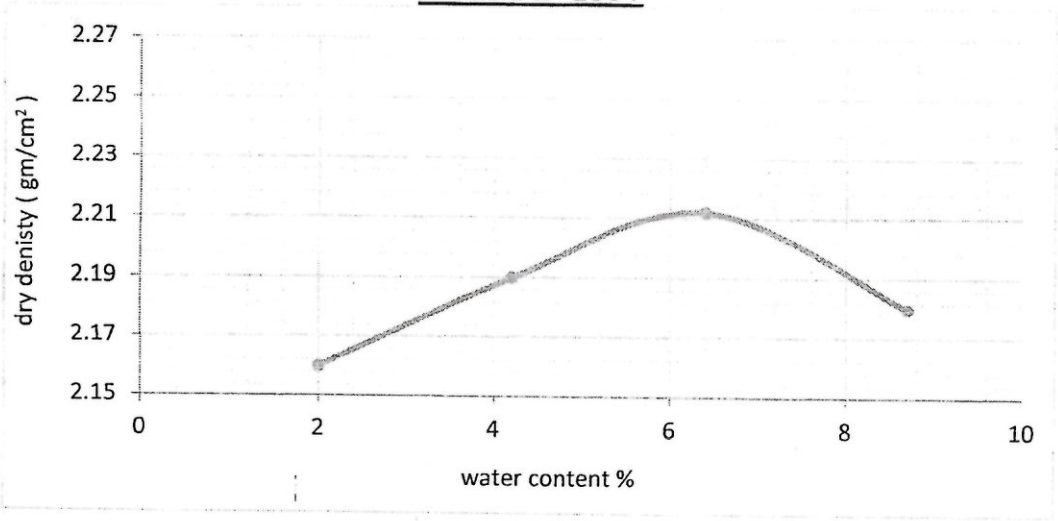
Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **16/11/2023**
Reporting Date : **20/11/2023**
Reporting No. : **06-3**

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : **2.21**
- **Optimum moisture content %** : **6.4 %**

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Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **16/11/2023**
Reporting Date : **20/11/2023**
Reporting No. : **06-3**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.43
1.27	0.050	1.35
1.91	0.075	2.32
2.54	0.100	3.15
3.18	0.125	3.95
3.81	0.150	4.62
4.45	0.175	5.17
5.08	0.200	5.63
6.35	0.250	6.24

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	45.7%
	6.90	3.15	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.21 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

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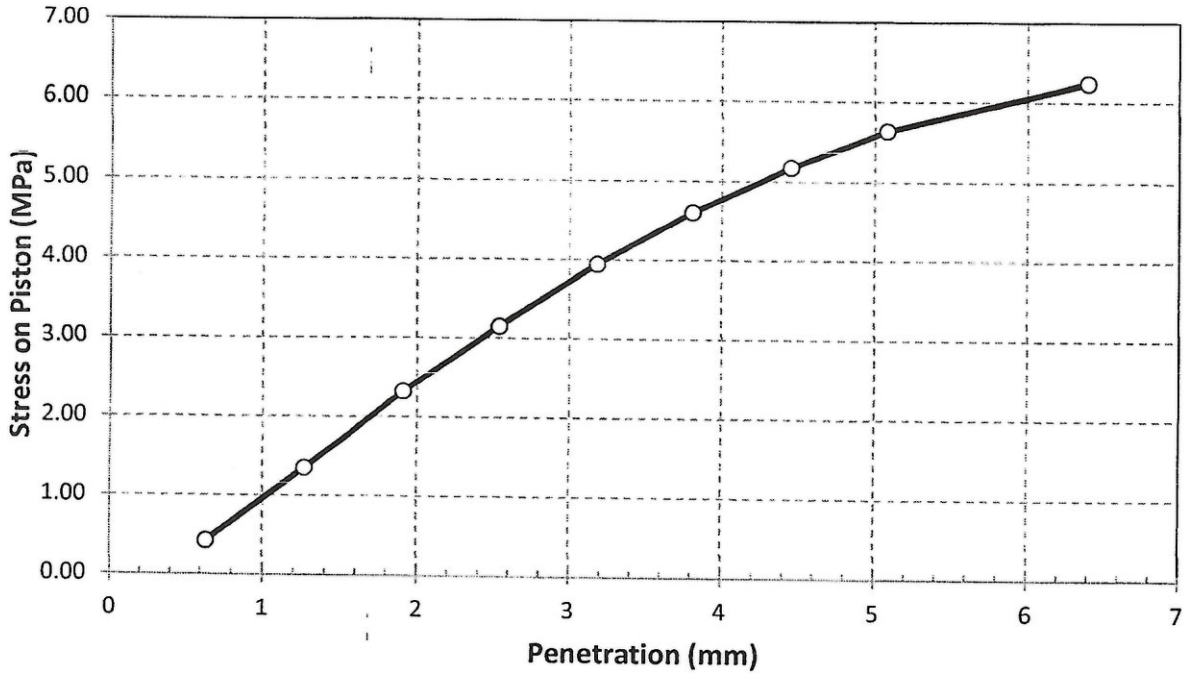
Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 16/11/2023
Reporting Date : 20/11/2023
Reporting No. : 06-3

Load Penetration Curve of CBR Test

ASTM D-1883



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مكتب معامل الإستشارات الهندسية

Company Name : شركه مهندس كريم

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 10 / 12 /2023

Soil type : Middle Embankment

Location : ST from 668+600 / 668+680

Level : - 1.5M

Report No. : 120

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+635	1454	2.28	6.4	2.14	96.4%	Comply
2	668+675	1513	2.26	6.4	2.13	95.8%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm^3

At optimum moisture content = 6.4 %

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Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Dear Gentleman,

Attached here with the delivered on 28 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.0
37.5	1.5	88.2
25	1	75.6
19	¾	70.0
12.50	½	68.2
9.50	3/8	63.1
4.75	4	60.2
2.00	10	35.2
0.425	40	22.3

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Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	5.3

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IAS ACCREDITED Testing Laboratory

٣ شارع الملك الأفضل
الزمالك القاهرة

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /.....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	35.2	Max 50 %	------	------
0.425 mm (No. 40).	22.3	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	5.3	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

Signature / .....

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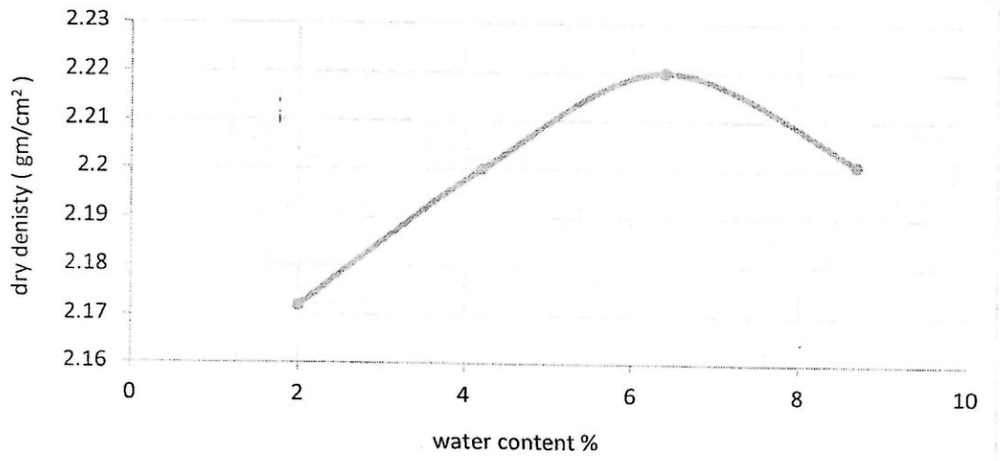
شارع الملك الأفضل
الزمالك - القاهرة
تليفون و فاكس : ٢٧٣٦٣٠٩٣ - ٢٧٣٦٣٠٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.22
- **Optimum moisture content %** : 6.4 %

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الزمالك - القاهرة
تليفون و فاكس: ٢٧٣٦٢٧٣١ - ٢٧٣٦٣٠٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.45
1.91	0.075	2.50
2.54	0.100	3.44
3.18	0.125	4.41
3.81	0.150	5.07
4.45	0.175	5.58
5.08	0.200	5.97
6.35	0.250	6.19

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.44	49.8 %

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.22 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ..

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم

Project : Electric Express Train – HSR From Qous To Armant

Location : St 668+700 E=40°25′40″ N=32°48′0.6″

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

Delivery Date : 28/11/2023

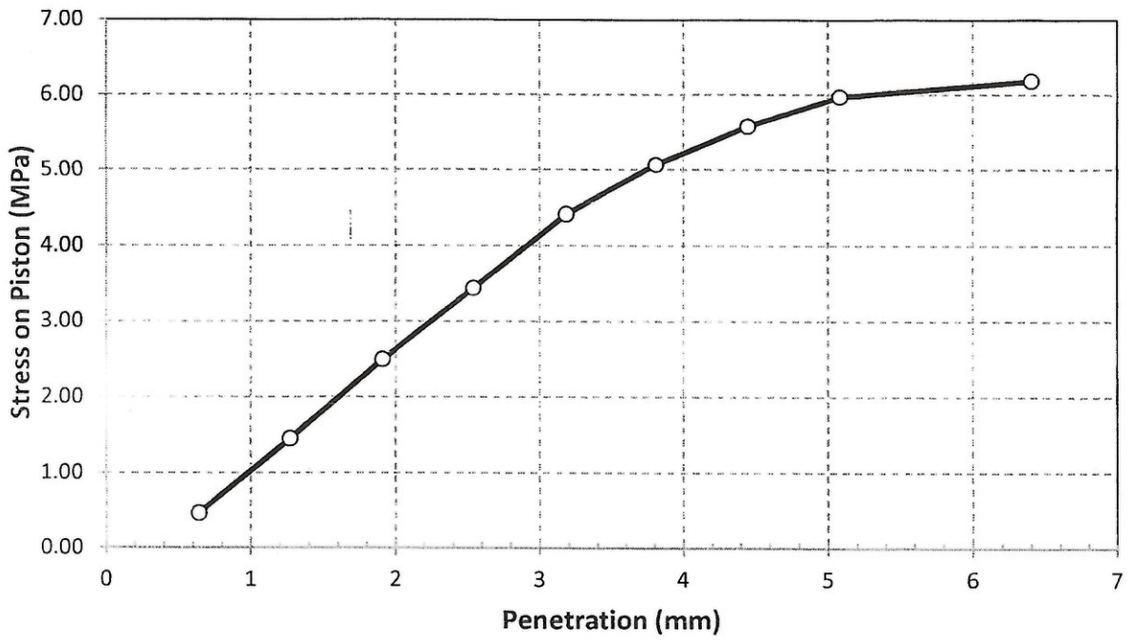
Reporting Date : 2/12/2023

Reporting No. : 05-3

p

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / ..

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الزمالك - القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company		Designer Company	
From ST 667+780 To 668+787	El Mohandes Karim company for contracts		(SPECTRUM) Engineering Consulting Office	
	Name	Sign	Date	Time
Issued by Contractor	Eng. Mohammed Mostafa	محمد مصطفى	14-12-2023	10:00 AM
Contractor UIR Reference	SG – UM -21			Revision 6

Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
									2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 668+540 To ST 668+600	Fill Layer (Upper embankment -0.75)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
تم أستلام الاعمال أعمال ولا مانع من متابعة الاعمال كريم	تم الفحص البصري والأبعاد مع استكمال باقي الأعمال م/ [illegible] مصطفى	تم الاستلام

INSPECTION RESULT				Approval Status		Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey	كريم [illegible]	كريم	16,12,23			
SPECTRUM	[illegible]	[signature]	16/12/23			
GARB**						
Employer representative						

layer depth (m)
-0.75

Total layer width (m)
24.60

	منسوب الطبقة -0.75			منسوب سطح الميزان			قراءة القامة		رقم الثابتة		اسم الثابتة
Station	Upper Embank. Level	Left Side				CL	Right Side				
		width	10.63	8	4		4	8	12	13.97	width
Slope			1.00%	1.00%	1.00%		1.00%	1.00%	1.00%	1.00%	
668+540	144.87	10.63	144.01	144.04	144.08	144.12	144.08	144.04	144.00	143.98	13.97
668+560	144.67	10.63	143.81	143.84	143.88	143.92	143.88	143.84	143.80	143.78	13.97
668+580	144.48	10.63	143.61	143.64	143.68	143.72	143.68	143.64	143.60	143.58	13.97
668+600	144.278	10.63	143.4237	143.45	143.49	143.53	143.49	143.45	143.41	143.3903	13.97

استشاري المساحه

التوقيع:

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 14 / 12 /2023
Soil type : Upper Embankment
Location : ST from 668+540 To 668+600
Level : - 0.75M
Report No. : 124

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+566	1548	2.26	5.3	2.15	96.7%	Comply
2	668+582	1552	2.27	6.4	2.13	96.0%	Comply
3	668+597	1699	2.26	6.4	2.12	95.7%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm^3

At optimum moisture content = 6.4 %

Signature / .....

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مكتب معامل الاستشارات الهندسية
متروحات - الاقصر
219 991 437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

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الزمالك - القاهرة
تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Dear Gentleman,

Attached here with the delivered on 28 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /.....

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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.0
37.5	1.5	88.2
25	1	75.6
19	¾	70.0
12.50	½	68.2
9.50	3/8	63.1
4.75	4	60.2
2.00	10	35.2
0.425	40	22.3

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Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	5.3

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الزمالك القاهرة
تليفون وفاكس ٢٧٣٦٧٢٣٧ - ٢٧٣٦٣٠٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	35.2	Max 50 %	------	------
0.425 mm (No. 40).	22.3	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	5.3	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

Signature / ....

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شارع الملك الأفضل
الزمالك - القاهرة
تليفون وفاكس : ٢٧٣٦٧٢٣ - ٢٧٣٦٣٠٩٣

CEL
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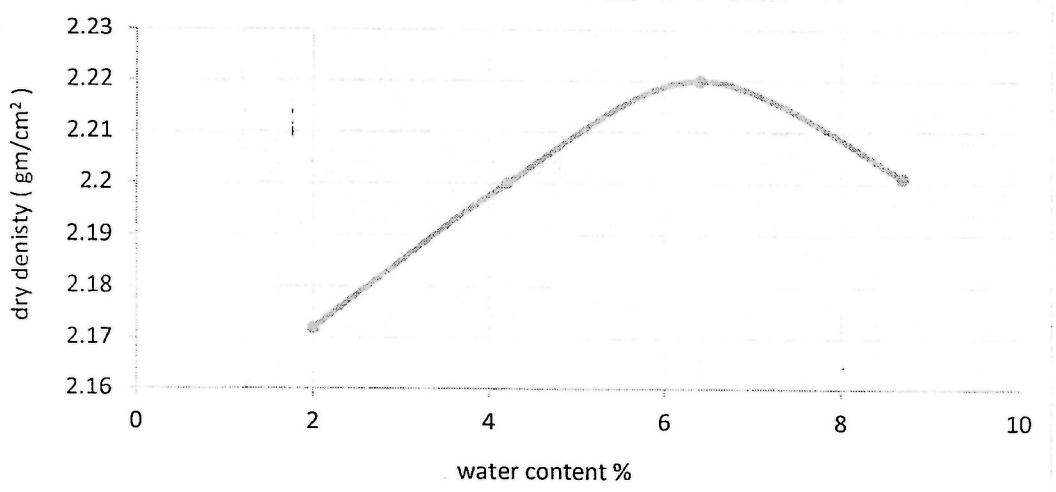
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.22
- **Optimum moisture content %** : 6.4 %

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St 668+700 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 28/11/2023
Reporting Date : 2/12/2023
Reporting No. : 05-3

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.45
1.91	0.075	2.50
2.54	0.100	3.44
3.18	0.125	4.41
3.81	0.150	5.07
4.45	0.175	5.58
5.08	0.200	5.97
6.35	0.250	6.19

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.8 %
	6.90	3.44	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.22 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / .....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
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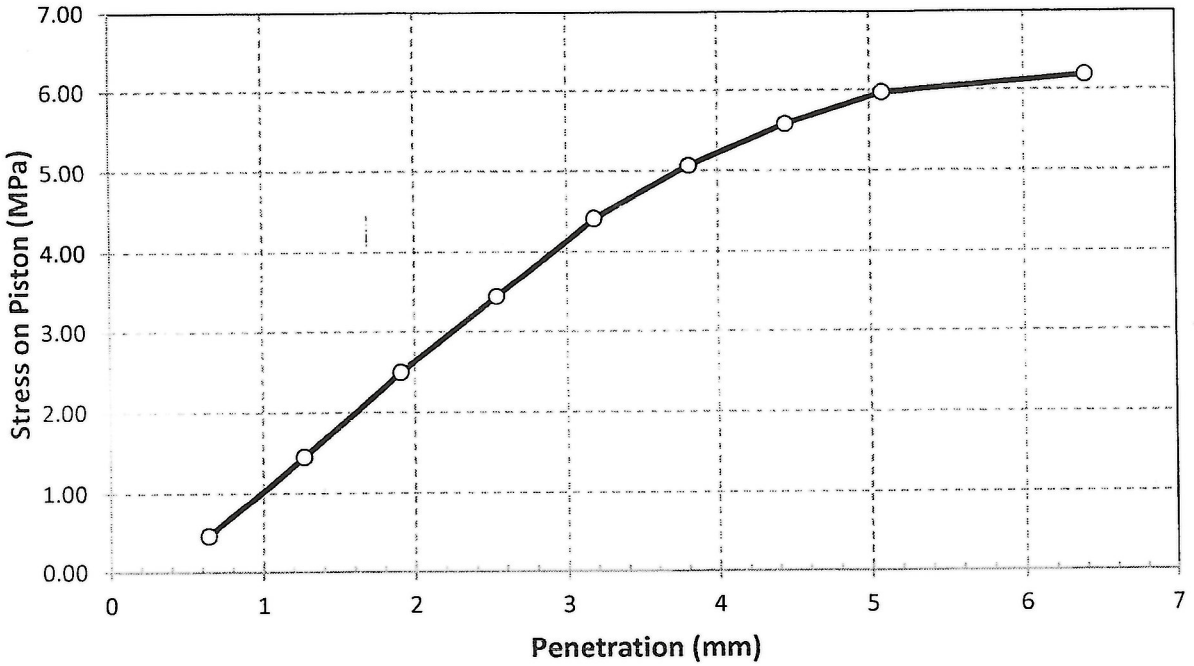
Location : **St 668+700 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **28/11/2023**
Reporting Date : **2/12/2023**
Reporting No. : **05-3**

p

Load Penetration Curve of CBR Test

ASTM D-1883



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UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours
The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From ST 667+780 To 668+787	El Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

	Name	Sign	Date	Time
Issued by Contractor	Eng. Mohammed Mostafa		14-12-2023	10:00 AM
Contractor UIR Reference	SG – UM -23			Revision 6

				C1	C2	C3	DD	MM	YY	HH	MM
Received by ER			UIR						2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 668+600 To ST 668+680	Fill Layer (Upper embankment -1)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey			16,12,23			
SPECTRUM			16/12/23			
GARB**						
Employer representative						

layer depth (m)
-1

Total layer width (m)
24.97

	منسوب الطبقة 1-			منسوب سطح الميزان			قراءة القامة		رقم الثابتة		اسم الثابتة
Station	Upper Embank. Level	Left Side				CL	Right Side				
		width	10.84	10	5		5	10	12.00	14.13	width
Slope			0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	
668+600	144.28	10.84	143.28	143.28	143.28	143.28	143.28	143.28	143.28	143.28	14.13
668+620	144.08	10.84	143.08	143.08	143.08	143.08	143.08	143.08	143.08	142.58	14.13
			-٠.٥١	+١	-٠.٥١	+٠١	-١.٥١	-١.٥١	+٠.١	-١.٥١	
668+640	143.88	10.84	142.88	142.88	142.88	142.88	142.88	142.88	142.88	142.63	14.13
			+٠.١١	+٠١	-٠.٥١	+٠١	-٢.٥١	+٢.٥	-٢.٥١	-٢.٥١	
668+660	143.688	10.84	142.69	142.69	142.69	142.69	142.69	142.69	142.69	142.69	14.13
			-١.٥١	-١.٥١	+٢.٥	-٢.٥	+٥٦	+٥٦	-١.٥٦	-٢.٥	
668+680	143.48	10.84	142.48	142.48	142.48	142.48	142.48	142.48	142.48	142.48	14.13
			-١.٥٢	-٢.٥٢	-٢.٥١	+٥١	+٥٦	+٥٦	-٢.٥١	-٢.٥١	

استشاري المساحه

التوقيع:

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16 / 12 /2023
Soil type : Upper Embankment
Location : ST from 668+600 To 668+680
Level : - 1 M
Report No. : 125-1

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+620	1518	2.30	5.8	2.17	97.7%	Comply
2	668+640	1571	2.29	5.8	2.17	97.5%	Comply
3	668+660	1469	2.31	5.8	2.19	98.5%	Comply
4	668+676	1532	2.24	5.8	2.11	95.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm^3

At optimum moisture content = 6.4 %

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CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+920 E=39°25′40″ N=32°48′10″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **29/11/2023**
Reporting Date : **3/12/2023**
Reporting No. : **08-2**

Dear Gentleman,

Attached here with the delivered on 29 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

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Reporting No. : 08-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.5
37.5	1.5	84.3
25	1	76.1
19	¾	72.0
12.50	½	55.2
9.50	3/8	44.1
4.75	4	38.0
2.00	10	33.9
0.425	40	20.4

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Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.4

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Delivery Date : 29/11/2023
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Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Delivery Date : 29/11/2023
Reporting Date : 3/12/2023
Reporting No. : 08-2

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	33.9	Max 50 %	------	------
0.425 mm (No. 40).	20.4	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	6.4	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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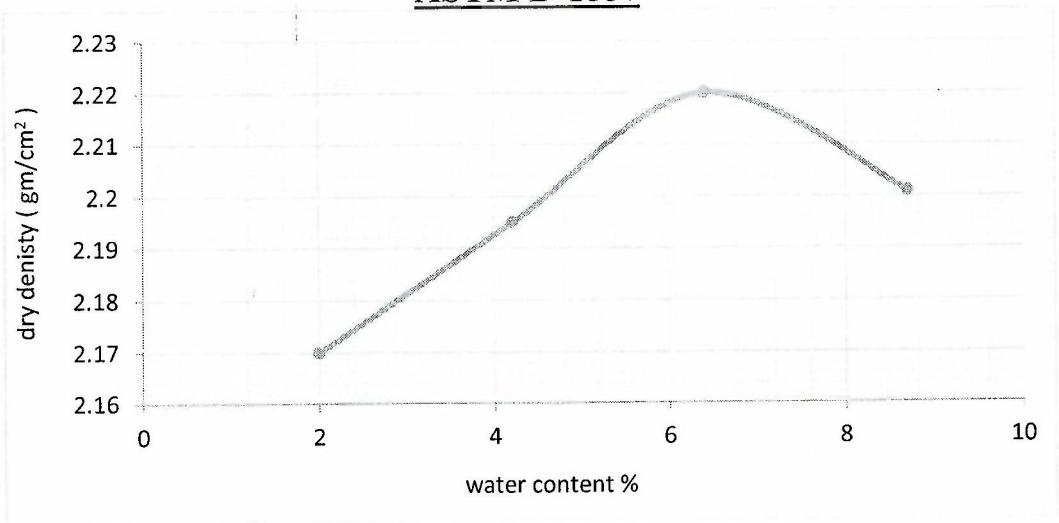
Delivery Date : 29/11/2023
Reporting Date : 3/12/2023
Reporting No. : 08-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.22
- **Optimum moisture content %** : 6.4 %

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Delivery Date : **29/11/2023**
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Reporting No. : **08-2**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.50
1.27	0.050	1.60
1.91	0.075	2.57
2.54	0.100	3.40
3.18	0.125	4.26
3.81	0.150	5.07
4.45	0.175	5.68
5.08	0.200	6.14
6.35	0.250	6.54

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.2 %
	6.90	3.40	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.22 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

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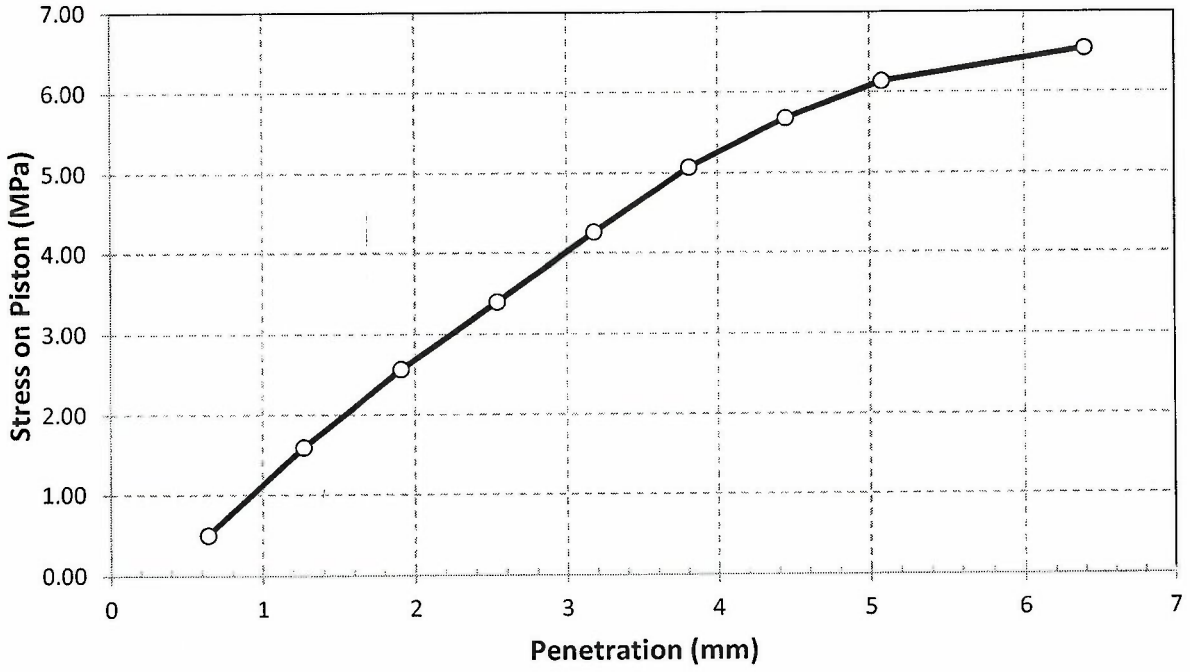
Reporting No. : 08-2

Load Penetration Curve of CBR Test

ASTM D-1883



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UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From ST 667+780 To 668+787	El Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

	Name	Sign	Date	Time
Issued by Contractor	Eng. Mohammed Mostafa		14-12-2023	10:00 AM
Contractor UIR Reference	SG – UM -23			Revision 6

Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
									2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 668+600 To ST 668+680	Fill Layer (Upper embankment -1)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey			16/12/23			
SPECTRUM			16/12/23			
GARB**						
Employer representative						

layer depth (m)
-1

Total layer width (m)
24.97

	منسوب الطبقة 1-			منسوب سطح الميزان			قراءة القامة		رقم الثابتة		اسم الثابتة
Station	Upper Embank. Level	Left Side				CL	Right Side				
		width	10.84	10	5		5	10	12.00	14.13	width
Slope			0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	
668+600	144.28	10.84	143.28	143.28	143.28	143.28	143.28	143.28	143.28	143.28	14.13
668+620	144.08	10.84	143.08	143.08	143.08	143.08	143.08	143.08	143.08	142.58	14.13
			-٠,٥١	+٠١	-٠,٥١	+٠١	-١,٥١	-١,٥١	+٠١	-٠,٥١	
668+640	143.88	10.84	142.88	142.88	142.88	142.88	142.88	142.88	142.88	142.63	14.13
			+٠,٥١	+٠١	-٠,٥	+٠١	-٠,٥١	+١,٥	-٠,٥	-٠,٥١	
668+660	143.688	10.84	142.69	142.69	142.69	142.69	142.69	142.69	142.69	142.69	14.13
			-٠,٥١	-١,٥١	+١,٥	-١,٥	+٠,٥٢	+٠,٥٢	-١,٥٢	٠,٥٢	
668+680	143.48	10.84	142.48	142.48	142.48	142.48	142.48	142.48	142.48	142.48	14.13
			-١,٥٢	-٠,٥٢	-٠,٥١	+٠١	+٠,٥٢	+٠,٥٢	-١,٥١	-٠,٥١	

استشاري المساحه

التوقيع:

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Consulting Engineering Bureau & Laboratories
مكتب معامل الإستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 16 / 12 /2023
Soil type : Upper Embankment
Location : ST from 668+600 To 668+680
Level : - 1 M
Report No. : 125-1

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+620	1518	2.30	5.8	2.17	97.7%	Comply
2	668+640	1571	2.29	5.8	2.17	97.5%	Comply
3	668+660	1469	2.31	5.8	2.19	98.5%	Comply
4	668+676	1532	2.24	5.8	2.11	95.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm^3

At optimum moisture content = 6.4 %

Signature / .....

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مكتب معامل الاستشارات الهندسية

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Delivery Date : **29/11/2023**
Reporting Date : **3/12/2023**
Reporting No. : **08-2**

Dear Gentleman,

Attached here with the delivered on 29 / 11 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /.....

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RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.5
37.5	1.5	84.3
25	1	76.1
19	¾	72.0
12.50	½	55.2
9.50	3/8	44.1
4.75	4	38.0
2.00	10	33.9
0.425	40	20.4

Signature /.....

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Delivery Date : 29/11/2023
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Reporting No. : 08-2

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.4

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Delivery Date : 29/11/2023
Reporting Date : 3/12/2023
Reporting No. : 08-2

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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Delivery Date : 29/11/2023
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Reporting No. : 08-2

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	33.9	Max 50 %	------	------
0.425 mm (No. 40).	20.4	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	6.4	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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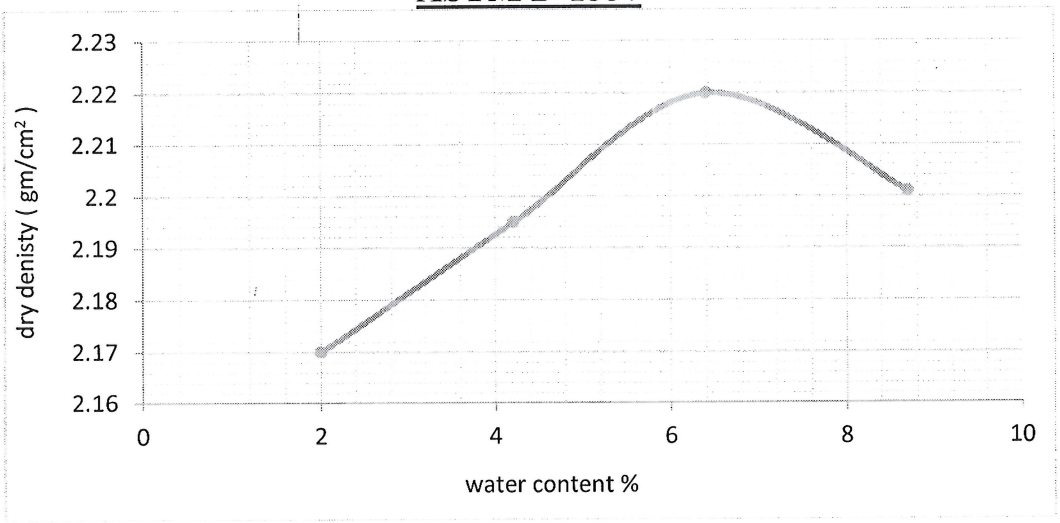
Reporting No. : 08-2

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.22
- **Optimum moisture content %** : 6.4 %

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Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.50
1.27	0.050	1.60
1.91	0.075	2.57
2.54	0.100	3.40
3.18	0.125	4.26
3.81	0.150	5.07
4.45	0.175	5.68
5.08	0.200	6.14
6.35	0.250	6.54

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.40	49.2 %

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.22 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

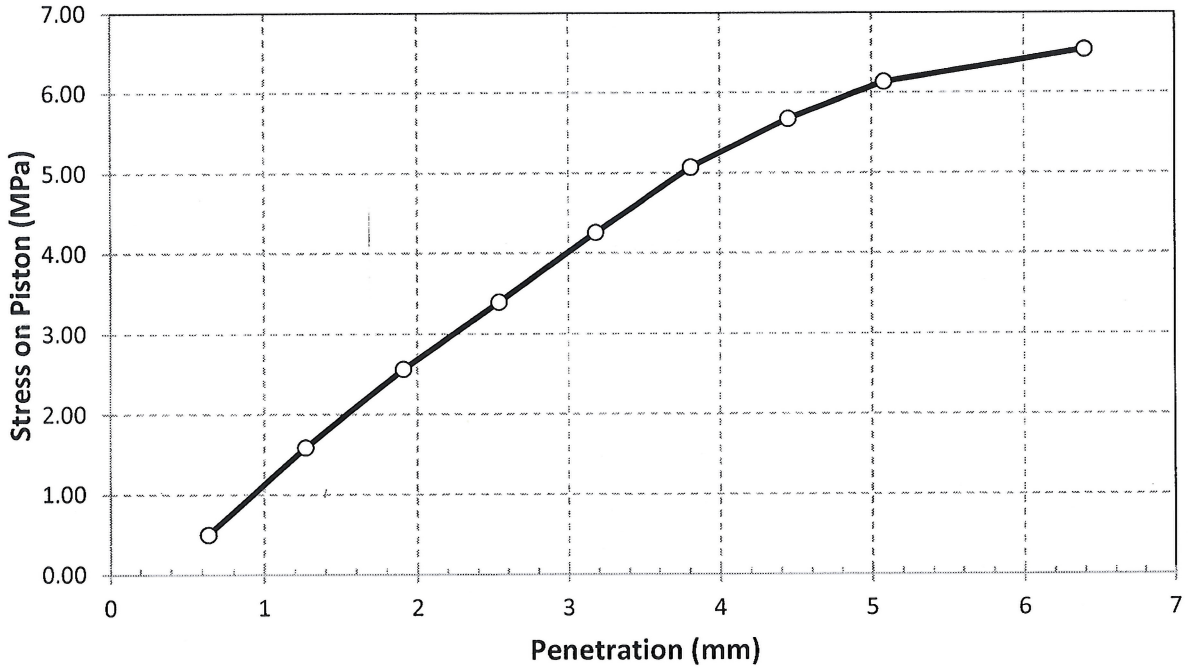
Signature / ....

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+920 E=39°25′40″ N=32°48′10″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 29/11/2023
Reporting Date : 3/12/2023
Reporting No. : 08-2

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / .....

CEL
مكتب معامل الاستشارات الهندسية
مشروعات (الاقصر)
219.991.437
3 شارع الملك الافضل - الزمالك - القاهرة

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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093

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الزمالك القاهرة
تليفون / فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours
The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From ST 667+780 To 668+787	El Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

	Name	Sign	Date	Time
Issued by Contractor	Eng. Mohammed Mostafa		14-12-2023	10:00 AM
Contractor UIR Reference	SG – UM -24			Revision 6

				C1	C2	C3	DD	MM	YY	HH	MM
Received by ER			UIR						2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 668+160 To ST 668+400	Fill Layer (Upper embankment -1.25)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey			17,12,23			
SPECTRUM			17/12/23			
GARB**						
Employer representative						

layer depth (m)
-1.25

Total layer width (m)
25.71

	منسوب الطبقة -1.25	146.99	منسوب سطح الميزان			2.50	قراءة القامة	146.49	رقم الثابتة	فرعيه	اسم الثابتة
Station	Upper Embank. Level	Left Side				CL	Right Side				
		width	11.21	10	5		5	10	12.00	14.50	width
Slope			0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	
668+160	148.39	11.21	147.14	147.14	147.14	147.14	147.14	147.14	147.14	146.89	14.50
668+180	148.27	11.21	146.77	147.02	147.02	147.02	147.02	147.02	147.02	147.02	14.50
668+200	148.14	11.21	146.89	146.89	146.89	146.89	146.89	146.89	146.89	146.89	14.50
668+220	147.981	11.21	146.73	146.73	146.73	146.73	146.73	146.73	146.73	146.73	14.50
668+240	147.81	11.21	146.56	146.56	146.56	146.56	146.56	146.56	146.56	146.56	14.50
668+260	147.622	11.21	146.37	146.37	146.37	146.37	146.37	146.37	146.37	146.37	14.50
668+280	147.426	11.21	146.18	146.18	146.18	146.18	146.18	146.18	146.18	146.18	14.50
668+300	147.229	11.21	145.98	145.98	145.98	145.98	145.98	145.98	145.98	145.98	14.50
668+320	147.032	11.21	145.78	145.78	145.78	145.78	145.78	145.78	145.78	145.78	14.50
668+340	146.835	11.21	145.58	145.58	145.58	145.58	145.58	145.58	145.58	145.58	14.50
668+360	146.639	11.21	145.39	145.39	145.39	145.39	145.39	145.39	145.39	145.39	14.50
668+380	146.442	11.21	145.19	145.19	145.19	145.19	145.19	145.19	145.19	145.19	14.50
668+400	146.245	11.21	144.99	144.99	144.99	144.99	144.99	144.99	144.99	144.99	14.50

استشاري المساحه

التوقيع: محمد نبيل

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الإستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 17 / 12 /2023
Soil type : Upper Embankment
Location : ST from 668+160 To 668+400
Level : - 1.25M
Report No. : 126

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+190	1601	2.27	6	2.14	96.3%	Comply
2	668+210	1557	2.25	6.4	2.11	95.2%	Comply
3	668+230	1572	2.28	6	2.15	97.1%	Comply
4	668+250	1768	2.27	5.8	2.14	96.5%	Comply
5	668+270	1669	2.32	6	2.19	98.6%	Comply
6	668+290	1540	2.29	6	2.16	97.3%	Comply
7	668+310	1562	2.31	6.4	2.17	97.6%	Comply
8	668+330	1962	2.25	6	2.13	95.8%	Comply
9	668+350	1869	2.28	6.4	2.14	96.4%	Comply
10	668+390	1561	2.28	6.4	2.14	96.3%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm^3

At optimum moisture content = 6.4 %

Signature / .....

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٣ شارع الملك الأفضل
الزمالك القاهره
تليفون و فاكس : ٢٧٣٦٢٧٣١ - ٢٧٣٦٣٠٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

Dear Gentleman,

Attached here with the delivered on 5 / 12 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.2
37.5	1.5	91.2
25	1	86.8
19	¾	74.5
12.50	½	67.1
9.50	3/8	58.3
4.75	4	50.0
2.00	10	36.1
0.425	40	23.2

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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	7.3

Signature /.....

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Zamalek, Cairo
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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	36.1	Max 50 %	------	------
0.425 mm (No. 40).	23.2	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	7.3	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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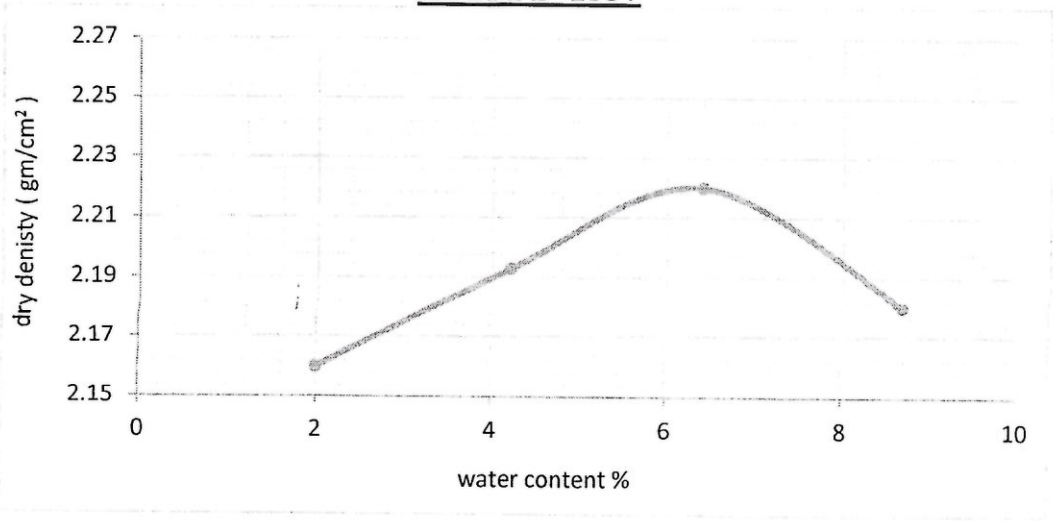
Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.22
- **Optimum moisture content %** : 6.4 %

Signature / .....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.47
1.27	0.050	1.48
1.91	0.075	2.49
2.54	0.100	3.50
3.18	0.125	4.36
3.81	0.150	5.02
4.45	0.175	5.53
5.08	0.200	5.93
6.35	0.250	6.19

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration	6.90	3.50	50.7 %

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.22 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ....

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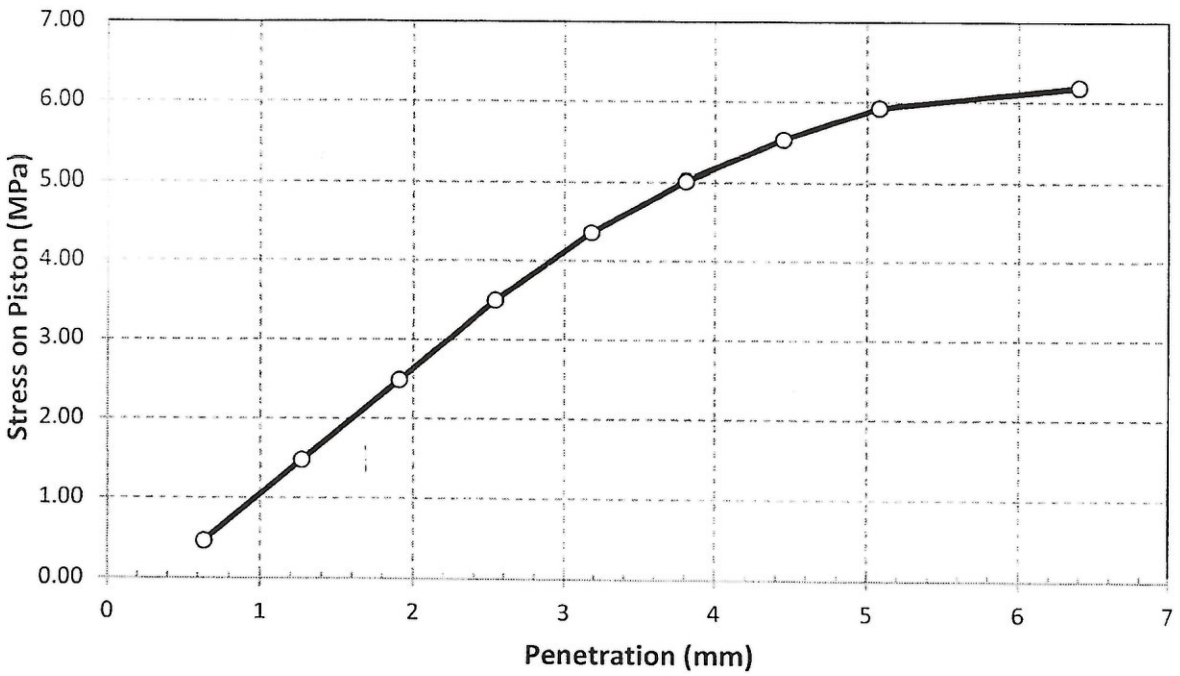
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / ....

UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours The Work described below will be complete and ready for inspection at planned time shown					
Location Name		Contractor Company		Designer Company	
From ST 667+780 To 668+787		El Mohandes Karim company for contracts		(SPECTRUM) Engineering Consulting Office	
Issued by Contractor	Name	Sign		Date	Time
	Eng. Mohammed Mostafa	محمد مصطفى		16-12-2023	10:00 AM
Contractor UIR Reference	SG – UM -26				Revision 6

Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
									2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 668+680 To ST 668+787	Fill Layer (Upper embankment -0.5)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
تم استلام الأعمال المساحية وكانوا مطابقة للأعمال. كريم	تم استلام الأعمال الترابية ولا مانع من استكمال باقي الأعمال.	تم الاستلام

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey	كريم كريم	كريم	17,12,23			
SPECTRUM						
GARB**						
Employer representative						

layer depth (m)
-0.5

Total layer width (m)
24.20

	منسوب الطبقة -0.5		143,13	منسوب سطح الميزان		143,05	قراءة القامة	142,90	رقم الثابتة	مرعيه	اسم الثابتة
Station	Upper Embank. Level	Left Side				CL	Right Side				
		width	10.40	8	4		4	8	12	13.80	width
Slope			2.00%	2.00%	2.00%		2.00%	2.00%	2.00%	2.00%	
668+680	143.49	10.40	142.78	142.83	142.91	142.99	142.91	142.83	142.75	142.71	13.80
668+700	143.29	10.40	142.59	142.63	142.71	142.79	142.71	142.63	142.55	142.52	13.80
			+0,01	-0,01	+0,01	+0,01	-0,01	+0,02	+0,01	-0,01	
668+720	143.10	10.40	142.39	142.44	142.52	142.60	142.52	142.44	142.36	142.32	13.80
			+0,02	-0,02	+0,01	-0,01	+0,02	-0,02	+0,01	+0,01	
668+740	142.9	10.40	142.192	142.24	142.32	142.4	142.32	142.24	142.16	142.124	13.80
			+0,01	+0,01	-0,01	+0,01	+0,01	+0,01	-0,01	-0,01	
668+760	142.7	10.40	141.996	142.044	142.124	142.204	142.124	142.044	141.964	141.928	13.80
			+0,02	+0,01	-0,01	+0,02	-0,01	+0,01	+0,01	+0,01	
668+780	142.508	10.40	141.8	141.848	141.928	142.008	141.928	141.848	141.768	141.732	13.80
			+0,01	+0,01	-0,01	+0,01	+0,01	-0,01	-0,01	+0,02	

استشاري المساحه

التوقيع: محمد نسيم

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركه مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 17 / 12 /2023
Soil type : Upper Embankment
Location : ST from 668+680 To 668+787
Level : - 0.50M
Report No. : 128

Compaction test by using Sand – Cone Test Method ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+700	1458	2.24	5	2.13	95.6%	Comply
2	668+725	1356	2.23	5.3	2.12	95.0%	Comply
3	668+750	1446	2.27	5.5	2.15	96.5%	Comply
4	668+775	1452	2.22	5	2.11	94.7%	Comply
5	668+784	2179	2.29	6	2.16	96.7%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.23 gm/cm^3

At optimum moisture content = 6.4 %

Signature / .....

CEL
219 991 437
3 شارع الملك الأفضل - الزمالك - القاهرة

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Zamalek, Cairo
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تليفون + فاكس

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **10/12/2023**
Reporting Date : **14/12/2023**
Reporting No. : **06-6**

Dear Gentleman,

Attached here with the delivered on 10 / 12 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /.....

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Zamalek, Cairo
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٣ شارع الملك الأفضل
الزمالك - القاهرة
تليفون وفاكس: ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٦٩٣

CEL
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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **10/12/2023**
Reporting Date : **14/12/2023**
Reporting No. : **06-6**

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.1
37.5	1.5	90.8
25	1	83.6
19	¾	72.4
12.50	½	64.3
9.50	3/8	55.4
4.75	4	52.3
2.00	10	37.2
0.425	40	22.7

Signature /...

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Zamalek, Cairo
Tel& Fax: 2736723 - 27363093

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 10/12/2023
Reporting Date : 14/12/2023
Reporting No. : 06-6

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	6.9

Signature /.....

3 El Malek E Afdal Street
Zamalek, Cairo
Tel & Fax: 27367231 - 27367293

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CEL
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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **10/12/2023**
Reporting Date : **14/12/2023**
Reporting No. : **06-6**

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

Signature /

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٣ ش الملك الأفضل
الزمالك - القاهرة
تليفون وفاكس: ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **10/12/2023**
Reporting Date : **14/12/2023**
Reporting No. : **06-6**

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	37.2	Max 50 %	------	------
0.425 mm (No. 40).	22.7	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	6.9	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

Signature / .....

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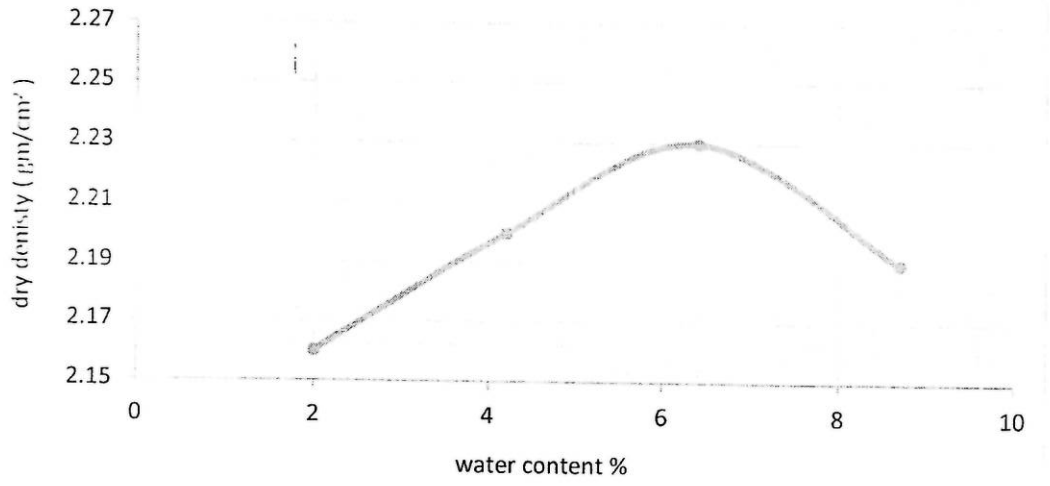
٣ شارع الملك الأفضل
الزمالك - القاهرة
تليفون و فاكس: ٢٧٣٦٧٢٣١ - ٢٧٣٦٩٣٠٣

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **10/12/2023**
Reporting Date : **14/12/2023**
Reporting No. : **06-6**

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : **2.23**
- **Optimum moisture content %** : **6.4 %**

Signature / ....

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الزمالك - القاهرة
تليفون وفاكس: ٢٧٣٦٧٢٠١ - ٢٧٣٦٣٦٩٣

UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From ST 667+780 To 668+787	El Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

Issued by Contractor	Name	Sign	Date	Time
	Eng. Mohammed Mostafa	محمد مصطفى	18-12-2023	10:00 AM
Contractor UIR Reference	SG – UM -27			Revision 6

				C1	C2	C3	DD	MM	YY	HH	MM
Received by ER			UIR						2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 668+160 To ST 668+400	Fill Layer (Upper embankment -1)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
تم استلام الاعمال بالمساحه ولا مانع من [illegible] كريم	تم الفحص البصري والإماع [illegible] لجاج الأعمال م/ [illegible] مصطفى	تم الاستلام

INSPECTION RESULT					Approval Status		Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R		
Brilliant Survey	كريم [illegible]	كريم	19,12,23				
SPECTRUM	[illegible]	[illegible]	19/12/23				
GARB**							
Employer representative							

layer depth (m)
-1

Total layer width (m)
25.71

	منسوب الطبقة 1-		147.56 منسوب سطح الميزان			1.85	قراءة القامة	146.71 رقم الثابتة		توحيد	اسم الثابتة
Station	Upper Embank. Level		Left Side			CL	Right Side				
		width	10.84	10	5		5	10	12.00	14.13	width
Slope			0.00%	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%	
668+160	148.39	10.84	147.39	147.39	147.39	147.39	147.39	147.39	147.39	147.39	14.13
668+180	148.27	10.84	147.27	147.27	147.27	147.27	147.27	147.27	147.27	147.27	14.13
			-0.01	+0.02	-0.01	-0.01	+0.02	-0.01	+0.02	+0.14	
668+200	148.14	10.84	147.14	147.14	147.14	147.14	147.14	147.14	147.14	147.14	14.13
			+0.02	+0.02	+0.01	+0.04	-0.04	-0.01	+0.04	+0.12	
668+220	147.981	10.84	146.98	146.98	146.98	146.98	146.98	146.98	146.98	146.98	14.13
			-0.02	-0.02	-0.01	-0.01	-0.01	+0.01	-0.04	-0.02	
668+240	147.81	10.84	146.81	146.81	146.81	146.81	146.81	146.81	146.81	146.81	14.13
			-0.01	+0.02	-0.01	+0.01		+0.01	+0.01	+0.02	
668+260	147.622	10.84	146.62	146.62	146.62	146.62	146.62	146.62	146.62	146.62	14.13
			0.02	+0.01	-0.01	+0.02	-0.01	-0.01	-0.01	+0.02	
668+280	147.426	10.84	146.43	146.43	146.43	146.43	146.43	146.43	146.43	146.43	14.13
			+0.01	+0.02	-0.01	-0.01		-0.04	+0.02		
668+300	147.229	10.84	146.23	146.23	146.23	146.23	146.23	146.23	146.23	146.23	14.13
			+0.01	-0.01	-0.01	+0.01	+0.01	-0.01	-0.01	-0.01	
668+320	147.032	10.84	146.032	146.032	146.032	146.032	146.032	146.032	146.032	146.032	14.13
			+0.02	-0.02	-0.01	+0.02	-0.01	-0.01	-0.04	+0.02	
668+340	146.835	10.84	145.83	145.83	145.83	145.83	145.83	145.83	145.83	145.83	14.13
			-0.01	-0.01	+0.02	-0.02		-0.01	-0.01	+0.01	
668+360	146.639	10.84	145.64	145.64	145.64	145.64	145.64	145.64	145.64	145.64	14.13
			+0.02	-0.02		-0.01	-0.01	-0.04	+0.04	+0.02	
668+380	146.442	10.84	145.44	145.44	145.44	145.44	145.44	145.44	145.44	145.44	14.13
			+0.01	-0.01	+0.01	+0.01	-0.01	-0.01	+0.02	+0.02	
668+400	146.245	10.84	145.24	145.24	145.24	-0.01	+0.01	-0.01	-0.01	+0.02	14.13
			+0.02	-0.01	+0.01						

142,97

استشاري المساحه

التوقيع:

CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الإستشارات الهندسية

Company Name : شركه مهندس كريم

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 18 / 12 /2023

Soil type : Upper Embankment

Location : ST from 668+160 To 668+400

Level : - 1 M

Report No. : 129

Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm^3	Bulk Density gm/cm^3	Moisture Content %	Dry Density (gm/cm^3)	Degree of Compaction (%)	Acceptance
1	668+185	1489	2.26	5.8	2.13	96.2%	Comply
2	668+210	1427	2.29	5.8	2.16	97.3%	Comply
3	668+235	1350	2.26	5.3	2.15	96.7%	Comply
4	668+275	1255	2.24	5	2.14	96.3%	Comply
5	668+295	1490	2.32	6	2.19	98.4%	Comply
6	668+320	1327	2.27	6.4	2.14	96.2%	Comply
7	668+340	1347	2.29	5.8	2.16	97.5%	Comply
8	668+360	1425	2.25	5.8	2.12	95.6%	Comply
9	668+380	1326	2.34	6	2.21	99.4%	Comply
10	668+397	1489	2.26	5.8	2.13	96.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm^3

At optimum moisture content = 6.4 %

Signature / .....

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الزمالك - القاهرة
تليفون وفاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

Dear Gentleman,

Attached here with the delivered on 5 / 12 / 2023

This sample is representative for 5.000 M^3

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /....

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27362723 - 27363003

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.2
37.5	1.5	91.2
25	1	86.8
19	¾	74.5
12.50	½	67.1
9.50	3/8	58.3
4.75	4	50.0
2.00	10	36.1
0.425	40	23.2

Signature /.....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	7.3

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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**
Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**
Delivery Date : **05/12/2023**
Reporting Date : **09/12/2023**
Reporting No. : **06-5**

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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مكتب معامل الإستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

Soil Classification According To Project Specs

TEST	Results (%)	Limits according Projects Specs		
•Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	36.1	Max 50 %	------	------
0.425 mm (No. 40).	23.2	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	7.3	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

Signature / ....

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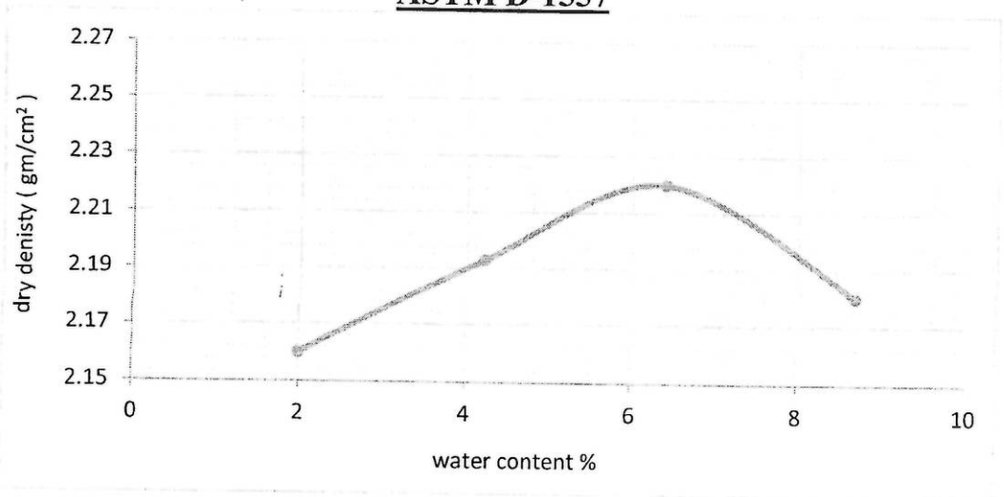
مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″
Type of sample : Soil Embankment (Upper Embankment 0.0 M)
Delivery Date : 05/12/2023
Reporting Date : 09/12/2023
Reporting No. : 06-5

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²)** : 2.22
- **Optimum moisture content %** : 6.4 %

Signature / .....

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٣ شارع الملك الأفضل
الزمالك - القاهرة
تليفون و فاكس : ٢٧٣٦٣٠٩٣ - ٢٧٣٦٣٧٢٣

CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم

Project : **Electric Express Train – HSR From Qous To Armant**

Location : **Sta 668+780 E=40°25′40″ N=32°48′0.6″**

Type of sample : **Soil Embankment (Upper Embankment 0.0 M)**

Delivery Date : **05/12/2023**

Reporting Date : **09/12/2023**

Reporting No. : **06-5**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.47
1.27	0.050	1.48
1.91	0.075	2.49
2.54	0.100	3.50
3.18	0.125	4.36
3.81	0.150	5.02
4.45	0.175	5.53
5.08	0.200	5.93
6.35	0.250	6.19

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	50.7 %
	6.90	3.50	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.22 (gm /cm^3)
   At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ....

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Zamalek, Cairo
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مكتب معامل الاستشارات الهندسية

Company Name : شركة مهندس كريم

Project : Electric Express Train – HSR From Qous To Armant

Location : Sta 668+780 E=40°25′40″ N=32°48′0.6″

Type of sample : Soil Embankment (Upper Embankment 0.0 M)

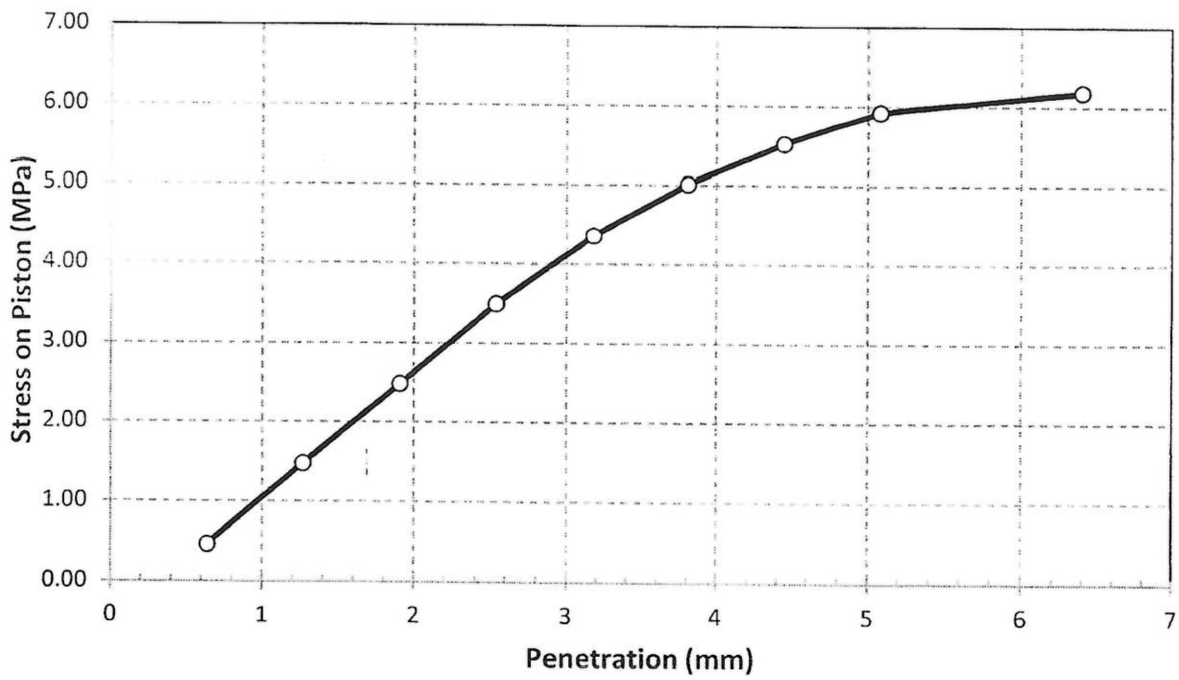
Delivery Date : 05/12/2023

Reporting Date : 09/12/2023

Reporting No. : 06-5

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / ...

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UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours
The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From ST 667+780 To ST 668+787	El Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

	Name	Sign	Date	Time
Issued by Contractor	Eng. Mohammed Mostafa		2023-08-03	10:00 AM
Contractor UIR Reference	SG – WSN - 1			
Received by ER			UIR	

C1	C2	C3	DD	MM	YY	HH	MM
					2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To ST 668+787	From ST 667+780 To ST 668+160	اخذ جسات استكشافية

Inspection Description :

أخذ جسات استكشافية للقطاع من 667+780 إلى 668+160

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached☐	Other as indicated☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
	تم الفحص البصرى والأبعاد مع استكمال باقى الأعمال	

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey						
SPECTRUM			4/8/23			
GARB**						
Employer representative						

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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة المهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St(667+950) Zone : From 667+780 To 668+160**
Type of sample : **Original Earth**
Delivery Date : **10/8/2023**
Reporting Date : **14/8/2023**
Reporting No. : **01**

Dear Gentleman,

Attached here with the delivered on 10 / 8 / 2023

This sample is representative for 5.000 M^3

-

Materials test

1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature /.....

CEL
219.991.437
3 شارع الملك الأفضل - الزمالك - القاهرة

3 El Malek El Afdal Stree
Zamalek, Cairo
Tel& Fax: 2736231 - 2736393

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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة المهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St(667+950) Zone : From 667+780 To 668+160
Type of sample : Original Earth
Delivery Date : 10/8/2023
Reporting Date : 14/8/2023
Reporting No. : 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	95.1
37.5	1.5	85.2
25	1	74.1
19	¾	66.0
12.50	½	52.8
9.50	3/8	45.6
4.75	4	31.1
2.00	10	18.7
0.425	40	7.6

Signature /.....

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Zamalek, Cairo
Tel& Fax: 27363723 - 27363093

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مكتب معامل الاستشارات الهندسية

Company Name : شركة المهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St(667+950) Zone : From 667+780 To 668+160
Type of sample : Original Earth
Delivery Date : 10/8/2023
Reporting Date : 14/8/2023
Reporting No. : 01

Materials finer than 75 µm (no.200) sieve By washing ASTM D-1140.

Test	Results (%)
Percentage of material finer than Sieve Size 75 µM (No.200)	5.8

Signature / .....

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مكتب معامل الاستشارات الهندسية

Company Name : شركة المهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St(667+950) Zone : From 667+780 To 668+160
Type of sample : Original Earth
Delivery Date : 10/8/2023
Reporting Date : 14/8/2023
Reporting No. : 01

Results of liquid limit and plasticity index of soils according to ASTM D-4318

Test	Results (%)
Liquid Limit	0
Plastic Limit	0
Plasticity Index	0

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مكتب معامل الاستشارات الهندسية

Company Name : شركة المهندس كريم
Project : **Electric Express Train – HSR From Qous To Armant**
Location : **St(667+950)** **Zone : From 667+780 To 668+160**
Type of sample : **Original Earth**
Delivery Date : **10/8/2023**
Reporting Date : **14/8/2023**
Reporting No. : **01**

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	18.7	Max 50 %	------	------
0.425 mm (No. 40).	7.6	Max 30 %	Max 50 %	------
0.075 mm (No. 200).	5.8	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		------	------	------
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

The test results are (□ Comply - □ Not Comply) with specifications limits

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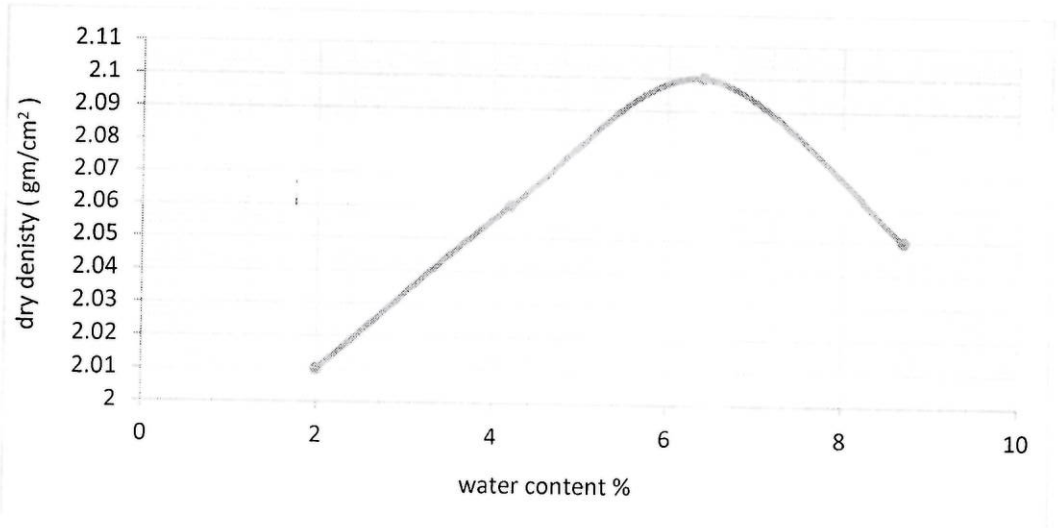
Company Name	**: شركة المهندس كريم**
Project	**: Electric Express Train – HSR From Qous To Armant**
Location	**: St(667+950) Zone : From 667+780 To 668+160**
Type of sample	**: Original Earth**
Delivery Date	**: 10/8/2023**
Reporting Date	**: 14/8/2023**
Reporting No.	**: 01**

Moisture – Density relation of soil
Test result (Modified proctor test)
ASTM D-1557



- **Max dry density (gm/cm²) : 2.10**
- **Optimum moisture content % : 6.4 %**

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Location : **St(667+950)** **Zone : From 667+780 To 668+160**
Type of sample : **Original Earth**
Delivery Date : **10/8/2023**
Reporting Date : **14/8/2023**
Reporting No. : **01**

Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.33
1.27	0.050	0.95
1.91	0.075	1.52
2.54	0.100	2.08
3.18	0.125	2.48
3.81	0.150	2.79
4.45	0.175	2.99
5.08	0.200	3.04
6.35	0.250	2.79

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	30.1 %
	6.90	2.08	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.
2- The sample was compacted to dry density of = 2.10 (gm /cm^3)
At = 6.4 % optimum water content.
3- Surcharge load 4.50 Kg.
4- CBR > 10 for middle and lower embankments according project spec page No 36.

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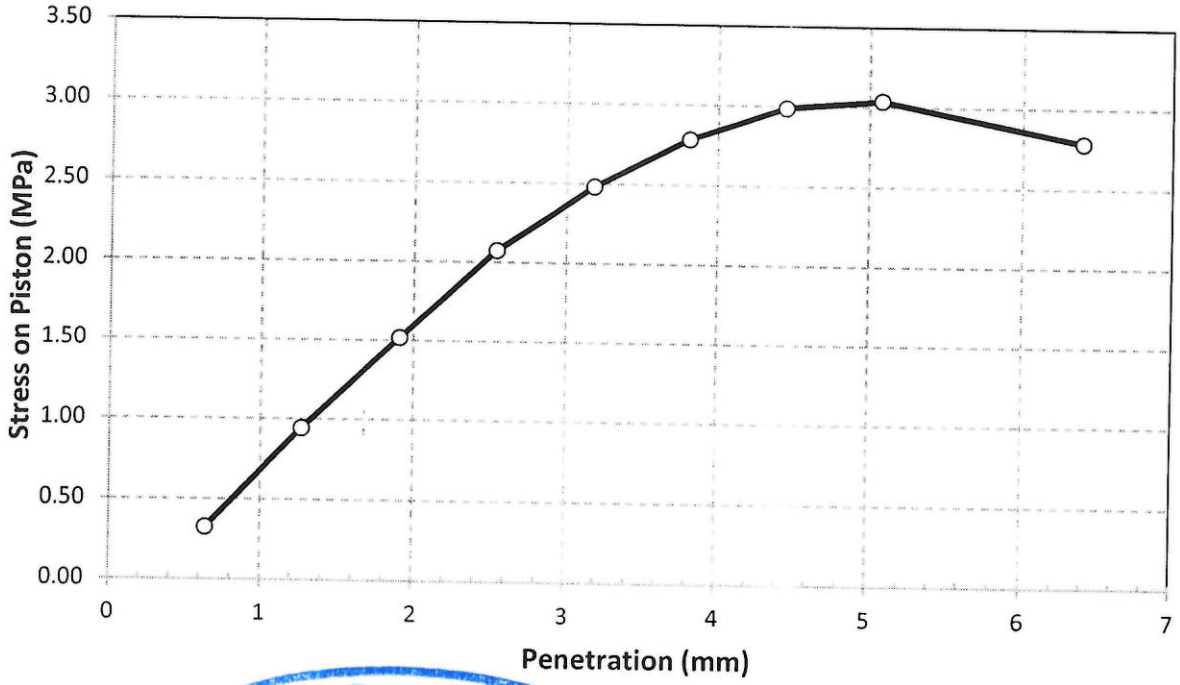
Company Name : شركة المهندس كريم
Project : Electric Express Train – HSR From Qous To Armant
Location : St(667+950) Zone : From 667+780 To 668+160
Type of sample : Original Earth
Delivery Date : 10/8/2023
Reporting Date : 14/8/2023
Reporting No. : 01

Load Penetration Curve of CBR Test

ASTM D-1883



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UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours
The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From ST 667+780 To 668+787	El Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

	Name	Sign	Date	Time
Issued by Contractor	Eng. Mohammed Mostafa	محمد مصطفى	2023-08-08	10:00 AM
Contractor UIR Reference	SG – WSN - 3			

Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
									2023		

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From ST 667+780 To 668+787	From ST 667+780 To 66 To ST 667+980	تجهيز أرض طبيعية (غمر ودمك)

Inspection Description :

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ☐	Test Results Attached ☐	Calibration Attached☐	Other as indicated☐

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
تم التنسيق على السير مع ... متابعة الاعمال 8-8-2023	تم الفحص البصري والاعمال ... ع / ...	تم ...

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Brilliant Survey			8-8-2023			
SPECTRUM			9/8/23			
GARB**						
Employer representative						

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مكتب معامل الإستشارات الهندسية
مشروعات محافظات الوجه القبلى

Company : المهندس كريم

Project : Electric Express Train - Sector (5) – Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station (667+780 to 667+980)
Test Date : 08/08/2023
Repot Date : 09/08/2023
Type of soil : Original earth.
Report No. : 1 : 2

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with **300 mm** and **300 mm** diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm²
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads

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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-

- location of test site - Dimension of loading plate.
- Measuring device used - Type of soil.
- Type of Bedding material below the plate -Weathering condition.
- Time and date of measurements - Unusual observation made during test .
- Dial gauge reading and corresponding normal stress - Loading-settlement curve.
- Description of the soil condition below the plate after testing.

Report

- **Type of soil : Original earth**
- **Job requirement : Ev2 > 40 MPa**

Item	Descriptions
- Type of bedding material below the plate	Natural Soil
- Plate Diameter (mm)	300
- date of measurement	08/08/2023
- Unusual observation made during test	NO
- Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	First Cycle	Second Cycle	E_{v2}/E_{v1} Ratio
	From	To		E_{v1} (MPa)	E_{v2} (MPa)	
1	667+780	667+880	667+820	147.0	149.1	1.01
2	667+880	667+980	667+920	146.9	163.9	1.12

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Signature & Stamp

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مكتب معامل الإستشارات الهندسية
مشروعات محافظات الوجه القبلى

Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 08/08/2023
report date : 09/08/2023
Location : Station (667+820)
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.88	0.12	19.80	0.20	0.16
2	1.66	19.65	0.35	19.68	0.32	0.34
3	2.50	19.55	0.45	19.50	0.50	0.48
4	3.33	19.43	0.57	19.43	0.57	0.57
5	4.17	19.32	0.68	19.23	0.77	0.73
6	5.00	19.15	0.85	19.13	0.87	0.86

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
1	2.50	19.18	0.82	19.15	0.85	0.84
2	1.25	19.22	0.78	19.18	0.82	0.80
3	0.100	19.25	0.75	19.22	0.78	0.77

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.83	19.13	0.87	19.08	0.92	0.90
1	1.66	18.95	1.05	18.90	1.10	1.08
2	2.50	18.85	1.15	18.83	1.17	1.16
3	3.33	18.65	1.35	18.71	1.29	1.32
4	4.17	18.55	1.45	18.65	1.35	1.40

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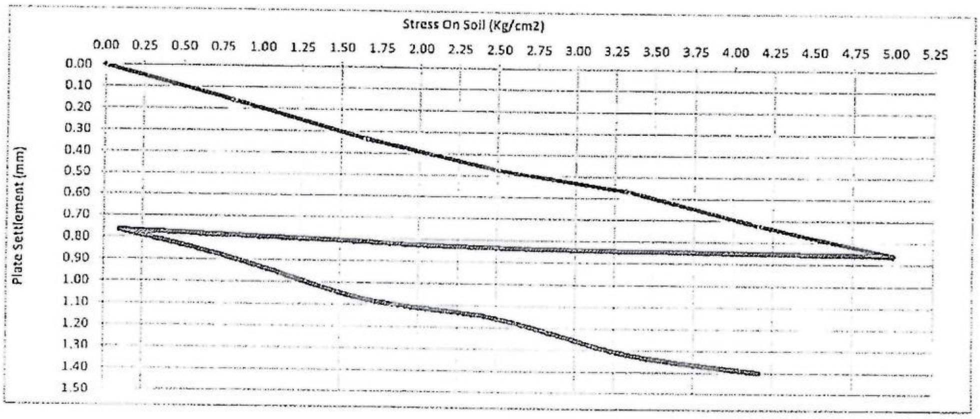
Company Name	:	المهندس كريم
Project	:	Electric Express Train - Sector (5) -- Qous to Arment.
Test Date	:	08/08/2023
report date	:	09/08/2023
Location	:	Station (667+820)
Test No.	:	01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	586	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm2)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.16	0.34	0.48	0.57	0.73	0.86

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm2)	5.00	2.50	1.250	0.10
Settlement (mm)	0.86	0.84	0.80	0.77

D (mm) =	300	S1 (mm)=	0.30	S2(mm)=	0.60	ΔS =	0.30
Ev1 (MPa) =	(0.75*D*Δσ)/ΔS		147.0				

Ev2/Ev1 =	1.01

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	586.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm2)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.77	0.90	1.08	1.16	1.32	1.40

D (mm) =	300	S1 (mm)=	1.04	S2(mm)=	1.34	ΔS =	0.30
Ev2 (MPa) =	(0.75*D*Δσ)/ΔS		149.1				

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm^2)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 08/08/2023
report date : 09/08/2023
Location : Station (667+920)
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.80	0.20	19.78	0.22	0.21
2	1.66	19.68	0.32	19.66	0.34	0.33
3	2.50	19.52	0.48	19.51	0.49	0.48
4	3.33	19.45	0.55	19.38	0.62	0.59
5	4.17	19.32	0.68	19.29	0.71	0.70
6	5.00	19.21	0.79	19.20	0.80	0.80

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
1	2.50	19.24	0.76	19.25	0.75	0.76
2	1.25	19.27	0.73	19.28	0.72	0.73
3	0.100	19.31	0.69	19.30	0.70	0.70

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.83	19.20	0.80	19.18	0.82	0.81
1	1.66	19.03	0.97	19.05	0.95	0.96
2	2.50	18.90	1.10	18.90	1.10	1.10
3	3.33	18.81	1.19	18.83	1.17	1.18
4	4.17	18.67	1.33	18.77	1.23	1.28

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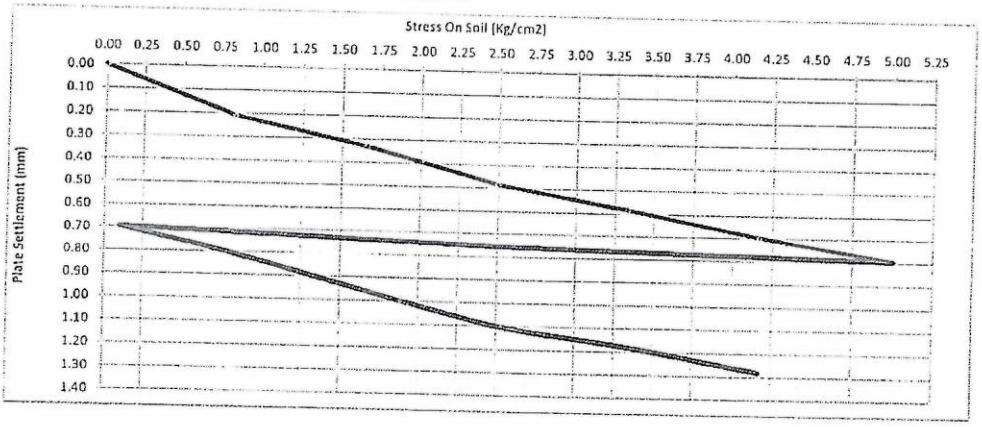
مشروعات محافظات الوجه القبلى

Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Armont.
Test Date : 08/08/2023
report date : 09/08/2023
Location : Station (66/+920)
Test No. : 02

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	586	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm2)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.21	0.33	0.48	0.59	0.70	0.80

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm2)	5.00	2.50	1.250	0.10
Settlement (mm)	0.80	0.76	0.73	0.70

D (mm) = 300	S1 (mm)= 0.31	S2(mm)= 0.61	ΔS = 0.30
Ev1 (MPa) = (0.75*D*Δσ)/ΔS	146.9		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	586.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm2)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.70	0.81	0.96	1.10	1.18	1.28

D (mm) = 300	S1 (mm)= 0.93	S2(mm)= 1.20	ΔS = 0.27
Ev2 (MPa) = (0.75*D*Δσ)/ΔS	163.9		

Ev2/Ev1 = 1.12

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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UNIVERSAL INSPECTION REQUEST	شركة المهندس كريم لاستصلاح الاراضي والمقاولات العامة	BC	SPECTRUM	الهيئة القومية للأنفاق	وزارة النقل	SYSTRA SHAKER

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From St 667+787 To St 668+787	EL Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

	Name	Sign	Date	Time
Issued by Contractor	Mohamed Mostafa	محمد مصطفى	25/9/2023	10:00 AM
Contractor UIR Reference	SG-WSN-9			Revision6

Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
				kp	EW	QS					

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From St 667+787 To St 668+787	From St 668+160 To St 668+420	مخلفات (بعد الازالة)

Inspection Description :

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ¨	Test Results Attached ¨	Calibration Attached¨	Other as indicated¨

Drawing Reference	ITP Reference	MS Reference

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
تم التشييك على الرفع المساحي للقطاع وجاهز لاستكمال الاعمال.	تم الفحص البصري والرفع المساحي لاستكمال أعمال الأعمال م/ هيثم مصطفى	

INSPECTION RESULT					Approval Status	Please Tick if
Organisation	Name	Sign	Date	Time	A-AWC-R	Not Attend
Brilliant Survey	أحمد صوفي		11-10-2023			
SPECTRUM			12/10/23			
GARB**						
Employer representative						

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	الوصف
1	2840586.551	480428.363	142.547	SH	ارض طبيعية
2	2840607.195	480453.446	142.915	SH	ارض طبيعية
3	2840595.857	480442.472	142.599	SH	ارض طبيعية
4	2840603.867	480449.142	142.892	SH	ارض طبيعية
5	2840609.059	480450.744	142.747	SH	ارض طبيعية
6	2840547.169	480397.494	139.685	SH	ارض طبيعية
7	2840612.188	480446.239	142.64	SH	ارض طبيعية
8	2840572.087	480413.59	141.768	SH	ارض طبيعية
9	2840615.813	480460.294	142.673	SH	ارض طبيعية
10	2840623.061	480450.559	142.857	SH	ارض طبيعية
11	2840496.284	480352.785	138.824	SH	ارض طبيعية
12	2840626.845	480443.202	142.471	SH	ارض طبيعية
13	2840612.08	480457.756	142.532	SH	ارض طبيعية
14	2840616.171	480446.845	142.589	SH	ارض طبيعية
15	2840599.436	480438.153	142.472	SH	ارض طبيعية
16	2840576.155	480426.368	142.354	SH	ارض طبيعية
17	2840578.142	480424.603	142.274	SH	ارض طبيعية
18	2840580.462	480421.754	142.191	SH	ارض طبيعية
19	2840569.478	480421.939	141.822	SH	ارض طبيعية
20	2840571.803	480419.125	141.903	SH	ارض طبيعية
21	2840574.041	480416.43	141.822	SH	ارض طبيعية
22	2840559.667	480415.4	140.941	SH	ارض طبيعية
23	2840561.61	480413.194	141.081	SH	ارض طبيعية
24	2840564.215	480410.094	141.154	SH	ارض طبيعية
25	2840546.723	480400.301	139.84	SH	ارض طبيعية
26	2840570.838	480421.071	140.396	SH	ارض طبيعية
27	2840548.989	480397.77	139.558	SH	ارض طبيعية
28	2840538.03	480391.782	139.614	SH	ارض طبيعية
29	2840540.239	480389.179	139.284	SH	ارض طبيعية
30	2840526.901	480383.931	139.558	SH	ارض طبيعية
31	2840529.055	480381.592	139.405	SH	ارض طبيعية
32	2840514.363	480375.806	139.576	SH	ارض طبيعية
33	2840517.452	480372.21	139.31	SH	ارض طبيعية
34	2840503.128	480368.141	139.55	SH	ارض طبيعية
35	2840506.805	480364.9	139.184	SH	ارض طبيعية
36	2840495.218	480359.094	138.954	SH	ارض طبيعية
37	2840497.837	480357.103	138.942	SH	ارض طبيعية
38	2840485.687	480349.613	138.753	SH	ارض طبيعية
39	2840489.701	480345.442	138.61	SH	ارض طبيعية
40	2840472.51	480333.778	138.536	SH	ارض طبيعية
41	2840476.375	480329.831	138.167	SH	ارض طبيعية
42	2840456.841	480320.62	137.992	SH	ارض طبيعية
43	2840460.803	480316.838	137.741	SH	ارض طبيعية
44	2840447.929	480311.184	137.876	SH	ارض طبيعية
45	2840451.5	480307.431	137.588	SH	ارض طبيعية
46	2840439.516	480300.906	137.783	SH	ارض طبيعية

تم الرفع للقطاع 160+668 الي 420+668 بتاريخ 25-09-2023

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	الوصف
47	2840443.591	480296.747	137.353	SH	ارض طبيعية
48	2840429.205	480290.307	137.85	SH	ارض طبيعية
49	2840433.309	480286.84	137.51	SH	ارض طبيعية
50	2840439.486	480281.482	137.353	SH	ارض طبيعية
51	2840589.243	480429.906	142.569	SH	ارض طبيعية
52	2840438.583	480278.917	137.544	SH	ارض طبيعية
53	2840586.025	480417.305	142.26	SH	ارض طبيعية
54	2840588.131	480421.128	142.411	SH	ارض طبيعية
55	2840587.726	480422.001	142.417	SH	ارض طبيعية
56	2840586.848	480424.959	142.475	SH	ارض طبيعية
57	2840578.867	480421.532	142.256	SH	ارض طبيعية
58	2840578.622	480422.672	142.312	SH	ارض طبيعية
59	2840576.59	480422.76	142.277	SH	ارض طبيعية
60	2840577.8	480426.557	142.475	SH	ارض طبيعية
61	2840582.749	480432.305	142.682	SH	ارض طبيعية
62	2840584.77	480428.988	142.549	SH	ارض طبيعية
63	2840619.527	480464.292	142.62	SH	ارض طبيعية
64	2840617.3	480465.866	142.61	SH	ارض طبيعية
65	2840601.896	480451.703	142.89	SH	ارض طبيعية
66	2840594.026	480444.475	142.6	SH	ارض طبيعية
67	2840580.614	480434.859	142.68	SH	ارض طبيعية
68	2840567.752	480423.747	141.82	SH	ارض طبيعية
69	2840557.671	480416.345	140.94	SH	ارض طبيعية
70	2840543.823	480402.376	139.84	SH	ارض طبيعية
71	2840535.317	480394.704	139.61	SH	ارض طبيعية
72	2840525.171	480385.97	139.56	SH	ارض طبيعية
73	2840513.125	480376.897	139.58	SH	ارض طبيعية
74	2840501.571	480369.892	139.55	SH	ارض طبيعية
75	2840500.82	480370.846	139.55	SH	ارض طبيعية
76	2840483.344	480351.215	138.75	SH	ارض طبيعية
77	2840469.84	480336.313	138.54	SH	ارض طبيعية
78	2840454.621	480323.042	137.99	SH	ارض طبيعية
79	2840445.452	480313.618	137.88	SH	ارض طبيعية
80	2840436.728	480303.444	137.78	SH	ارض طبيعية
81	2840427.069	480291.272	137.85	SH	ارض طبيعية
82	2840633.856	480445.541	144.737	SH	ارض طبيعية
83	2840639.301	480440.169	144.558	SH	ارض طبيعية
84	2840645.424	480435.213	144.862	SH	ارض طبيعية
85	2840650.526	480430.048	142.431	SH	ارض طبيعية
86	2840644.555	480421.942	141.787	SH	ارض طبيعية
87	2840635.705	480429.442	141.844	SH	ارض طبيعية
88	2840629.345	480434.992	142.101	SH	ارض طبيعية
89	2840624.26	480439.687	142.387	SH	ارض طبيعية
90	2840618.966	480432.615	142.105	SH	ارض طبيعية
91	2840628.34	480425.602	141.929	SH	ارض طبيعية
92	2840633.832	480414.85	141.995	SH	ارض طبيعية

تم الرفع للقطاع 160+668 الي 420+668 بتاريخ 25-09-2023

برليانت كونسلت للاستشارات الهندسية
HSR: Blue Line - sec.05
إستشاري الأعمال المدنية بالقطاع

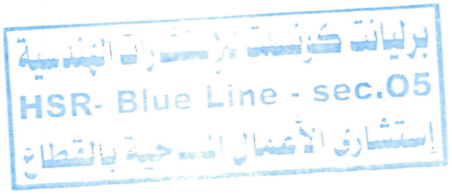
شركة المهندس مكوسم لاستصلاح الاراضي والمقاولات العامة
س.ت: ١٢٩٧٨

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	الوصف
93	2840627.406	480398.684	143.216	SH	ارض طبيعية
94	2840617.404	480404.086	141.791	SH	ارض طبيعية
95	2840607.791	480412.412	142.024	SH	ارض طبيعية
96	2840599.627	480420.999	142.424	SH	ارض طبيعية
97	2840588.585	480412.33	142.041	SH	ارض طبيعية
98	2840595.644	480404.407	142.1	SH	ارض طبيعية
99	2840605.68	480395.614	141.935	SH	ارض طبيعية
100	2840614.035	480387.839	143.112	SH	ارض طبيعية
101	2840608.764	480374.607	143.663	SH	ارض طبيعية
102	2840599.849	480383.702	142.189	SH	ارض طبيعية
103	2840589.401	480393.07	141.719	SH	ارض طبيعية
104	2840579.983	480398.02	140.047	SH	ارض طبيعية
105	2840570.094	480405.753	141.209	SH	ارض طبيعية
106	2840563.697	480398.856	139.612	SH	ارض طبيعية
107	2840570.084	480391.453	139.042	SH	ارض طبيعية
108	2840578.79	480384.896	140.302	SH	ارض طبيعية
109	2840586.419	480376.326	140.829	SH	ارض طبيعية
110	2840593.166	480367.664	141.56	SH	ارض طبيعية
111	2840600.029	480359.756	141.56	SH	ارض طبيعية
112	2840584.125	480355.478	141.502	SH	ارض طبيعية
113	2840577.919	480360.525	141.881	SH	ارض طبيعية
114	2840573.546	480364.906	139.308	SH	ارض طبيعية
115	2840565.263	480369.667	138.926	SH	ارض طبيعية
116	2840557.438	480378.137	138.925	SH	ارض طبيعية
117	2840549.861	480386.037	139.123	SH	ارض طبيعية
118	2840534.966	480380.856	139.161	SH	ارض طبيعية
119	2840540.815	480373.968	138.924	SH	ارض طبيعية
120	2840549.541	480365.008	138.861	SH	ارض طبيعية
121	2840556.963	480357.714	139.806	SH	ارض طبيعية
122	2840564.212	480350.961	140.931	SH	ارض طبيعية
123	2840566.595	480347.797	143.308	SH	ارض طبيعية
124	2840561.755	480342.858	143.55	SH	ارض طبيعية
125	2840556.753	480345.963	141.168	SH	ارض طبيعية
126	2840545.676	480353.7	138.994	SH	ارض طبيعية
127	2840534.41	480361.396	138.776	SH	ارض طبيعية
128	2840525.295	480369.03	139.125	SH	ارض طبيعية
129	2840512.686	480357.092	138.975	SH	ارض طبيعية
130	2840522.289	480350.752	138.694	SH	ارض طبيعية
131	2840530.103	480345.564	138.63	SH	ارض طبيعية
132	2840538.271	480342.467	139.179	SH	ارض طبيعية
133	2840540.615	480334.006	140.796	SH	ارض طبيعية
134	2840545.646	480327.851	142.183	SH	ارض طبيعية
135	2840568.012	480341.103	144.628	SH	ارض طبيعية
136	2840532.463	480317.223	141.803	SH	ارض طبيعية
137	2840524.062	480325.7	139.146	SH	ارض طبيعية
138	2840515.703	480335.869	138.78	SH	ارض طبيعية

تم الرفع للقطاع 160+668 الي 420+668 بتاريخ 25-09-2023

POINT NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION	الوصف
139	2840506.264	480345.207	138.646	SH	ارض طبيعية
140	2840496.136	480353.06	138.7	SH	ارض طبيعية
141	2840491.125	480343.154	138.485	SH	ارض طبيعية
142	2840502.213	480333.79	138.504	SH	ارض طبيعية
143	2840516.889	480320.892	138.807	SH	ارض طبيعية
144	2840526.334	480311.497	140.799	SH	ارض طبيعية
145	2840515.356	480300.215	139.995	SH	ارض طبيعية
146	2840504.478	480307.752	137.887	SH	ارض طبيعية
147	2840495.754	480314.678	138.154	SH	ارض طبيعية
148	2840488.794	480320.648	137.924	SH	ارض طبيعية
149	2840480.285	480328.181	138.045	SH	ارض طبيعية
150	2840476.349	480331.853	138.401	SH	ارض طبيعية
151	2840468.308	480315.349	137.429	SH	ارض طبيعية
152	2840478.466	480309.188	137.414	SH	ارض طبيعية
153	2840490.138	480301.229	137.644	SH	ارض طبيعية
154	2840499.245	480295.621	137.91	SH	ارض طبيعية
155	2840504.84	480290.479	141.525	SH	ارض طبيعية
156	2840491.061	480283.542	141.877	SH	ارض طبيعية
157	2840482.894	480277.023	141.115	SH	ارض طبيعية
158	2840487.59	480272.683	142.367	SH	ارض طبيعية
159	2840479.134	480265.77	142.13	SH	ارض طبيعية
160	2840475.468	480269.323	140.86	SH	ارض طبيعية
161	2840472.167	480273.412	138.382	SH	ارض طبيعية
162	2840461.642	480284.69	137.513	SH	ارض طبيعية
163	2840451.823	480293.456	137.188	SH	ارض طبيعية
164	2840456.519	480300.09	137.346	SH	ارض طبيعية
165	2840463.901	480292.548	137.495	SH	ارض طبيعية
166	2840471.838	480283.984	137.668	SH	ارض طبيعية
167	2840477.915	480278.535	138.138	SH	ارض طبيعية
168	2840487.231	480289.018	137.461	SH	ارض طبيعية
169	2840476.291	480295.153	137.568	SH	ارض طبيعية
170	2840466.939	480303.659	137.386	SH	ارض طبيعية
171	2840444.428	480283.309	137.05	SH	ارض طبيعية
172	2840453.617	480274.449	137.482	SH	ارض طبيعية
173	2840461.388	480266.009	137.929	SH	ارض طبيعية
174	2840465.612	480261.314	139.705	SH	ارض طبيعية
175	2840446.273	480265.638	137.541	SH	ارض طبيعية
176	2840471.42	480253.376	141.11	SH	ارض طبيعية
تم الرفع للقطاع 160+668 الي 420+668 بتاريخ 2023-09-25					

تم الرفع للقطاع 160+668 الي 420+668 بتاريخ 2023-09-25



UNIVERSAL INSPECTION REQUEST

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24 Hours

The Work described below will be complete and ready for inspection at planned time shown

Location Name	Contractor Company	Designer Company
From St 667+787 To St 668+787	EL Mohandes Karim company for contracts	(SPECTRUM) Engineering Consulting Office

Issued by Contractor	Name	Sign	Date	Time
	Mohamed Mostafa	محمد مصطفى	10/10/2023	10:00 AM

Contractor UIR Reference	SG-WSN-10	Revision6

Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
				kp	EW	QS					

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

EXPLANATION OF WORK TO BE INSPECTED

Area	Element	Item
From St 667+787 To St 668+787	From St 668+160 To St 668+420	تجهيز أرض طبيعية (غمر ودمك)

Inspection Description :

INSPECTION DETAILS The Following will be ready at the Planned Inspection Time

Planned Inspection Date	Planned Inspection Time

COMPLIANCE EVIDENCE Must be Included as appropriate

Checklist Attached ¨	Test Results Attached ¨	Calibration Attached¨	Other as indicated¨
Drawing Reference	**ITP Reference**	**MS Reference**	

Comments by: (Brilliant)	Comments by: (SPECTRUM) Civil	Comments by: (SPECTRUM) QC
تم أستلام الاعمال ولا مانع من متابعه الاعمال	تم الفحص البصري ولا مانع من استكمال باقي الأعمال	تم الاستلام

INSPECTION RESULT

Organisation	Name	Sign	Date	Time	Approval Status A-AWC-R	Please Tick if Not Attend
Brilliant Survey			12/10/2023			
SPECTRUM			12/10/23			
GARB**						
Employer representative						

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الإستشارات الهندسية
مشروعات محافظات الوجه القبلى

Company : المهندس كريم

Project : Electric Express Train - Sector (5) – Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 668+160 to 668+260
Station : 668+200
Level : -8.0
Test Date : 10/10/2023
Repot Date : 11/10/2023
Type of soil : Origional Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm ^{2}
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2 nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads

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مكتب معامل الاستشارات الهندسية
مشروعات (سوهاج وقنا)
رقم التسجيل الضريبى: 219 - 991 - 537
المركز الرئيسى ٣ شارع الملك الأفضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel.& Fax : 27367231 - 27363093

IAS ACCREDITED Testing Labortatory

٣ ش الملك الأفضل
الزمالك - القاهرة
تليفون + فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
www.cel-egypt.com

Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-

- location of test site - Dimension of loading plate.
- Measuring device used - Type of soil.
- Type of Bedding material below the plate -Weathering condition.
- Time and date of measurements - Unusual observation made during test .
- Dial gauge reading and corresponding normal stress - Loading-settlement curve.
- Description of the soil condition below the plate after testing.

Report

- Type of soil : Origional Earth
- Job requiremer : Ev2 > 30 MPa

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	: 10/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level	First Cycle	Second Cycle	E_{V2}/E_{V1} Ratio
	From	To		(m)	E_{V1} (MPa)	E_{V2} (Mpa)	
1	668+160	668+260	: 668+200	: -8.0	122.9	114.0	0.93

Signature

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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
مشروعات (سوهاج وقنا)
رقم التسجيل الضريبى: 537 - 991 - 219
المركز الرئيسى ٣ شارع الملك الأفضل - الزمالك - القاهرة

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الإستشارات الهندسية
مشروعات محافظات الوجه القبلى

Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 10/10/2023
report date : 11/10/2023
Station : 668+200
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.87	0.13	19.79	0.21	0.17
2	1.66	19.65	0.35	19.61	0.39	0.37
3	2.50	19.49	0.51	19.51	0.49	0.50
4	3.33	19.31	0.69	19.39	0.61	0.65
5	4.17	19.12	0.88	19.18	0.82	0.85
6	5.00	19.01	0.99	19.05	0.95	0.97

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
1	2.50	19.10	0.90	19.13	0.87	0.89
2	1.25	19.33	0.67	19.40	0.60	0.64
3	0.100	19.75	0.25	19.79	0.21	0.23

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.83	19.59	0.41	19.61	0.39	0.40
oximately equ	1.66	19.40	0.60	19.46	0.54	0.57
stress Is reached.						
2	2.50	19.31	0.69	19.29	0.71	0.70
3	3.33	19.09	0.91	19.10	0.90	0.90
4	4.17	18.99	1.01	19.01	0.99	1.00

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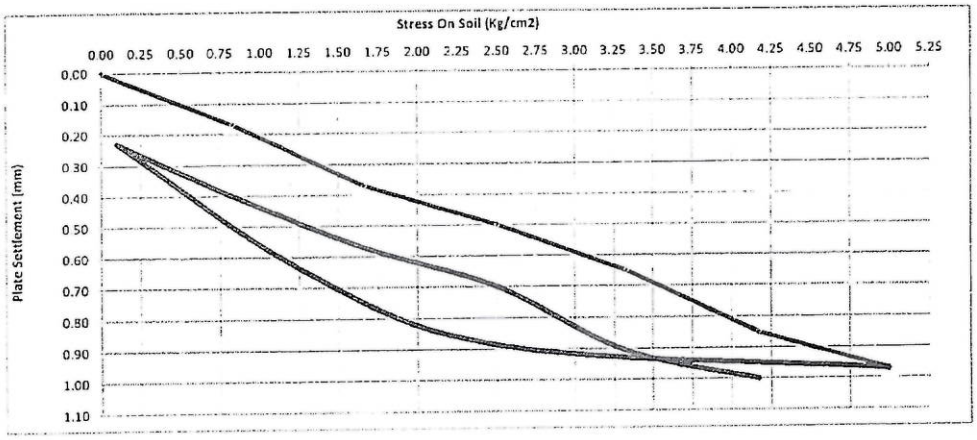
Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 10/10/2023
report date : 11/10/2023
Station : 668+200
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	586	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm2)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.17	0.37	0.50	0.65	0.85	0.97

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm2)	5.00	2.50	1.250	0.10
Settlement (mm)	0.97	0.89	0.64	0.23

D (mm) = 300	S1 (mm)= 0.33	S2(mm)= 0.69	ΔS = 0.36
Ev1 (MPa) = (0.75*D*Δσ)/ΔS	122.9		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	586.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm2)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.23	0.40	0.67	0.70	0.90	1.00

D (mm) = 300	S1 (mm)= 0.54	S2(mm)= 0.92	ΔS = 0.39
Ev2 (MPa) = (0.75*D*Δσ)/ΔS	114.0		

Ev2/Ev1 = 0.93

Ev1 = Modulus of deformation during the loading stage
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Os = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm^2)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company المهندس كريم .

Project : Electric Express Train - Sector (5) – Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location : Station 668+260 to 668+360
Station : 668+280
Level : -8.0
Test Date : 10/10/2023
Repot Date : 11/10/2023
Type of soil : Origional Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm ^{2}
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2 nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads

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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-

- location of test site - Dimension of loading plate.
- Measuring device used - Type of soil.
- Type of Bedding material below the plate -Weathering condition.
- Time and date of measurements - Unusual observation made during test .
- Dial gauge reading and corresponding normal stress - Loading-settlement curve.
- Description of the soil condition below the plate after testing.

Report

- Type of soil : Origional Earth
- Job requiremer : Ev2 > 30 MPa

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	: 10/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level	First Cycle	Second Cycle	E_{V2}/E_{V1} Ratio
	From	To		(m)	E_{V1} (MPa)	E_{V2} (Mpa)	
1	668+260	668+360	: 668+280	: -8.0	82.1	125.9	1.53

Signature

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Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 10/10/2023
report date : 11/10/2023
Station : 668+280
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.93	0.07	19.87	0.13	0.10
2	1.66	19.62	0.38	19.65	0.35	0.37
3	2.50	19.33	0.67	19.56	0.44	0.56
4	3.33	19.09	0.91	19.31	0.69	0.80
5	4.17	18.80	1.20	19.09	0.91	1.06
6	5.00	18.63	1.37	18.91	1.09	1.23

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
1	2.50	18.73	1.27	18.99	1.01	1.14
2	1.25	18.80	1.20	19.16	0.84	1.02
3	0.100	19.31	0.69	19.57	0.43	0.56

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.83	19.22	0.78	19.47	0.53	0.66
oximately equ	1.66	19.12	0.88	19.32	0.68	0.78
stress is reached.						
2	2.50	19.07	0.93	19.25	0.75	0.84
3	3.33	18.81	1.19	19.03	0.97	1.08
4	4.17	18.72	1.28	18.86	1.14	1.21

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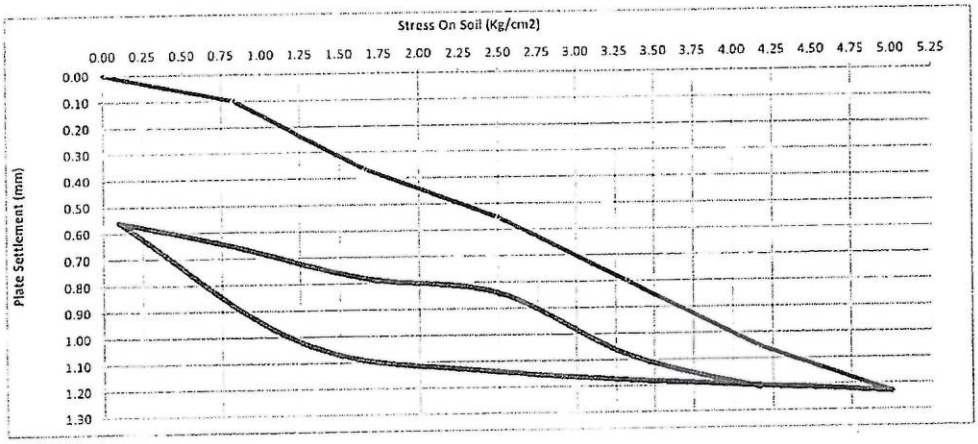
Company Name : المهندس كريم .
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 10/10/2023
report date : 11/10/2023
Station : 668+280
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	586	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm2)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.10	0.37	0.56	0.80	1.06	1.23

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm2)	5.00	2.50	1.250	0.10
Settlement (mm)	1.23	1.14	1.02	0.56

D (mm) = 300	S1 (mm)= 0.31	S2(mm)= 0.85	ΔS = 0.54
Ev1 (MPa) = (0.75*D*Δσ)/ΔS	82.1		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	586.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm2)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.56	0.66	0.78	0.84	1.08	1.31

D (mm) = 300	S1 (mm)= 0.76	S2(mm)= 1.11	ΔS = 0.35
Ev2 (MPa) = (0.75*D*Δσ)/ΔS	125.9		

Ev2/Ev1 = 1.53

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (kg/cm²)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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Company : المهندس كريم

Project : Electric Express Train - Sector (5) – Qous to Arment.
Subject : Determine the deformation and strength characteristics of soil by the plate loading test according specifications DIN 18134:2012-04 and project requirements
Test Location . Station 668+360 to 668+420
Station : 668+390
Level : -8.0
Test Date : 10/10/2023
Repot Date : 11/10/2023
Type of soil : Origional Earth
Report No. : 01

Dear Gentleman,

According to the above mentioned subject the test performed as follows:-

Apparatus

1. Loading plates consists of two plates with 300 mm and 300 mm diameter
2. The thickness of plates 30 mm
3. Dial gauges with accuracy 0.01 mm to measuring the settlement
4. Steel straightedges with magnetic supports to fixed the dial gauges
5. Hydraulic jack with pump to transfer reactive loads to the loading plates
6. Dial indicator measuring device with scale capacity 700 Bar (Enerbac)
7. Reaction loading system by roller compactor with weight approximately 15 ton.
8. Calibration certificates are attached.

Test Procedure:

1. Clean the ground on test area to the required level with undisturbed soil
2. Install loading plates 300 mm and 300 mm diameter, hydraulic jack and 3 dial gauges
3. Prior to starting the test applied preloading about 30 seconds.
4. The strain gauge and the dial gauge shall be set to zero
5. For a 300 mm loading plate, the limit values are 5.0 kg/cm ^{2}
6. The load shall be applied in six stages, in approximately equal increments, until the required maximum normal stress is reached.
7. Each change in load (from stage to stage) shall be completed within one minute
8. The load shall be released in 3 stages, to 50 % , 25 %, and approximately 2 % of the maximum load.
9. Following unloading, a further (2 nd) loading cycle shall be carried out, in which, however, the load is to be increased only to the penultimate stage of the first cycle (so that the full load is not reached).
10. At each stage the load shall be maintained until the rate of settlement of the plate becomes less than 0.02 mm/min.
11. Remove the loads

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Report

1. Evaluation and representation of results.
2. Load Settlement curve.
3. The test report content the following:-

- location of test site - Dimension of loading plate.
- Measuring device used - Type of soil.
- Type of Bedding material below the plate -Weathering condition.
- Time and date of measurements - Unusual observation made during test .
- Dial gauge reading and corresponding normal stress - Loading-settlement curve.
- Description of the soil condition below the plate after testing.

Report

- **Type of soil : Origional Earth**
- **Job requiremer : Ev2 > 30 MPa**

Item	Descriptions
Type of bedding material below the plate	Natural Soil
Plate Diameter (mm)	300
date of measurement	: 10/10/2023
Unusual observation made during test	NO
Description of the soil conditions below the plate after testing	No deformation

Evaluation and representation of results

Test No.	Station		Location	Level	First Cycle	Second Cycle	E_{V2}/E_{V1} Ratio
	From	To		(m)	E_{V1} (MPa)	E_{V2} (Mpa)	
1	668+360	668+420	: 668+390	: -8.0	92.6	117.9	1.27

Signature / .....

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Company Name : المهندس كريم
Project : Electric Express Train - Sector (5) – Qous to Arment.
Test Date : 10/10/2023
report date : 11/10/2023
Station : 668+390
Test No. : 01

Nonrepetitive Static Plate Load Tests of Soils
DIN 18134

Loading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.00	20.00	0.00	20.00	0.00	0.00
1	0.83	19.79	0.21	19.83	0.17	0.19
2	1.66	19.61	0.39	19.71	0.29	0.34
3	2.50	19.40	0.60	19.52	0.48	0.54
4	3.33	19.19	0.81	19.33	0.67	0.74
5	4.17	18.99	1.01	19.06	0.94	0.98
6	5.00	18.81	1.19	18.97	1.03	1.11

Unloading Stage (1)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
1	2.50	18.88	1.12	19.05	0.95	1.04
2	1.25	19.27	0.73	19.34	0.66	0.70
3	0.100	19.50	0.50	19.61	0.39	0.45

Loading Stage (2)

Loading	Stress	Dial 1	Settlement	Dial 2	Settlement	Average
	Kg/cm2		mm		mm	
0	0.83	19.41	0.59	19.52	0.48	0.54
ximately equ	1.66	19.29	0.71	19.31	0.69	0.70
stress is reached.						
2	2.50	19.09	0.91	19.15	0.85	0.88
3	3.33	18.96	1.04	19.01	0.99	1.02
4	4.17	18.81	1.19	18.89	1.11	1.15

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Station : 668+390
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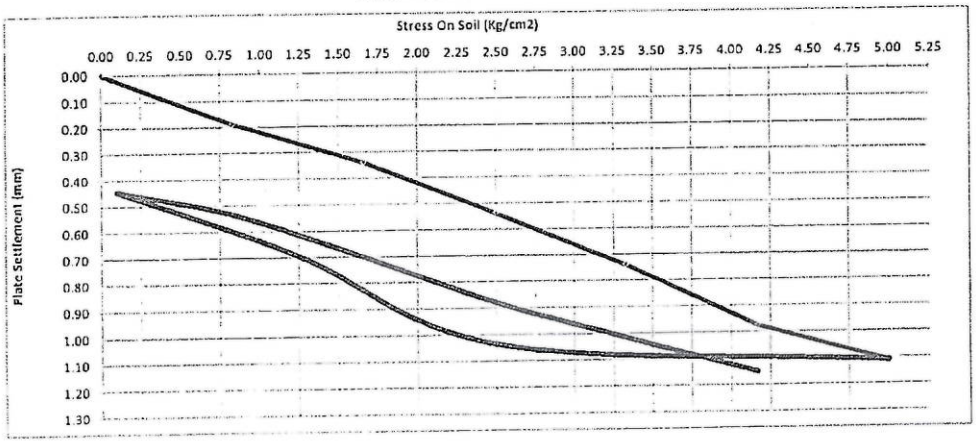
Nonrepetitive Static Plate Load Tests of Soils
DIN 18134



Loading (1)	0	1	2	3	4	5	6
Stage(Kg)	0	586	1172.8	1766.3	2352.6	2946.1	3532.5
Stress (Kg/cm2)	0.00	0.83	1.66	2.50	3.33	4.17	5.00
Settlement (mm)	0.00	0.19	0.34	0.54	0.74	0.98	1.11

UnLoading (1)	1	2	3	4
Stage(Kg)	3533	1766	884	71
Stress (Kg/cm2)	5.00	2.50	1.250	0.10
Settlement (mm)	1.11	1.04	0.70	0.45

D (mm) = 300	S1 (mm)= 0.31	S2(mm)= 0.79	ΔS = 0.48
Ev1 (MPa) = (0.75*D*Δσ)/ΔS	92.6		

Loading (2)	0	1	2	3	4	5
Stage(Kg)	0	586.395	1172.8	1766.3	2352.6	2946.1
Stress (Kg/cm2)	0.10	0.83	1.66	2.50	3.33	4.17
Settlement (mm)	0.45	0.54	0.70	0.88	1.02	1.16

D (mm) = 300	S1 (mm)= 0.67	S2(mm)= 1.04	ΔS = 0.37
Ev2 (MPa) = (0.75*D*Δσ)/ΔS	117.9		

Ev2/Ev1 = 1.27

Ev1 = Modulus of deformation during the loading stage.
Ev2 = Modulus of deformation during the Reloading stage.
D = Plate diameter (mm)
Ds = The difference between 0.3 and 0.7 from the maximum loading (smax) (Kg/cm²)
DS = Difference in settlements corresponding to 0.3 and 0.7 from the maximum loading (mm)

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الهيئة العامة للطرق والكباري

المنطقة المركزية الثامنة

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد ،،،،

بالإشارة إلى مشروع إستكمال أعمال الجسر الترابي للخط الثانى القطاع الخامس من مشروع إنشاء القطار الكهربائي السريع قطاع (قوص – ارمنت) حيث تمت المفاوضة مع الشركة على البنود لتنفيذ المسافة من الكم 667+787 الي 668+787 بطول 1 كم طبقا للعقد (بالامر المباشر).

تنفيـــــذ : شركة المهندس كريم لاستصلاح الاراضى والمقاولات العامة عقد رقم (2024/2023/1007)

نتشرف بأن نرفق لسيادتكم طيه (مقايسة معدلة رقم 1)

وتفضلوا بقبول فائق التحية والاحترام،،

رئيس الادارة المركزية للمنطقة الثامنة

مهندس /

عماد حسين

مقايسه معدلة

أعمال انشاء الجسر الترابي للقطار الكهربائي السريع (أكتوبر / أبوسمبل)

من محطة ٦٢٩ +١١٠,١٣ حتى محطة ٧١٥ + ٦٢٤,٦٣ بطول ٨٦,٥١٤٥ كم

تنفيذ شركة / المهندس كريم لاستصلاح الاراضى والمقاولات العامة من محطة ٦٦٧+٧٨٧ الي ٦٦٨+٧٨٧ بطول ١ كم

م البند	بيان الأعمال	الوحدة	الكمية	سعر الفئة	الاجمالى
3	اعمال الردم Embankment				
1-3	أعمال تحميل وتوريد ونقل أتربة مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسمك لا يزيد عن ٥٠ سم حتى منسوب (-2 متر) اسفل منسوب الفرمه و بسمك لايزيد عن ٢٥سم اعلي من منسوب (-2 متر) من منسوب الفرمه لاستكمال المنسوب التصميمى لتشكيل الجسر والأكتاف (نسبة تحمل كاليفورنيا حتى ١٥%) ورشها بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (95% من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. - فى حالة طلب جهاز الاشراف زيادة نسبة الدمك عن ٩٥% يحسب زيادة ١ جنيه على زيادة نسبة الدمك لكل ١%. - مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١,٤ جنيه لكل كم بالزيادة او النقصان وتصبح ١,٥ جنيه /كم ابتداء من ٤/٥/٢٠٢٣. - السعر يشمل عمل تشوينات و تخليط و اختبارات و نقل لموقع العمل حتي مسافة ٢ كم ، -علاوة زيادة السولار ١,٩ جنية /م٣ ابتداء من ٤/٥/٢٠٢٣ -السعر لا يشمل قيمة المادة المحجرية.	م٣	١٨٢,٥٤٠	٦٠,٠٠	١٠,٩٥٢,٣٩٤
	علاوة زيادة السولار ١,٩ جنية /م٣ ابتداء من ٤/٥/٢٠٢٣	م٣	١٨٢,٥٤٠	١,٩٠	٣٤٦,٨٢٦
	الأجمالي				١١,٢٩٩,٢٢٠

مهندس الشركة المنفذة
المهندس/ محمد مصطفى على
التوقيع/

شركة المهندس كريم لاستصلاح الاراضى والمقاولات العامة
س.ت: ١٢٩٧٨
بصوفى: ٥٠٠-٤٦٩-٤٩٤

مدير المشروع (الاستشاري)
المهندس/
التوقيع/

مهندس هيئة الطرق والكباري (المنطقة الثامنة - قنا)
المهندس/
التوقيع/

يعتمد!!!
رئيس الإدارة المركزية
المنطقة الثامنة (قنا)
السيد المهندس / عماد حسين
التوقيع /