

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة.. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي السريع (برج العرب - العلمين) (القطاع الخامس ب)
نتشرف بأن نرفق لسيادتكم طيه المقاييس المعدلة بعد المفاوضة بتاريخ 2023-12-18
للقطاع الآتي:

| مسلسل | اسم الشركة | بداية القطاع (كم) | نهاية القطاع (كم) | اتجاه |
|-------|----------------------------------|------------------------|------------------------|-------|
| 1 | مكتب البدراوي للهندسة والمقاولات | 391+600 | 392+900 | مطروح |

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الاحترام والتقدير،،،



رئيس الإدارة المركزية

المنطقة الخامسة- غرب الدلتا

عميد مهندس/

"هاني محمد محمود طه"

مشروع القطار الكهربائي السريع قطاع (برج العرب - العلمين)
المقايسة المعدلة بعد المفاوضة بتاريخ 2023-12-18 لبنود الأعمال قطاع مكتب البدراني للهندسة والمقاولات
القطاع من المحطة 391+600 الى 392+900 بطول 1.3 كم اتجاه مطروح

| رقم البند | بيان الأعمال | الوحدة | الكمية | الفئة | الاجمالي |
|-----------|--|--------|-----------|--------|--------------|
| 4 | طبقات الاساس | | | | |
| 4-3 | بالمتر المكعب توريد وفرش طبقة فلتر من الأحجار الصلبة المتدرجة ناتج تكسير كسارات والمطابقة للمواصفات وأقصى حجم حبيبي ما بين 20 مم إلى 75 مم وألا يزيد نسبة المار من منخل 200 عن 5% والدرج الوارد بالإشتراطات الخاصة بالمشروع وهي أحجار مقاس سن:1:سن:2:سن:4 أو سن:6 بنسبة 1:1:1:1 وألا يقل معامل المرونة EV2 من تجربة لوح التحميل عن 50 ميجاباسكال وألا يزيد نسبة الفاقد بجهاز لوس أنجلوس عن 45% والفئة تشمل أعمال التجارب المعملية والبند يشمل إجراء التجارب المعملية والحقلية طبقاً لأصول الصناعة الممتازة وتقرير الاستشاري وتعليمات المهندس المشرف. -لمسافة نقل 20 كم. -الفئة شاملة قيمة المادة المحجوبة. -يتم احتساب 1.3 جنيه للكم بالزيادة أو النقصان. | | | | |
| | السعر خلال شهر يناير 2023 طبقاً للمفاوضة بتاريخ 2023-12-18 | م3 | 13448.154 | 324.10 | 4,358,546.71 |
| | علاوة مسافة النقل $74.75 = 1.3 * 57.5 = 77.5$ جنيه | م3 | 13448.154 | 74.75 | 1,005,249.51 |
| | علاوة تحصيل رسوم الكارثة والموازن طبقاً للأنحة الشركة الوطنية | م3 | 13448.154 | 25.00 | 336,203.85 |
| | الإجمالي | | | | 5,700,000 |

(خمسة ملايين وسبعمائة ألف جنيه مصري فقط لا غير)

مدير عام مشروعات الهيئة

م/محمد حسني فياض

مدير المشروع الهيئة

م / مارجريت مجدي زاخر

مدير المشروع الاستشاري

م/مارون عصامي شيد

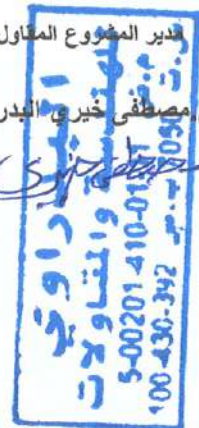
مدير المشروع المقاول

م مصطفى خيرى البدراني

يعتمد
رئيس الادارة المركزية
منطقة غرب الدلتا

الاسكندرية - مرسى مطروح
عميد مهندس /

" هانى محمد محمود لاطه "



مشروع : القطار الكهربائي السريع (العين السخنة - العاصمة الإدارية - العلمين - مطروح) قطاع غرب النيل في المسافة من الكم 391+600 إلى الكم 392+900 بطول 1.3 كم
[تجاه مطروح]

رقم البند وبيانه (3-4) بالمتر المكعب توريد وفرش طبقة فلتر من الأحجار الصلبة المتردجة ناتج تكسير كسارات والمطابقة للمواصفات وأقصى حجم حبيبي ما بين 20 مم إلى 75 مم وألا يزيد نسبة العار من منخل 200 عن 5% والتدرج الوارد بالإشتراطات الخاصه بالمشروع وهي أحجار مقاس سن:1:سن:2:سن:4 أو سن:6 بنسبة 1:1:1:1 وألا يقل معامل المرونة EV2 من تجربة لوح التحميل عن 50 ميجانيسكال وألا يزيد نسبة الفاقد بجهاز لوس أنجلوس عن 45% والفئة تشمل أعمال التجارب المعملية والتبند يشمل إجراء التجارب المعملية والمقلية طبقاً لأصول الصنائه الممتازة وتقرير الاستشاري وتعليمات المهندس المشرف.

-لمسافة نقل 20 كم.
-الفئة شاملة قيمة المادة المحجورة.
-يتم احتساب 1.3 جنية للكم بالزيادة أو النقصان

(طبقاً للريكويسات المنفذة في شهر يناير 2023)

| تسقيف : مكتب البديوي للهندسة والمقاولات | | | | | | |
|---|--|-----|-------------------|---------|------------|----------------------|
| الكمية | الأبعاد (متر) | | الموقع الكيلومتري | | التاريخ | رقم الطلب |
| | مساحة المقطع | طول | من | إلى | | |
| 266.28 | 13.314 | 20 | 391+660 | 391+640 | 02/01/2023 | IR (FF 5 rev01-2) |
| 2164.80 | 36.080 | 60 | 391+720 | 391+660 | 03/01/2023 | IR (FF 5 (rev 02)) |
| 3192.00 | 31.920 | 100 | 392+040 | 391+940 | 03/01/2023 | IR (FF 6) |
| 4067.00 | 40.670 | 100 | 391+940 | 391+840 | 10/01/2023 | IR (FF 7) |
| 1516.68 | 37.917 | 40 | 391+820 | 391+780 | 15/01/2023 | IR (FF 8 rev01) |
| 11206.760 | اجمالي الكميات (م³) | | | | | |
| 2241.352 | يوجد نسبة هالك الفوز وتداخل السن الخاص بالفلتر تم تحديدها بمقدار 20% | | | | | |
| 13448.112 | الاجمالي الكلي (م³) | | | | | |

مهندس الهيئة
م / مارجريت مجدي زاهر



مهندس الاستشاري
مكتب XYZ
م / محمد شهاب خليل



مهندس الهيئة
مكتب البديوي
م / مصطفى خيرى البديوي



مشروع : القطار الكهربائي السريع (العين السخنة - العاصمة الإدارية - العلمين - مطروح) قطاع غرب النيل في المسافة من الكم 391+600 إلى الكم 392+900 بطول 1.3 كم
اتجاه مطروح

رقم البند وبيانه (3-4) بالمتر المكعب توريد وفرش طبقة فلتر من الأحجار الصلبة المتدرجة ناتج تكسير كسارات والمطابقة للمواصفات وأقصى حجم حبيبي ما بين 20 مم إلى 75 مم وألا يزيد نسبة العار من منخل 200 عن 5% والتدرج الوارد بالإشتراطات الخاصة بالمشروع وهي أحجار مقاس سن:1:سن:2:سن:4 أو سن:6 بنسبة 1:1:1:1 وألا يقل معامل المرونة EV2 من تجرية لوح التحميل عن 50 ميجابيسكال وألا يزيد نسبة الفاقد بجهاز لوس أنجلوس عن 45% والفتة تشمل أعمال التجارب المعملية والبند يشمل إجراء التجارب المعملية والحقلية طبقا لأصول الصنعة المعماة وتقدير الاستشاري وتعليمات المهندس المشرف.

-لمسافة نقل 20 كم.
-الفتة شاملة قيمة المادة المحجورية.
-يتم احتساب 1.3 جنيه للكم بالزيادة أو النقصان

علاوة مسافة النقل (77.5 كم)

| تنفيذ : مكتب البديوي للهندسة والمقاولات | | | | | | |
|---|---|-----|------------------|---------|------------|----------------------|
| الكمية | البيانات (متر) | | الموقع الكيلومتر | | التاريخ | رقم الطلب |
| | مساحة المقطع | طول | ل | من | | |
| 266.28 | 13.314 | 20 | 391+660 | 391+640 | 02/01/2023 | IR (FF 5 rev01-2) |
| 2164.80 | 36.080 | 60 | 391+720 | 391+660 | 03/01/2023 | IR (FF 5 (rev 02)) |
| 3192.00 | 31.920 | 100 | 392+040 | 391+940 | 03/01/2023 | IR (FF 6) |
| 4067.00 | 40.670 | 100 | 391+940 | 391+840 | 10/01/2023 | IR (FF 7) |
| 1516.68 | 37.917 | 40 | 391+820 | 391+780 | 15/01/2023 | IR (FF 8 rev01) |
| 11206.760 | اجمالي الكميات (م³) | | | | | |
| 2241.352 | يوجد نسبة عاكس الفلرز وتداخل السن الخاص بالفلتر تم تحديدها بمقدار 20% | | | | | |
| 13448.112 | الاجمالي الكلي (م³) | | | | | |

مهندس الهيئة
م / مارجريت محدي زاهر

مهندس الاستشاري
مكتب مهندس نبيل
م / مازن عثمان سيد

مهندس الاستشاري
مكتب XV2
م / محمد شهاب خليل

مهندس الشرف
مكتب البديوي
م / مصطفى خيري البديوي



مشروع : القطار الكهربائي السريع (العين السخنة - العاصمة الإدارية - العلمين - مطروح) قطاع غرب النيل في المسافة من الكم 391+600 إلى الكم 392+900 بطول 1.3 كم
[تجاه مطروح]

رقم البند وبيانه (3-4) بالمتر المكعب توريد وفرش طبقة فلت من الأحجار الصلبة المتدرجة ناتج تكسير كسارات والمطابقة للمواصفات وأقصى حجم حبيبي مابين 20 مم إلى 75 مم وألا يزيد نسبة الغار من منخل 200 عن 5% والتدرج الوارد بالإشتراطات الخاصة بالمشروع وهي أحجار مقاس سن:1:2:سن:4 أو سن:6 بسية 1:1:1:1 وألا يقل معامل المرونة EV2 من تجرية لوح التحميل عن 50 ميجاباسكال وألا يزيد نسبة الفاقد بجهاز لوس أنجلوس عن 45% والفئة تشمل أعمال التجارب المعملية والبند يشمل إجراء التجارب المعملية والحقلية طبقاً لأصول الصناعة الممتازة وتقدير الاستشاري وتعليمات المهندس المشرف.






-لمسافة نقل 20 كم.
-الفئة شاملة قيمة المادة المحجيرة.
-يتم احتساب 1.3 جنية للكم بالزيادة أو النقصان

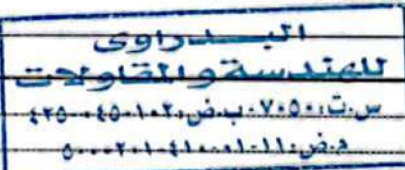

علاوة تحصيل رسوم الكارئات والموازين طبقاً للائحة الشركة الوطنية


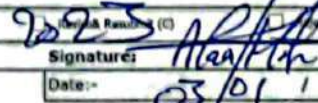
| تسقيف : مكتب البندوي الهندسة والمقاولات | | | | | | |
|---|--|-----|------------------|---------|------------|------------------------|
| الكمية | الأبعاد (متر) | | الموقع الكيلومتر | | التاريخ | رقم الطلب |
| | مساحة المقطع | طول | إلى | من | | |
| 266.28 | 13.314 | 20 | 391+660 | 391+640 | 02/01/2023 | IR (FF 5 rev01-2) |
| 2164.80 | 36.080 | 60 | 391+720 | 391+660 | 03/01/2023 | IR (FF 5 (rev 02)) |
| 3192.00 | 31.920 | 100 | 392+040 | 391+940 | 03/01/2023 | IR (FF 6) |
| 4067.00 | 40.670 | 100 | 391+940 | 391+840 | 10/01/2023 | IR (FF 7) |
| 1516.68 | 37.917 | 40 | 391+820 | 391+780 | 15/01/2023 | IR (FF 8 rev01) |
| 11206.760 | إجمالي الكميات (م³) | | | | | |
| 2241.352 | يوجد نسبة هالك الغرز وتداخل السن الخاص بالفلتر تم تحديدها بمقدار 20% | | | | | |
| 13448.112 | الإجمالي الكلي (م³) | | | | | |

مهندس الهيئة
م / مارجوت مجدي زاهر



| | | | | |
|---|---|---|---|--|
|  |  | Electrical Express Train From Borg Alarab to Alamein From Station 391+600 To Station 392+900 |  | Serial No. QT (5) |
|  | مكتب ايد / عماد لبيب |  | Date 28 / 12 / 2022 | |

| Material Inspection Request | | | | |
|---|---|---|--|--|
| We request your attendance to inspect the following works : | | | | |
| Discipline : | <input type="checkbox"/> Civil/Slope Protection | <input type="checkbox"/> Structure | <input type="checkbox"/> Drainage | <input checked="" type="checkbox"/> Survey |
| Location : | Zone Elbadrawy | From Station 391+600 | To Station 392+500 | 20000 m3 |
| References | Drawing: EET-BORG EL ARAB REV 30 Plan Profile | | Specification: EET L1.1.Earthworks Specifications and Testing Report | |
| Purpose of the inspection | | | | |
| 1. Earthworks <input type="checkbox"/> Natural Sub Grade <input type="checkbox"/> Sub Ballast <input type="checkbox"/> Upper Embankment <input type="checkbox"/> Ballast <input type="checkbox"/> L / M Embankment <input type="checkbox"/> excavation | | | | |
| Attachments | | | | |
| 1- Quality test report egg. Mix filter layer | 6- | | | |
| | 7- | | | |
| | 8- | | | |
| 4- | 9- | | | |
| 5- | 10- | | | |
| Materials to be Inspected | Quality Test For aggregate MIX filter layer | | | |
|  | | | | |
| Submitted by: | Elbadrawy | Signature:  | | |

| | |
|---|---|
| GARP Consultant Engineer's Comments : - Quality test Result BY Third Party Lab is APPROVED. - This sample representative (5000) m ³ only. | Date of Inspection :- / / |
| The works are : <input checked="" type="checkbox"/> Approved (A) <input type="checkbox"/> Approved as Noted (B) <input type="checkbox"/> Revised / Rejected (C) <input type="checkbox"/> Rejected (D) | |
| Names: Mazen Emry General Consultant's Comments: | Signature:  Date: - / / |
| 1- one sample was selected for quality test. 2- Quality test was carried out by third party (Comibaset). 3- Results attached and found acceptable and comply with Proj. spec. 4- final approval is subject to above mentioned comment. | |
| The works are : <input checked="" type="checkbox"/> Approved (A) <input type="checkbox"/> Approved as Noted (B) <input type="checkbox"/> Revised / Rejected (C) <input type="checkbox"/> Rejected (D) | |
| Names: Ahmed Abdellatif GARP Engineer's Comments: | Signature:  Date: - 03/01/ |
| Names: General Consultant Eng. | Signature: GARP Eng. |



COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)

حاصلة على شهادة الأيزو 9001:2015
Accredited by:
Egyptian General Authority for Petroleum
Under No: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترو
تحت رقم ٢٠١١/١١٠٢٩/٢٤

ABSORPTION AND SPECIFIC GRAVITY FOR COARSE AGGREGATE

ASTM C 127 - AASHTO T 85 - BS :812 part 107

PROJECT: Electric Express Train

DATE: 27/12/2022

General Consultant :- SYSTRA

Consultant :- SPECTRUM

CONTRACTOR: شركة البدراوى للمقاولات

Material / Sorce of Soil :- Agg. Crushed Stone. (سن خليط)

LAB. REF. Q.C. 32/1

| TRIAL NO | 1 | 2 | AVERAGE |
|--|--------|--------|---------|
| A. WEIGHT OF Oven Dry TEST SAMPLE IN AIR (g) | 2505.0 | 2000.0 | 2252.5 |
| B. WEIGHT OF S.S.D. TEST SAMPLE IN AIR. (g) | 2528.0 | 2018.0 | 2273.0 |
| C. WEIGHT OF S. TEST SAMPLE IN WATER. (g) | 1549.0 | 1237.5 | 1393.3 |
| D. ABSORPTION (g) = (B - A) | 23.0 | 18.0 | 20.5 |
| E. ABSORPTION % = [(B - A)/A] X 100 | 0.92 | 0.90 | 0.91 |
| F . SPECIFIC GRAVITY: | | | |
| a) Bulk sp. Gr. , Oven Dry { A / (B - C) } | 2.56 | 2.56 | 2.56 |
| b) Bulk, Sat. Surface Dry { B / (B - C) } | 2.58 | 2.59 | 2.58 |
| c) Apparent sp. Gr. { A / (A - C) } | 2.62 | 2.62 | 2.62 |

Tested By :

Mostfa

Checked By : Eng. Eman E. Kandil



الإدارة، ٤٥ صفية زغلول - الإسكندرية - مصر
٤٨٧٠٦٦٥ - ٤٨٦٩٧٩٨ - فاكس، ٤٨٧٠٥٧٢
40safia zaghloul st., p.o.Box 157 Alex, Egypt
Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع، خلف ٤٩ طريق الحرية - الإسكندرية - مصر
٢٩٠٠٤٧٦ - ٢٩٢١٤٨٢ - ٢٩٢٠١٧٦ - فاكس
49 EL Horria Ave .-Alex;Egypt
Tel: 3920176 - 3931482 - Fax: 3900476
E-mail :internal-inspection@comibassal.com

COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

Report No:

Date:

03/01/2023

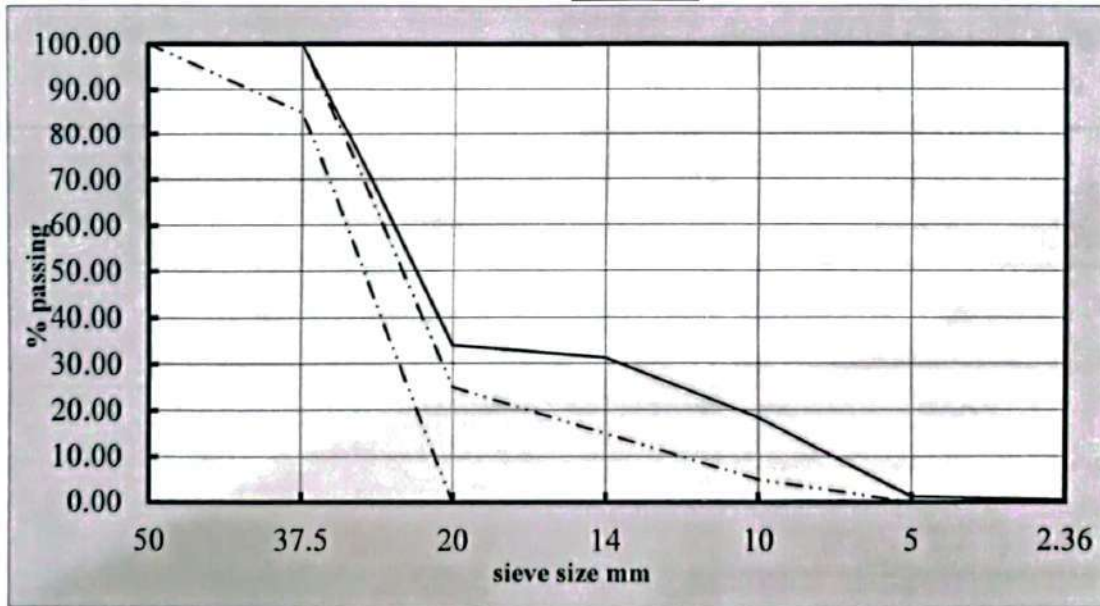
قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠٢٩

SIEVE ANALYSIS FOR COARSE AGGREGATE

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة البدر اوي للمقاولات
Project : Electric express train
Test method : BS 882 Table 4. 40 mm
Sample : COARSE AGGREGATE (Mix Agg)
Date of Test : 27/12/2022

Results



| sieve size mm | 50 | 37.5 | 20 | 14 | 10 | 5 | 2.36 |
|---------------|-----|------|----|----|----|---|------|
| passing % | 100 | 100 | 34 | 31 | 19 | 1 | 1 |



Civil. Eng Department

Eng : Eman. E. Kandil

الإدارة، ٤٠ ش صفيية زغلول - الإسكندرية ص - ب ١٥٧
ت: ٤٨٧٠٥٧٢ - ف: ٤٨٧٩٧٩٨ - ٤٨٧٠٦٦٥
40safia zaghloul st., p.o.Box 157 Alex, Egypt
Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع، خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦
49 EL Horria Ave - Alex, Egypt
Tel: 3920176 - 3931482 - Fax: 3900476
E-mail : internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩ / ٢٤

Report no : 32 / 3 /center
Date : 3 / 1 / 2023

ABRASION AND IMPACT " LOS ANGELES " TEST

(For small size coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

General consultant :

SYSTRA

Consultan :

SPECTRUM

Contractor :

شركة البدراوي للمقاولات

Project :

Electric express train

Sample :

COARSE AGGREGATE (Mix Agg)

Date of Test :

27/12/2022

Results

| | |
|---|--|
| Speed | Rotate at 30 to 33 Rpm For 500 Revolution |
| Trial Grading | A |
| Intitial Weight (W1) gms | 5000 |
| Weight of tested sample (W2) gms Retained on sieve No.12 | 3740 |
| % Wear By Weight Passing on Sieve No.12 | 25.2% |



Civil Eng. Depart.

Eman

Eng: Eman E.Kandil

الإدارة، ٤٠ صفية زغلول - الإسكندرية ص - ب ١٥٧
٤٨٧٠٥٧٣ - ٤٨٧٩٧٩٨ - ف، ت
40safia zaghloul st ., p.o.Box 157 Alex, Egypt
Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع، خلف ٤٩ طريق الحرية - الإسكندرية - مصر
٢٩٢٠١٧٦ - ٢٩٣١٤٨٢ - ف، ت
49 EL Horria Ave .-Alex;Egypt
Tel: 3920176 - 3931482 - Fax: 3900476
E-mail :internal-inspection@comibassal.com



COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015
Accredited by:
Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ١١٠٢٩ / ٢٠١١

الرقم : ٠٢٢/١/١١٥ معامل

التاريخ : ٢٠٢٢ / ١٢ / ٢٩ م.

شهادة تحليل كيميائي

الإستشاري العام : سيسـترا.

إستشاري هيئة الطرق والكباري : سيكترم للإستشارات الهندسية

المقاول : شركة البدراوي للمقاولات

المشروع : القطر الكهربائي السريع

العينة : عينة سن خليط سن ١, سن ٢, سن ٣ بتاريخ ٢٠٢٢/١٢/٢٧

• مقدمة بمعرفة العميل لتقدير المواد العضوية و الكلوريدات و الكبريتات.

درجة حرارة المعمل : ١٨ °م الرطوبة النسبية : ٥٠ %

تاريخ و مكان التحليل : ٢٠٢٢/١٢/٢٨ - كوميبصل المركز الدولي للتحليل والاختبارات - العامرية.

| المواصفة المستخدمة | النتائج | التحليل |
|--------------------|----------|--------------------|
| ASTM D 2974 | ٠,٠٠٢١ % | الكلوريدات Cl^- |
| | ٠,٠٠٢٠ % | الكبريتات So_3^- |
| | لا يوجد | المواد العضوية |

مدير إدارة المعامل

ك. / مصطفى عسكر



N





Serial No.
(SS-B-BD) M.A.R
QT (6)



مكتب أ.د/ عماد نبيل

Electrical Express Train From Borg Alarab to
Alamein



Date

28/ 12 /2022

Material Inspection Request

We request your attendance to inspect the following works :

| | | | |
|--------------|--|---|--|
| Discipline : | <input checked="" type="checkbox"/> Material submittal | <input type="checkbox"/> FIELD DENSITY TEST | <input type="checkbox"/> PLATE LOAD TEST |
| Location : | Zone Elbadrawy | From Station 391+600 | To Station 392+500 |
| References | Drawing: EET-BORG EL ARAB REV 30 Plan Profile | | |
| | Specification: EET L1.1.Earthworks Specifications and Testing Report | | |

Purpose of the inspection

1. Earthworks

| | |
|--|--------------------------------------|
| <input type="checkbox"/> Natural Sub Grade | <input type="checkbox"/> Sub Ballast |
| <input type="checkbox"/> Upper Embankment | <input type="checkbox"/> Ballast |
| <input type="checkbox"/> L / M Embankment | <input type="checkbox"/> excavation |

Attachments

| | |
|--|----|
| 1- Quality test report agg. Mix filter layer | 5- |
| 2- | 6- |
| 3- | 7- |
| 4- | 8- |

Material to be inspected

Quality Test For aggregate Mix filter layer

Submitted by:

Elbadrawy

Signature:

Date of Inspection: 28/12/2022

GARP Consultant Engineer's Comments :

_quality test result by third party lab (Commibasel) is approved
_this sample representative (5000 m3) only.

The works are :

☒ Approved (A)

☐ Approved as Noted (B)

☐ Revise& Resubmit (C)

☐ Rejected (D)

Name: Mazen Esamly

Signature:

Date:-

General Consultant's Comments:

_One sample was selected for quality test.
_quality test was carried out by third party lab (Commibasel).
_results attached and found acceptable and comply with proj.sec.

The works are :

☒ Approved (A)

☐ Approved as Noted (B)

☐ Revise& Resubmit (C)

☐ Rejected (D)

Name: Abdel Abdelkader

Signature:

Date:-






GARB Engineer's Comments:

Name:

General Consultant Eng.

Signature:

GARP Eng.

| | | | |
|---|---|--|--|
|   | Electrical Express Train From Borg Alarab to Alamein From Station 391+600 To Station 392+900 |  | Serial No. QT (6) |
|  | مكتب ايد / عماد ليريل |  | Date 28/ 12 /2022 |

Material Inspection Request

We request your attendance to inspect the following works :

| | | | | |
|--------------|---|------------------------------------|--|---------------------------------|
| Discipline : | <input type="checkbox"/> Civil/Slope Protection | <input type="checkbox"/> Structure | <input type="checkbox"/> Drainage | <input type="checkbox"/> Survey |
| Location : | Zone Elbadrawy | From Station 391+600 | To Station 392+500 | 25000 m3 |
| References | Drawing: EET-BORG EL ARAB REV 30 Plan Profile | | Specification: EET L1.1.Earthworks Specifications and Testing Report | |

Purpose of the inspection

1. Earthworks

- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Natural Sub Grade | <input type="checkbox"/> Sub Ballast |
| <input type="checkbox"/> Upper Embankment | <input type="checkbox"/> Ballast |
| <input type="checkbox"/> L / M Embankment | <input type="checkbox"/> excavation |

Attachments

| | |
|--|---|
| 1- Quality test report agg. Mix filter layer | 6- |
| | 7- |
| | 8- |
| 4- | 9- |
| 5- | 10- |
| Materials to be Inspected | Quality Test For aggregate MIX filter layer |

Submitted by: **Elbadrawy**

GARP Consultant Engineer's Comments:

- Quality test Result **Third Party Lab** is **APPROVED**.

- This sample representative **25000 m³** only.

The works are : ☒ Approved (A) ☐ Approved as Noted (B) ☐ Revised Result (C) ☐ Rejected (D)

Name: **Mazen Eljany**

Signature:

General Consultant's Comments:

Date:-

- 1- one sample was selected for Quality test.
- 2- Quality test was carried out by third Party (ComBase).
- 3- Results attached and found acceptable and comply with Pkaj. spec
- 4- Final approval is subject to above mentioned comments.

The works are : ☒ Approved (A) ☐ Approved as Noted (B) ☐ Revised Result (C) ☐ Rejected (D)

Name:

GARP Engineer's Comments:

Signature:

Date:-

Name:

General Consultant Eng.

Signature:

GARP Eng.

COMIBASSAL International Controllers

الجمعية التعاونية لامتثال الوزن والمراجعة والخبرة الدولية (كوميبسال)

حاصلة على شهادة الأيزو 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٢٤

ABSORPTION AND SPECIFIC GRAVITY FOR COARSE AGGREGATE

ASTM C 127 - AASHTO T 85 - BS :812 part 107

PROJECT: Electric Express Train

DATE: 27/12/2022

General Consultant :- SYSTRA

Consultant :- SPECTRUM

CONTRACTOR: شركة البدراوي للمقاولات

Material / Source of Soil :- Agg. Crushed Stone. (سن خليط)

LAB. REF. Q.C. 31/1

| TRIAL NO | 1 | 2 | AVERAGE |
|--|--------|--------|---------|
| A. WEIGHT OF Oven Dry TEST SAMPLE IN AIR (g) | 2500.0 | 2003.0 | 2251.5 |
| B. WEIGHT OF S.S.D. TEST SAMPLE IN AIR. (g) | 2523.0 | 2022.0 | 2272.5 |
| C. WEIGHT OF S. TEST SAMPLE IN WATER. (g) | 1546.0 | 1237.5 | 1391.8 |
| D. ABSORPTION (g) = (B - A) | 23.0 | 19.0 | 21.0 |
| E. ABSORPTION % = [(B - A)/A] X 100 | 0.92 | 0.95 | 0.93 |
| F . SPECIFIC GRAVITY: | | | |
| a) Bulk sp. Gr. , Oven Dry { A / (B - C) } | 2.56 | 2.55 | 2.56 |
| b) Bulk, Sat. Surface Dry { B / (B - C) } | 2.58 | 2.58 | 2.58 |
| c) Apparent sp. Gr. { A / (A - C) } | 2.62 | 2.62 | 2.62 |
| Tested By : Mostafa | | | |
| Checked By : Eng. Eman E. Kandil | | | |

الإدارة، ٤٠ ش صفيّة زغلول - الإسكندرية ص - ب ١٥٧

ت. ٤٨٧٠٥٧٣ - ف. ٤٨٧٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت. ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف. ٣٩٠٠٤٧٦

49 EL Horria Ave .-Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com

COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميباسل)



حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

Report No:

31 - 2 - center

Date:

03/01/2023

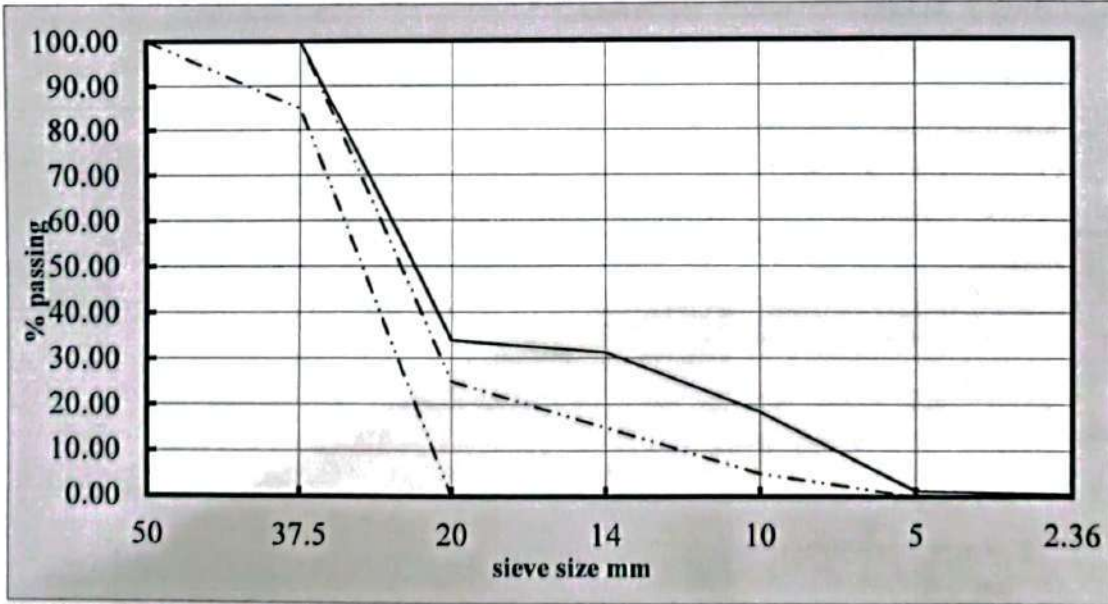
قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠١١٠٢٠١١

SIEVE ANALYSIS FOR COARSE AGGREGATE

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة البدراوي للمقاولات
Project : Electric express train
Test method : BS 882 Table 4. 40 mm
Sample : COARSE AGGREGATE (Mix Agg)
Date of Test : 27/12/2022

Results



| | | | | | | | |
|---------------|-----|------|----|----|----|---|------|
| sieve size mm | 50 | 37.5 | 20 | 14 | 10 | 5 | 2.36 |
| passing % | 100 | 100 | 34 | 31 | 19 | 1 | 1 |



Civil. Eng Department

Eman

Eng. Eman. E. Kandil

الإدارة: ٤٠ ش صفيّة زغلول - الإسكندرية - ص - ب ١٥٧

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghoul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

49 EL Horria Ave. -Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail : internal-inspection@comibassal.com

COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبسال)



حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٢٤

Report no : 31 / 3 / center
Date : 3 / 1 / 2023

ABRASION AND IMPACT " LOS ANGELES " TEST

(For small size coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

General consultant :

SYSTRA

Consultan :

SPECTRUM

Contractor :

شركة البدراوي للمقاولات

Project :

Electric express train

Sample :

COARSE AGGREGATE (Mix Agg)

Date of Test :

27/12/2022

Results

| | |
|---|--|
| Speed | Rotate at 30 to 33 Rpm For 500 Revolution |
| Trial Grading | A |
| Intitial Weight (W1) gms | 5000 |
| Weight of tested sample (W2) gms Retained on sieve No.12 | 3760 |
| % Wear By Weight Passing on Sieve No.12 | 24.8% |



Civil Eng. Depart.

Eman

Eng: Eman E.Kandil

الإدارة: ٤٠ ش صفيّة زغلول - الإسكندرية ص - ب ١٥٧
٤٨٧٠٦٦٥ - ٤٨٦٩٧٩٨ - ف، ت، ٤٨٧٠٥٧٢

40safia zaghloul st., p.o.Box 157 Alex, Egypt
Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر
ت، ف، ٣٩٢٠١٧٦ - ٣٩٢١٤٨٢ - ٣٩٠٠٤٧٦

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COMIBASSAL International Controllers

الجمعية التعاونية الانتاجية لاصعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

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قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤ / ٢٩ / ١١٠١١

الرقم : ٠٢٢/٢/١١٥ : معاملة

التاريخ : ٢٠٢٢ / ١٢ / ٢٩ م.

شهادة تحليل كيميائي

الإستشاري العام : سيسٲرا.

إستشاري هيئة الطرق والكباري : سيكترم للإستشارات الهندسية

المقاول : شركة البدراوي للمقاولات

المشروع : القطار الكهربائي السريع

العينة : عينة سن خليط سن ١, سن ٢, سن ٣ بتاريخ ٢٠٢٢/١٢/٢٧

• مقدمة بمعرفة العميل لتقدير المواد العضوية و الكلوريدات و الكبريتات.

درجة حرارة المعمل : ١٨ °م الرطوبة النسبية : ٥٠ %

تاريخ و مكان التحليل : ٢٠٢٢/١٢/٢٨ - كوميبصل المركز الدولي للتحاليل والاختبارات - العامرية.

| التحليل | النتائج | المواصفة المستخدمة |
|-----------------------|----------|--------------------|
| الكلوريدات Cl^- | ٠,٠٠٢٥ % | ASTM D 2974 |
| الكبريتات SO_3^{2-} | ٠,٠٠٢٧ % | |
| المواد العضوية | لا يوجد | |

مدير إدارة المعامل

ك. / مصطفى عسكر



N

الإدارة، ٤٠ ش صفيية زغلول - الأسكندرية ص - ب ١٥٧

ت، ٤٨٧٠٥٧٢ - ف، ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ، خلف ٤٩ طريق الحرية - الإسكندرية - مصر

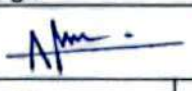

ت، ٢٩٢٠١٧٦ - ٢٩٢١٤٨٢ - ف، ٢٩٠٠٤٧٦

49 EL Horria Ave .-Alex; Egypt


Tel: 3920176 - 3931482 - Fax: 3900476



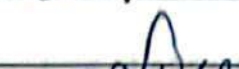
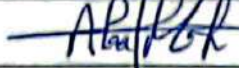
E-mail : internal-inspection@comibassal.com

| | | |
|---------------------------------|---|--|
| MATERIAL APPROVAL REQUEST |      | |
| | | |

| | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|----------------------|---|-------------------------------------|---|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|---|----|
| Contractor Company | Elbadrawy Company | | Designer Company | (SPECTRUM) Engineering Consulting Office | | | | | | | | | | | | | | | | |
| Issued by Contractor | Name | Sign | Date/Serial Number | Time | | | | | | | | | | | | | | | | |
| | Eng. Mohamed Mahmoud |  | 14-01-2023 (S5-B-BD) (M.A.R.QT9) | 1:30 | | | | | | | | | | | | | | | | |
| Received by GARB CONSULTANT | Eng. Mazen Essamy |  | MAR | <table border="1"> <tr> <td>G1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>391</td> <td>EW</td> <td>CS</td> <td>15</td> <td>01</td> <td>23</td> <td>1</td> <td>30</td> </tr> </table> | G1 | C2 | C3 | DD | MM | YY | HH | MM | 391 | EW | CS | 15 | 01 | 23 | 1 | 30 |
| | | | | G1 | C2 | C3 | DD | MM | YY | HH | MM | | | | | | | | | |
| 391 | EW | CS | 15 | 01 | 23 | 1 | 30 | | | | | | | | | | | | | |

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

| | | | |
|---|---|--|---------------|
| Description of Materials | Filter Layer Total Quantity (30000m3) | | |
| Location to be Used | From Station (391+600) to Station (392+500) | | |
| Sample only | Yes | Materials Type | Filter layers |
| Supplier Name | الامريكانى، الوطنية، العربية | Data Sheet provided | Yes attached |
| Reference Photos | No/Yes | Other | |
| Comments by: Eng. Mazen Essamy (SPECTRUM) | | Comments by: Eng. Alaa Abd-Allatif (ER) | |
| 1- Quality test Result By Third Party Lab is Approved. 2- This Sample Representative (5000 m3) only.  | | 1- All tests were carried-out by third Party lab (comibasel) 2- Results report attached and acceptable with the project specifications. | |

| APPROVAL STATUS | | | |
|--------------------------|-----------------------|---|-----------------------|
| Organisation | Name | Sign | Date |
| Contractor | Eng. Mohamed Mahmoud |  | 0...20...10...A-AWC-R |
| QA/QC * | Eng. Mazen Essamy |  | A |
| GARB** | Eng. Mohammed Fayad |  | A |
| Employers Representative | Eng. Alaa Abd-Allatif |  | A |

* Designer

** Alignment/Bridges: Culvert only

**SERIAL
APPROVAL
REQUEST**



| | | | | | | | | | | | |
|-----------------------------|----------------------|------|--------------------------|------------------|--|----|----|----|----|----|----|
| Contractor Company | Eibadrawy Company | | | Designer Company | (SPECTRUM) Engineering Consulting Office | | | | | | |
| Issued by Contractor | Name | Sign | Date/Serial Number | Time | | | | | | | |
| | Eng. Mohamed Mahmoud | | 14-01-2023 (M.A.I.L.QT9) | 1:30 | | | | | | | |
| Received by GARB CONSULTANT | Eng. Mazen Essamy | | MAR | C1 | C2 | C3 | DD | MM | YY | HH | MM |
| | | | | 391 | EW | CS | 15 | 01 | 23 | 01 | 30 |

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

| | | | |
|--|---|---|---------------|
| Description of Materials | Filter Layer Total Quantity (30000m3) <i>Filter</i> | | |
| Location to be Used | From Station (391+600) to Station (392+500) | | |
| Sample only | Yes | Materials Type | Filter Layers |
| Supplier Name | الامريكانى، الوطنية، العربية | Data Sheet provided | Yes attached |
| Reference Photos | No/Yes | Other | Uir (FF9) |
| Comments by: Eng. Mazen Essamy (SPECTRUM) | | Comments by: Eng. Alaa Abd-Allatif (ER) | |
| 1- Quality test Result By Thirc Party Lab is Approved. 2- This Sample Representative (30000 m3) only. | | 1- All tests were carried-out by third Party lab (comibasel) 2- Results report attached and acceptable with the project specifications. 3- Final approval is subject to above mentioned comments. | |

| APPROVAL STATUS | | | |
|--------------------------|-----------------------|------|-----|
| Organisation | Name | Sign | |
| Contractor | Eng. Mohamed Mahmoud | | |
| QA/QC * | Eng. Mazen Essamy | | A |
| GARB** | Eng. Mohammed Fayad | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | AWC |

* Designer

** Alignment/Bridges: Culvert only

25/21

COMIBASSAL International Controllers

الجمعية التعاونية الإنتاجية لأعمال الوزن والمراجعة والخبرة الدولية (كوميبصل)

حاصلة على شهادة الأيزو ISO 9001:2015
Accredited by:
Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٤/١١٠٢٩/٢٠١١

الرقم : ٠٢٣/١٦٠ : معامل

التاريخ : ٢٠٢٣ / ١ / ١٧ م.

شهادة تحليل كيميائي

الإستشاري العام : سيسـترا.

إستشاري هيئة الطرق والكباري : سبكتروم للإستشارات الهندسية

المقاول : شركة البدراوي للمقاولات

المشروع : القطار الكهربائي السريع

العينة : عينة سن خليط سن بتاريخ ٢٠٢٣/١/١٥

• مقدمة بمعرفة العميل لتقدير الكلوريدات والكبريتات والمواد العضوية.

درجة حرارة المعمل : ١٨ °م الرطوبة النسبية : ٥٠ %

تاريخ ومكان التحليل : ٢٠٢٣/١/١٦ - كوميبصل المركز الدولي للتحاليل والاختبارات - العامرية.

| المواصفة المستخدمة | النتائج | التحليل |
|--------------------|----------|-----------------------|
| ASTM D 2974 | ٠,٠٠١٤ % | الكلوريدات Cl^- |
| | ٠,٠٠٤٢ % | الكبريتات SO_3^{--} |
| | لا يوجد | المواد العضوية |

مدير إدارة المعامل

ك. / مصطفى عسكر



الإدارة، ٤٠ أش صفيّة زغلول - الإسكندرية - ب. ١٥٧

ت. ٤٨٧٠٥٧٢ - ف. ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت. ٣٩٢٠١٧٦ - ٣٩٢١٤٨٢ - ف. ٣٩٠٠٤٧٦

49 EL Horria Ave. - Alex; Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail : internal-inspection@comibassal.com



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حاصلة على شهادة الايزو 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلى والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٢٤

ABSORPTION AND SPECIFIC GRAVITY FOR COARSE AGGREGATE

ASTM C 127 - AASHTO T 85 - BS :812 part 107

PROJECT: Electric Express Train

DATE: 15/01/2023

General Consultant :- SYSTRA

Consultant :- SPECTRUM

CONTRACTOR: شركة البدراوى للمقاولات

Material / Source of Soil :- Agg. Crushed Stone. (سن خليط)

LAB. REF. Q.C. 219/1

| TRIAL NO | 1 | 2 | AVERAGE |
|--|----------------------------------|--------|---------|
| A. WEIGHT OF Oven Dry TEST SAMPLE IN AIR (g) | 2503.0 | 2001.0 | 2252.0 |
| B. WEIGHT OF S.S.D. TEST SAMPLE IN AIR. (g) | 2526.0 | 2019.0 | 2272.5 |
| C. WEIGHT OF S. TEST SAMPLE IN WATER. (g) | 1550.0 | 1239.0 | 1394.5 |
| D. ABSORPTION (g) = (B - A) | 23.0 | 18.0 | 20.5 |
| E. ABSORPTION % = [(B - A)/A] X 100 | 0.92 | 0.90 | 0.91 |
| F. SPECIFIC GRAVITY: | | | |
| a) Bulk sp. Gr. , Oven Dry $(A / (B - C))$ | 2.56 | 2.57 | 2.56 |
| b) Bulk, Sat. Surface Dry $(B / (B - C))$ | 2.59 | 2.59 | 2.59 |
| c) Apparent sp. Gr. $(A / (A - C))$ | 2.63 | 2.63 | 2.63 |
| Tested By : Mostfa | Checked By : Eng. Eman E. Kandil | | |

الإدارة، ٤٠ ش صفيية زغلول - الإسكندرية - ب ١٥٧

ت ٤٨٧٠٥٧٢ - ف ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع ٤٩ طريق الحرية - الإسكندرية - مصر

ت ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف ٣٩٠٠٤٧٦

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حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

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Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

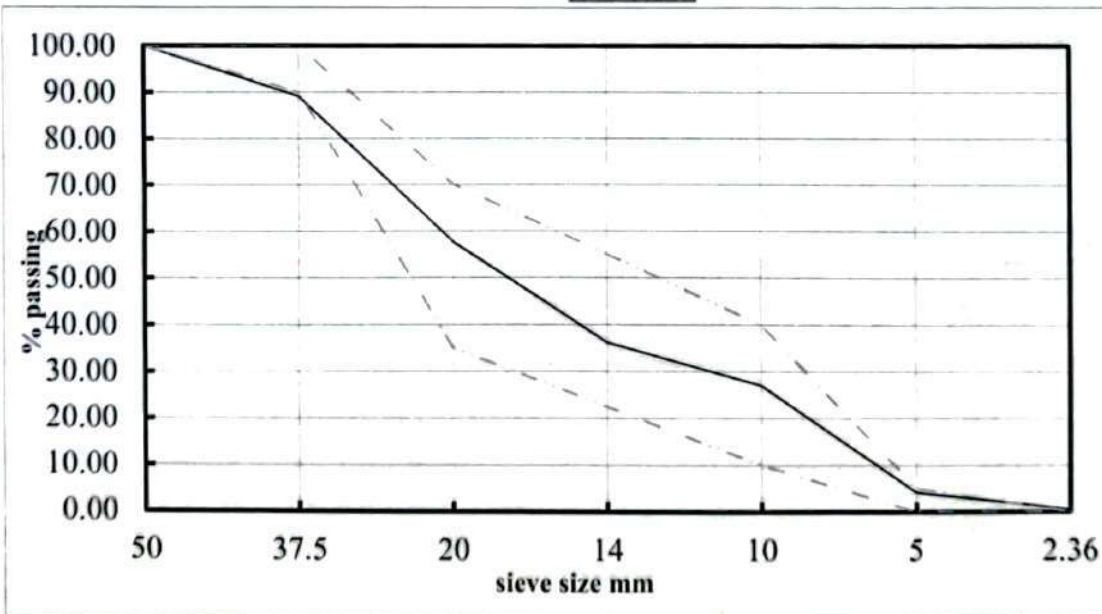
معتمد لدى الهيئة المصرية العامة للبترو
تحت رقم ٢٠١١/١١٠٢٩/٢٤

Report No: 219 - 2 - center
Date: 03/01/2023

SIEVE ANALYSIS FOR COARSE AGGREGATE

General consultant : SYSTRA
Consultant : SPECTRUM
Contractor : شركة البدراوي للمقاولات
Project : Electric express train
Test method : BS 882 Table 4. 40-5 mm
Sample : COARSE AGGREGATE (Mix Agg)
Date of Test : 15/01/2023

Results



| sieve size mm | 50 | 37.5 | 20 | 14 | 10 | 5 | 2.36 |
|---------------|-----|------|----|----|----|---|------|
| passing % | 100 | 89 | 58 | 36 | 27 | 4 | 0 |



Civil. Eng Department

Eng : Eman. E. Kandil

الإدارة، ١٥٧ ش صفيية زغلول - الإسكندرية - مصر

ت: ٤٨٧٠٥٧٣ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ,, p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

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حاصلة على شهادة الأيزو ISO 9001:2015

Accredited by:

Egyptian General Authority for Petroleum
Under No.: 34/29.11.2011

قطاع التفتيش الداخلي والمعامل

معتمد لدى الهيئة المصرية العامة للبترول
تحت رقم ٢٠١١/١١٠٢٩/٢٤

Report no : 219 / 3 /center
Date : 25 / 1 / 2023

ABRASION AND IMPACT " LOS ANGELES " TEST

(For small size coarse aggregate)

ASTM- C 131-96 / AASHTO-T-96

General consultant :

SYSTRA

Consultan :

SPECTRUM

Contractor :

شركة البدراوي للمقاولات

Project :

Electric express train

Sample :

COARSE AGGREGATE (Mix Agg)

Date of Test :

15/01/2023

Results

| Speed | Rotate at 30 to 33 Rpm For 500 Revolution |
|---|--|
| Trial Grading | A |
| Intital Weight (W1) gms | 5000 |
| Weight of tested sample (W2) gms Retained on sieve No.12 | 3700 |
| % Wear By Weight Passing on Sieve No.12 | 26.0% |



Civil Eng. Depart.

Eman

Eng: Eman E.Kandil

الإدارة: ٤٠ ش صفيية زغلول - الإسكندرية - مصر ١٥٧

ت: ٤٨٧٠٥٧٢ - ف: ٤٨٦٩٧٩٨ - ٤٨٧٠٦٦٥

40safia zaghloul st ., p.o.Box 157 Alex, Egypt

Tel:4870573 - Fax + Tel : 4869798 - 4870665



القطاع: خلف ٤٩ طريق الحرية - الإسكندرية - مصر

ت: ٣٩٢٠١٧٦ - ٣٩٣١٤٨٢ - ف: ٣٩٠٠٤٧٦

49 EL Horria Ave .-Alex;Egypt

Tel: 3920176 - 3931482 - Fax: 3900476

E-mail :internal-inspection@comibassal.com

MATERIAL INSPECTION REQUEST



| | | | | | | | | | | | |
|-----------------------------|----------------------|------|---------------------------------------|--|----|----|----|----|------|----|----|
| Contractor Company | ELBADRAWY | | Designer Company | (SPECTRUM) Engineering Consulting Office | | | | | | | |
| Issued by Contractor | Name | Sign | Date/ Serial Number | Time | | | | | | | |
| | Eng. Mohamed Mahmoud | | 17-01-2023 (S5-B-BD) (M.I.R.PLT 2) | 01:00 PM | | | | | | | |
| Received by GARB CONSULTANT | Eng. Mazen Essamy | | MIR | C1 | C2 | C3 | DD | MM | YY | HH | MM |
| | | | | 391 | EW | CS | 18 | 01 | 2023 | ٢ | 00 |

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

| | | | |
|--------------------------|---|---------------|---|
| Description of Materials | Filter Layer Level (6.8). | | |
| Location to be Used | St. (391+600) To (392+040) | | |
| MAR Approval No | (S5-B-BD) M.A.R.(QT 3,5,6) | Date | 27/11/2022 , 28/12/2022 |
| UIR Approval No | (S5-B-BD) UIR (FF 5 rev01 , 5 rev02 ,6,7,8,9) | Date | ,1/01/2023 ,2/01/2023 ,3/01/2023 ,10/01/2023 ,15/01/2023 ,17/01/2023 |
| Supplier Name | Crushed Stone | | |
| Test Requirement | P.L.T (DIN 18134) | Specification | EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP |
| Reference Photos | Yes / No | Other | |

| Item | Description | Unit | Quantity | Arrival Date | Note |
|------|--------------------|--------|----------|--------------|------|
| 1 | Plate loading Test | NUMBER | 5 | 18/01/2023 | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |

| | |
|---|--|
| Comments by: Eng. Mazen Essamy (SPECTRUM) | Comments by: Eng. Alaa Abd-Allatif (ER) |
| 1-The Plate Load Test Result P.L.T.(DIN 18134) is Approved. | 1-Plate Load Test Was Carried-out By third party lab. 2-Results report attached and acceptable with project specifications. |

| APPROVAL STATUS | | | |
|--------------------------|-----------------------|------|------|
| Organisation | Name | Sign | Date |
| Contractor | Eng. Mohamed Mahmoud | | A |
| QA/QC * | Eng. Mazen Essamy | | A |
| GARB** | Eng. Mohammed Fayad | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | A |

* Designer

** Alignment / Bridges: Culvert Only




| | | | | | | | | | | | |
|---------------------------------|----------------------|------|-----------------------------|----------|--|----|----|----|------|----|----|
| by ractor | Elbadrawy | | Designer Company | | (SPECTRUM) Engineering Consulting Office | | | | | | |
| | Name | Sign | Date/ Serial Number | Time | | | | | | | |
| ceived by SARB CONSULTANT | Eng. Mohamed Mahmoud | | ١٧٠٠١٠٢٠٢٢ (M.I.R).PLT ٢ | ٠١:٠٠ PM | | | | | | | |
| | Eng. Mazen Essamy | | MIR | C1 | CT | CT | DD | MM | YY | HH | MM |
| | | | | ٢٩١ | EW | CS | 1A | ٠١ | ٢٠٢٢ | ٢ | .. |

| | | | |
|--------|-------------------------|-----------------|---|
| CODE-١ | S1 to S21 | D1 to S2 | Kp XXX Note |
| | Station Reference | Depot Reference | For Kilometer point only Start Km is used |
| CODE-٢ | Work Activity | | |
| CODE-٣ | Sub Element of Activity | | |

| | | | |
|--------------------------|----------------------------|---------------|--|
| Description of Materials | filter Layer level (٦,٨) | | |
| Location to be Used | St. (٢٩١+٦٠٠) To (٢٩٢+٠٤٠) | | |
| MAR Approval No | M.A.R.(QT(٣,٥,٦) | Date | ٢٨/١٢/٢٠٢٢ ٢٧/١١/٢٠٢٢ |
| Supplier Name | Crushed stone | | |
| Test Requirement | P.L.T (DIN ١٨١٣٤) | Specification | EARTHWORK SPECIFICATIONS & TESTING REPORT (CG2١-٤١,٢) VERSION ٢ BY CIVECON GROUP |
| Reference Photos | Yes / No | Other | Uir (٥,٦,٧,٨,٩) |

| Item | Description | Unit | Quantity | Arrival Date | Note |
|------|-----------------|--------|----------|--------------|------|
| ١ | PLATE LOAD TEST | NUMBER | ٥ | ١٨/٠١/٢٠٢٣ | |
| ٢ | | | | | |
| ٣ | | | | | |
| ٤ | | | | | |

| | |
|---|---|
| Comments by: Eng. Mazen Essamy (SPECTRUM) ١-The Plate Load Test Result P.L.T.(DIN ١٨١٣٤) is Approved.  | Comments by: Eng. Alaa Abd-Allatif (ER) ١-Plate Load Test Was Carried-out By (E-just) ٢-Results report attached and acceptable with project specifications. ٣-Final approval is subject to above mentioned comments. |
|---|---|

| APPROVAL STATUS | | | |
|--------------------------|-----------------------|------|------------|
| Organisation | Name | Sign | Date |
| Contractor | Eng. Mohamed Mahmoud | | ٢٠٢٣/٠١/١٩ |
| QA/QC * | Eng. Mazen Essamy | | |
| GARB** | Eng. Mohammed Fayad | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | ٢٠٢٣/٠١/١٩ |

* Designer

** Alignment / Bridges: Culvert Only

Technical Report

Plate Loading Tests

KM 392+020, KM 391+920,
KM 391+820, KM 391+720,
and KM 391+620

Project

**Electric Express Train (Sokhna - New capital - 6th
of October city - New Elalamein city)**

Prepared for
Elbadrawy Company

49 Canop Street, Abrahamic, Alexandria

(January, 2023)



يقدم...
م/ أسامة فتحي
أمين عام الجام



4. Closure

Test results presented herein report the load-settlement data obtained from 5 plate loading tests conducted on the Crushed Stone Filter Layer of the Electric Express train project at 5 locations (KM 392+020, KM 391+920, KM 391+820, KM 391+720, and KM 391+620) in accordance with German Standard, DIN18134.

| Location | E_{v1} MN/m ² | E_{v2} MN/m ² | E_{v2}/E_{v1} ratio |
|------------|-------------------------------|-------------------------------|-----------------------|
| KM 392+020 | 66.95 | 126.46 | 1.89 |
| KM 391+920 | 55.83 | 94.68 | 1.70 |
| KM 391+820 | 68.55 | 98.30 | 1.43 |
| KM 391+720 | 51.18 | 83.58 | 1.63 |
| KM 391+620 | 80.23 | 127.87 | 1.59 |

• Note: Before interpreting these test results for future applications, the Crushed Stone Filter Layer in-situ variability between the testing locations should be considered.

Technical committee

Dr. Mahmoud Ahmed

Prof. Dr. Mohamed F. M. Fahmy

E-JUST CETC Unit



Lab Engineer

Mohamed A. Al-Najjar

يتمتع...
م/أستاذة فتيحي
أمين عام الجامعة



3. Test Procedure and Results

The plate load test was conducted in accordance with the DIN18134. Loading, unloading, and reloading regimes were considered to estimate the resilient modulus of the tested soil. Prior to the test, the force transducer and dial gauge were reset to zero, and then a load corresponding to a stress of 0.01 MN/m² was applied. The load was increased in the first loading cycle until a normal stress of 0.25 MN/m² was reached, and the loading increment was 0.025 MN/m². The load was gradually released in four stages. Following unloading, a second loading cycle was performed, but the load was only increased to the penultimate stage of the first cycle. 5 plate loading tests on the Crushed Stone Filter Layer of the Electric Express Train project were conducted at 5 locations (KM 392+020, KM 391+920, KM 391+820, KM 391+720, and KM 391+620) and the data collected at the 5 test points is included in Appendix A.

Table 1 presents the load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location KM 392+020, while Table 2 shows the data obtained at the second loading stage.

Table 1: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 392+020)

| Loading stage | Load (F) | Normal | Settleme |
|---------------|----------|-------------------|----------|
| | kN | MN/m ² | mm |
| 0 | 1.414 | 0.005 | 0.00 |
| 1 | 7.07 | 0.025 | 0.20 |
| 2 | 14.14 | 0.050 | 0.30 |
| 3 | 21.21 | 0.075 | 0.50 |
| 4 | 28.28 | 0.100 | 0.70 |
| 5 | 35.35 | 0.125 | 0.90 |
| 6 | 42.42 | 0.150 | 1.02 |
| 7 | 49.49 | 0.175 | 1.20 |
| 8 | 56.56 | 0.200 | 1.39 |
| 9 | 63.63 | 0.225 | 1.50 |
| 10 | 70.7 | 0.250 | 1.62 |
| 11 | 56.56 | 0.200 | 1.62 |
| 12 | 49.49 | 0.175 | 1.59 |
| 13 | 35.35 | 0.125 | 1.45 |
| 14 | 21.21 | 0.075 | 1.31 |
| 15 | 1.414 | 0.005 | 0.77 |



1. Introduction

The Civil Engineering Testing & Consulting Unit (CETCU) of the Egypt-Japan University of Science and Technology (EJUST) was retained by Elbadrawy Company to conduct 5 plate loading tests on the Crushed Stone Filter Layer of the Electric Express Train project at 5 locations (KM 392+020, KM 391+920, KM 391+820, KM 391+720, and KM 391+620) in accordance with the German Standard DIN18134. The mandate was communicated by Eng. Hussin Mohamed Ebrahim of Elbadrawy Company. Field team members (Mr. Mohamed Mamdouh) from the working CETCU team visited the project site on January 18, 2023 and performed the required tests. This report summarizes the plate loading test procedure according to DIN18134, the test results and their interpretations, and the CETCU pertaining recommendations.

2. Test Set Up and Instrumentation

- The German standard DIN18134 was applied to define the test setup including the loading system, test conditions, and procedure for the plate loading tests.
- The tests were carried out to determine the Strain Moduli (Ev1 and Ev2) and their ratio (Ev2/Ev1) from a stress – deformation relationship of two consecutive loading from Loading-Unloading-Loading regime.
- The loading plate has a diameter of 600 mm and a thickness of 25 mm and it is provided with equally spaced stiffeners. The upper plate face is parallel to the bottom face of the plate to allow a 300-mm plate to be placed on the 600-mm plate top.
- The loading system consisted of a hydraulic pump connected to a hydraulic jack of 700 bar capacity, which can apply and release the load increments.
- The dial gauge used to measure the plate settlement has a resolution of 0.01 mm and the lever ratio was equal to 1.
- The temperature at the time of the test was $18 \pm 1^\circ\text{C}$.
- The plate was carried out on a Crushed Stone Filter Layer (according to the company) at 5 points (KM 392+020, KM 391+920, KM 391+820, KM 391+720, and KM 391+620). The test surface area was levelled, and the plate was bedded on this surface.
- The hydraulic jack was placed on the middle of, and normal to, the loading plate beneath the reaction loading system and secured against tilting.
- The reaction loading system was a heavy multipurpose Loader CAT 950E



Table 2: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 392+020)

| Loading stage | Load (F) | Normal stress (σ_0) | Settlement (S) |
|---------------|----------|------------------------------|----------------|
| | kN | MN/m ² | mm |
| 0 | 1.414 | 0.005 | 0.77 |
| 1 | 7.07 | 0.025 | 1.05 |
| 2 | 14.14 | 0.050 | 1.12 |
| 3 | 21.21 | 0.075 | 1.20 |
| 4 | 28.28 | 0.100 | 1.30 |
| 5 | 35.35 | 0.125 | 1.39 |
| 6 | 42.42 | 0.150 | 1.46 |
| 7 | 49.49 | 0.175 | 1.55 |
| 8 | 56.56 | 0.200 | 1.61 |
| 9 | 63.63 | 0.225 | 1.70 |

The load-settlement data obtained in all loading and unloading stages for the test performed at the first location (KM 392+020) are shown in Figure 1. Table 3 shows the calculations of the resilient modulus of the tested soil according to DIN18134. The testing data corresponding to the second testing point (KM 391+920) is provided in Tables 4-6 and Figure 2. The testing data corresponding to the third testing point (KM 391+820) is provided in Tables 7-9 and Figure 3. The testing data corresponding to the fourth testing point (KM 391+720) is provided in Tables 10-12 and Figure 4. The testing data corresponding to the fifth testing point (KM 391+620) is provided in Tables 13-15 and Figure 5.

Table 3: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 392+020)

| Parameters | 1st loading cycle | 2nd loading cycle |
|---|-------------------|-------------------|
| (s_0, \max) MN/m ² | 0.25 | 0.25 |
| a_0 (mm) | -0.04 | 0.83 |
| a_1 (mm/(MN/m ²)) | 7.86 | 5.62 |
| a_2 (mm/(MN ² /m ⁴)) | -4.55 | -8.26 |
| $Ev = 1.5 r / (a_1 + a_2 \cdot s_{0, \max})$ | 66.95 | 126.46 |
| Ev_2/Ev_1 | 1.89 | |



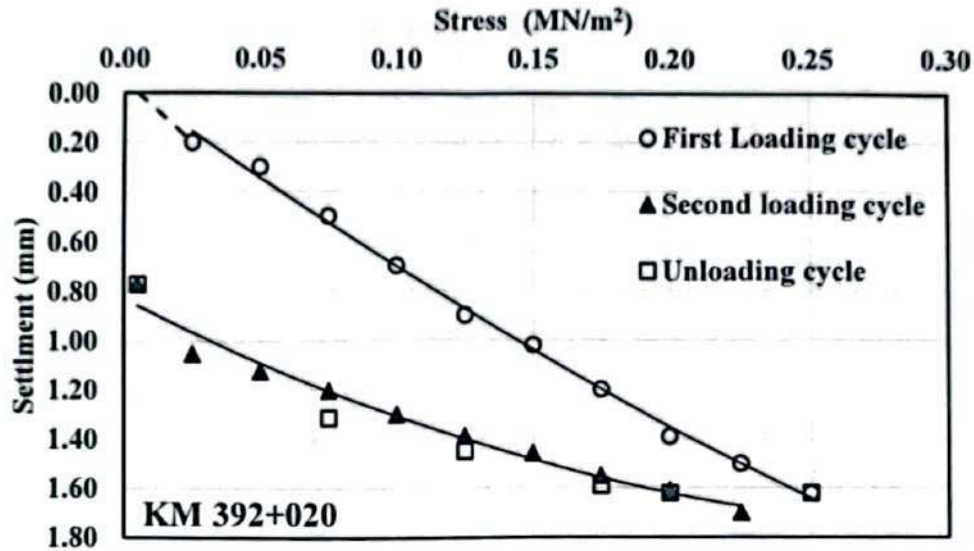


Figure 1: Load-settlement data: plate loading test performed at (KM 392+020)

Table 4: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 391+920)

| Loading stage | Load (F) | Normal stress (σ_0) | Settlement (S) |
|---------------|----------|------------------------------|----------------|
| | kN | MN/m ² | mm |
| 0 | 1.414 | 0.005 | 0.00 |
| 1 | 7.07 | 0.025 | 0.30 |
| 2 | 14.14 | 0.050 | 0.34 |
| 3 | 21.21 | 0.075 | 0.50 |
| 4 | 28.28 | 0.100 | 0.71 |
| 5 | 35.35 | 0.125 | 0.97 |
| 6 | 42.42 | 0.150 | 1.20 |
| 7 | 49.49 | 0.175 | 1.45 |
| 8 | 56.56 | 0.200 | 1.65 |
| 9 | 63.63 | 0.225 | 1.80 |
| 10 | 70.7 | 0.250 | 2.00 |
| 11 | 56.56 | 0.200 | 2.00 |
| 12 | 49.49 | 0.175 | 1.96 |
| 13 | 35.35 | 0.125 | 1.80 |
| 14 | 21.21 | 0.075 | 1.60 |
| 15 | 1.414 | 0.005 | 0.91 |



Table 5: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 391+920)

| Loading stage | Load (F) | Normal stress (σ_0) | Settlement (S) |
|---------------|----------|------------------------------|----------------|
| | kN | MN/m ² | mm |
| 0 | 1.414 | 0.005 | 0.91 |
| 1 | 7.07 | 0.025 | 1.23 |
| 2 | 14.14 | 0.050 | 1.31 |
| 3 | 21.21 | 0.075 | 1.42 |
| 4 | 28.28 | 0.100 | 1.54 |
| 5 | 35.35 | 0.125 | 1.67 |
| 6 | 42.42 | 0.150 | 1.77 |
| 7 | 49.49 | 0.175 | 1.89 |
| 8 | 56.56 | 0.200 | 1.99 |
| 9 | 63.63 | 0.225 | 2.10 |

Table 6: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 391+920)

| Parameters | 1st loading cycle | 2nd loading cycle |
|---|-------------------|-------------------|
| ($s_{0,max}$) MN/m ² | 0.25 | 0.25 |
| a_0 (mm) | 0.03 | 0.97 |
| a_1 (mm/(MN/m ²)) | 6.89 | 6.61 |
| a_2 (mm/(MN ² /m ⁴)) | 4.67 | -7.44 |
| $Ev = 1.5 r / (a_1 + a_2 \cdot s_{0,MAX})$ | 55.83 | 94.68 |
| Ev_2/Ev_1 | 1.70 | |

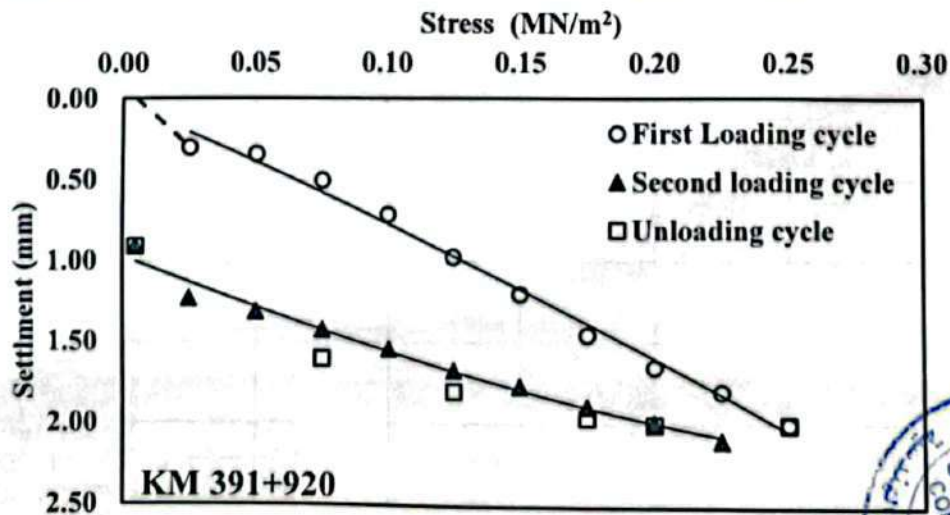


Figure 2: Load-settlement data: plate loading test performed at (KM 391+920)

Table 7: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 391+820)

| Loading stage | Load (F) kN | Normal stress (σ_0) MN/m ² | Settlement (S) mm |
|---------------|----------------|---|----------------------|
| 0 | 1.414 | 0.005 | 0.00 |
| 1 | 7.07 | 0.025 | 0.28 |
| 2 | 14.14 | 0.050 | 0.38 |
| 3 | 21.21 | 0.075 | 0.48 |
| 4 | 28.28 | 0.100 | 0.69 |
| 5 | 35.35 | 0.125 | 0.87 |
| 6 | 42.42 | 0.150 | 1.03 |
| 7 | 49.49 | 0.175 | 1.26 |
| 8 | 56.56 | 0.200 | 1.40 |
| 9 | 63.63 | 0.225 | 1.54 |
| 10 | 70.7 | 0.250 | 1.69 |
| 11 | 56.56 | 0.200 | 1.69 |
| 12 | 49.49 | 0.175 | 1.63 |
| 13 | 35.35 | 0.125 | 1.46 |
| 14 | 21.21 | 0.075 | 1.26 |
| 15 | 1.414 | 0.005 | 0.56 |

Table 8: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 391+820)

| Loading stage | Load (F) kN | Normal stress (σ_0) MN/m ² | Settlement (S) mm |
|---------------|----------------|---|----------------------|
| 0 | 1.414 | 0.005 | 0.56 |
| 1 | 7.07 | 0.025 | 0.85 |
| 2 | 14.14 | 0.050 | 0.95 |
| 3 | 21.21 | 0.075 | 1.07 |
| 4 | 28.28 | 0.100 | 1.20 |
| 5 | 35.35 | 0.125 | 1.30 |
| 6 | 42.42 | 0.150 | 1.40 |
| 7 | 49.49 | 0.175 | 1.52 |
| 8 | 56.56 | 0.200 | 1.60 |
| 9 | 63.63 | 0.225 | 1.71 |

Table 9: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 391+820)

| Parameters | 1st loading cycle | 2nd loading cycle |
|---|-------------------|-------------------|
| ($s_{0,max}$) MN/m ² | 0.25 | 0.25 |
| a_0 (mm) | 0.08 | 0.60 |
| a_1 (mm/(MN/m ²)) | 6.06 | 6.84 |
| a_2 (mm/(MN ² /m ⁴)) | 2.00 | 9.06 |
| $Ev = 1.5 r / (a_1 + a_2 \cdot s_{0,max})$ | 68.55 | 98.30 |
| Ev_2/Ev_1 | | 1.43 |

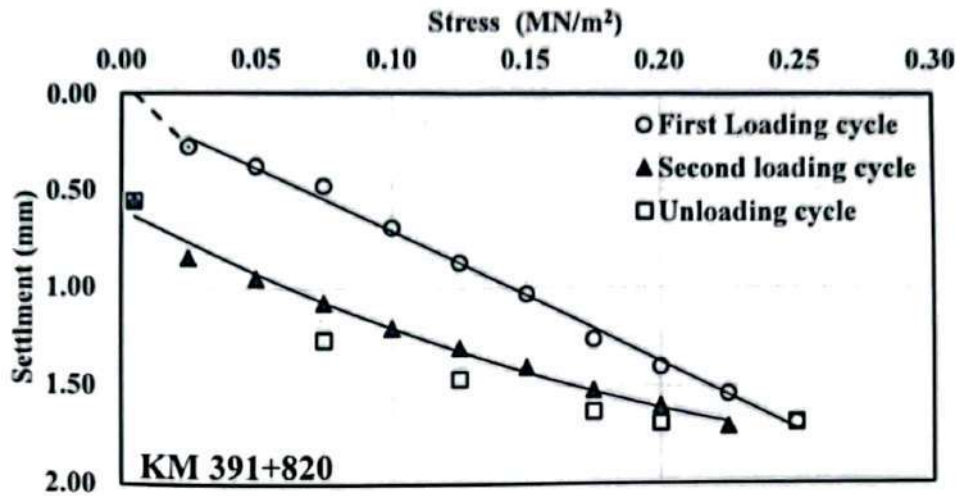


Figure 3: Load-settlement data: plate loading test performed at (KM 391+820)

Table 10: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 391+720)

| Loading stage | Load (F) | Normal stress (σ_0) | Settlement (S) |
|---------------|----------|------------------------------|----------------|
| | kN | MN/m² | mm |
| 0 | 1.414 | 0.005 | 0.00 |
| 1 | 7.07 | 0.025 | 0.36 |
| 2 | 14.14 | 0.050 | 0.42 |
| 3 | 21.21 | 0.075 | 0.61 |
| 4 | 28.28 | 0.100 | 0.86 |
| 5 | 35.35 | 0.125 | 1.12 |
| 6 | 42.42 | 0.150 | 1.31 |
| 7 | 49.49 | 0.175 | 1.59 |
| 8 | 56.56 | 0.200 | 1.80 |
| 9 | 63.63 | 0.225 | 2.05 |
| 10 | 70.7 | 0.250 | 2.29 |
| 11 | 56.56 | 0.200 | 2.29 |
| 12 | 49.49 | 0.175 | 2.22 |
| 13 | 35.35 | 0.125 | 2.05 |
| 14 | 21.21 | 0.075 | 1.82 |
| 15 | 1.414 | 0.005 | 1.01 |



Table 11: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 391+720)

| Loading stage | Load (F) | Normal stress (σ_0) | Settlement (S) |
|---------------|----------|------------------------------|----------------|
| | kN | MN/m ² | mm |
| 0 | 1.414 | 0.005 | 1.01 |
| 1 | 7.07 | 0.025 | 1.36 |
| 2 | 14.14 | 0.050 | 1.46 |
| 3 | 21.21 | 0.075 | 1.60 |
| 4 | 28.28 | 0.100 | 1.71 |
| 5 | 35.35 | 0.125 | 1.88 |
| 6 | 42.42 | 0.150 | 2.00 |
| 7 | 49.49 | 0.175 | 2.14 |
| 8 | 56.56 | 0.200 | 2.24 |
| 9 | 63.63 | 0.225 | 2.34 |

Table 12: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 391+720)

| Parameters | 1st loading cycle | 2nd loading cycle |
|---|-------------------|-------------------|
| ($s_{0,max}$) MN/m ² | 0.25 | 0.25 |
| a_0 (mm) | 0.12 | 1.06 |
| a_1 (mm/(MN/m ²)) | 6.73 | 7.83 |
| a_2 (mm/(MN ² /m ⁴)) | 8.25 | -9.77 |
| $E_v = 1.5 r / (a_1 + a_2 \cdot s_{0,MAX})$ | 51.18 | 83.58 |
| E_{v2}/E_{v1} | 1.63 | |

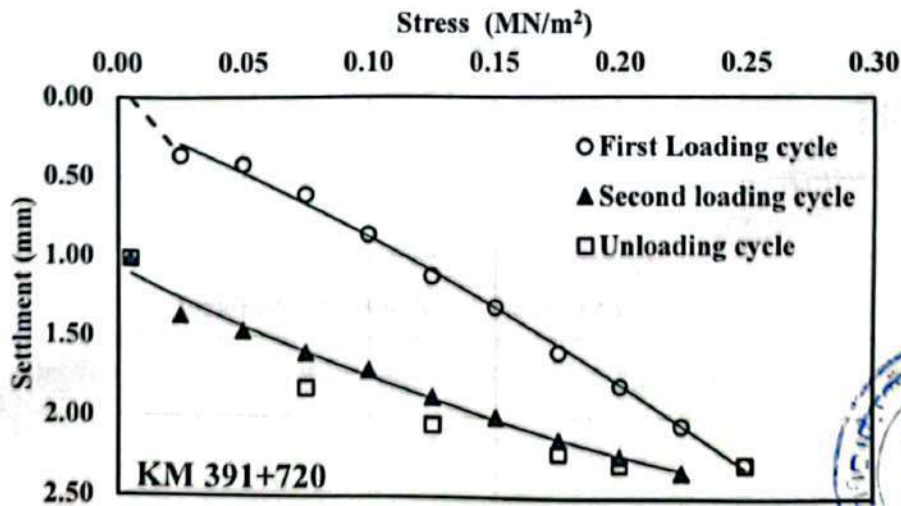


Figure 4: Load-settlement data, plate loading test performed at (KM 391+720)

Table 13: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 391+620)

| Loading stage | Load (F) kN | Normal stress (σ_0) MN/m ² | Settlement (S) mm |
|---------------|----------------|---|----------------------|
| 0 | 1.414 | 0.005 | 0.00 |
| 1 | 7.07 | 0.025 | 0.35 |
| 2 | 14.14 | 0.050 | 0.41 |
| 3 | 21.21 | 0.075 | 0.51 |
| 4 | 28.28 | 0.100 | 0.66 |
| 5 | 35.35 | 0.125 | 0.83 |
| 6 | 42.42 | 0.150 | 0.97 |
| 7 | 49.49 | 0.175 | 1.19 |
| 8 | 56.56 | 0.200 | 1.31 |
| 9 | 63.63 | 0.225 | 1.41 |
| 10 | 70.7 | 0.250 | 1.53 |
| 11 | 56.56 | 0.200 | 1.53 |
| 12 | 49.49 | 0.175 | 1.48 |
| 13 | 35.35 | 0.125 | 1.38 |
| 14 | 21.21 | 0.075 | 1.23 |
| 15 | 1.414 | 0.005 | 0.60 |

Table 14: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 391+620)

| Loading stage | Load (F) kN | Normal stress (σ_0) MN/m ² | Settlement (S) mm |
|---------------|----------------|---|----------------------|
| 0 | 1.414 | 0.005 | 0.60 |
| 1 | 7.07 | 0.025 | 0.93 |
| 2 | 14.14 | 0.050 | 1.01 |
| 3 | 21.21 | 0.075 | 1.10 |
| 4 | 28.28 | 0.100 | 1.20 |
| 5 | 35.35 | 0.125 | 1.29 |
| 6 | 42.42 | 0.150 | 1.35 |
| 7 | 49.49 | 0.175 | 1.45 |
| 8 | 56.56 | 0.200 | 1.50 |
| 9 | 63.63 | 0.225 | 1.55 |

Table 15: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 391+620)

| Parameters | 1st loading cycle | 2nd loading cycle |
|---|-------------------|-------------------|
| ($s_{0,max}$) MN/m ² | 0.25 | 0.25 |
| a_0 (mm) | 0.17 | 0.67 |
| a_1 (mm/(MN/m ²)) | 5.08 | 6.74 |
| a_2 (mm/(MN ² /m ⁴)) | 2.12 | 12.87 |
| $Ev = 1.5 r / (a_1 + a_2 \cdot s_{0,MAX})$ | 80.23 | 127.87 |
| Ev_2/Ev_1 | | 1.59 |

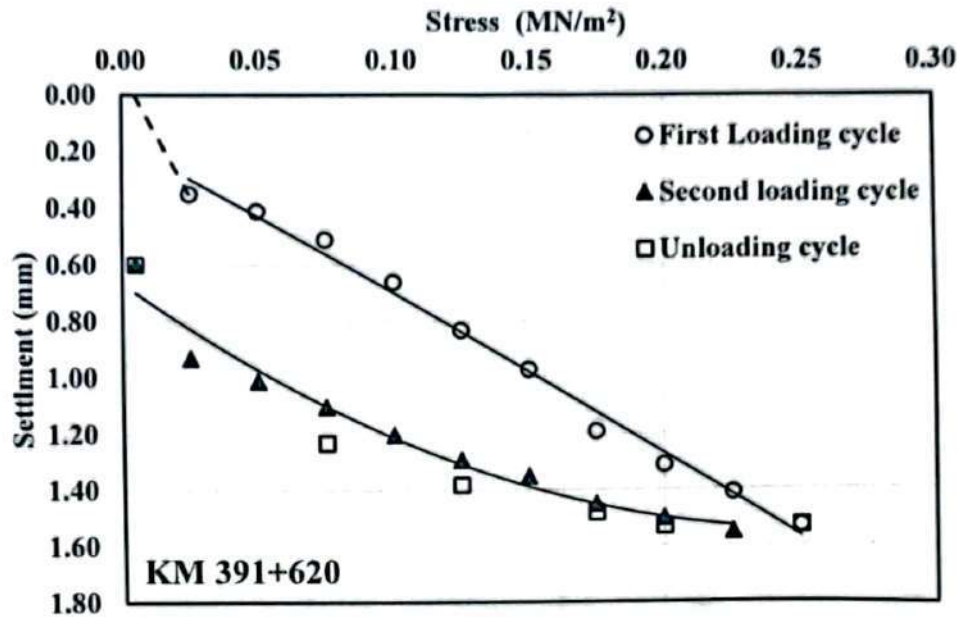


Figure 5: Load-settlement data: plate loading test performed at (KM 391+620)



Appendix A

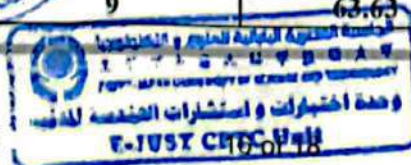


| | | | | |
|---------------------------|--|-----------|-------------------------|--------------------------|
| Location of test site: | KM 392+020 | | Field team | Mr.Mohamed Mamdouh |
| Project title: | Electric Express Train Project - Elbadrawy Company | | Date: | 18/1/2023 |
| Diameter of loading plate | 600 | | Time | 1:31:00 PM 1:57:00 PM |
| Lever ratio | 1 | | Note: CAT 950E | |
| Type of Soil | Crushed Stone Filter Layer | | | |
| Bedding material | --- | | | |
| Temperature | 18°C | | | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Loading Stage | 0 | 1.414 | 10.00 | |
| | 1 | 7.07 | 9.80 | |
| | 2 | 14.14 | 9.70 | |
| | 3 | 21.21 | 9.50 | |
| | 4 | 28.28 | 9.30 | |
| | 5 | 35.35 | 9.10 | |
| | 6 | 42.42 | 8.98 | |
| | 7 | 49.49 | 8.80 | |
| | 8 | 56.56 | 8.61 | |
| | 9 | 63.63 | 8.50 | |
| Unloading Stage | 10 | 70.7 | 8.38 | |
| | 11 | 56.56 | 8.38 | |
| | 12 | 49.49 | 8.41 | |
| | 13 | 35.35 | 8.55 | |
| | 14 | 21.21 | 8.69 | |
| Reloading Stage | 15 | 1.414 | 9.23 | |
| | 0 | 1.414 | 9.23 | |
| | 1 | 7.07 | 8.95 | |
| | 2 | 14.14 | 8.88 | |
| | 3 | 21.21 | 8.80 | |
| | 4 | 28.28 | 8.70 | |
| | 5 | 35.35 | 8.61 | |
| | 6 | 42.42 | 8.54 | |
| | 7 | 49.49 | 8.45 | |
| | 8 | 56.56 | 8.39 | |
| 9 | 63.63 | 8.30 | | |


| | | | | |
|---------------------------|--|-----------|-------------------------|--------------------------|
| Location of test site: | KM 391+920 | | Field team | Mr.Mohamed Mamdouh |
| Project title: | Electric Express Train Project - Elbadrawy Company | | Date: | 18/1/2023 |
| Diameter of loading plate | 600 | | Time | 2:06:00 PM 2:34:00 PM |
| Lever ratio | 1 | | Note: CAT 950E | |
| Type of Soil | Crushed Stone Filter Layer | | | |
| Bedding material | --- | | | |
| Temperature | 18°C | | | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Loading Stage | 0 | 1.414 | 10.00 | |
| | 1 | 7.07 | 9.70 | |
| | 2 | 14.14 | 9.66 | |
| | 3 | 21.21 | 9.50 | |
| | 4 | 28.28 | 9.29 | |
| | 5 | 35.35 | 9.03 | |
| | 6 | 42.42 | 8.80 | |
| | 7 | 49.49 | 8.55 | |
| | 8 | 56.56 | 8.35 | |
| | 9 | 63.63 | 8.20 | |
| | 10 | 70.7 | 8.00 | |
| Unloading Stage | 11 | 56.56 | 8.00 | |
| | 12 | 49.49 | 8.04 | |
| | 13 | 35.35 | 8.20 | |
| | 14 | 21.21 | 8.40 | |
| | 15 | 1.414 | 9.09 | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Reloading Stage | 0 | 1.414 | 9.09 | |
| | 1 | 7.07 | 8.77 | |
| | 2 | 14.14 | 8.69 | |
| | 3 | 21.21 | 8.58 | |
| | 4 | 28.28 | 8.46 | |
| | 5 | 35.35 | 8.33 | |
| | 6 | 42.42 | 8.23 | |
| | 7 | 49.49 | 8.11 | |
| | 8 | 56.56 | 8.01 | |
| | 9 | 63.63 | 7.90 | |

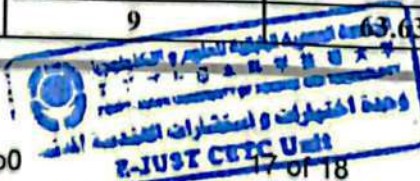


| | | | | |
|---------------------------|--|-----------|-------------------------|--------------------------|
| Location of test site: | KM 391+820 | | Field team | Mr.Mohamed Mamdouh |
| Project title: | Electric Express Train Project - Elbadrawy Company | | Date: | 18/1/2023 |
| Diameter of loading plate | 600 | | Time | 2:44:00 PM 3:12:00 PM |
| Lever ratio | 1 | | Note: CAT 950E | |
| Type of Soil | Crushed Stone Filter Layer | | | |
| Bedding material | --- | | | |
| Temperature | 18°C | | | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Loading Stage | 0 | 1.414 | 10.00 | |
| | 1 | 7.07 | 9.72 | |
| | 2 | 14.14 | 9.62 | |
| | 3 | 21.21 | 9.52 | |
| | 4 | 28.28 | 9.31 | |
| | 5 | 35.35 | 9.13 | |
| | 6 | 42.42 | 8.97 | |
| | 7 | 49.49 | 8.74 | |
| | 8 | 56.56 | 8.60 | |
| | 9 | 63.63 | 8.46 | |
| | 10 | 70.7 | 8.31 | |
| Unloading Stage | 11 | 56.56 | 8.31 | |
| | 12 | 49.49 | 8.37 | |
| | 13 | 35.35 | 8.54 | |
| | 14 | 21.21 | 8.74 | |
| | 15 | 1.414 | 9.44 | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Reloading Stage | 0 | 1.414 | 9.44 | |
| | 1 | 7.07 | 9.15 | |
| | 2 | 14.14 | 9.05 | |
| | 3 | 21.21 | 8.93 | |
| | 4 | 28.28 | 8.80 | |
| | 5 | 35.35 | 8.70 | |
| | 6 | 42.42 | 8.60 | |
| | 7 | 49.49 | 8.48 | |
| | 8 | 56.56 | 8.40 | |
| | 9 | 63.63 | 8.29 | |



| | | | | |
|---------------------------|--|-----------|-------------------------|--------------------------|
| Location of test site: | KM 391+720 | | Field team | Mr.Mohamed Mamdouh |
| Project title: | Electric Express Train Project - Elbadrawy Company | | Date: | 18/1/2023 |
| Diameter of loading plate | 600 | | Time | 3:22:00 PM 3:50:00 PM |
| Lever ratio | 1 | | Note: CAT 950E | |
| Type of Soil | Crushed Stone Filter Layer | | | |
| Bedding material | --- | | | |
| Temperature | 18°C | | | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Loading Stage | 0 | 1.414 | 10.00 | |
| | 1 | 7.07 | 9.64 | |
| | 2 | 14.14 | 9.58 | |
| | 3 | 21.21 | 9.39 | |
| | 4 | 28.28 | 9.14 | |
| | 5 | 35.35 | 8.88 | |
| | 6 | 42.42 | 8.69 | |
| | 7 | 49.49 | 8.41 | |
| | 8 | 56.56 | 8.20 | |
| | 9 | 63.63 | 7.95 | |
| | 10 | 70.7 | 7.71 | |
| Unloading Stage | 11 | 56.56 | 7.71 | |
| | 12 | 49.49 | 7.78 | |
| | 13 | 35.35 | 7.95 | |
| | 14 | 21.21 | 8.18 | |
| | 15 | 1.414 | 8.99 | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Reloading Stage | 0 | 1.414 | 8.99 | |
| | 1 | 7.07 | 8.64 | |
| | 2 | 14.14 | 8.54 | |
| | 3 | 21.21 | 8.40 | |
| | 4 | 28.28 | 8.29 | |
| | 5 | 35.35 | 8.12 | |
| | 6 | 42.42 | 8.00 | |
| | 7 | 49.49 | 7.86 | |
| | 8 | 56.56 | 7.76 | |
| | 9 | 63.63 | 7.66 | |





| | | | | |
|---------------------------|--|-----------|-------------------------|--------------------------|
| Location of test site: | KM 391+620 | | Field team | Mr.Mohamed Mamdouh |
| Project title: | Electric Express Train Project - Elbadrawy Company | | Date: | 18/1/2023 |
| Diameter of loading plate | 600 | | Time | 4:02:00 PM 4:30:00 PM |
| Lever ratio | 1 | | Note: CAT 950E | |
| Type of Soil | Crushed Stone Filter Layer | | | |
| Bedding material | --- | | | |
| Temperature | 18°C | | | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Loading Stage | 0 | 1.414 | 10.00 | |
| | 1 | 7.07 | 9.65 | |
| | 2 | 14.14 | 9.59 | |
| | 3 | 21.21 | 9.49 | |
| | 4 | 28.28 | 9.34 | |
| | 5 | 35.35 | 9.17 | |
| | 6 | 42.42 | 9.03 | |
| | 7 | 49.49 | 8.81 | |
| | 8 | 56.56 | 8.69 | |
| | 9 | 63.63 | 8.59 | |
| | 10 | 70.7 | 8.47 | |
| Unloading Stage | 11 | 56.56 | 8.47 | |
| | 12 | 49.49 | 8.52 | |
| | 13 | 35.35 | 8.62 | |
| | 14 | 21.21 | 8.77 | |
| | 15 | 1.414 | 9.40 | |
| Test regime | Loading Stage No. | Load (kN) | Dial Gauge Reading (mm) | |
| Reloading Stage | 0 | 1.414 | 9.40 | |
| | 1 | 7.07 | 9.07 | |
| | 2 | 14.14 | 8.99 | |
| | 3 | 21.21 | 8.90 | |
| | 4 | 28.28 | 8.80 | |
| | 5 | 35.35 | 8.71 | |
| | 6 | 42.42 | 8.65 | |
| | 7 | 49.49 | 8.55 | |
| | 8 | 56.56 | 8.50 | |
| | 9 | 63.63 | 8.45 | |



UNIVERSAL INSPECTION REQUEST



المكتب العامة
للطرق والكباري
(GARB)



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

| | | | | | | | |
|-----------------------------|--------------------------------|---------------------------------------|--------------------------------------|-------------------|---|--|----|
| Contractor Company | | Elbadrawy General Contracting Company | | Designer Company* | | (SPECTRUM) Engineering Consulting Office | |
| Issued by Contractor | Name | Sign | Date/Serial Number | | Time | | |
| | Eng. Mohamed Mahmoud | | 1/01/2023 (S5-B-BD)IR(FF5 rev 01) | | 01:00 م | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | | UIR | C1 | C2 | C3 | DD |
| | | | | 391 | EW | CS | 02 |
| | | | | MM | YY | HH | MM |
| | | | | 01 | 2023 | 01 | 00 |
| CODE-1 | S1 to S21 Station Reference | | D1 to D3 Depot Reference | | Kp XXX Note For Kilo meter point only Start Km is used | | |
| CODE - 2 | Work Activity | | | | | | |
| CODE - 3 | Sub Element of Activity | | | | | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+600 To St. 391+660 | Filter LAYER (6.8) | 6.3 | FILTER |

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

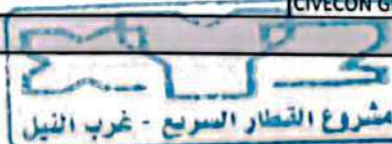
| | |
|-------------------------|-------------------------|
| Planned Inspection Date | Planned Inspection Time |
| | |

COMPLIANCE EVIDENCE Must be Included as appropriate

| | | | |
|--------------------------|------------------------|---|--------------------|
| Checklist Attached | Test Results Attached | Calibration Attached | Other as indicated |
| Drawing Reference | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 3) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2)VERSION2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

- 1- Attached Master Sheet approved by SPECTRUM .
- 2- shortage in width R/S due to Existing ENR.



Comments by: Eng. Saied Saief (SPECTRUM)

- 1- تم استلام القطاع فحص بصري
- 2- تم مراجعة شيت القياسات

Comments by: Eng. Alaa Abd-Allatif (ER)

- 1-coordinates & levels and width checked by GARB consultant.

INSPECTION RESULT

| Organisation | Name | Sign | Date | Time | Approval Status | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|-------|-----------------|---------------------------|
| Contractor | Eng. Mohamed Mahmoud | | 2023-01-01 | 11:00 | A | |
| XYZ Survey | Eng. Mohamed Mansour | | | | A | |
| QA/QC* | Eng. Sayed Saief | | | | A | |
| GARB** | Eng. Mohammed Fayad | | | | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | | | A | |

* Designer

File Name : MS-F.L032

UNIVERSAL INSPECTION REQUEST



الهيئة العامة
للمرور والكباري
(GARB)



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

| | | | | | | | |
|-----------------------------|--------------------------------|---------------------------------------|-------------------------------------|-------------------|---|--|----|
| Contractor Company | | Elbadrawy General Contracting Company | | Designer Company* | | (SPECTRUM) Engineering Consulting Office | |
| Issued by Contractor | Name | Sign | Date/Serial Number | | Time | | |
| | Eng. Mohamed mahmoud | | 2/01/2023 (S5-B-BD)IR(F5 rev 02) | | 01:00 م | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | | UIR | C1 | C2 | C3 | DD |
| | | | | 391 | EW | CS | 03 |
| | | | | MM | YY | HH | MM |
| | | | | 01 | 2023 | 01 | 00 |
| CODE-1 | S1 to S21 Station Reference | | D1 to D3 Depot Reference | | Kp XXX Note For Kilo meter point only Start Km is used | | |
| CODE - 2 | Work Activity | | | | | | |
| CODE - 3 | Sub Element of Activity | | | | | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+660 To St. 391+720 | Filter LAYER (6.8) | 6.3 | FILTER |

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 | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 3,5) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2)VERSION2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

1- Attached Master Sheet approved by SPECTRUM.

2- shortage in width R/S due to Existing ENR.

Comments by: Eng. Saied Saief (SPECTRUM)

Comments by: Eng. Alaa Abd-Allatif (ER)

1-coordinates & levels and width checked by GARB consultant.

INSPECTION RESULT

| Organisation | Name | Sign | Date | Time | Approval Status | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|-------|-----------------|---------------------------|
| Contractor | Eng. mohamed mahmoud | | 2023-01-02 | 15:00 | A-AWC-R | |
| XYZ Survey | Eng. Mohamed Mansour | | 2023-01-02 | 15:00 | A | |
| QA/QC* | Eng. Sayed Saief | | | | A | |
| GARB** | Eng. Mohammed Fayad | | | | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | | | A | |

* Designer

File Name : MS-F.L032

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

| | | | | | | | |
|-----------------------------|--------------------------------|---------------------------------------|---------------------------------|-------------------|---|--|----|
| Contractor Company | | Elbadrawy General Contracting Company | | Designer Company* | | (SPECTRUM) Engineering Consulting Office | |
| Issued by Contractor | Name | Sign | Date/Serial Number | | Time | | |
| | Eng. Hussien Abudeef | | 2/01/2023 (S5-B-BD) IR (FF6) | | 01:00 م | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | | UIR | C1 | C2 | C3 | DD |
| | | | | 391 | EW | CS | 03 |
| | | | | MM | YY | HH | MM |
| | | | | 01 | 2023 | 01 | 00 |
| CODE-1 | S1 to S21 Station Reference | | D1 to D3 Depot Reference | | Kp XXX Note For Kilo meter point only Start Km is used | | |
| CODE - 2 | Work Activity | | | | | | |
| CODE - 3 | Sub Element of Activity | | | | | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+940 To St. 392+040 | Filter LAYER (6.8) | 6.3 | FILTER |

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 | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 5) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

1- Attached Master Sheet approved by SPECTRUM.

2- shortage in width R/S due to Existing ENR.

| | |
|--|---|
| Comments by: Eng. Saied Saief (SPECTRUM) | Comments by: Eng. Alaa Abd-Allatif (ER) |
|--|---|

1-coordinates & levels and width checked by GARB consultant.

INSPECTION RESULT

| Organisation | Name | Sign | Date | Time | Approval Status | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|---------|-----------------|---------------------------|
| Contractor | Eng. Hussien Abudeef | | 2023-01-02 | 01:00 م | A-AWC-R | |
| XYZ Survey | Eng. Mohamed Mansour | | | | A | |
| QA/QC* | Eng. Sayed Saief | | | | A | |
| GARB** | Eng. Mohammed Fayad | | | | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | | | A | |

* Designer

File Name : MS-F.L032

Page 1 of 1

UNIVERSAL INSPECTION REQUEST



الهيئة العامة
للمرور والكباري
(GARB)



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

| | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|---------------------------------------|------|--|--|------|----|----|----|----|----|----|-----|----|----|----|----|------|----|----|--|
| Contractor Company | Elbadrawy General Contracting Company | | Designer Company* | (SPECTRUM) Engineering Consulting Office | | | | | | | | | | | | | | | | |
| Issued by Contractor | Name | Sign | Date/Serial Number | Time | | | | | | | | | | | | | | | | |
| | Eng. Hussien Abudeef | | 09/01/2023 (S5-B-BD) IR (FF7) | 01:00 م | | | | | | | | | | | | | | | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | UIR | <table border="1"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td>391</td> <td>EW</td> <td>CS</td> <td>10</td> <td>01</td> <td>2023</td> <td>01</td> <td>00</td> </tr> </table> | C1 | C2 | C3 | DD | MM | YY | HH | MM | 391 | EW | CS | 10 | 01 | 2023 | 01 | 00 | |
| C1 | C2 | C3 | DD | MM | YY | HH | MM | | | | | | | | | | | | | |
| 391 | EW | CS | 10 | 01 | 2023 | 01 | 00 | | | | | | | | | | | | | |

| | | | |
|--------|--------------------------------|--------------------------|---|
| CODE-1 | S1 to S21 Station Reference | D1 to D3 Depot Reference | Kp XXX Note For Kilo meter point only Start Km is used |
| CODE-2 | Work Activity | | |
| CODE-3 | Sub Element of Activity | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+840 To St. 391+940 | Filter LAYER (6.8) | 6.3 | FILTER |

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 | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 6) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION 2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

- 1- Attached Master Sheet approved by SPECTRUM.
- 2- shortage in width R/S due to Existing ENR.



Comments by: Eng. Saied Saief (SPECTRUM)

Comments by: Eng. Alaa Abd-Allatif (ER)

- 1- تم استلام القطاع فحص بصري
- 2- تم مراجعة شيت المناسيب

1-coordinates & levels and width checked by GARB consultant.

INSPECTION RESULT

| Organisation | Name | Sign | Date | Time | Approval Status | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|-------|-----------------|---------------------------|
| Contractor | Eng. Hussien Abudeef | | ٢٥-١٠-٢٠٢٣ | ٧:٥٠ | A-AWC-R | |
| XYZ Survey | Eng. Mohamed Khalil | | ٢٥-١٠-٢٠٢٣ | ١١:٠٠ | A | |
| QA/QC* | Eng. Sayed Saief | | | | A | |
| GARB** | Eng. Mohammed Fayad | | | | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | | | A | |

* Designer

File Name : MS-F.L032

UNIVERSAL INSPECTION REQUEST



الهيئة العامة
للطرق والكباري
(GARB)



مكتب الدراسات
والبحوث
SPECTRUM



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

| | | | | | | | | | | | |
|-----------------------------|---------------------------------------|------|----------------------------------|-------------------|---|----|----|----|------|----|----|
| Contractor Company | Elbadrawy General Contracting Company | | | Designer Company* | (SPECTRUM) Engineering Consulting Office | | | | | | |
| Issued by Contractor | Name | Sign | Date/Serial Number | Time | | | | | | | |
| | Eng. Mohamed Mahmoud | | 14/01/2023 (S5-B-BD) IR (FF8) | 01:00 م | | | | | | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | | UIR | C1 | C2 | C3 | DD | MM | YY | HH | MM |
| | | | | 391 | EW | CS | 15 | 01 | 2023 | 01 | 00 |
| CODE-1 | S1 to S21 Station Reference | | D1 to D3 Depot Reference | | Kp XXX Note For Kilo meter point only Start Km is used | | | | | | |
| CODE - 2 | Work Activity | | | | | | | | | | |
| CODE - 3 | Sub Element of Activity | | | | | | | | | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+780 To St. 391+840 | Filter LAYER (6.8) | 6.3 | FILTER |

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 | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 6) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2)VERSION2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

1- Attached Master Sheet approved by SPECTRUM.

2- shortage in width R/S due to Existing ENR.



Comments by: Eng. Saied Saief (SPECTRUM)

Comments by: Eng. Alaa Abd-Allatif (ER)

1- تم استلام القطاع فحص بصري
2- تم مراجعة شيفت المناسيب

1-coordinates & levels and width checked by GARB consultant.

INSPECTION RESULT

| Organisation | Name | Sign | Date | Time | Approval Status | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|-------|-----------------|---------------------------|
| Contractor | Eng. Mohamed Mahmoud | | 14-01-2023 | 07:00 | A-AWC-R | |
| XYZ Survey | Eng. Mohamed Khalil | | 14-01-2023 | 07:00 | A | |
| QA/QC* | Eng. Sayed Saief | | | | A | |
| GARB** | Eng. Mohammed Fayad | | | | | |
| Employers Representative | Eng. Alaa Abd-Allatif | | | | A | |

* Designer

File Name : MS-F.L032

UNIVERSAL INSPECTION REQUEST



المجالس العامة
للطرق والكباري
(GARB)



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

| | | | | | | | |
|-----------------------------|--------------------------------|---------------------------------------|----------------------------------|-------------------|---|--|----|
| Contractor Company | | Elbadrawy General Contracting Company | | Designer Company* | | (SPECTRUM) Engineering Consulting Office | |
| Issued by Contractor | Name | Sign | Date/Serial Number | | Time | | |
| | Eng. Mohamed Mahmoud | | 16/01/2023 (S5-B-BD) IR (FF9) | | 01:00 | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | | UIR | C1 | C2 | C3 | DD |
| | 391 | | | EW | CS | 17 | |
| | | | | MM | YY | HH | MM |
| | | | | 01 | 2023 | 01 | 00 |
| CODE-1 | S1 to S21 Station Reference | | D1 to D3 Depot Reference | | Kp XXX Note For Kilo meter point only Start Km is used | | |
| CODE - 2 | Work Activity | | | | | | |
| CODE - 3 | Sub Element of Activity | | | | | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+720 To St. 391+780 | Filter LAYER (6.8) | 6.3 | FILTER |

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 | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 6) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2) VERSION2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

1- Attached Master Sheet approved by SPECTRUM .

2- shortage in width R/S due to Existing ENR.



Comments by: Eng. Saied Saief (SPECTRUM)

Comments by: Eng. Alaa Abd-Allatif (ER)

1- تم استلام القطاع فحص بصري
2- تم مراجعة شيت المناسب

| INSPECTION RESULT | | | | Approval Status | | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|-----------------|--------|---------------------------|
| Organisation | Name | Sign | Date | Time | Status | |
| Contractor | Eng. Mohamed Mahmoud | | 16-01-2023 | 01:00 | A | |
| XYZ Survey | Eng. Mohamed Khalil | | | | A | |
| QA/QC* | Eng. Sayed Saief | | | | A | |
| GARB** | Eng. Mohammed Fayad | | | | A | |
| Employers Representative | Eng. Alaa Abd-Allatif | | | | A | |

* Designer

File Name : MS-F.L032

Page 1 of 1

UNIVERSAL INSPECTION REQUEST



المشروعات
الطرق والكباري
(GARB)



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

| | | | | | | | | | | | |
|-----------------------------|---------------------------------------|------|---------------------------------------|-------------------|--|----|----|----|------|----|----|
| Contractor Company | Elbadrawy General Contracting Company | | | Designer Company* | (SPECTRUM) Engineering Consulting Office | | | | | | |
| Issued by Contractor | Name | Sign | Date/Serial Number | Time | | | | | | | |
| | Eng. Mohamed Mahmoud | | 16/01/2023 (S5-B-BD)IR(FF9 rev 01) | 01:00 م | | | | | | | |
| Received by GARB CONSULTANT | Eng. SAYED SAIF | | UIR | C1 | C2 | C3 | DD | MM | YY | HH | MM |
| | | | | 391 | EW | CS | 17 | 01 | 2023 | 01 | 00 |

| | | | |
|----------|--------------------------------|--------------------------|---|
| CODE-1 | S1 to S21 Station Reference | D1 to D3 Depot Reference | Kp XXX Note For Kilo meter point only Start Km is used |
| CODE - 2 | Work Activity | | |
| CODE - 3 | Sub Element of Activity | | |

EXPLANATION OF WORK TO BE INSPECTED

| Description | Element | W.L | Item |
|---------------------------------|--------------------|-----|--------|
| From St. 391+720 To St. 391+780 | Filter LAYER (6.8) | 6.3 | FILTER |

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 | References | MS Reference | |
| Plan and Profile REV. 30 | (S5-B-BD) M.A.R (QT 6) | -Specification: EARTHWORK SPECIFICATIONS & TESTING REPORT (CG21-41.2)VERSION2 BY CIVECON GROUP. -TECHNICAL REPORT (CG21-122.1) VERSION 1 BY CIVECON GROUP. | |

Comments by: Eng. Mohamed Mansour (XYZ)

- 1- Attached Master Sheet approved by SPECTRUM .
- 2- shortage in width R/S due to Existing ENR.
- 3- As for Filter due to Rev30.



Comments by: Eng. Saied Saief (SPECTRUM)

Comments by: Eng. Alaa Abd-Allatif (ER)

1- تم استلام القطاع فحص بصري
2- تم مراجعة شيتات المناسيب

1-coordinates & levels and width checked by GARB consultant.

INSPECTION RESULT

| Organisation | Name | Sign | Date | Approval Status | Please Tick if Not Attend |
|--------------------------|-----------------------|------|------------|-----------------|---------------------------|
| Contractor | Eng. Mohamed Mahmoud | | 16/01/2023 | A: AWC/R | |
| XYZ Survey | Eng. Mohamed Khalil | | 16/01/2023 | A | |
| QA/QC* | Eng. Sayed Saief | | 16/01/2023 | A | |
| GARB** | Eng. Mohammed Fayad | | 16/01/2023 | A | |
| Employers Representative | Eng. Alaa Abd-Allatif | | 16/01/2023 | A | |

* Designer

File Name : MS-F.L032

