

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة. وبعد،،

بالإحالة إلى مشروع القطار الكهربائي فائق السرعه (العلمين - فوكة) (القطاع السادس) نتشرف بأن نرفق لسيادتكم طيه المقايسة المعدلة بعد المفاوضة للقطاعات الأتية:

اتجاه	نهاية القطاع (كم)	بدایة القطاع (کم)	اسم الشركة	مسلسل
رأس الحكمة	٤٨٥+٠٠٠	٤٨٤+٠٠٠	الزهور للمقاولات العمومية	١

برجاء من سيادتكم التفضل بالأحاطه والتوجيه بالازم

وتفضلوا بقبول فائق الأحترام والتقدير،،

رنيس الإدارة المركزية

المنطقة الخامسة. غرب الدلتا

عميد مهندس/ عميد مهندس/

الهاني محمد محمود طه ال

7











مشروع القطار الكهرباني فانق السرعة قطاع (العلمين - فوكة) المقايسة المعلة بعد المقاوضة لبنود الإعمال تنفيذ شركة الزهور للمقاولات العمومية القطاع من المحطة ٠٠٠+٤٨٤ الى ٠٠٠+٥٨٤ بطول ١ كم اتجاه رأس الحكمة

م البند	بيان الأعمال	الوحدة	الكمية	القنة	الاجمالي
١	اعمال الحقر				
٧-١	يالمتر المكعب اعمال حقر باستخدام المعدات الموكنيكية في النربة المتماسكة عدا النربة الصخرية (باستخدام البلدوزر) وتسوية السطح بالات التسوية والرش بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (95% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الاثربة الزائدة لمسافة د • • مقر من محور الطريق و يتم التثنيذ طبقا المناسب التصميمية والقطاعات العرضية التموذجية والرسومات التقصيلية المحمدة والبند بجميع مشتملاتة طبقا لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتطيمات المهندس المضرف. المشرف. وفي حالة زيادة ممنافة نقل ناتج الحفر عن • • • متر من محور الطريق يتم حساب ١,١ جنيه للكيلومتر زيادة				
1-4-	المنعر في ديسمبر ٢٠٢٧	76	1,410,04	41,4	147,190
0.000.00	بالمثر المكتب اعدال هار بالمحدات الموكائيكة في تربة صغرية			-0,050	
٧-١	و محمل على البند الاتى: 1- تحميل و نقل نتج الحفر لمسافة لا نقل عن ٥٠٠ متر 1- تحريل و نقل نتج الحفر لمسافة لا نقل عن ٥٠٠ متر 7- توريد اثرية مطابقة للمواصفات و تشغيلها باستخدام الات التصوية بسمك لا يزيد عن ٢٠ سم لاستكمال المنصوب 1- التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا نقل عن ١٠%) و رشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (95% من الكثافة الجافة القصوى). ويتم التنفيذ طبقا المناسب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاتة طبقا لإصول المستاعة و مواصفات الهيئة العامة للطرق و الكبارى وتعليمك المهندس المشرف. وفي حالة زيادة مسافة نقل ناتج الحفر عن ٥٠٠ متر من محور الطريق يتم حساب ١،١ جنيه للكيلومتر زيادة	-		=	
	السعر في ديسمبر ٢٠٢٧				
1-5-	نات إجهاد (۲۰۰-۲۰۰) كجم/سم٢	۴,	01,701,00	۲۱,۸۰	۳,۳۵۸,۹۲٦
1.21	نات اِجهاد (۲۰۰-۲۰۰) کجم/سم۲	۴,	, ,	٧٥,٠٠	
	ذات إجهاد (۲۰۰-۲۰۰) كجم/سم۲	م۲		۸٧	(*//
۲	اعمال الردم				8
1-1	عن ٥٠ سم حتى منصوب ٢٠ متر و بسمك لا يزيد عن ١٥ سم لامتكمال المنصوب التصميمي لتشكيل الجسر والاكتناف (تسبية تحمل كاليلورنيا لا تقل عن ١٥ هـ) و رشه بالمبراه الاصوابة الوصول الى نسبة الرطوبة المطلوبة والدمك الجبد بالهرامات اللوصول الى أسبة الرطوبة المناسيب التصميمية بالهرامات اللوصول الى أسبة الدطومي المناسيب التصميمية والقطاعات العرضية النمونية المناسقة المعتمدة والبند بجميع مشتملاتة طبقا الاصول الصناعة ومواصفات الهيئة العامة المناسقة المناسقة على المناسقة المناسقة ومواصفات ممافة اللهرف و الكبارى وتطيمات المهئدس الشرف. وفي حصلة طلب جهنز الإشراف زيادة نسبة الدمك عن ١٠ هي وحسب زيادة ١ جنيه على زيادة نسبة الدمك عن ١٠ هي وحسب زيادة ١ جنيه على زيادة نسبة الدمك لكل ١ هي مسافة ١ كم المعترية مناسقة ١ كم المعترية المائة المناسقة المائة النقل ٢ كم علاوة مداله الموابق المعرفة الموابق العمل حتى مسافة ٢ كم علاوة تصديل رمسوم الكارئة والموازين طبقا للائحة الشركة الوطنية	r _e	£,£7A,01 £,£7A,01	۲۰۷,۰۰ ۱۳	1, TY £, . TY
1-1-	المعر في ديممبر ٢٠٢٢	re.	£,£7A,01	31,V.	£ . 4 , V 7 Y
1	طبقات الاساس	٠,٢	1,1,1,1,1,1		5(0.00, 10)
١-	المتر المكعب اعمال توريد وفرش طبقة الاساس prepared Subgrade من الاحجار الصلبة المتدرجة لتجتكسير المتسارات والمطابقة للمواصفات واقصي حجم الحبيبات ١٠٠ م والا تزيد نسبة المار من منغل ٢٠٠ عن ١٠٠ عن ١٠٠ والتدرج الوارد بالاشترطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ١٠٠ و الا تزيد نسبة الفاقد بجهاز لوسائحوس عن ١٠٠ و الا تزيد المتصاف عن ١٠٠ والا تزيد المتصاف عن ١٠٠ الوسائحوس عن ١٠٠ ويتم فردها على طبقتين باستخدام الات التصوية الحديثة على ان لا يزيد مملك الطبقة بعد تمام الدمك عن ١٠٠ مم ورشها يالميزة الاصوابية للوصول الى نسبة الرطوبة المطلوبة والدمك الجبد للهراسات للوصول الى اقصى كثافة جافة قصوى (المتعالم عن ١٠٠ جافة المعالم والفقائد ويتم التنفيذ طبقا المعالمة والحقاية ويتم التنفيذ طبقا الاستشاريو تعالم المعالمة والحقاية ويتم التنفيذ طبقا الاستشاريو تعليمة المفاروع وتقرير الاستشاريو تعليما المفارف		œ		
	قبة المادة المحورية	م۳	۸,۰۳۷,۰۰	171,	1,797,907
	علاوة مسافة النقل ١٦٥ كم	م٣	۸,۰۳۷,۰۰	144,00	1,011,970
			00 February 1 4 20 20 20	17 18 74 25 57	The state of the s
	علاوة تحصيل رسوم الكارثة والموازين طبقا للائحة الشركة الوطنية	44	۸,۰۳۷,۰۰	40,	4,440
B		* PP	۷,۰۰۰,۰۰	177,4.	۸۸۷,٦٠٠

مدير المشروع (الهيئة)

مدير عام المشروعات











مشروع القطار الكهربائي فائق السرعة قطاع (العلمين - فوكة) المقايسة المعدلة بعد المفاوضة لبنود الاعمال تنفيذ شركة الزهور للمفاولات العمومية القطاع من المحطة ١٠٠٠+ ١٤٤ الى ١٠٠٠- ١٤٨ بطول ١ كم اتجاه رأس الحكمة

البند	بيان الأعمال	الوحدة	الكمية	القنة	الاجمالي
Y-1	بالمتر المكتب اعمال توريد وفرش طبقة أماس من الاحجار الصلبة المتدرجة ناتج تكسير الكمارات والمطابقة للمواصفات وأقصي حجم للحبيبات ما بين ٥ ، ١٩ مم الي ٤٠ مم والا تزيد نصبة المار من منظل ٢٠٠ عن ٥ % و التدرج الوارد بالاشترطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠ % والا يقل معامل المرونة (Ev2) من تجربة لوح يالاشترطات الخاصة بالمشروع لا تقل نسبة الملاقف بجهاز لوس انجلوس عن ٥ ، ٣ % والا يزيد الامتصاص عن ٥ ، % و يتم فردها على طبقتين باستخدام الات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ مم و رشها بالمياة الاصول التي تسبة الرطوبة المطلوبة والدمل التي تصم كانفة جافة قصوي (لا تكل عن ٢٠ ١ من الكفافة المصلية واللفاة تشمل الجربة التجارب المصلية والحقاية ويتم المتفادة والبند بجميع مشتملاته طبقا للمواصفات الغنية للمشروع وتقرير الاستشاري وتطيمات المهندف المشرف				
	قيمة المادة المحجرية	۳۴	0,00,	140,	1,.71,770
	علاوة مسافة النقل ١٦٥ كم	م٣	0,100,	۱۸۸,۰۰	1,1.7,778
	علاوة تحصيل رسوم الكارتة والموازين طبقا للائحة الشركة الوطنية	٣٠	0,000,	40,	111,770
1-4.	السعر في ديسمبر ٢٠٢٢	م٣	1,4,	171,1.	440,44.
Y.Y.	السعر في مارس ٢٠٢٣	م٣	£,.00,	164,1.	7,017
	البلاطات الخرسانية				
1-4	بالمتر المسطح أعمال توريد وصب خرساتة عادية ممك ١٥ مم لحماية الاكتف والميول الجانبية تتكون من ١٠,٨ م٣ سن دولميت متدرج 4 ٤٠٠ م ٣ مرم درش والاضافات طبقا انتطيمات الاستشاري (فيبر+سيكا) علي أن يكون السن نظيف ومضول والرمل خالي من الشوانب والطفلة والأملاح والمواد الغريبة مع وضع فوم (بالفاصل) بسمك ٢ سم (طبقا لتعليمات الاستشاري) والبند يشمل تجهيز واستعدال مناسوب التربة الطبيعية أسئل البلاطة للوصول إلي المناسب التصميمية علي أن تحقق الخرسانة إجهاد لا يقل عن ٥٠٠ كجم / سم٢ وتشطيب السطح وملء اللهواصل بالبينومين المرمل والتنفيذ طبقاً لأصول الصناعة والرسومات النظميلية المضدة والبند بجميع مشتملاته طبقاً لمواصفات الهينة العامة للطرق والكباري وتطيمات المهندس المشرف .				т.
1-1.	المعر في ماور ٢٠٢٣	٣	11,771,.7	104	٧,٤٥٨,٧٠٨
	الاجمالي				۲۰,۰۰۰,۰۰۰,۰

(عشرون مليون جنيه فقط لاغير)

مدير المشروع المقاول

م / محمود الجندي

ور المتاولات العمومية

مدیر المشروع (الهینة) م / ابراهیم التخاوی

مدير عام المشروعات م / محمد حس*نی فياض*

> يعتمد رنيس الادارة المركزية منطقة غرب الدلتا الاسكندرية - مرسي مطروح عميد مهندس /



مشروع القطار الكهربائي السريع (العين السخنة – العاصمة الأدارية – العلمين – مطروح) قطاع غرب النيل لتنفيذ المسافة من الكم ٤٨٤+٠٠٠ الي الكم ٤٨٠٠٠كم بطول ١ كيلو متر اتجاه رأس الحكمة .

رقم البند و بيانه : (١ - ٢) أعمال حفر باستخدام المعدات الميكانيكية في التربة المتماسكة عدا الصخرية

تنفيذ: شركة الزهور للمقاولات العمومية

	اد (متر)	- 311	27-151	۰,۰۰ م۳	مقدار العمل السابق:	
الكمية	(50)	· · · · · · · · · · · · · · · · · · ·	الكيلومتري	الموقع		
مرممی	مساحة المقطع	طول	الى	من	بيان الاعمال بالمقايسة	
T710,1A	۱۸,۰۷٦	Υ	٤٨٤+٢٠٠	٤٨٤+٠٠٠	القطاع الأول	
20.,21	17,707	۲	٤٨٤+٤٠٠	£ 1 £ 1 £ 1 £ 1	القطاع الثاني	
7970,09		("6				
7970,09		الإجمالــى الكلـى (م ً)				

مهندس الهيئة

م / إبراهيم الحناوي

مهندس الاستشاري مكتب د.سعد الجيوشي

مهندس الاستشاري مدير مكتب XYZ

م / مصطفي نجم

م / محمد خليل

مهندس الشركة

م / محمود الجندي



مشروع القطار الكهربائي السريع (العين السخنة – العاصمة الأدارية – العلمين – مطروح) قطاع غرب النيل لتنفيذ المسافة من الكم ٤٨٤٠٠٠ الي الكم ٤٨٠٠٠كم بطول ١ كيلو متر اتجاه رأس الحكمة .

رقم البند و بيانه : (۱ - ۳) أعمال الحفر باستخدام المعدات الميكانيكية في التربة الصخرية ذات اجهاد (۲۰۰-۲۰۰) كجم/ سم٢

تـنفيـذ: شركة الزهور للمقاولات العمومية

T				٠,٠٠	مقدار العمل السابق:	
الكمية	د (متر)	الابعا	الكيلومتري	الموقع		
عرمي	مساحة المقطع	طول	الى	من	بيان الاعمال بالمقايسة	
17771,77	۸٦,٤٠٧	۲	£A£+7	٤٨٤+٤٠٠	القطاع الأول القطاع الثاني	
191-1,71	90,0.9	۲	£A£+A	٤٨٤+٦٠٠		
14,01	۸۹,۸٤٣	۲	٤٨٥+٠٠٠	٤٨٤+٨٠٠	القطاع الثالث	
02801,00		("6	-1			
02701,00		الاجمالي الكلي (م ً)				

مهندس الهيئة

م / إبراهيم الحناوي

مهندس الاستشاري مكتب د.سعد الجيوشي

مهندس الاستشاري مدير مكتب XYZ

م / مصطفي نجم ح

محمد خليل

مهندس الشركة

م/محمود الجندي



مشروع القطار الكهربائي السريع (العين السخنة – العاصمة الأدارية – العلمين – مطروح) قطاع غرب النيل لتنفيذ المسافة من الكم ٤٨٤٠٠٠ الي الكم ٤٨٥٠٠٠ كم بطول ١ كيلو متر اتجاه رأس الحكمة .

رقم البند و بيانه : (٣ - ١) بالمتر المكعب اعمال توريد وتحميل ونقل اتربه صالحة للردم ومطابقة للمواصفات .

تنفيذ: شركة الزهور للمقاولات العمومية

۳۰۰۰,۰۰ م۳

مقدار العمل السابق :

	بعاد (متر)	וע	الكيلومتري			
الكمية	مساحة المقطع	طول	الى	من	بيان الاعمال بالمقايسة	
٤٠٢,٥٠	۲,۰۱۳	۲	£A£+V··	٤٨٤+٥٠٠	القطاع الأول	
٤٩٨,٩٠	Y,£90	۲	٤٨٤+٩٠٠	£A£+V	القطاع الأول	
۵٦٧,۱۱	۱۷۲٫۵	1	£A0+	£A£+9	القطاع الأول	
1874,01		("1	÷1			
££7A,01		الإجمالـي الكلـي (م ^T)				

مهندس الهيئة

مهندس الاستشاري مكتب د.سعد الجيوشي

مهندس الاستشاري مدیر مکتب XYZ

م / محمد خليل م / مصطفي نجم

مهندس الشركة

م / محمود الجندي



مشروع القطار الكهربائي السريع (العين السخنة – العاصمة الأدارية – العلمين – مطروح) قطاع غرب النيل لتنفيذ المسافة من الكم ٤٨٤٠٠٠ الي الكم ٤٨٥٠٠٠ كم بطول ١ كيلو متر اتجاه رأس الحكمة .

رقم البند و بيانه : (٣ - ١) علاوة تحصيل رسوم الكارته والموازين طبقا للائحة الشركة الوطنية

تنفيذ: شركة الزهور للمقاولات العمومية

مقدار العمل السابق: ٣٠٠٠,٠٠ م٣

	الابعاد (متر)		ع الكيلومتري	بيان الاعمال بالمقايسة		
الكمية	مساحة المقطع	طول	الى	من	بيان الرحمان بالمعايسة	
٤٠٢,٥٠	۲,۰۱۳	۲	٤٨٤+٧٠٠	£A£+0	القطاع الأول	
٤٩٨,٩٠	Y,£90	٧	٤٨٤+٩٠٠	£A£+V	القطاع الأول	
۲۷,۱۱	٥,٦٧١	١	٤٨٥+٠٠٠	£A£+9	القطاع الأول	
1874,01		اجمالي الكميات خلال فترة المستخلص الحالية (م")				
££7A,01		الاجمالي الكلي (م")				

مهندس الاستشاري مكتب د.سعد الجيوشي

مهندس الاستشاري مدیر مکتب XYZ

م/محمد خلیل م/مصطفی نجم المسلم

مهندس الشركة



مشروع القطار الكهربائي السريع (العين السخنة - العاصمة الأدارية - العلمين - مطروح) قطاع غرب النيل لتنفيذ المسافة من الكم ٤٨٤٠٠٠ الي الكم ٤٨٥٠٠٠ كم بطول ١ كيلو متر اتجاه رأس الحكمة .

رقم البند و بيانه: (٣ - ١) علاوة مسافة النقل ٢٠٧ كم.

تـنفيـذ: شركة الزهور للمقاولات العمومية

مقدار العمل السابق: ٣٠٠٠,٠٠ م٣

	بعاد (متر)	الا	الكيلومتري			
الكمية	مساحة المقطع	طول	الى	من	بيان الاعمال بالمقايسة	
٤٠٢,٥٠	۲,۰۱۳	۲	٤٨٤+٧٠٠	£A£+0	القطاع الأول	
٤٩٨,٩٠	4,290	۲	£A£+9	£ A £ + V · ·	القطاع الأول	
٥٦٧,١١	٥,٦٧١	1	٤٨٥+٠٠٠	£A£+9	القطاع الأول	
1874,01		اجمالي الكميات خلال فترة المستخلص الحالية (م ً)				
10,453		۔ الاجمالی الکلی (م ^۲)				

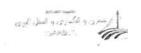
مهندس الاستشاري مكتب د.سعد الجيوشي

مهندس الاستشاري مدیر مکتب XYZ

م/محمد خليل م/مصطفي نجم المحمد خليل المحمد المحمد خليل المحمد خليل المحمد خليل المحمد خليل المحمد المح

مهندس الشركة

م / محمود الجندي



مهلة اضافية واردة من المنطقة الخامسة – (غرب الدلتا)

إم العملي تنفيذ أعمال الجسر الترابي والاعمال الصناعية لمشروع القطار	-
الكهربائي السريع (العين السخنة - العاصمة الاداريـة - العلمـين - مطـروح)	
بقطاع (العلمين / فوكة) لتنفيذ المسافة من الكم ٤٨٤,٠٠ الى الكم ٤٨٠،٠٠ بط ول	
١ كم اتجاه راس الحكمة ،	

العمومية	للمقاو لات	منشأة الزهور	المنفذة:	إسم الشركة	-
----------	------------	--------------	----------	------------	---

- عقد العملية رقم : ٢٠٢/٢٠٢٢
- قيمة العملية في التعاقد: ٢٠ مليون جنيه ٠
 - تاريخ بدء العمليــــــة: ١/١٢/١٢٠٠
 - تاريخ النهو طبقا للعقد الاصلى : ٢٠٢/٧/٣١

المطلوب: مد مدة العملية ٦ أشهور ليصبح النهو في ٢٠٢٤/١/٣١

الجررات: ورد خطاب المنطقة المشرفة بمد مدة العملية ٦ أشهر بناءاً على قرار مجلس الوزراء بالجلسة رقم (٢٥٤) بتاريخ ٢٠٢٠/ ٢٠٢٣ بمد جميع التعاقدات الجارى تنفيذها لمده (٦٦شهر) وذلك لمواجهة الاثار السلبية المترتبة على تداعيات الازمات العالمية الحالية والى طلب الشركة المنفذه المقدم بمبررات منحها تلك المدة وموافقة المنطقة المشرفة بعد دراستها الطلب على منحها تلك المده وفقا لما جاء بالمبررات المقدمة من الشركة المنفذه

	إعداد مهندس : کی . رب
لما له يد	مدير عام (صيانه/التنفيد)
John Str	رنيس الادارة المركزية للشنون الالية: الم
چارز. الكسواه فقة على جال شرق لالمية ألك المان [رأي الإدارة القانونـــــــــــــــــــــــــــــــــــ
س. في هن اللهما أن و في قال لمبررام المستر	
1/08 (CX.)	. إلى بيك إمن الصنواريط المامير
1. N/S	ونيس الادارة المكونة لتنفيذ مصيانة الطرة

التونيع (

هندس/ حسام الدين مصطفي

الهبئة العاطة للطرق والكباري

رئيس قطاع التنفيذ والمناطق

بعتمد

تحريراً في :- ١١٧ ١ /٣٤٣

© في معلصية المعرف - وللماس منع العلية المرود - محلن الوزراد مع عدم

- محلين الوزراو مع عدم تحريس عامل -

الممسوحة ضوئيا بـ CamScanner

UNIVERSAL INSPECTION REQUEST





مركز الإستشارات العندسية النقل و المارات و اطرق اخراء دولون ا دكتور/ سعد الجنوشع





RECEIPT of NO	TIFICATION - Minim below will be complete and	num Notice	Period not	less than 24	Hours				
Contractor	EL . ZHOOR . CO		edon et plante		Company	/*	* SGAC		
Company	Name	Sign		Date		Tin	ne		
Issued by Contractor	makned Ethola	Jos		17/7/2	2022	Z	Н-	R-9	
Received by ER	M-A	172	7027 UIF		C2 C3 E.W O.T	17 7			MM
CODE-1	S1 to S21 Station Reference		Depot	to S3 Reference	Fo	Kp r Kilometer ı	XXX Nooint o used	ote nly Start	Km is
CODE - 2 CODE - 3				Activity ent of Activity	9				
	EX	PLANATIO	N OF WORK	TO BE INSPI	ECTED				
Des	scription		Element			It	em	455	
	yer -0.25		FILL -0.25		Fro	m st484+80	00 To s	t485+00	00
ELISADE CARRESTA PORTO	INSPECTION	DETAILS The	e Fallowing will h	e ready at the Pl	anned Inspec	tion Time		11.00	
	Planned Inspection	The second secon	e ronowing win s	F	Planned I	nspection	Time)	
	larified mopositori								
						-carrier			10 50 51
Checklist Atta	102 C. St. Darlins Charles Continued	The state of the s	VIDENCE Mus	alibration A		Other	as inc	dicated	
Drawing R		Results Attached☐ Cal		and a cross		MS Refe	erence	9	
Drawing	ererenes .								
						THE REAL PROPERTY OF THE PERSON OF THE PERSO	1	0.1	
Comments by:	I) and I		Co	mments by:	Holmon	8 3	200	Void	
	Tomas	12.0	Cu	rvey: APP	A /	19 Lehar	TEL	Sher	T
Civil:	المستشارات ويتا	LAU ON	1	A Erloba	N. H. W. L.	المعطار ال		سامارور	
NISME	Me Signell Poli	231	person	الن	مريع غرب	S Color			
Material :	القعال اسريع فتعد	0		Julia					
the Cas	mpaction	Pas							
INSPECTION R	ESULT					Approv	30000	Please T Not At	
Organisation	Name	Sign		Date	Time	A-AWC	C-R		
Contractor	mahmandEKN	y t	√ Oct	1817/2	v.	A			
QA/QC*	MAJE	12-1	Sic	1814/2	20	A			

Representative
* Designer

GARB**

Comment by ER

Employers

اشرك في الناهد عد

Nol 16) / the Contract ors

M.A

there noteposted cress-section / thereamy afters upon on Profile

my Implement ed.

AWC

ميل الردم 1.5 -0.25 قطاع شركة الزهور من المحطه (484+000) إلى المحطه (485+000) تشغيل طبقة -0.25 RIGHT LEVEL LEFT LEVEL 9.936 C.L 4 8 8 4 DISTANCE C. L 13.436 12 -4% -4% -4% -4% -4% -2% -2% SLOP 9.936 4 8 4 0 12 8 offest 13.436 57.37 57.29 57.53 57.53 57.690 57.25 57.28 57.37 Des 1,65 1,81 2,05 1,97 1,3 2,09 2,06 act -1 22 41 Diff. 21 41 57.34 57.27 57.50 57.23 57.664 57.34 57.50 57.26 Des 2,07 1,84 1,676 1,24 2, -2108 act 2,11 41 4 41 11 Diff. 57.48 57.32 57.24 57.638 57.48 57.20 57.23 57.32 Des 1,0 1,70 1,86 2,02 2,10 2,11 2,02 act 2,14 41 -1 -1 14 Diff. 41 14 -1 57.612 57.45 57.29 57.21 57.29 57.45 57.20 57.17 Des 1,09 1,73 1,89 2,05 2,13 2,17 2,14 2,05 act 41 42 -1 201 -2 +1 Diff. 57.43 57.19 57.27 57.43 57.586 57.27 Des 57.15 57.18 1.750 1,91 2,15 1,91 2,07 2,19 2,07 act 42 -1 +1 -1 1+ Diff. +1 -1 57.15 57.24 57.40 57.560 57.40 57.24 57.16 57.12 Des 1,94 1.94 2,18 1,78 2,10 2 22 2,19 2,10 act AL 41 11 - 2 Diff. 57.14 57.37 57.21 57.37 57.534 57.10 57.13 57.21 Des 2,20 1,97 1806 1,97 2,12 2,13 2,24 2,21 act 41 -1 1 1 - 2 1 Diff. -1 57.35 57.11 57.35 57.509 57.19 57.07 57.10 57.19 Des 1,99 2,23 1,99 1,83 2,15 2,24 act 2,27 4-1 4-1 21 41 -1 Diff. 41 57.09 57.483 57.32 57.16 57.07 57.16 57.32 Des 57.05 2,25 2,18 2,02 1,86 2,02 2,18 2,29 2,27 act +2 -2 4 41 -1 Diff. 57.457 57.30 57.14 57.06 57.02 57.05 57.14 57.30 Des 2,04 2,20 2,28 2,29 2,20 2,04 1,88 act 41 +1 21 -1 -1 L_ Diff. 56.99 57.02 57.11 57.27 57.431 57.27 57.11 57.03 Des 2,23 2,23 1,91 2,31 2,07

act Diff.

2,04

3735

59,34= 19/10

		left		Po	GL	Right			
station	Eastion العرض		Northing	Eastion	Northing	Eastion	Northing	العرض	
484+800	13.025	339147.5955	928484.887	339,145.6159	928,497.7571	339144.7679	928507.3185	9.638	
484+820	13.493	339127.8361	:23481.7872	339,125.7912	928,495.1152	339124.6543	928505.0833	10.035	
484+840	13.435	339107.9251	928479.1824	339,105.9664	928,492.4732	339104.8074	928502.2064	9.796	
484+860	13.506	339088.0792	928476.4659	339,086.1417	928,489.8313	339084.9446	928499.6249	9.871	
484+880	13.443	339068.3149	928473.8965	339,066.3170	928,487.1893	339065.1624	928497.0444	9.921	
484+900	13.560	339048.4229	928471.1275	339,046.4922	928,484.5474	339045.5113	928494.3332	9.832	
484+920	13.551	339028.6869	928468.5102	339,026.6675	928,481.9054	339025.6312	928491.6274	9.779	
484+940	13.406	339008.9331	928466.0222	339,006.8428	928,479.2635	339005.7655	928489.0392	9.832	
484+960	13.489	338989.0147	928463.285	338,987.0180	928,476.6215	338986.0794	928486.4149	9.839	
484+980	13.432	338968,9516	928460.6629	338,967.1933	928,473.9796	338966.1811	928483.7554	9.830	
485+000	13.476	338949 386	928458.0138	338,947.3686	928,471.3376	338946.4891	928481.1281	9.832	

شركـــة الزهــور لتمقاولات العمومية iella PS



الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Project

(484+100 مشون: Location

: Soil Embankment Type of sample

: 15/06/2022 **Delivery Date** Report Date : 20/06/2022

Report No. : 10

Sample No. : 01

Dear Gentleman,

Attached here with the Soil Embankment delivered on 15/06/2022

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

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 15/06/2022

Report Date

: 20/06/2022

Report No.

: 10

Sample No.

: 01

వ్యేజమ్మన్ కుక్కడే పడువేని ద్రోగాల ఆయాం

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	100
37.5	94.6
25	80.1
19	76.6
12.50	63.9
9.50	52.1
4.75	35.7
2.36	33,3
2.00	31.9
1.18	28.7
0.600	25.8
0.425	22.2
0.300	19.6
O.150	14.5

Signature

2



الزهور المقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون :

Type of sample

: Soil Embankment

Delivery Date

: 15/06/2022

Report Date

: 20/06/2022

Report No.

: 10

Sample 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 μΜ (No.200)	11.6



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مثون:

Type of sample : Soil Embankment

Delivery Date : 15/06/2022 Report Date : 20/06/2022

Report No. : 10 Sample No. : 01

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

Test	Results (%)
Liquid Limit	24.1
Plastic Limit	19.3
Plasticity Index	4.8

الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 15/06/2022

Report Date

: 20/06/2022

Africa Spile and Spile and Colon Mare

Report No.

: 10

Sample No.

: 01

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)		ccording ts Specs		
Group Classification	(A-1-a)	(A-1-a)	(A-1-b)		
2.00 mm (No.10).	31.9	Max 50 %	p. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.		
0.425 mm (No. 40).	22.2	Max 30 %	Max 50 %		
0.075 mm (No. 200).	11.6	Max 15 %	Max 15 %		
Characteristics of fraction passing 0.42	25 mm (No.40)				
Liquid Limit	24.1				
Plasticity index	4.8	Max 6 %	Max 6 %		

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

Signature



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مشون:

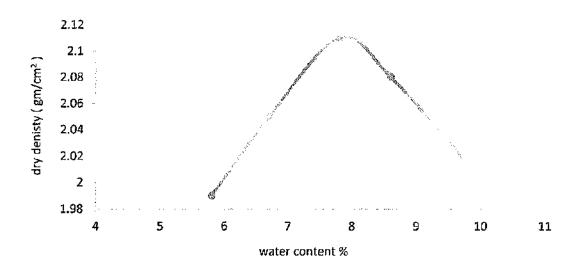
Type of sample : Soil Embankment

Delivery Date : 15/06/2022

Report Date : 20/06/2022

Report No. : 10 Sample No. : 01

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



• Max dry density (gm/cm²) : 2.11

• Optimum moisture content % : 7.8

Signature /



الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Project

(484+100 مشون: Location

: Soil Embankment Type of sample

Delivery Date : 15/06/2022

Report Date : 20/06/2022

Report No. : 10 Sample No. : 01

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

pen	etration	stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.16
1.27	0.050	2.51
1.91	0.075	2.76
2.54	0.100	3.04
3.18	0.125	3.33
3.81	0.150	3.65
4.45	0.175	3.96
5.08	0.200	4.18
5.71	0.225	4.36
6.35	0.250	4.51

CBR Result	Str	Stress (Mpa)				
At 0.1 inch (2.54 mm)	St. Value	Sample results	44.1			
penetration	6.90	3.04	**.1			

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample was compacted to dry density of 2.11(gm/cm³) at 7.8% optimum water content.

3- Surcharge load 4.50 Kg3---

Signature/

1 - Sabri des per man



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

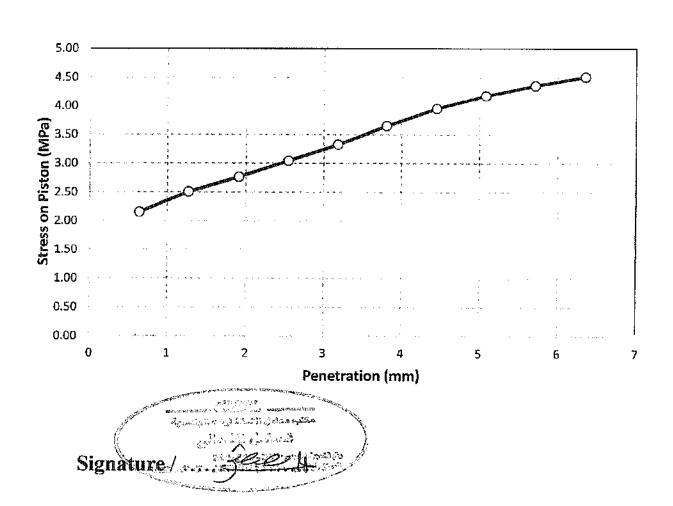
St (484+100) مشون:

Type of sample : Soil Embankment

Delivery Date : 15/06/2022 **Report Date** : 20/06/2022

Report No. : 10 Sample No. : 01

Load Penetration Curve of CBR Test ASTM D-1883







مركز الإستشارات الهندسية للنقل و الطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشمي



Electrical Express Train From El ALAMEIN City to FOKA From Station 394+580 To

> الهيئة القومية للإنفاق *******

مشروع القطار السريع (العلمين فوكه) قطاع د/ سعد الجيوشي مكتب سجاك للاستشارات الهندسية

	-	9		331		45 163	5 (3)				
					,						
ACTIVITY : Sand cone t	est		laborato	ry results			DATE 18/7/2022		:022		
		Density and Un	ite Weight of S	oil In Place by t	he Sand-cone !	Method _ASTM	M D 1556				
Company:	EL-ZF	IOUR COM	PANY	I	Layer level	ayer level: FILL (-0.25)					
Description:	Co	ompaction ta	ist	Lay	yer Thickne	ess:		0.	25 m		
Station represented :	tion represented: 484+800 TO 485+000										
			Mod	ified Proctor To	esting Results						
Max. Dry Density . gm/cm3 Optimum Moisture Content			tent. %	Degree of	Compaction R	dequired .	Bul	lk Density of Sp	ecified Sand, gm/o	cm3	
2.11		7.8			95%			1.48			
			Compaction	Testing Res	ults & Calcu	lations					
STATION	484+825	484+850	484+875	484+900	484+925	484+950	484+975	485+000			
Hole No.	1	2	3	4	5	6	7	8			
WT, of Sand befor Test ,gm	9672	9578	9484	9327	9170	9013	8856	8791			
WT, of Sand After Test ,gm	5678	5547	5416	5285	5154	5023	4892	4761			
WT, of Sand in Cone + hole ,gm	3994	4031	4068	4042	4016	3990	3964	4030			
WT, of Sand in Cone	1140	1140	1140	1140	1140	1140	1140	1140			
WT, of Sand at hole ,gm	2854	2891	2928	2902	2876	2850	2824	2890			
Volume of the hole, Cm3	1928	1953	1978	1961	1943	1926	1908	1953			
WT, of Soil from Hole ,gm	4264	4265	4266	4267	4268	4269	4270	4271			
Bulk Density of Soil, Gm/cm3	2.211	2.183	2.156	2.176	2.196	2.217	2.238	2.187			
Moisture Content, %	7.2	6.9	6.4	7.1	6.9	6.5	7.4	7.1			
Dry Density, gm/cm3	2.063	2.042	2.027	2.032	2.055	2.082	2.084	2.042			
Compaction, (%)	97.8%	96.8%	96.0%	96.3%	97.4%	98.7%	98.8%	96.8%			
				Ma Biggini							
Acceptance Criteria	Co	mply			Not C	Comply					
CONSULTANT COMMENTS											
					-						
Site engineer :-					Consultan		diheër اجالت				
Name :- MOHAMED KHAIREY					Name :-		لمارات: ماهمد الا				
Signature :- moham	ed Kha	irj (ة النام	5 4	ignature :-	الفضاع ٦	و السريع	فروغ القع	pa.		

UNIVERSAL INSPECTION REQUEST

Employers

* Designer

Representative





مركز الإستشارات العندسية النقل و العارك و قطرق اخراء دوليون ا دكتوا/ سعد الجيوشع





AWC

RECEIPT of NO	TIFICATION -	Minimum N	Notice Perio	d not le	ss than ne shown	24 Ho	urs					
Contractor Company	EL.ZHOO					Designer Company* SGAC						
Company	Name	Sig	n		Date				Time		11-	
Issued by Contractor	M.EIKH			18 / 7 / 2022				Z	4-	R-	51	
Received by ER	M-A	7	22027	UIR	C1 <i>KP484</i>	C2 E.W	C3 O.T	18	T T	Ser2	i 4	MM
CODE-1	Station Reference			D1 to S3 Depot Reference Kp XXX Note For Kilometer point only S used					e / Start I	Km is		
CODE - 2 CODE - 3			Sul	Work A	ctivity t of Activi	ity						
		EXPLAN	ATION OF W	ORK TO	D BE INS	PECTE	D					
De	scription		Ele	ment					Item	1		
La	yer -0.25		FILI	L-0.25			Fro	m st48	34+700	To st4	84+80	0
	INSPEC	TION DETAI	ILS The Followin	ng will be r	eady at the	Planne	d Inspect	tion Time	е			
	Planned Insp	VIII VIII VIII VIII VIII VIII VIII VII							tion Ti	me		
		Contract to the Contract of th	ICE EVIDENC	The second secon	NOT THE REPORT OF THE	44-24-31-31-31-31-31-31-31-31-31-31-31-31-31-						
Checklist Atta	TOTAL CONTRACTOR OF THE CONTRA	Test Resul	ts Attached		ibration	Attac	hedL		ther as	Telephone Control	atedL	
Drawing R	Reference		ITP Reference					MS Reference				
								A STATE OF THE PARTY OF THE PAR	3	1		
Comments by		.0		Com	ments b	V: H	Fam	18	5	S.		
	Ka					No. VI	T.	4.3.14	Navig	Sittle Control	shee	T
VI SW	Pin spec	Tion A	Pprovo	Surv	ey M.F.	والنير	يا غو	1	gua, gra.		3 Proces	4
Material	an Presti	ers P	si F									
INSPECTION R	RESULT							11 (1 ACTOR 2 TO	proval tatus		ease T ot Att	
Organisation	Name	Si	gn	1	Date	1	Time	A-,	AWC-R			
Contractor	M.EIK	Many	Tool	10	17/	622		K	.)			
QA/QC*	m. Af	ul (PiAJ C	U	17/2	Err		1	7			1
GARB**	m-Nes	gm	m	19	17/2	on		1	9			0 1
Commont by El	There not	approved	1 Cross	Section	n The	Sur	ey o	yfor	s appe	1 01	pro	faile

20

A 191 %

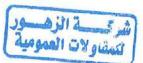
F A)

1.5 ميل الردم -0.25 قطاع شركة الزهور من المحطه (484+000) الى المحطه (485+000) تشغيل طبقة -0.25 RIGHT LEVEL LEFT LEVEL 9.936 C.L 8 4 13.436 12 8 4 DISTANCE C. L -4% -4% -4% -4% -4% -2% -2% SLOP 8 9.936 4 8 4 0 13.436 12 offest 57.50 57.42 57.50 57.820 57.66 57.66 57.41 57.38 Des 1,96 2,12 2,20 180 2,2 2,24 act 12 71 +1 Diff. 57.47 57.40 57.794 57.63 57.63 57.39 57.47 57.36 Des 2,15 2,22 1896 1,99 2,26 2,5 1,99 act 12 4 -1 41 . 1 +2 4) Diff. 57.768 57.61 57.45 57.37 57.61 57.33 57.36 57.45 Des 2,25 4/17 2,26 210 1,85 2,29 act 7 / 72 -1 21 Diff. -1 57.58 57.742 57.58 57.42 57.34 57.42 57.33 57.30 Des 4,20 2,28 2,29 2,20 2,04 1,88 2104 2,32 act 41 -1 21 41 -1 Diff. 57.40 57.32 57.40 57.56 57.716 57.56 57.28 57.31 Des 2,36 2,22 1,904 2,06 2,06 2,22 2,34 2,31 act 42 -2 +1 -1 4 1 Diff. 57.29 57.53 57.37 57.28 57.37 57.53 57.690 57.25 Des 1,93 2,09 2,25 2,25 234 2,09 2,37 act Diff.

ورهاد

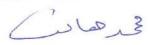
58,36 < 59,82

rella P 9





station		left		P	GL	Right			
	العرض	Eastion	Northing	Eastion	Northing	Eastion	Northing	العرض	
484+700	12.980	339246.2691	928498.0591	339,244.7396	928,510.9669	339243.3709	928520.8201	9.948	
484+720	13.297	339226.4544	928495.1161	339,224.9149	928,508.3249	339223.649	928518.0679	9.827	
484+740	13.392	339206.9106	928492.4163	339,205.0901	928,505.6830	339203.9618	928515.4454	9.828	
484+760	13.524	339187.1537	928489.6526	339,185.2654	928,503.0410	339183.9167	928512.8301	9.884	
484+780	13.357	339167.1584	928487.1541	339,165.4407	928,500.3991	339164.2614	928510.0679	9.742	
484+800	13.025	339147.5955	928484.887	339,145.6159	928,497.7571	339144.7679	928507.3185	9.638	



NELLA A

شركسة الزهسور لتمقاولات الممومية





مكتب معامل الإستشارات الهندسية

الزهور للمقاولات العمومية: Company Name : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Project : مشون St (484+100)

Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date** : 13/07/2022 Report Date

: 11 Report No. : 01 Sample No.

Dear Gentleman,

Attached here with the Soil Embankment delivered on 08/07/2022

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

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مشون:

Type of sample : Soil Embankment

Delivery Date : 08/07/2022 Report Date : 13/07/2022

Report No. :11

Sample No. : 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %				
50	98.5				
37.5	95.8				
25	84.7				
19	78.1				
12.50	59.9				
9.50	51.3				
4.75	45.8				
2,36	42.7				
2.00	40.8				
1.18	36.6				
0.600	33.9				
0.425	30.7				
0.300	25.2				
0.150	17.8				

Signature /.

2



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

:11

Sample 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)	14.9			



Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

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

Test	Results (%)
Liquid Limit	24.3
Plastic Limit	19.4
Plasticity Index	4.9

Signature./

4

الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(St (484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits ac			
Group Classification	(A-1-b)	(A-1-a)	(A-1-b)		
2.00 mm (No.10).	40.8	Max 50 %			
0.425 mm (No. 40).	30.7	Max 30 %	Max 50 %		
0.075 mm (No. 200).	14.9	Max 15 % Max 15			
Characteristics of fraction passing 0.42	25 mm (No.40)				
Liquid Limit	24.3				
Plasticity index	4.9	Max 6 %	Max 6 %		

The test results are (Comply - Not Comply) with specifications limits Agrand the strategic of the second

Signature /

5



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

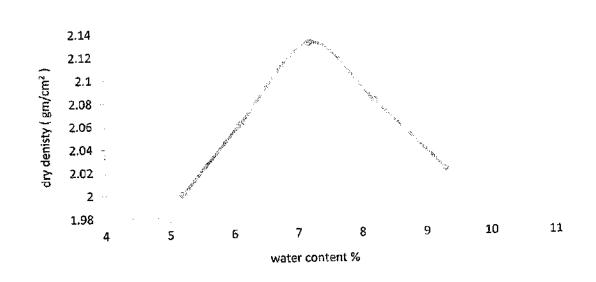
Report No.

: 11

Sample No.

: 01

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



Max dry density (gm/cm²)

: 2.13

Optimum moisture content %

: 7.2

Signature /

الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

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

pene	etration	stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.18
1.27	0.050	2.64
1.91	0.075	2.99
2.54	0.100	3.30
3.18	0.125	3.50
3.81	0.150	3.78
4.45	0.175	3.96
5.08	0.200	4.23
5.71	0.225	4.36
6.35	0.250	4.51

CBR Result	St	CBR %	
At 0.1 inch (2.54 mm)	St. Value	Sample results	47.8
penetration	6.90	3.30	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample-was compacted to dry density of 2.13(gm/cm³)

at-7.2% optimum water-content. Surcharge load 4.50 Kg.

7



Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

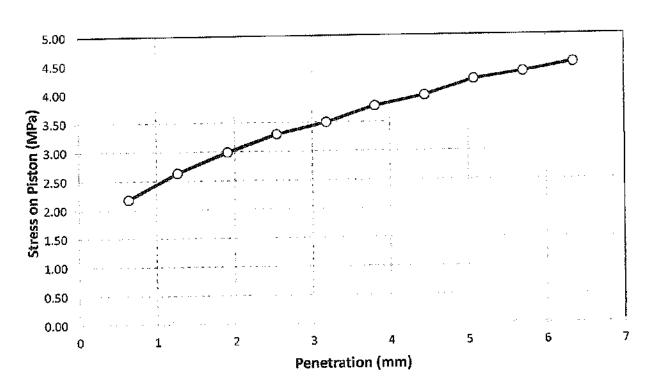
Report No.

: 11

Sample No.

: 01

<u>Load Penetration Curve of CBR Test</u> <u>ASTM D-1883</u>



Signature /





مركز الإستشارات الهندسية للنقل و الطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشمي



Electrical Express Train From El ALAMEIN City to FOKA From Station 394+580 To

الهيئة القومية للإنفاق

مشروع القطار السريع (الطمين فوكه) قطاع د/ سعد الجيوشي مكتب سجاك للاستشارات الهندسية

ACTIVITY : Sand cone	test		laborato	ry results			DATE		19/7/2	2022
									221112	
		Density and Un	ite Weight of S	oil In Place by t	he Sand-cone l	Method _AST	M D 1556			
Company: EL-ZHOUR COMPANY				ı	ayer level	:		FILL ((-0.25)	
Description: Compaction tast			Lay	yer Thickne	ess:		0.2	25 m		
Station represented :	700 TO 48	4+800								
			Mod	lified Proctor To	esting Results					
Max. Dry Density . gm/cm3	Optimu	m Moisture Con	tent. %	Degree of	Compaction F	Required .	Bulk I	Density of Spe	ecified Sand . gm/	cm3
2.13					95%			1	.48	
		MADUM-AGENT	Compaction	n Testing Res	ults & Calcu	lations				
STATION	484+725	484+750	484+775	484+800						
Hole No.	1	2	3	4						
WT, of Sand befor Test ,gm	9672	9578	9484	9327						
WT, of Sand After Test ,gm	5678	5547	5416	5285						
WT, of Sand in Cone + hole .gm	3994	4031	4068	4042						
WT, of Sand in Cone	1140	1140	1140	1140						
WT, of Sand at hole ,gm	2854	2891	2928	2902						
Volume of the hole, Cm3	1928	1953	1978	1961						
WT, of Soil from Hole,gm	4264	4265	4266	4267						
Bulk Density of Soil, Gm/cm3	2.211	2.183	2.156	2.176						
Moisture Content, %	6.2	6.9	6.4	7.1						
Dry Density, gm/cm3	2.082	2.042	2.027	2.032						
Compaction, (%)	97.8%	95.9%	95.1%	95.4%						
			Ne. Witae			900 Suli		Section wi		
Acceptance Criteria	Co	mply			Not 6	Comply				
CONSULTANT COMMENTS										
Site engineer :-					Consultant	Materials En	ngineor '_			
Name :- MOHAMED KHAIREY	J					Partition of the last of the l	Euros			
Signature :- moham	and the second	عود ک	ــة الزه		vame :- lignature :-	Spe	NIC	رگز الا للطرق شاست	امبر د	
		THE REAL PROPERTY.	William I A A	W.C		Company Street Street, or	1442)	ساحروني		

UNIVERSAL INSPECTION REQUEST





مركز الإستشارات الهندسية النظر و الطارت و الطرق (خراد دوليون) دگتور/ سعد الجيوشي





RECEIPT of NO	TIFICATION - Minim	num Notice Perio	od not le	ess than 24 me shown	4 Ho	urs					
Contractor Company	EL . ZHOOR . CO				r Coi	npany	/*		SG	AC	
Company	Name	Sign		Date				Time			
Issued by Contractor	M. ElKahly	Tak		19 / 7 / 2022				ZH-12-52			
Received by ER	M-A	19 202	2 UIR	C1 KP484	C2 E.W	C3 O.T	13	T+	So 22	14	MM
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference Kp XXX Note For Kilometer point only S used								Km is
CODE - 2		Su									
	EXI	PLANATION OF \	WORK T	O BE INSP	ECTE	D					
Des	scription	Ele	ement					Iten	1		
Lay	yer -0.25	FIL	L -0.25	1		Fro	m st48	4+500	To st4	84+70	0
	THE RESERVE OF THE PROPERTY OF THE PERSON OF		ing will be i						mo		
F	Planned Inspection	Date			Pian	nea ii	ispec	uon n	iiie		
Checklist Attac Drawing R	ched Test I	Results Attached	I□ Ca					Water Port and Co.	The real of the second	cated[
Civil:	wisfection	APProx		146 S (153 16	علاه	Ser.	15	To S	wa	S	rest
INSPECTION R	,						553		XH CHEST		
Organisation	Name	Sign	10	Date	Т	ime	12 5 5 5 5 5		- N	ot Att	ena
Contractor	M. Elkhlan	1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	51712	v		A)			
QA/QC*	m. Ate	OP AD	il v	17/2	v		1	 			
GARB**	m-Negm	CIM	Date 19/7/2022 ZH - R - 52 UIR KP484 E.W O.T								
Comment by ER	There are not a	pproved cros	s secti	ON/The	0 30	rve	of	gers e	peri	ON	
Employers Representative	M.A	7 20 21	2025	A. 10			F	1wc			
representative			10000	JI d	will.						

* Designer

1.5		ميل الردم		Green Block Bart	WE STATE	ASSESSED FOR			5
-0.25		منسوب الطبقه	是不得上多	2.00	1000) 41-	ممد من المحم	طاء شكة النو	ق	
		(485+	حطه (000	484) الى الم	عه (1000	ا المحاد	طاع شركة الزه		
				-0.25 A	سعين طبق			RIGHT LE	VEL
The state of		LEFT LE	THE OWNER OF TAXABLE PARTY.	0 1	4	C.L	4	8	9.936
DISTANCE	C.L	13.436	12	-4%	-4%		-4%	-4%	-4%
SLOP		-2%	-2%	8	4	0	4	8	9.936
offest		13.436	12	57.76	57.92	58.080	57.92	57.76	57.68
	Des	57.64	57.67	1,86	1,70	1,54	1,70	1,86	1,94
484+500	act	1,98	1,95	31	140	-	41		4
	Diff.	-1	F7.65	57.73	57.89	58.054	57.89	57.73	57.66
	Des	57.62	57.65		1,73	1,566	1,73	1,89	1,96
484+520	act	21-	197	1,89	777	2)		.\	9 1
	Diff.	+2	-1	21	E7 07	58.028	57.87	57.71	57.63
	Des	57.59	57.62	57.71	57.87	1,59	1,75	1,91	1,99
484+540	act	2,03	2,_	1,91	1/15	* 1	11+2	-1	
	Diff.	_	41	- 1			57.84	57.68	57.60
	Des	57.56	57.59	57.68	57.84	58.002		1194	2,02
484+560	act	2,06	2103	1,94	1,78	1,62	1,78	-1	12
	Diff.	-1	* 1	_	-1	4 \	F7 02	57.66	57.58
	Des	57.54	57.57	57.66	57.82	57.976	57.82	1,96	2,04
484+580	act	2/08	2,05	1,96	1,80	1,674	1/80	+1	
	Diff.	42		-	.× \	-1	-		57.55
_	Des	57.51	57.54	57.63	57.79	57.950	57.79	57.63	
484+600	act	2/11	2,02	1,99	1,83	1,67	1,83	1,99	7107
4841000	Diff.	-1		41	-	-1	11	_	
	Des	57.49	57.52	57.60	57.76	57.924	57.76	57.60	57.53
484+620		2,13	2,10	2,02	1,36	1,69	1,26	2,02	2/09
484+020	Diff.	47	-	71	- 1		1 1	_	
	-	57.46	57.49	57.58	57.74	57.898	57.74	57.58	57.50
*****	Des	2,16	2,13	1204	1,35	, 1,70	-1,38	2104	2,12
484+640		41	-/-	-1	-	+1	-1	41	-
	Diff.		57.46	57.55	57.71	57.872	57.71	57.55	57.47
a sales	Des	2,19	2/1/		1,91	1,79	5 1,91	2,07	2,15
484+660	1	1 1	+2		41	-1	+1	_	-1
	Diff.		57.44		57.69	57.84			57.45
	Des			0.0	_	1,77	1 0.5	2,69	2,17
484+68			2/18	-181	-1		+1	-	- 1
	Diff.		1	57.50			0 57.66	57.50	57.42
	Des		/57/41	37.30	1,9			_	- 2,20
484+70	0 act	2,24	10 7	1937	- / / /	1	4 2		1
	Diff	. +/	1	3/-				110	

58,36 = 59,62

شركسة الزهدور للمقاولات العمومية

p p

		left		PC	SL.	Right				
station العرض		Eastion	Northing	Eastion	Northing	Eastion	Northing	العرض		
484+500	0.0000		928524.0229	339,442.9869	928,537.3863	339441.2936	928547.7729	10.544		
484+520	13.369	339424.8663	928521.4774	339,423.1622	928,534.7444	339421.7275	928544.5249	9.884		
484+540	13.376	339404.978	928518.829	339,403.3375	928,532.1024	339401.8758	928541.8094	9.817		
484+560	13.364	339385.2861	928516.2152	339,383.5127	928,529.4605	339382.1354	928538.9487	9.592		
484+580		339365.5407	928513.4963	339,363.6880	928,526.8186	339362.4534	928536.6474	9.907		
484+600	13.385	339345.7372	928510.9254	339,343.8633	928,524.1766	339342.6538	928533.9791	9.880		
484+620	13.503	339325.7684	928508.1427	339,324.0385	928,521.5347	339322.7312	928531.3369	9.888		
484+640	13.640	339305.9598	928505.5454	339,304.2138	928,518.8927	339302.8425	928528.6926	9.895		
484+660	13.418	339286.1898	928502.955	339,284.3891	928,516.2508	339283.0954	928526.0657	9.900		
484+680	13.206	339266.4001	928500.5325	339,264.5643	928,513.6088	339263.2311	928523.4043	9.885		
484+700		339246.2691	928498.0591	339,244.7396	928,510.9669	339243.3709	928520.8201	9.948		

2003

LEVIA A

شركــــة الزهـــور لتمقاولات العمومية





الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مشون:

Type of sample : Soil Embankment

Delivery Date : 08/07/2022

Report Date : 13/07/2022

Report No. : 11 Sample No. : 01

Dear Gentleman,

Attached here with the Soil Embankment delivered on 08/07/2022

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

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

Signature

1



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %	
50	98.5	
37.5	95.8	
25	84.7	
19	78.1	
12.50	59.9	
9.50	51.3	
4.75	45.8	
2.36	42.7	
2.00	40.8	
1.18	36.6	
0.600	33.9	
0.425	30.7	
0.300	25.2	
0.150	17.8	

Signature /.

2



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

:11

Sample 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 μΜ (No.200)	14.9



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مشون:

Type of sample : Soil Embankment

Delivery Date : 08/07/2022 Report Date : 13/07/2022

Report No. :11

Sample No. : 01

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

Test	Results (%)
Liquid Limit	24.3
Plastic Limit	19.4
Plasticity Index	4.9

Signature de la companya del companya de la companya del companya de la companya del companya de la companya de la companya de la companya del companya de la companya del companya de la companya del companya de la companya de la companya de la companya de la companya del companya del companya del companya de la companya de la companya de la companya de la companya del companya del companya del

الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون :

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

:01

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits a Project	ccording s Specs
Group Classification	(A-1-b)	(A-1-a)	(A-1-b)
2.00 mm (No:10).	40.8	Max 50 %	
0.425 mm (No. 40).	30.7	Max 30 %	Max 50 %
0.075 mm (No. 200).	14.9	Max 15 %	Max 15 %
Characteristics of fraction passing 0.4	125 mm (No.40)		
Liquid Limit	24.3	Age on vertical Ada Na	
Plasticity index	4.9	Max 6 %	Max 6 %

The test results are (Comply - Not Comply) with specifications limits معصور مستعمل المستشار بالا الما المستعمد عدد

Signature / .

5



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مشون :

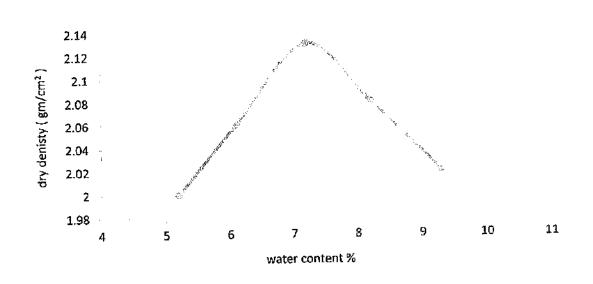
Type of sample : Soil Embankment

Delivery Date : 08/07/2022

Report Date : 13/07/2022

Report No. : 11 Sample No. : 01

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



• Max dry density (gm/cm²) : 2.13

Optimum moisture content % : 7.2

Signature / And Constitution of the Constituti

الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

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

pene	etration	stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.18
1.27	0.050	2.64
1.91	0.075	2.99
2.54	0.100	3.30
3.18	0.125	3.50
3.81	0.150	3.78
4.45	0.175	3.96
5.08	0.200	4.23
5.71	0.225	4.36
6.35	0.250	4.51

CBR Result	Sti	CBR %	
At 0.1 inch (2.54 mm)	St. Value	Sample results	47.8
penetration	6.90	3.30	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample-was compacted to dry density of 2.13(gm/cm³) at 7.2% optimum water-content.

Surcharge load 4.50 Kg

Signature 2.

7



الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh **Project**

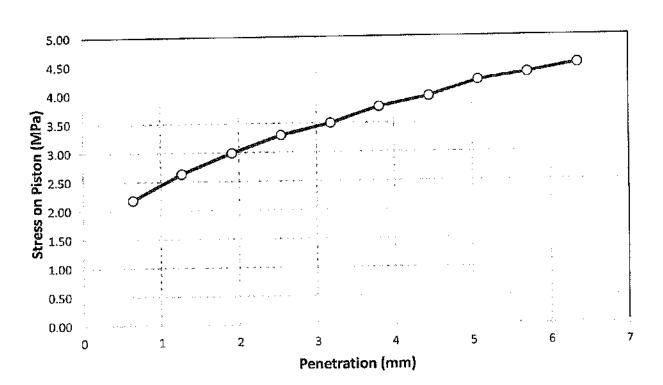
(484+100 مشون: Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date** : 13/07/2022 Report Date

: 11 Report No. :01 Sample No.

Load Penetration Curve of CBR Test ASTM D-1883







عركز الإستشارات الهندسية للنقل و الطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشاي



Electrical Express Train From El ALAMEIN City to FOKA From Station 394+580 To



مشروع القطار السريع (العلمين فوكه) قطاع د/ سعد الجيوشي مكتب سجاك للاستشارات الهندسية

								-		
ACTIVITY: Sand cone	test]	laborate	ory results			DATE		20/7/	/2022
		1			J					
		Density and Ur	nite Weight of S	oil In Place by	the Sand-cone	Method _AST	M D 1556			
Company:	EL-ZI	HOUR COM	IPANY	Layer level:			FILL (-0.25)			
Description:	Compaction tast			La	yer Thickn	ess:		0.	25 m	
Station represented :	484+	500 TO 48	4+700							
			Mod	lified Proctor T	esting Results					
Max. Dry Density . gm/cm3	Optimum Moisture Content . %			Degree o	f Compaction F	Required.	Bulk Density of Specified Sand . gm/cm3			/cm3
2.13		7.2			95%		1.48			
			Compaction	Testing Res	ults & Calcu	lations				
STATION	484+525	484+550	484+575	484+600	484+625	484+650	484+675	484+700		
Hole No.	1	2	3	4	5	6	7	8		
WT, of Sand befor Test,gm	9672	9578	9484	9327	9170	9087	8957	8743		
WT, of Sand After Test ,gm	5678	5547	5416	5285	5154	5023	4892	4761		
WT, of Sand in Cone + hole ,gm	3994	4031	4068	4042	4016	4064	4065	3982		
WT, of Sand in Cone	1140	1140	1140	1140	1140	1140	1140	1140		
WT, of Sand at hole ,gm	2854	2891	2928	2902	2876	2924	2925	2842		
Volume of the hole, Cm3	1928	1953	1978	1961	1943	1976	1976	1920		
WT, of Soil from Hole ,gm	4264	4265	4266	4267	4268	4269	4270	4271		
Bulk Density of Soil, Gm/cm3	2.211	2.183	2.156	2.176	2.196	2.161	2.161	2.224		
Moisture Content, %	6.2	6.9	6.4	7.1	6.4	6.1	5.9	6.7		
Dry Density, gm/cm3	2.082	2.042	2.027	2.032	2.064	2.037	2.040	2.085		
Compaction, (%)	97.8%	95.9%	95.1%	95.4%	96.9%	95.6%	95.8%	97.9%		
		Av. (and and		884118	(Amail8)	74/10/11	SZI GOVERN		tile term	
Acceptance Criteria	Сон	mply			Not C	omply				
	T								-	
CONSULTANT COMMENTS										
Site engineer :-					Consultant	Varertat Prio	incer al	ركز الاس	0	
Name :- MOHAMED KHAIREY						SGAC	المطارات	للطرق و		
Signature :- mohame		9 6	الزهو		ame :- gnature :-	المروش	Afel	د. سعد	K I	







مركز الإستشارات الهندسية التحل و المارات و المارق (خرستوليون) دكتور/ سعد الجيوشي





Contractor	EL . ZHOOR . CO				Designe	er Cor	mpany	/*		SGA	AC	
Company	Name	Sign			Date				Time			
Issued by Contractor	M.Elkahlang	,			24 / 10 / 2022				ZH-F-56			
Received by ER	M-A	24	2000	UIR	C1 KP484	C2 E.W	C3 O.T	M	-	e22	14	MM
CODE-1	S1 to S21 Station Reference				o S3 eference		Fo	r Kilom	Kp XXX eter point use	only		Km is
CODE - 2 CODE - 3					Activity nt of Activit	У						
	EX	PLANAT	ION OF WO		O BE INSI	PECTE	ED					
De	scription		Elem	ent					Item			
	Layer 0		FILL FE	RMA	*		Fro	m st48	84+500 To	o st4	84+70	0
	INSPECTION		The Following	will be	ready at the							
	Planned Inspection	Date		Planned Inspection Time								
	COM	DULANCE	FUIDENCE				V. 4220	1109	Carrier to	21-19		
Checklist Atta			EVIDENCE Attached□		libration			1 0	ther as i	ndic	ated	
Drawing F	DRIFT THE COLUMN		TP Reference									
							1	3	3	1		
						35	anne d'	1-	21637	-		
Comments by	Rand			Cor	nments b	4.19	her	Text	Tha	2w	au	
VISUND	منشارات المندس والمحادث الجيوث المحادث الجيوث المعادر السريا إلا عالم	API	Proved	Sur	vey: Ale	Pron	is de	P. A.	1919 Te		Sh	ve.V.
Material	moraction !											
INSPECTION I	RESULT								oproval Status		ease T ot Att	
Organisation	Name	Sign	,		Date		Time	A-	AWC-R		-	
Contractor	M. EINHaws	y V	tol	•	25/10/2	~		F	7			
QA/QC*	m. Adr	1	D. DJ.	4	28/10)	785			A			
GARB**	in-Negm	1	My	- 1	28/101				A			
Comment by E	R There are no profai	elapp 1e(22	roved C	ross	Seetin	01/	the	Sun.	ned ol	50 64	sof	en
Employers Representati	M. A	-	10	25				1	AWC			

0		ميل الردم				AND DESCRIPTION OF THE PERSON			
0		ملسوب الطبقه			منل حارة الجند				
			(EA40.			الزهور من المحط	قطاع شركة		
				(ل طبقة (ferma	تشغيا			C0012
		LEFT	LEVEL					RIGHT	LEVEL
DISTANC	E C. L	13.44	12	8	4	FERMA	4	8	9,94
SLO	P	-4%	-4%	-4%	-4%		-4%	4%	-4%
offe	it	13.44	12	8	4	٥	4	8	9.94
	Des	57.81	57.87	58.03	58.19	58.45	58.19	58.03	57.95
4844500	act	1,69	1,62	1.77	1,31	1015	1.31	1,47	1.55
	Diff.		4	-1		1		7	
	Des	57.78	57.84	58.00	58.16	5832	58.16	58.00	57.92
0844520	act	1,72	1.66	1,50	1,34	1718	1,34	1.50	1,58
	Diff.	-	-1	01		TO SHE		4 \	1
	Des	57.76	57.82	57.98	58.14	5830 /	58.14	57.98	57.90
d84+546	act	1,74	1.68	1,52	1,36	1,20	1,36	1,52	1.60
	Diff.	21	-,1		/		energy.	92	-
	Des	57.73	57.79	57.95	58.11	58.27	58.11	57.95	57.87
4844550	act	1,77	1,71	1,55	1.39	1,23	1,39	1,55	1,63
	Diff.	1		91	at decement	x 2	-	43	c.k \
10000	Des	57.71	57.76	57.92	58.08	5824	58.08	57.92	57.85
4844580	act	1,79	1.74	1,58	1,42	1.26	1.45	1,58	1,65
	Diff.		-	41		25	91	-	AL
A CONTRACTOR	Des	57.68	57.74	57.90	58.06	(50.22	58.06	57.90	57.82
4844556	act	1,22	1.76	1,60	1.44	1,25	1044	1,60	1,68
	Diff.	92	47	-	9.1		A - T	4	-
	Des	57.65	57.71	57.87	58.03	58.19	58.03	57.87	57.79
4844620	act	1,85	1,79	163	1,47	131	1.42	163	1,71
	Diff.	4	-		ad:		p.com.	9 1	et.
	Des	57.63	57.69	57.85	58.01	56.47	58.01	57.85	57.77
4844640	act	1,37	1,81	1.65	1,49	1033	1,49	1,65	1.73
1708	Diff.	1.01	-1-	41		1-1	-01		412
9.53.74	Des	57.60	57.66	57.82	57.99	1 12	57.98	57.82	57.74
4844668	act	1.90	1,84	1,68	152	430	1,52	1,68	1.76
	Diff.	4	-	41	10	(1/2)	***************************************	44 4	-
	Des	57.58	57.63	58.70	7.95	127	57.95	57.79	57.72
4844680	act	1,92	1,97	1 Story	105500	1,39	1055	1,71	1,79
	Diff.	4%		1	7	7		-1	17
	Des	57.55 ,	5 61	57.77	57.93	(55.00 -)	57.93	57.77	57.69
484-768	act	1,95	1.89	725	1,57	1	1 17	1,22	181

قیصان

شركة الزهود 1.13 لم 584

FERMA - ST. FROM (484+520 - TO - 484+700)

POINT	NORTH	EAST	ELEV
1	928544.279	339421.711	57.884
2	928538.638	339422.676	58.157
3	928527.451	339424.246	58.023
4	928522.08	339424.861	57.815
5	928521.488	339424.914	57.768
6	928521.22	339419.246	57.779
7	928526.728	339418.164	58.024
8	928532.399	339417.452	58.262
9	928537.977	339416.564	58.147
10	928543.317	339415.576	57.869
11	928542.486	339409.979	57.887
12	928536.768	339410.578	58.171
13	928531.051	339411.461	58.253
14	928525.286	339412.104	57.977
15	928520.097	339412.661	57.764
16	928519.027	339406.846	57.744
17	928524.43	339405.942	57.986
18	928529.949	339404.879	58.23
19	928535.247	339404.124	58.195
20	928540.643	339403.095	57.971
21	928541.732	339401.985	57.927
22	928540.728	339397.042	57.926
23	928535.023	339397.426	58.153
24	928529.419	339397.885	58.226
25	928523.474	339398.438	57.994
26	928517.966	339398.843	57.743
27	928517.182	339392.995	57.71
28	928522.788	339391.797	57.991
29	928528.095	339390.758	58.208
30	928533.466	339389.76	58.154
31	928539.36	339388.892	57.903
32	928539.167	339382.132	57.866
33	928533.044	339382.933	58.129
34	928527.192	339383.539	58.206
35	928521.989	339384.535	57.965
36	928516.85	339385.226	57.723
37	928516.193	339385.25	57.667
38	928515.597	339380.082	57.691
39/	928520.311	339379.285	57.919
40	928524.967	339378.561	58.123
413	928529.402	339377.85	58.278
42/	928534.251	339376.862	58.066
43	928538.564	339376.073	57.845
44	928537.81	339371.104	57.865
45	928532.354	339371.485	58.114

47.3

شركسة الزهسور للمقاولات العمومية

الحراجا في

47	928522.913	339372.132	58.045
48	928518.217	339372.587	57.863
49	928514.408	339372.886	57.633
50	928513.556	339365.471	57.642
51	928518.422	339364.829	57.898
52	928522.846	339364.347	58.08
53	928526.811	339363.718	58.257
54	928531.705	339363.088	58.063
55	928536.599	339362.349	57.809
56	928535.713	339357.396	57.813
57	928530.658	339357.691	58.054
58	928525.978	339358.469	58.23
59	928521.174	339359.035	58.039
60	928516.416	339359.625	57.861
61	928512.517	339359.85	57.639
62	928511.853	339354.929	57.661
63	928516.49	339354.197	57.896
64	928521.152	339353.17	58.068
65	928525.496	339352.41	58.232
66	928530.171	339351.649	58.043
67	928534.962	339350.954	57.834
68	928534.902	339346.547	57.848
69	928529.114	339347.063	58.051
70	928524.559	339347.434	58.228
71	928519.62	339348.194	58.012
72	928515.126	339348.895	57.856
73	928513.120	339349.459	57.622
74	928510.916	339345,624	57.634
75	928515.382	339345.041	57.883
76	928519.758	339344.42	58.039
77	928524.129	339343.889	58.221
78	928528.635	339343.414	58.041
79	928533.838	339342.572	57.831
80	928533.026	339337.8	57.846
81	928528.083	339338.354	58.038
82	928523,363	339339.07	58.218
83	928518.718	339339.544	58.047
84	928514.202	339340.061	57.856
85	928510.178	339340.498	57.632
86	928509.748	339335.568	57.648
87	928514.041	339334.7	57.876
88/7	928518.47	339334.027	58.083
200	928522 647	339333.619	58.22
90	928526.942	339333.11	58.041
910	928531.415	339332.505	57.873
392	928532.813	339332.417	57.825
93	928532.068	339327.713	57.796
94	928527.275	339328.079	58.005
95	928522.376	339328.818	58.194
The second secon		· · · · · · · · · · · · · · · · · · ·	

De



و الله

96	928517.735	339329.574	58.048
97	928513.341	339330.418	57.853
98	928508.875	339331.024	57.606
99	928508.228	339325.805	57.601
100	928513.029	339325.155	57.864
101	928517.825	339324.704	58.053
102	928521.533	339324.116	58.2
103	928526.284	339323.716	58.006
104	928531.29	339322.737	57.722
105	928530,713	339317.746	57.696
106	928525.926	339318.048	57.973
107	928521.132	339318.653	58.152
108	928516.038	339319.211	58.014
109	928511.595	339319.74	57.837
110	928507.221	339320.399	57.537
111	928506.548	339315.78	57.527
112	928511.32	339315.132	57.858
113	928516.307	339314.273	58.058
114	928520.283	339313.427	58.14
115	928525.093	339312.814	57.975
116	928530.013	339311.989	57.716
117	928529,365	339307.289	57.702
118	928524.387	339308.088	57.961
119	928519.46	339308.894	58.144
120	928514.5	339309.383	57.989
121	928509.697	339309.919	57.812
122	928505.999	339310.529	57.592
123	928505.676	339305.959	57.609
123	928510.765	339305.214	57.851
125	928515.458	339304.64	58.045
126	928518.892	339304.226	58.153
127	928523.533	339303.561	57.969
128	928528.677	339302.913	57.717
129	928528.051	339297.848	57.729
130	928522.979	339298.574	57.965
131	928518.066	339299.117	58.164
132	928512.951	339299.683	57.941
133	928508.593	339299.887	57.803
134	928504.855	339300.408	57.545
The state of the s	928504.219	339295.55	57.57
135	928509.472	339294.977	57.841
137	928509.472	339294.558	58.056
137	928519.371	339293.474	58.064
		339292.213	57.863
139	928527.389	339292.213	57.751
	928526.62 Line 1 C928526.62	339286.984	57.722
N1		339280.984	57.936
1427	928521.48	339288.387	58.119
143	928516.746		57.934
144	928511.431	339289.293	37.934

032

شركسة الزهسور للمقاولات العمومية ¿cer3

145	928506.728	339289.687	57.74
146	928503.679	339290.02	57.569
147	928502.997	339286.199	57.525
148	928507.798	339285.893	57.809
149	928513.47	339284.534	58.053
150	928518.539	339283.881	58.039
151	928523.189	339283.35	57.846
152	928526.042	339283.126	57.723
153	928525.371	339278.698	57.687
154	928521.121	339279.308	57.898
155	928517.013	339280.068	58.071
156	928512.525	339280.885	58.044
157	928508.05	339281.235	57.837
158	928503.427	339281.789	57.622
159	928502.44	339281.872	57.526
160	928501.914	339276.585	57.521
161	928506.441	339275.505	57.79
162	928511.288	339274.548	58.035
163	928515.934	339273.447	58.08
164	928520.595	339272.561	57.86
165	928524.429	339271.706	57.686
166	928523.54	339267.44	57.714
167	928519.195	339267.976	57.884
168	928514.601	339268.576	58.089
169	928510.002	339269.073	57.969
170	928505.361	339269.518	57.764
171	928501.059	339270.192	57.565
172	928500.645	339266.195	57.551
173	928505.497	339265.382	57.769
174	928510.427	339264.335	58.008
175	928515.189	339263.25	58.048
176	928520.142	339262.158	57.825
177	928523.131	339263.283	57.679
178	928522.504	339258.158	57.686
179	928518.289	339258.516	57.894
180	928513.477	339259.275	58.084
181	928508.653	339259.943	57.924
182	928503.745	339260.692	57.733
183	928499.956	339261.15	57.552
184	928499.138	339256.249	57.481
185	928503.686	339255.583	57.744
186	928508.712	339254.556	57.962
187	928513.511	339253.983	58.057
188	928518.316	339253.273	57.876
190	928521.896	339252.879	57.671
190 0	928521.403	339248.13	57.689
الال	928516.205	339248.402	57.92
192	928511.53	339248.924	58.085
193	928506.962	339249.521	57.897

6/34



قيرجاني

194	928502.633	339250.031	57.708
195	928498.473	339250.612	57.468
196	928497.882	339246.432	57.407
197	928502.544	339245.462	57.717
198	928507.382	339244.324	57.962
199	928511.485	339243.537	58.044
200	928516.282	339242.597	57.858
201	928520.843	339242.253	57.689

16/8L

ら中地

شركسة الزهسور للمقاولات العمومية



- ELIC - ER 2 - ELIC - ER 2 - ELIC - ER 2 - · 57.79 484+540. 15 9 3 12 • 55,15 • 55,16 4845 • 57.80 • 57.87 * 57, 68

شركسة الزهسور للمقاولات العمومية



الزهور المقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Project

(484+100 مشون: Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date** : 13/07/2022 Report Date

Report No. : 11 : 01 Sample No.

Dear Gentleman,

Attached here with the Soil Embankment delivered on 08/07/2022

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.

Proctor Test according to ASTM D-1557

6. CBR according to ASTM D-1883

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

3 El Malck El Afdal Street Zamalek, Cairo.

Tel.& Fax: 27367231 - 27363093





الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh **Project**

(484+100 مشون: Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date**

: 13/07/2022 Report Date

Report No. : 11 : 01 Sample No.

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	98.5
37.5	95.8
25	84.7
19	78.1
12.50	59.9
9,50	51.3
4.75	45.8
2.36	42.7
2.00	40.8
1.18	36.6
0.600	33.9
0.425	30.7
0.300	25.2
0.150	17.8

Signature /





Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(100+484) St مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample 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 μΜ (No.200)	14.9





الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh **Project**

(484+100 مشون: Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date** : 13/07/2022 Report Date

Report No. : 11 Sample No. : 01

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

Test	Results (%)		
Liquid Limit	24.3		
Plastic Limit	19.4		
Plasticity Index	4.9		





Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
Group Classification	(A-1-b)	(A-1-a)	(A-1-b)
2,00 mm (No.10).	40.8	Max 50 %	
0,425 mm (No. 40).	30.7	Max 30 %	Max 50 %
0.075 mm (No. 200).	14.9	Max 15 %	Max 15 %
Characteristics of fraction passing 0.	425 mm (No.40)		
Liquid Limit	24.3		
Plasticity index	4.9	Max 6 %	Max 6 %

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

Signature / .



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

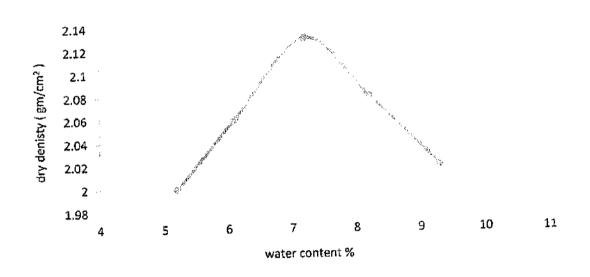
Report No.

: 11

Sample No.

: 01

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



Max dry density (gm/cm²)

: 2.13

Optimum moisture content %

: 7.2

Signature /





Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

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

pene	etration	stress on piston (Mpa)	
mm	Inch		
0.64	0.025	2.18	
1.27	0.050	2.64	
1.91	0.075	2.99	
2.54	0.100	3.30	
3.18	0.125	3.50	
3.81	0.150	3.78	
4.45	0.175	3.96	
5.08	0.200	4.23	
5.71	0.225	4.36	
6.35	0.250	4.51	

CBR Result	St	CBR %	
At 0.1 inch (2.54 mm)	St. Value	Sample results	47.8
penetration	6.90	3.30	

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample was compacted to dry density of 2.13(gm/cm³)

at 7.2% optimum water-content.

3. Surcharge load 4.50 Kg.

Signature

7

3 El Malek El Afdal Street Zamalek, Cairo.

Tel.& Fax: 27367231 - 27363093





الزهور للمقاولات العمومية: Company Name

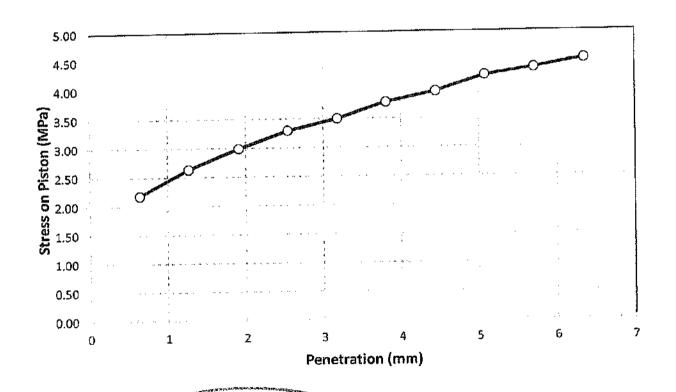
Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) د مشون : Soil Embankment

Delivery Date : 08/07/2022 Report Date : 13/07/2022

Report No. : 11 Sample No. : 01

<u>Load Penetration Curve of CBR Test</u> <u>ASTM D-1883</u>



Signature/







مركز الإستشارات الهندسية لننقل و الطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشي



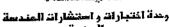
Electrical Express Train From El ALAMEIN City to FOKA From Station 394+580 To

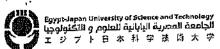


مشروع القطار السريع (العلمين فوكه) قطاع د/سعد الجيوشي مكتب سجاك للاستشارات الهندسية

		4								
										ui -
ACTIVITY : Sand cone	test		laborato	ry results			DATE		25/10/	2022
		Density and Un	ite Weight of So	oil In Place by t	the Sand-cone I	Method _ASTN	A D 1556			
Company:	EL-ZHOUR COMPANY		Layer level :		FILL (FERMA)			1940 J. 1911 S. J. 22010		
Description:	n: Compaction tast		Layer Thickness :		0.25 m					
Station represented :	484+500 TO 484+700									
			Mod	ified Proctor T	esting Results					
Max. Dry Density . gm/cm3 Optimum Moisture Content . %		Degree of Compaction Required .		Bulk Density of Specified Sand . gm/cm3			/em3			
2.13		7.2			95%			1	.48	
			Compaction	Testing Res	ults & Calcu	lations				
STATION	484+525	484+550	484+575	484+600	484+625	484+650	484+675	484+700		
Hole No.	1	2	3	4	5	6	7	8		
WT, of Sand befor Test,gm	9672	9578	9484	9327	9170	9087	8957	8743		
WT, of Sand After Test ,gm	5678	5547	5416	5285	5154	5023	4892	4761		
WT, of Sand in Cone + hole ,gm	3994	4031	4068	4042	4016	4064	4065	3982		
WT, of Sand in Cone	1140	1140	1140	1140	1140	1140	1140	1140		
WT, of Sand at hole ,gm	2854	2891	2928	2902	2876	2924	2925	2842		
Volume of the hole, Cm3	1928	1953	1978	1961	1943	1976	1976	1920		
WT, of Soil from Hole ,gm	4264	4265	4266	4267	4268	4269	4270	4271	416-4	
Bulk Density of Soil, Gm/cm3	2.211	2.183	2.156	2.176	2.196	2.161	2.161	2.224		
Moisture Content, %	6.2	6.9	6.4	7.1	6.4	6.1	5.9	6.7		
Dry Density, gm/cm3	2.082	2.042	2.027	2.032	2.064	2.037	2.040	2.085		
Compaction, (%)	97.8%	95.9%	95.1%	95.4%	96.9%	95.6%	95.8%	97.9%		
		alalin/silaan					Salara Car	18 TO 18 19	NE mexicoson	
Acceptance Criteria	Co	mply			Not C	omply				
CONSULTANT COMMENTS										
Site engineer :-					Consultant	Materials En	gineer:	2		
Name :- MOHAMED KHAIREY	7			N	lame :-			الاستنسا	Maria Maria and Allendar	
		travi C	A 13/	-		SGA		رق في الم	2 1	
Signature:-mohem	red Kha	ון צייו	الرهسو ن العمومية	هركسه لكيفاو لان	ignature :-	رناع ٦	السريع ف	وع القعلار	سنسر	

-: ignature للمركبة الزهبور المقاولات العمومية





ZH-R-56

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. 10 plate loading tests on the Upper embankment soil (A1-a) of the Electric Express Train project were conducted at 10 locations (KM 484+500 to 484+550, KM 484+550 to 484+600, KM 484+600 to 484+650, KM 484+650 to 484+700, KM 484+700 to 484+750, KM 484+750 to 484+800, KM 484+800 to 484+850, KM 484+850 to 484+900, KM 484+900 to 484+950, and KM 484+950 to 485+000) and the data collected at the 10 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 484+500 to 484+550), 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 484+500 to 484+550)

plate loadin	g test performed at the location		
Loadingstage	e Load (F)	Normal	Settleme
100	KN	MN/m²	mm
0	1.414	0.005	0.00
ī	7.07	0.025	0.24
7	14.14	0.050	0.33
3	21.21	0.075	0.40
4	28.28	0.100	0.48
5	35.35	0.125	0.59
6	42.42	0.150	0.68
7	49.49	0.175	0.81
8	56.56	0.200	0.94
9	63.63	0.225	1.03
10	70.7	0.250	1.15
11	56.56	0.200	1.15
12	49.49	0.175	1.15
13	35.35	0.125	1.14
14	21.21	0.075	1.07
15	1,414	0.005	0.50

3 of 31 F-1756

GINTECH@ejust.edu.eg

.

Mobile: +201555631725



Table 2: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+500 to 484+550)

plate loading	test bettorned at the location		6 M
	Load (F)	Normal stress (5 ₀)	Settlement (S)
Loading stage	EN	MN/m ²	mm
0	1.414	0.005	0.50
4	7.07	0.025	0.59
	14.14	0.050	0.67
2	21.21	0.075	0.73
3	28.28	0,100	0.82
4	35:35		0.90
5		0.150	0.98
6	42.42 49.49		1.02
7	M (A - A - A - A - A - A - A - A - A - A	and the state of t	1.10
8	56.56	0.200	
9	63.63	0.225	1.13

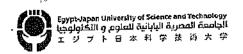
The load-settlement data obtained in all loading and unloading stages for the test performed at the first location (KM 484+500 to 484+550) are shown in Figure 1. Table 3 shows the calculations of the resilient modulus of the tested soil according to DIN18134. The testing data corresponding to the second testing point (KM 484+550 to 484+600) is provided in Tables 4-6 and Figure 2. The testing data corresponding to the third testing point (KM 484+600 to 484+650) is provided in Tables 7-9 and Figure 3. The testing data corresponding to the fourth testing point (KM 484+650 to 484+700) is provided in Tables 10-12 and Figure 4. The testing data corresponding to the fifth testing point (KM 484+700 to 484+750) is provided in Tables 13-15 and Figure 5.

Table 3: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 484+500 to 484+550)

484+500 to 484+550) Parameters	1st loading cycle	2nd loading cycle
(somax) MN/m ²	0.25	0.25
	springer 0.17	0.49
a. (mm/(MN/m²))	2.81	3.66
a ₂ (mm/(MN2/m ³))	4.67	-3. 17
Ev= 1,5 r/(a ₁ +a ₂ , s _{0,Max})	113.24	156.82
Ev ₂ /Ev ₁	1.38 ·	

www.ejust.edu.eg CETC221100005.Trans.GEO0 CINTECH@ejust.edu.eg Mobile: +201555631725

4 of 31



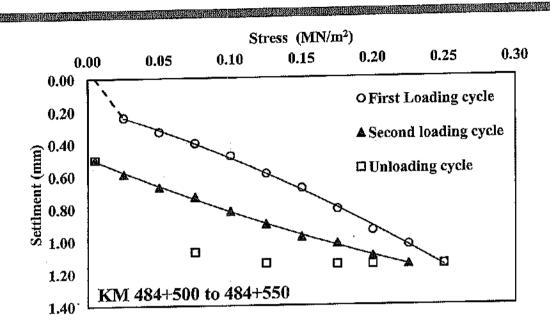


Figure 1: Load-settlement data: plate loading test performed at (KM 484+500 to 484+550)

Table 4: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+550 to 484+600)

	Load (F)	Normal stress (s ₀)	Settlement (S)
Loading sta	kn	MN/m²	mm
0	1.414	0.005	0.00
1	7.07	0.025	0.19
2	14.14	0.050	0.31
3	21.21	0.075	0.40
A	28.28	0.100	0.46
5	35.35	0.125	0.53
6	42.42	0.150	0.65
7	49.49	0.175	0.76
8	56.56	0.200	0.89
9	63.63	0.225	0,98
10	70.7	0.250	1.10
11	56.56	0.200	1.10
AND THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY.	49.49	0.175	1.09
12	35.35	0.125	1.05
13	200000 NETTOTAL	0.075	1.01
14	21,21	0.005	0.38
15	1,414	gy yddol agail gwysig y ac cyntaeth ar co	

5-01-81-57C 3389



Table 5: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+550 to 484+600)

plate loading	test periorned at the location		6.61
	Load (F)	Normal stress (s ₀)	Settlement (S)
Loading stage	kn	MN/m²	mm
0	1.414	0.005	0.38
1	7.07	0.025	0.52
2	1/1/1/	0.050	0.58
3	21.21	0.075	0.65
Ā	28.28	0.100	0.71
T	35.35	0.125	0.84
6	42.42	0.150	0.90
7	49.49	0.175	0.95
,	56 56	0.200	1.00
9	63.63	0.225	1.07
9	69:60 July 18 (1889) 1 No. 40 July 18 (1897)		•

Table 6: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 484+550 to 484+600)

Parameters 1st loading cycle	2nd loading cycle
(S _n ,max):MN/m ² 0.25	0.25
a ₆ (mm) 0.14	0.38
a ₁ (mm/(MN/m ²)) 2.88	4.03
a ₂ (mm/(MN2/m³))) 3.94	
Ev= 125 r/ ₂ (a ₁ +a ₂ : 5 _{0, MAX}) 116.40	154.54
Ey ₂ /Ev ₁ 1.33	

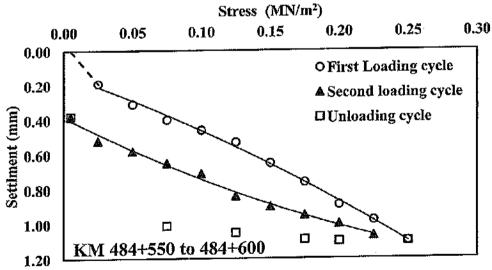
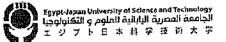


Figure 2: Load-settlement data: plate loading test performed at (KM 484+550 to 484+600)

www.ejust.edu.eg CETC221100005.Trans.GEO0 6 of 31

GINTÉCH@ejust.edu.eg Mobile: +201555631725



وحدة اختبارات و استشارات المندسة المدنعة

Table 7: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+600 to 484+650)

plate loading			Settlement (S)
	Load (F)	Normal stress (s _b)	
Loading stage	kN	MN/m²	mm
0	1.414	0.005	0.00
7	7.07	0.025	0.17
1	Mark and the contract of the c	0.050	0.27
2	14.14 21.21	0.075	0.33
3	Market Tallers and the second of the second	0.100	0.38
4	28.28	the first contract of the cont	and the second s
5	35.35	The state of the s	0.55
6	42.42	0.150	
7	49.49	0.175	
8	56.56	0.200	0.75
9	63.63	0.225	0.85
10	70.7	0.250	0.95
11	56.56	0.200	0.95
	49,49	0.175	0.95
12	MAG	0.125	0.93
13	KON	0.075	0.87
14	21.21	and the second of the second are the second of the second	0.40
15	1.414	0.005	0.40

Table 8: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+600 to 484+650)

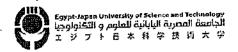
hiare mannie		Normal stress (s ₀)	Settlement (S)
	Load (F)	NOTIFICATION (SECTION)	
Loading stage	kN	MN/m′	mm
n	1.414	0.005	0.40
1	7.07	0.025	0.47
2	14.14	0.050	0.55
3	21.21	0.075	0.58
4	28.28	0.100	0.61
5	35,35	0.125	0.68
6	42,42	0.150	0.73
7	49.49	0.175	0.81
8	56.56	0.200	0.88
9	63.63	0.225	0.92

Table 9: Calculations of the resilient modulus of the tested soil according to DIN18134: (KM 484+600 to 484+650)

4047000 (0 40470)01		2nd loading cycle
Parameters	1st loading cycle	Zitu toaung cycle
	0.25	0.25
(S ₀ ;max) w(y/m	0	0.41
a (mm)	igarily yet, 0.12 it a it is it is a	0.41
	2 27	2.12
a; (mm/(MN/m))	2,2,	Salar and the Alarest Control of the
a, (mm/(MN2/m1))	5000 Ben - 4:24 E. C. (1915)	U./5
	135.05	194.64
Ev= 1.5 r/ (a ₁ +a ₂ , 5 _{0, MAx})	LOO.CO	And Sand to be broken by the fact of the f
EU /EV	1.44.	Table High of Car a.
	1.44	9 8 7 7 7 m

www.ejust.edu.eg CETC221100005.Trans.GEO0 7 of 31

CINTECH@ejust.edu.eg Mobile: +201555631725



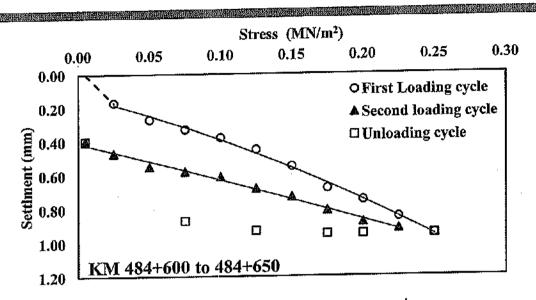


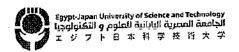
Figure 3: Load-settlement data: plate loading test performed at (KM 484+600 to 484+650)

Table 10: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+650 to 484+700)

	Load (F)	Normal stress (s ₀)	Settlement (S)
Loading sta	ige KN	MN/m²	m m
0	1.414	0.005	0.00
1	7.07	0.02 5	0.21
7	14.14	0.050	0.35
3	21.21	0,075	0.45
a	28.28	0.100	0.52
5	35.3 5	0.125	0.64
6	42.42	0.150	0.79
7	49.49	0.175	0.91
9	56.56	0.200	1 .05
9	63.63	0.225	1.16
10	70.7	0.250	1 .31
	56.56	0.200	1.31
11	49.49	0.175	1.31
12	20.260/60001 #2.7001/00000	0.125	1.25
13	35.35	0.075	1.18
14	21.21	0.005	0.45
15	1.414	0.003	

www.ejust.edu.eg CETC221100005.Trans.GEO0 8 of 31

.CINTECЙ@ejust.edu.eg Mobile: +201555631725



وحده احتجازات و استغمارات الهندسه البدنية

Table 11: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+650 to 484+700)

plate loading test perm		Settlement (5)
Loading stage Load (F)	MN/m ²	mm
0 1.414	0.005	0.45
· · · · ·	0.025	0.60
2 14.14	0.050	0.72
	0.075	0.80
A 28.28	0.100	0.86
5 35.35	94.78 State (0.125 State) - 18.0	6.99 (11) 14 (1.99 (1.14) (1.14) (1.14)
6 42.42	0.150	1.05
7 49.49	0.175	1.13 (1.13)
56.56	0.200	1.20
9 63.63	经经济的证据 0.225 计记忆程序	1.30

Table 12: Calculations of the resilient modulus of the tested soil according to DIN18134:

(KM 484+650 to 484+700)		≤ 11. E
Parameters **	1st loading cycle	2nd loading cycle
(s _o ,max) MN/m	0.25	0.25
a _n (mm)	0.13	0.46
a ₁ (mm/(MN/m²))	3.77	4.74
a ₂ (mm/(MN2/m ⁴))	3.82	-4.91
Ev= 1/5 r/ (a ₁ +a ₂ , s _{0, MAX})	95.19	128.24
Ev ₂ /Ev ₁ 1	1.35	Mental and affects of the first section of the sect

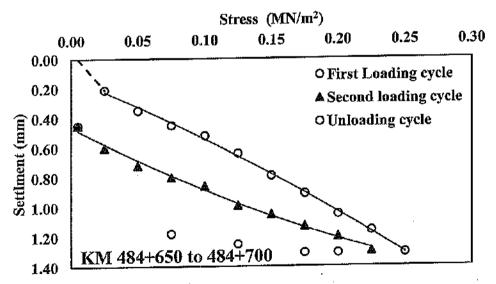
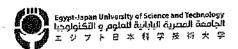


Figure 4: Load-settlement data: plate loading test performed at (KM 484+650 to 484+700)



4. Closure

Test results presented herein report the load-settlement data obtained from 10 plate loading tests conducted on the Upper embankment soil (A1-a) of the Electric Express train project at 10 locations (KM 484+500 to 484+550, KM 484+550 to 484+600, KM 484+600 to 484+650, KM 484+650 to 484+700, KM 484+700 to 484+750, KM 484+750 to 484+800, KM 484+800 to 484+850, KM 484+850 to 484+900, KM 484+900 to 484+950, and KM 484+950 to 485+000) in accordance with German Standard, DIN18134.

Location	E _{v1} MN/m2	E _v , MN/m2	E _{v2} /E _{v1} ratio
KM 484+500 to 484+550	113.24	156.82	1.38
KM 484+550 to 484+600	116.40	154.54	1.33
KM 484+600 to 484+650	135.05	194.64	1.44
KM 484+650 to 484+700	95.19	128.24	1.35
KM 484+700 to 484+750	125.03	176.72	1.41
KM:484+750 to 484+800	110.49	152.53	1.38
KM 484+800 to 484+850	102.04	139.54	1.37
KM 484+850 to 484+900	83.00	123.75	1,49
KM:484+900 to 484+950	106.44	125.82	1.18
KM 484+950 to 485+000	95.98	121.82	1.27

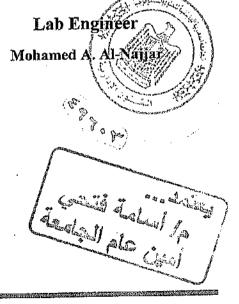
• Note: Before interpreting these test results for future applications, the Upper embankment soil (A1-a) in-situ variability between the testing locations should be considered.

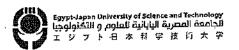
Technical committee

Dr. Mahmoud Ahmed

Prof. Dr. Mohamed F. M. Fahm







Civil Engineering Testing & Consulting Unit

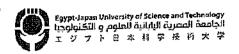
وحدة اختبارات و استشارات المندسة العدنمة

Appendix A

www.ejust.edu.eg CETC221100005.Trans.GEO0

21 of 31

CINTECH@ejust.edu.eg Mobile: +201555631725



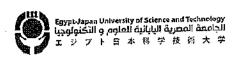
Location of test site:			Field	Mr. Mohamed	
Location of test site:	KM 484+50	0 to 484+550	team	Mamdouh	
Project title:	Electric Express Tra	Electric Express Train Project - AlZhour		2/11/2022	
Diameter of loading	<u></u>		Time	ص 10:02:00	
plate	60	600		ص 10:30:00	
Lever ratio		Ī	Note:		
Type of Soil	Upper embank	ment soil (A1-a)			
Bedding material		-			
Temperature	4300				
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mn	
Loading Stage	0	1.414		10.00	
	1	7.07		9.76	
	2	14.14		9.67	
	3	21.21		9.60	
	4	28.28		9.52	
	5	35.35		9.41	
	6	42.42		9.32	
	7	49.49		9.19	
	8	56.56		9.06	
	9	63.63		8.97	
	10	70.7		8.85	
Unloading Stage	11	56.56		8.85	
Omondang Sanga	12	49.49		· 8.85	
	13	35.35		8.86	
	14	21.21		8.93	
	15	1.414		9.50	
Test regime	Loading Stage No.	Load (kN)	Dial Ga	iuge Reading (mn	
Reloading Stage	0	1.414		9.50	
	1	7.07		9.41	
	2	14.14		9.33	
	3	21.21		9.27	
	4	28.28		9.18	
	5	35.35		9.10	
	6	42.42		9.02	
	7	49,49		8.98	
•	8	56.56		8.90	
	9	63.63	~ ~		



وحدة اختبارات و استشارات المندسة المدنية

Location of test site:	TZNA AQALEE	0 to 484+600	Field	Mr. Mohamed
	MVI 404755	0 10 404 000	team	Mamdouh
Project title:	Electric Express Tra	in Project - AlZhour	Date:	2/11/2022
Diameter of loading			Time	ص 10:37:00
plate	6	00		ص 11:03:00
Lever ratio		1	Note:	
Type of Soil	Upper embank	ment soil (A1-a)	_	
Bedding material				
Temperature		°C	Diel Co	
Test regime	Loading Stage No.	Load (kN)	Dial Ga	nge Reading (mm 10.00
Loading Stage	0	1.414		
	1	7.07		9.81
	2	14.14	ļ	9,69
	3	21.21	9.60	
	4	28.28	9.54	
	5	35.35	9.47	
	6	42.42		9.35
	7	49.49		9.24
	8	56.56		9.11
	9	63.63		9.02
	10	70.7		8.90
Unloading Stage	11	56.56		8.90
~	12	49.49		8.91
•	13	35.35		8.95
	14	21.21		8.99
	15	1.414		9.62
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mm
Reloading Stage	0	1.414		9.62
	1	7.07	1	9.48
	2	14.14		9.42
	3	21.21		9.35
	4	28.28		9.29
	5	35.35	-	9.16
	6	42.42	 	9.10
		4 700 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
		49 49		9.05
	7 . 8	49.49 56.56		9.05 9.00

www.ejust.edu.eg CETC221100005.Trans.GEO0 CINTECH@ejust.edu.eg 23 of 31 Mobile: +201555631725

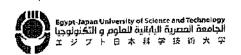


وحدة اختبارات و استشارات المندسة المدنية

Location of test site:	KM 484+60	0 to 484+650	Field team	Mr. Mohamed Mamdouh
Project title:	Electric Express Tra	in Project - AlZhour	Date:	2/11/2022
Diameter of loading		00	Time	ص 11:10:00
plate	D	00		ص 11:38:00
Lever ratio		1	Note:	
Type of Soil	Upper embank	ment soil (A1-a)		
Bedding material	_			
Temperature		<u>°C</u>		
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mm)
Loading Stage	0	1,414		10.00
	1	7.07	_	9.83
	2	14.14		9.73
	3	21.21	9.67	
	4	28.28		9.62
	5	35.35		9.55
	6	42.42		9.45
•	7	49.49		9.32
	8	56.56		9.25
	9	63.63		9.15
	10	70.7		9.05
Unloading Stage	11	56.56		9.05
	12	49.49		9.05
	13	35.35		9.07
	14	21.21		9.13
	15	1.414		9.60
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mm)
Reloading Stage	0	1.414		9.60
S &	1	7.07		9.53
	2	14.14		9.45
	3	21.21		9.42
	4	28.28		9.39
	5	35.35		9.32
	6	42.42		9.27
	7	49.49		9.19
	8	56.56	-	9.12
	9	63.63	1	9.08

www.ejust.edu.eg CETC221100005.Trans.GEO0

24 of 31



وحدة اختبارات و استشارات المندسة المدنية

Location of test site:	KM 484+65	60 to 484+700	Field	Mr. Mohamed	
	1X111 404 1050 to 404 1,000		team	Mamdouh	
Project title:	Electric Express Tr	ain Project - AlZhour	Date:	2/11/2022	
Diameter of loading			Time	ص 11:46:00	
plate	6	500		م 12:15:00	
Lever ratio		1	Note:		
Type of Soil	Upper embank	ment soil (A1-a)	_		
Bedding material			_		
Temperature	23	3°C			
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mr	
Loading Stage	0	1.414		10.00	
	1	7.07		9.79	
	2	14.14		9.65	
•	3	21.21		9.55	
	4	28.28		9.48	
	5	35.35		9.36	
	6	42,42		9.21	
	7	49.49		9.09	
	8	56.56		8.95	
	9	63.63		8.84	
	10	70.7		8.69	
Unloading Stage	11	56.56		8.69	
	12	49.49		8.69	
	13	35.35		8.75	
	14	21.21		8.82	
	15	1.414		9.55	
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mn	
Reloading Stage	0	1.414		9.55	
	1	7.07		9.40	
	2	14.14		9.28	
	3	21.21		9.20	
	4	28.28		9.14	
	5	35.35		9.01	
	6	42.42		8.95	
	7	49.49		8.87	
•	8	56.56		8.80	
	9	63.63		8-70	

www.ejust.edu.eg CETC221100005.Trans.GEO0 CINTËĞH@ejust.edu.eg Mobile: +201555631725

25 of 31°







مركز الإستشارات الهندسية النقل و للمارات و الطرق الخرم دوليون ا دگتور) سعد الجيوشي





RECEIPT of NO	TIFICATION - Mini below will be complete an	mum Noti	ce Period spection at p	d not le lanned tir	ss than : ne shown	24 Hoi	urs				1	
Contractor Company					Designer Company*			SGAC				
	Name	Sign			Date				Time			
Issued by Contractor	M. Elkhlawy		107		24 / 10 / 2022				ZH	- F		57
Received by ER	M-A	24 2	2022	UIR	C1 KP484	C2 E.W	C3	24	MM [O 2	YY 2021	HH IY	MM
CODE-1	51 to 521			D1 to Depot R	S3 eference		Fo	r Kilom	Kp XXX neter poin use	t only	Start	Km is
CODE - 2 CODE - 3			Sub	Work A	ctivity t of Activi	ty						
	E	XPLANATI	ON OF W	ORK T	O BE INS	PECTE	D					
Des	scription	No.	Ele	ment					Item			
I	ayer 0		FILL	FERMA			Fro	m st48	84+700 T	o st48	4+90	00
	INSPECTION	DETAILS	The Followin	g will be	ready at the	Control and the Control of the Contr				7		
	Planned Inspection	n Date			Planned Inspection Time							
		VIPLIANCE									آلددد	_
Checklist Atta		t Results A										
Drawing R	eference		P Refere	nce	e MS Reference							
								9	5	1		
Comments by:	Ram	al		Con	ments b	y 1/5	Lam	Jug.	Dan L	ross		
	العلارات عم	APP	noted	Surv	en: Web	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	eA.		Lasta	2/	.s.h	e el
Materia :	amfuet ; a	The state of the s	SS									
INSPECTION R	RESULT							5	oproval Status			Tick i tend
Organisation	Name	Sign			Date		Time	A-	AWC-R			
Contractor	M. FIRMan	y T	ter 1,		29/16	12rz			A			
QA/QC*	m.Ada	1 00	-Don	-	es hel	222			A			
GARB**	m Negy) (My	- 1	28/10/				A			
Comment by E		otappo		1055-8	section	~ 14	tre s	surv	0 20	ffer	5 0	Open
Employers	M. A		0 5	022				F	+ WC			

* Designer

** Alignment: Bridges: Culvert Only File Name : 700-900 FERMA

Representative

Page 1 of 1

ميل الردم 0			
	and the		
	Poly Cin	مراز خارا الخدية ، ١٩٥	

طاع سرقة الزهور من المحطة (٤٠٠٠) الي المحطة (٤٠٠٠)

				(f	ی طبقة (erma	تشغير			
		LEFT	LEVEL					RIGHT	LEVEL
DISTANC	E C.L	13.44	12	8	4	FERMA	4	8	9.94
SLC)P	-4%	-4%	-4%	-4%		-4%	-4%	-4%
offe	est	13.44	12	8	4	0	4	8	9.94
	Des	57.55	57.61	57.77	57.93	58,09	57.93	57.77	57.69
484-700	act	2,02	1,96	1,30	1,64	1,84	164	1.80	1.88
	Diff.	111	10/10	100		4		-1	
		57.52	57.58	57.74	57.90	58.06	57.90	57.74	57.66
484+720	Des	2,05	1,99	1,83	467	156	V67	1,83	11.91
4047720	Diff.	1 2303	1295	02		~		- (4
	Des .	57.50	57.56	57.72	57.88	58084	57.88	57.72	57.64
4844740	act	2,07	2.0	1,85	1.69	1.65	1,69	1,85	1,93
100	Diff.	-1	C. J. D. T.	+		22	97		40
	Des	57.47	57.53	57.69	57.85	58101	57.85	57.69	57.61
4944765	act	2010	2,04	1.32	1072	1.5%	1,72	1,88	1,96
	Diff.	4		1.33	-		47		97
	Des	57.45	57.50	57.66	57.82	57.98	57.82	57.66	57.59
4844780	act	2,12	2,07	1,91	11,75	1259	1,25	1,91	11,98
	Diff.	-	-	44	- 2		41	***************************************	4
TOTAL SAVI	Des	57.42	57.48	57.64	57.80	57.96	57.80	57.64	57.56
484+800	act	2,15	2,09	1292	1,27	106	1,27	1,93	2.01
	Diff.	+/		- 3	ation	9)		4	22
ASSISTANCE SOF	Des	57.39	57.45	57.61	57.77	57.93	57.77	57.61	57.53
484+826	act	2,18	2,12	1.96	11,50	1,69	1,30	1,96	2.04
	Diff.	- 1		21	1987)	4/2/	ga-w	9 3-	
	Des	57.37	57.43	57.59	57.75	57.91	57.75	57.59	57.51
484+840	act	2,22	12,14	1 25	1,82	1166	1.82	1,98	2,06
	Diff.	4-1				~~	=)	57.56	57.48
	Des	57.34	57,40	77.56	57.72	57.38	57.72		2,09
4844860	act	12.23	5/17	2,00	1,85	1269	1.85	2001	
	Diff.	- 2-	1	1	9-1	200	57.69	57.53	57.46
	Des	57.32	57.37	77.53	57.69	57.85			2,11
484+880	act	2,25	121281	2.64	1088	12/6	1.88	2404	
	Diff.	1-6	10		6		57.67	57.51	57.43
	Des	\$7.29	57/35	57.51	57.67	57.83		2-06	12-14
484+900	act	2,28	35.58	2,00	1,90	1.77	1,90	C-00	C314

le 34

شركسة الزهسور للمقاولات الممومية قرجائ

58,71,20=59,57

FERMA - ST. FROM (484+700 - TO - 484+900)

POINT	NORTH	EAST	ELEV
202	928520.36	339237.807	57.634
203	928515.511	339238.334	57.852
204	928510.581	339238.896	58.032
205	928505.847	339239.412	57.865
206	928501.109	339240.037	57.666
207	928497.074	339240.562	57.443
208	928496.516	339235.943	57.463
209	928501.491	339234.946	57.712
210	928506.547	339233.894	57.966
211	928510.713	339233.17	58.001
212	928515.907	339232.262	57.796
213	928519.726	339231.744	57.611
214	928518.899	339227.127	57.619
215	928514.236	339227.784	57.852
216	928509.573	339228.418	58.016
217	928505.12	339228.831	57.918
218	928500,512	339229.294	57.716
219	928495,692	339229.758	57.395
220	928495.191	339226.491	57.407
221	928500.351	339225.854	57.722
222	928505.425	339225.21	57.951
223	928510.584	339224.827	57.958
224	928515.61	339223.926	57.75
225	928518.332	339223.621	57.636
226	928517.814	339218.533	57.597
227	928512.954	339219.267	57.807
228	928508.158	339220.037	58.027
229	928502.894	339220.784	57.83
230	928498.443	339220.642	57.668
231	928494.239	339221.293	57.413
232	928493.618	339216.214	57.393
233	928498.495	339215.357	57.674
234	928503.775	339214.26	57.951
235	928508.745	339213.156	57.968
236	928513.422	339211.876	57.749
287	928516.621	339211.214	57.592
/138	928515.379	339203.733	57.644
239	928510.456	339204.395	57.862
240	928505.836	339205.004	58.047
2412	928500.97	339205.544	57.857
242	928496.357	339205.954	57.684
243	928492.382	339206.791	57.393
244	928491.731	339201.533	57.396
245	928496.654	339200.546	57.727
246	928501.754	339199.543	57.896
247	928506.308	339198.483	58.012

P/4

فركـــه الرهـــور للمقاولات العمومية

248	928511.198	339197.504	57.79
249	928514.531	339196.871	57.669
250	928513.877	339191.819	57.655
251	928509.004	339192.368	57.834
252	928504.547	339193.015	58.023
253	928499.662	339193.663	57.832
254	928494.697	339194.522	57.657
255	928490.551	339195.138	57.373
256	928490.124	339190.586	57.399
257	928495.076	339189.567	57.682
258	928500.129	339188.706	57.863
259	928503.681	339188.261	58.008
260	928508.615	339187.219	57.788
261	928513.106	339186.901	57.635
262	928512.876	339184.19	57.575
263	928507.881	339184.92	57.811
264	928502.98	339185.525	57.979
265	928498.394	339186.114	57.824
266	928493.622	339186.434	57.62
267	928489.72	339186.937	57.378
268	928488.72	339181.451	57.326
269	928493.865	339180.498	57.672
270	928499.413	339179.619	57.881
271	928502.612 -	339179.213	57.972
272	928507.709	339178.192	57.755
273	928512.277	339177.392	57.558
274	928511.555	339172.169	57.54
275	928511.557	339172.163	57.539
276	928506.413	339172.879	57.775
277	928501.264	339173.642	57.963
278	928496.261	339174.315	57.801
279	928491.561	339174.818	57.597
280	928488.208	339175.052	57.347
281	928487.478	339170.308	57.346
282	928492.686	339169.443	57.671
283	928497.856	339168.864	57.872
284	928503.153	339168.287	57.892
285	928508.316	339167.398	57.674
286	928510.848	339167.173	57.553
28/1	928510.413	339163.908	57.575
188	928505.35	339164.819	57.794
289	928495.181	339165.989	57.773
290	928490.007	339166.522	57.531
291	928487.016	339167.027	57.34
292/	928486.418	339161.79	57.318
7293	928491.674	339161.114	57.644
294	928497.327	339160.521	57.909
295	928502.471	339159.507	57.873
296	928509.203	339158.496	57.619

(Le)31_

شركـــة الزهـــور لتمقاولات العمومية



297	928508.521	339153.385	57.561
298	928503.265	339153.892	57.772
299	928498.147	339154.574	57.968
300	928493.172	339155.085	57.741
301	928488.406	339155.626	57.528
302	928485.547	339155.972	57.326
303	928484.774	339150.713	57.335
304	928490.124	339150.223	57.633
305	928496.189	339149.742	57.901
306	928498.608	339149.704	57.948
307	928503.704	339148.794	57.701
308	928507.95	339148.378	57.568
309	928507.292	339144.55	57.575
310	928502.361	339144.985	57.751
311	928497.461	339145.773	57.951
312	928492.941	339146.382	57.758
313	928488.535	339146.831	57.594
314	928484.48	339147.316	57.368
315	928483.755	339142.481	57.313
316	928488.991	339141.565	57.622
317	928494.607	339141.056	57.848
318	928499.557	339140.416	57.838
319	928504.173	339139.998	57.651
320	928506.925	339139.669	57.566
321	928506.219	339133.97	57.561
322	928501.172	339134.516	57.717
323	928496.181	339135.082	57.931
324	928491.236	339135.638	57.719
325	928486.147	339136.101	57.507
326	928482.774	339136.315	57.313
327	928482.313	339131.46	57.343
328	928487.56	339130.609	57.592
329	928493.262	339129.74	57.862
330	928498.77	339129.06	57.795
331	928505.403	339128.085	57.561
332	928505.033	339124.639	57.536
333	928499.939	339125.122	57.708
334	928495.075	339125.704	57.914
335 /	928490.055	339126.385	57.709
336	928485.281	339126.899	57.514
237	2 928482.005	339127.442	57.318
//338	928480.983	339121.92	57.277
339	928486.226	339120.839	57.587
340.	928491.922	339120.013	57.842
341	928497.104	339119.129	57.809
· 342	928504.202	339118.107	57.48
343	928503.732	339112.763	57.478
344	928498.506	339113.39	57.711
345	928493.01	339113.829	57.898
	The state of the s		

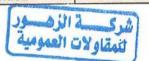
Cler

شركـــة الزهــور لتمقاولات العمومية

3,43

346	928487.784	339114.336	57.67
347	928482.844	339114.659	57.47
348	928479.906	339114.989	57.26
	928479.492	339109.419	57.282
349	928484.866	339109.545	57.593
350	A STATE OF THE STA	339109.604	57.844
351	928490.397	339109.004	57.813
352	928495.681	339109.232	57.484
353	928502.764	339104.958	57.513
354	928502.243	Control of the Manager Control of the Control of th	57.735
355	928496.943	339105.672	57.925
356	928491.828	339106.146	57.669
357	928486.058	339106.657	57.415
358	928480.846	339107.35	
359	928479.213	339107.606	57.282
360	928478.282	339102.072	57.295
361	928483.775	339101.153	57.605
362	928489.296	339100.298	57.852
363	928494.43	339099.403	57.82
364	928499.711	339098.5	57.572
365	928501.483	339098.012	57.481
366	928500.882	339092.618	57.456
367	928495.909	339093.458	57.704
368	928490.83	339094.185	57.916
369	928485.636	339094.915	57.675
370	928480.871	339095.353	57.502
371	928477.336	339095.599	57.297
372	928476.565	339090.349	57.286
373	928481.758	339089.456	57.545
374	928487.203	339088.523	57.787
375	928490.208	339087.853	57.884
376	928495.356	339086.64	57.656
377	928499.94	339085.087	57.453
378	928499.178	339079.932	57.474
379	928493.897	339080.694	57.659
380	928488.659	339081.437	57.837
381	928483.502	339082.142	57.618
382	928478.818	339082.489	57.459
383	928475.466	339082.789	57.306
384	928474.863	339078.04	57.296
385	928480.262	339077.072	57.542
386	928485.593	339076.324	57.742
387	928490.993	339075.392	57.745
388	928496.477	339074.491	57.532
389	928498.475	339074.178	57.439
390	928497.898	339069.32	57.444
391	928492.716	339070.027	57.628
392	928487.725	339070.544	57.82
393	928482.906	339071.089	57.656
394	928478.181	339071.579	57.467
0,7	201101202		

Way



GLAS

395	928474.391	339071.956	57.3
396	928474.109	339067.949	57.291
397	928479.311	339067.159	57.522
398	928484.651	339066.557	57.716
399	928489.738	339066	57.724
400	928494.468	339065.455	57.532
401	928497.472	339065.233	57.414
402	928497.031	339060.152	57.379
403	928492.112	339060.711	57.591
404	928488.036	339061.252	57.773
405	928483.154	339061.731	57.675
406	928478.148	339062.263	57.502
407	928473.294	339062.781	57.254
408	928472.458	339057.847	57.271
409	928477.723	339057.372	57.485
410	928482.324	339056.752	57.668
411	928487.347	339055.71	57.77
412	928492.761	339054.79	57.533
413	928496.189	339054.261	57.406
414	928495.461	339049.453	57.385
415	928490.533	339050.187	57.599
416	928485.856	339050.577	57.803
417	928480.404	339051.418	57.588
418	928475.479	339051.966	57.431
419	928471.827	339052.327	57.275
420	928471.46	339048.158	57.276
421	928476.853	339047.481	57.502
422	928482.466	339046.621	57.804
423	928485.76	339046.954	57.789
424	928490.805	339046.005	57.57
425	928494.689 -	339045.538	57.416





شركية الزهدور للمقاولات العمومية



ENCE CLASS CREAT CLASS CREAT CAST 278 277 27.45 27.47 27.45 27. • 177.70 • 177.70 • 177.70 • 177.70 • 177.70 · 51. 57 * 67, 52 · 17.85 85 · 57.50 57.40 · 57.40 87 87.81 334 17.71 17.85 2 - 21' ET · 57.73 10 200 200 200 201 205 ET. 64 200 200 201 201 ET. 64 201 201 201 201 201 900 301 W • 51.03 • 51.50 • 57. 900 300 19

Sent and Major Care

شركسة الزهسور لكمقاولات العمومية



الزهور للمقاولات العمومية: Company Name : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Project

(St (484+100 مشون : Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date** : 13/07/2022 Report Date

: 11 Report No. Sample No. : 01

Dear Gentleman,

Attached here with the Soil Embankment delivered on 08/07/2022

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

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken



Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %
50	98.5
37.5	95.8
25	84.7
19	78.1
12.50	59.9
9.50	51.3
4.75	45.8
2.36	42.7
2.00	40.8
1.18	36.6
0.600	33.9
0.425	30.7
0.300	25.2
0.150	17.8

Signature /.

ACCREDITED



Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(100+484 St مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample 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)	14.9





الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

:11

Sample No.

: 01

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

Test	Results (%)
Liquid Limit	24.3
Plastic Limit	19.4
Plasticity Index	4.9



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

:01

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits accordin Projects Specs	
Group Classification	(A-1-b)	(A-1-a)	(A-1-b)
2.00 mm (No.10).	40.8	Max 50 %	
0.425 mm (No. 40).	30.7	Max 30 %	Max 50 %
0.075 mm (No. 200).	14.9	Max 15 %	Max 15 %
Characteristics of fraction passing 0.42	.5 mm (No.40)		
Liquid Limit	24.3		,
Plasticity index	4.9	Max 6 %	Max 6 %

The test results are (x Comply - Not Comply) with specifications limits عكايه محدث الششادي الدائد

Signature /

3 El Malek El Afdal Street Zamalek, Cairo.

Tel.& Fax: 27367231 - 27363093





الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

St (484+100) مشون :

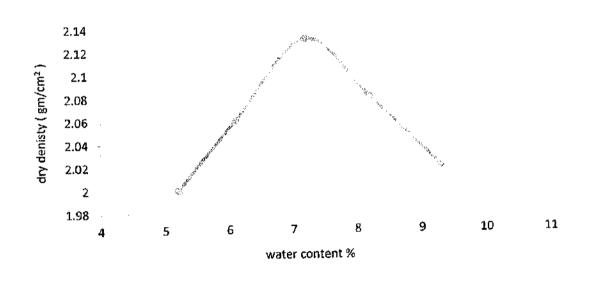
Type of sample : Soil Embankment

Delivery Date : 08/07/2022

Delivery Date : 08/07/2022 Report Date : 13/07/2022

Report No. : 11 Sample No. : 01

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



Max dry density (gm/cm²) : 2.13

Optimum moisture content % : 7.2





Company Name

الزهور للمقاولات العمومية :

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

<u>Test Results of California Bearing Ratio on Base Materials</u> ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	, , ,
0.64	0.025	2.18
1.27	0.050	2.64
1.91	0.075	2.99
2.54	0.100	3.30
3.18	0.125	3.50
3.81	0.150	3.78
4.45	0.175	3.96
5.08	0.200	4.23
5.71	0.225	4.36
6.35	0.250	4.51

CBR Result	Str	CBR %	
At 0.1 inch (2.54 mm)	St. Value	Sample results	47.8
penetration	6.90	3.30	47.0

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample-was compacted to dry density of 2.13(gm/cm³)

at 7.2% optiming water content. Surcharge load 4.50 Kg.

Signature

7

لَلْيَفُونَ + فَأَكْسَ : ٢٧٣٦٧٦٣ _ ٣٠٣٦٣٧٢ ممم townsion www.



ية: Company Name

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

: مشون St (484+100)

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

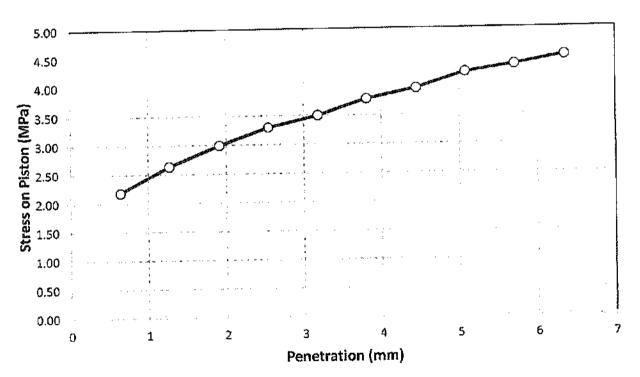
Report No.

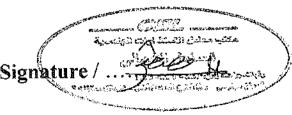
: 11

Sample No.

: 01

<u>Load Penetration Curve of CBR Test</u> <u>ASTM D-1883</u>









مركز الإستشارات الهندسية للنقل و الطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشي



الشروع الشفار السريع فعلاج ٦

Electrical Express Train From El ALAMEIN City to FOKA From Station 394+580 To



مشروع القطار السريع (العلمين فوكه) قطاع د/سعد الجيوشي مكتب سجاك للاستشارات الهندسية

								701 Land 1 Land		
	(Aug. 1985)	 1	ſ.,	•	7		TO A TIDES		25/1	0/2022
ACTIVITY : Sand cone	test]	laborate	ory results	1		DATE		25/11	0/2022
		Density and U	nite Weight of S	Soil In Place by	the Sand-cone	Method _AST	M D 1556			
Company:	EL-ZI	HOUR COM	IPANY		Layer level	:		FILL (FILL (FERMA)	
Description:	n: Compaction tast		La	Layer Thickness :		0.25 m				
Station represented :	484+	700 TO 48	34+900							
			Мос	dified Proctor T	esting Results					Political Control
Max. Dry Density . gm/cm3	Dry Density . gm/cm3 Optimum Moisture Content . % Degree of Compaction Required . Bulk Density of Specified Sand .		ecified Sand . gn	ı/cm3						
2.13		7.2			95%			1	.48	
			Compaction	1 Testing Res	ults & Calcu	lations				
STATION	484+725	484+750	484+775	484+800	484+825	484+850	484+875	484+900		
Hole No.	1	2	3	4	5	6	7	8		
WT, of Sand befor Test ,gm	9672	9578	9484	9327	9170	9087	8957	8743		
WT, of Sand After Test ,gm	5678	5547	5416	5285	5154	5023	4892	4761		
WT, of Sand in Cone + hole ,gm	3994	4031	4068	4042	4016	4064	4065	3982		
WT, of Sand in Cone	1140	1140	1140	1140	1140	1140	1140	1140		
WT, of Sand at hole,gm	2854	2891	2928	2902	2876	2924	2925	2842		
Volume of the hole, Cm3	1928	1953	1978	1961	1943	1976	1976	1920		
WT, of Soil from Hole ,gm	4264	4265	4266	4267	4268	4269	4270	4271		
Bulk Density of Soil, Gm/cm3	2,211	2.183	2.156	2.176	2.196	2.161	2.161	2.224		
Moisture Content, %	6.2	6.9	6.4	7.1	6.4	6.1	5.9	6.7		
Dry Density, gm/cm3	2.082	2.042	2.027	2.032	2.064	2.037	2.040	2.085		
Compaction, (%)	97.8%	95.9%	95.1%	95.4%	96.9%	95.6%	95.8%	97.9%		
						TO BE STO	Nation (S)			
sceptance Criteria	Con	iply (Not Co	omply				
CONSULTANT COMMENTS					197					
Site engineer :-					Consultant N	laterials Engi	neer :-			
ame :- MOHAMED KHAIREY						Ä	الدالمنا	1 4-		
Signature:- moham	ed Kha	irs G	الزهو		ame :-	وشي	ADJA	الاستنسار رق والمطا سعد مح	مرکز للط	



ZH-R-57

Table 13: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+700 to 484+750)

plate loadin	g test performed at the location	1 (KIVI 4041) 00 to 4041) 507	Settlement (S)
	Load (F)	Normal stress (S ₀)	Settlement(9)
Loading stag	LO	MN/m²	mm ·
		0.005	0.00
0	1.414		0.13
1	7.07	0.025	0.17
2	14.14	0.050	
3	21.21	0.075	0.23
Ā	78 78	0.100	0.30
Ē	35.35	0.125	0.42
2	42.42	0.150	0.53
<u>6</u>	8 40 40 40 40 40 40 40 40 40 40 40 40 40	0.175	0.66
J		0.200	0.74
8	56.56		0.81
9	63.63	, 0.12	0.90
10	70.7	0.250	
11	56.56	0.200	0.90
12	49.49	0.175	0.90
13	35.35	0.125	0.85
Commented and the Comment of the Com	21.21	0.075	0.80
14	TO THE RESERVE THE PARTY OF THE		0.32
15	1.414	0.003	• •

Table 14: Load-settlement data obtained at the second loading and unloading stages of the

plate loading test performed at the location (KM 484+700 to 484+750)

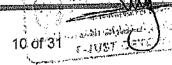
plate loading test performed at the location	(KIVI 4647/00 to 4641/30)	
load (F)	Normal stress (s ₀)	Settlement (S)
Loading stage kN	MN/m ²	mm
0 1.414	0.005	0.32
7.07		0.40
The state of the s	0.050	0.48
2 14.14 3 21.21		0.52
The state of the s	0.100	0.58
4 28.28		0.65
35.35		0.73
6 42.42	0.150	0.80
7 49.49		0.83
8 56,56	0.200	***-
9 63.63	0.225	0.90

Table 15: Calculations of the resilient modulus of the tested soil according to DIN18134:

(KM 484+700 to 484+750)

(KM 484+700 to 484+750)	2 1 11 2 2 2 2	2nd loading cycle
Parameters	1st loading cycle 0.25	0.25
(Spimax) MN/m		0.32
a ₀ (mm)	9.02 2.02	2 92
a (mm/(MN/m²))	2.86	2132
a ₅ (imm/(MN2/m ³))***	2.97	176.72
Ev=1.5 r/ (a;+a; 5;;max)	125.03	
EV ₂ /EV ₁	**************************************	
	The state of the s	r aloll

www.ejust.edu.eg CETC221100005.Trans.GEO0





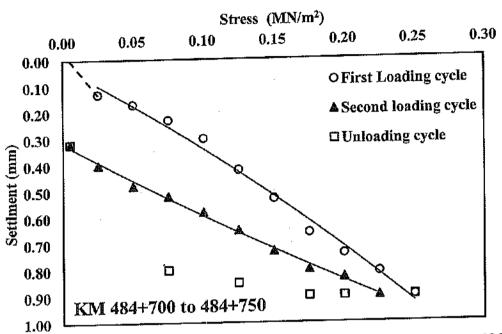


Figure 5: Load-settlement data: plate loading test performed at (KM 484+700 to 484+750)

The testing data corresponding to the sixth testing point (KM 484+750 to 484+800) is provided in Tables 16-18 and Figure 6. The testing data corresponding to the seventh testing point (KM 484+800 to 484+850) is provided in Tables 19-21 and Figure 7. The testing data corresponding to the eighth testing point (KM 484+850 to 484+900) is provided in Tables 22-24 and Figure 8. The testing data corresponding to the ninth testing point (KM 484+900 to 484+950) is provided in Tables 25-27 and Figure 9. The testing data corresponding to the tenth testing point (KM 484+950 to 485+000) is provided in Tables 28-30 and Figure 10.

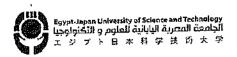


Table 16: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+750 to 484+800)

higre logding			Settlement (S)
441	Load (F)	Normal stress (s _d)	
Loading stage	kN	MN/m ²	mm
Ô	1.414	0.005	0.00
1	7.07	0.025	0.20
	14.14	0.050	0.29
2		0.075	0.35
3	28.28	0.100	0.41
4	🕮 Tillian i i i i i i i i i i i i i i i i i i		0.53
5		0.150	0.67
6	42.42	0.175	0.80
7	49.49	0.200	0.90
8	56.56	the second of th	1.00
9	63.63	0.225	1.12
10	70.7	0.250	1.12
11	56.56	0.200	
12	49. 49	0.175	1.12
13	35.35	0.125	1.09
14	21,21	0.075	1.03
15	1.414	0.005	0.43

Table 17: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+750 to 484+800)

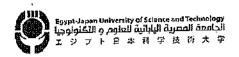
plate loading test performed at the location	(KIVI 4047) JU LU 4041000)	
Load (F)	Normal stress (s ₀)	Settlement (S)
Loading stage kN	MN/m²	mm
0 1.414	0.005	0.43
7.07	0.025	0.52
7. 14.14	0.050	0.62
3. 21.21	0.075	0.70
1 28 28	0.100	0.75
5 35.35	0.125	0.85
6 47.42	0.150	0.93
7 49.49	0.175	1.00
56.56	0.200	1.05
9 63.63	0.225	1.10

Table 18: Calculations of the resilient modulus of the tested soil according to DIN18134:

IKM 484+750 to 484+800)

(KM 484+750 to 484+800)	1st loading cycle	2nd loading cycle
Parameters 9	0.25	0.25
(Spinax) WIV/JJ	146 t.e.e. e	0.42
as (mm/(MN/m))	2.83	4.02
a. (ram/(MN2/m³))	4.97	-4.27
Ey=1,5 r/ (a,+a, s, wax)	110.49	152.53
EV _D /EV _I	1.38	approximations and
		7

www.ejust.edu.eg CETC221100005.Trans.GEO0 12 of 31



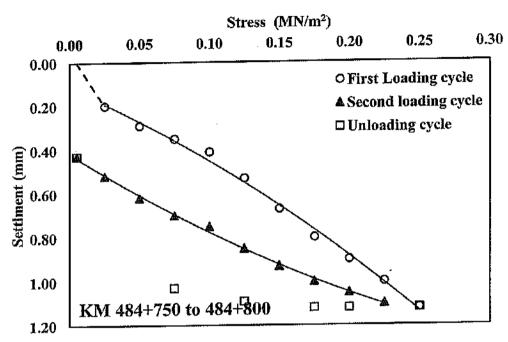


Figure 6: Load-settlement data: plate loading test performed at (KM 484+750 to 484+800)

Table 19: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+800 to 484+850)

	ng test performed at the Load (F)	Normal stress (s ₀)	Settlement (S)
Loading sta	kN	MN/m	mm
0	1.414	0.005	0.00
1	7.07	, Jany J. <mark>0.025</mark>	, his or - 0.20 His life at the
2	14.14	0.050	0.29
3	21.21	0.075	0.38
4	28.28	0.100	0.45
5	35.35	0.125	0.60
6	42.42	0.150	0.72
7	49.49	0.175	0.86
8	56.56	0.200	0.95
9	63.63	0.225	1.06 p. 1.75
10	70.7	0.250	1.19
11	56.56	7. A 7 0.200	1.19
12	49,49	0.175	1.19
13	35.35	(1) / 10.125 / 10.125 / 10.10 May	1. 16
14	21.21	0.075	1.09
15	1,414	0.005	0.44
10	**************************************	And the second of the second o	lieben in

www.ejust.edu.eg CETC221100005.Trans.GEO0

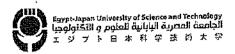


Table 20: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+800 to 484+850)

plate loading	test performed at the location	[(KIV] 404-000 to 404-050]	2001
	Load (F)	Normal stress (\$0)	Settlement (S)
Loading stage	kN	MN/m²	mm
ñ	1.414	0.005	0.44
1	7.07	0.025	0.53
2	1/1/1/	0.050	0.63
3	21.21	0.075	0.69
5	28 28	0.100	0.80
	35.35	0.125	0.88
<u> </u>	42.42	0.150	0.96
Ь	49.49		1.03
1	D	0.200	1.10
8	56.56		
9	63.63	0.225	4.47

Table 21: Calculations of the resilient modulus of the tested soil according to DIN18134:

(KM 484+800 to 484+850)

(KM 484+800 to 484+850)	1st loading cycle	2nd loading cycle
(s ₀ ,max) MN/m ²	0.25	0.25
	######################################	0.43
a. (mm/(MN/m²))	3.65	4.02
a, (mm/(MN2/m³))	3.03	3.19
$Ev = 1.5 \text{ r/} (a_1 + a_2, s_0) \text{ Max})$	102.04	139.54
Ev ₂ /Ev ₁	1.37 (1.37)	

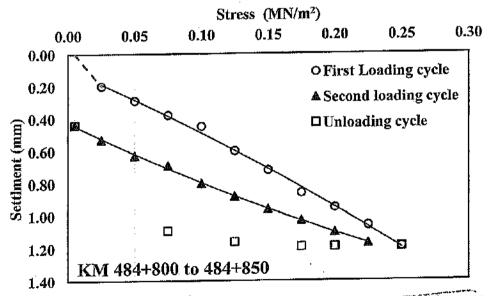
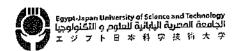


Figure 7: Load-settlement data: plate loading test performed at (KM 484+800 to 484+850)

www.ejust.edu.eg CETC221100005.Trans.GEO0 14 of 31



وهنة اختبارات واستشارات المندسة

Table 22: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+850 to 484+900)

	g test performed at the location	Normal stress (s ₀)	Settlement (S)
Loading stage	Load (F)	MN/m²	mm
1 10 10	50 0000	KI ELWANIA I MANAGEMENT OF THE STATE OF THE	0.00
0	1,414	0.005	0.21
1		0.025	0.34
2	14.14	0.050	0.40
3	21.21	0.075	
4	28.28	0.100	0.49
5	35.35	0,125	0.66
6	42.42	0.150	0.86
7	49.49	0.175	1.02
8	56.56	0.200	1.14
9	63.63	0.225	1.27
10	70.7	0.250	1.42
ii	56.56	0.200	1.42
12	49.49	0.175	1.42
13	35.35	0.125	1.38
	21.21	0.075	1.30
14		0.005	0.59
<u>15</u>	1.414	0.003	

Table 23: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+850 to 484+900)

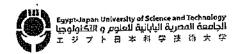
plate loading	test performed at the location	(KIV) 404-030 to 404-350)	
	Load (F)	Normal stress (s ₀)	Settlement (S)
Loading stage	kN	MN/m ²	mm
Ö	1.414	0.005	0.59
1	7.07	0.025	0.73
2	14.14	0.050	0.83
3	21.21	0.075	0.90
4	28.28	0.100	0.98
5	35.35	0.125	1.10
6	42.42	0.150	1.19
7	49.49	0,175	
8	56.56	0.200	1.35
9	63.63	0.225	1.43

Table 24: Calculations of the resilient modulus of the tested soil according to DIN18134:

(KM 484+850 to 484+900)

(KM 484+850 to 484+900)		2nd loading cycle
Parameters	1st loading cycle	0.75
(s _{ol} max) MN/m	0.25	0.59
$\mathbf{a}_0(\mathbf{m}m)$	0.09 4.13	4.44
a; (mm/(MN/m))	5.15	-3.21
<u>a₃ (mm/(MN2/m))</u>	83.00	123.75
Ev= 1,5(r/(a ₁ +a ₂ , s _{0,max})	83.00	1.425.3
Εν ₂ /Εν ₃	The state of the s	A STATE OF THE STA

www.ejust.edu.eg CETC221100005.Trans.GEO0 15 of 31



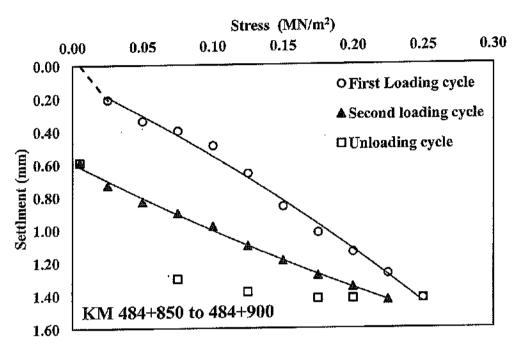
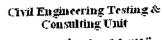


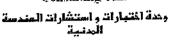
Figure 8: Load-settlement data: plate loading test performed at (KM 484+850 to 484+900)

Table 25: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+900 to 484+950)

plate loading	g test performed at the location	(KIY) 4047300 to 4047330)	270
	Load (F)	Normal stress (s ₀)	Settlement (S)
Loading stage	kN	MN/m ²	mm
0	1,414	0.005	0.00
i	7.07	. 0.025 (1) (4) (4) (4) (4) (4) (4) (4) (4)	0.18
2	14.14	0.050	0.31
3	21.21	0.075	0.40
4	28.28	0.100	0.49
5	35. 35	0.125	0.60
6	42.42	0.150	0.70
7	5 2	0.175	0.83
8	56.56	0.200	0.95
9	63.63	0.225	1.02
10	70.7	0.250	1.14
11	56.56	0.200	1.14
12	49.49	0.175	1.14
13	35.35	0.125	1.11
14	21,21	0.075	1.00
15	1.414	0.005	0.32

www.ejust.edu.eg CETC221100005.Trans.GEO0 16 of 31



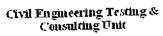


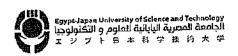


Location of test site:	TZB/I 49/4-70/	KM 484+700 to 484+750		Mr. Mohamed		
	1 VI 484 T/U			Mamdouh		
Project title:	Electric Express Tra	in Project - AlZhour	Date:	2/11/2022		
Diameter of loading				م 12:23:00		
plate	6	600		م 12:52:00		
Lever ratio		1	Note:			
Type of Soil	Upper embankment soil (A1-a)		_			
Bedding material	_					
Temperature		°C				
Test regime	Loading Stage No.	Load (kN)	Dial Ga	auge Reading (mm		
Loading Stage	0	1.414		10.00		
•	1	7.07		9.87		
	2	14.14		9.83		
	3	21.21		9.77		
	4	28.28		9.70		
	5	35.35	Ţ <u></u>	9.58		
	6	42.42		9.47		
	7	49.49		9.34		
	8	56.56		9.26		
	9	63.63		9.19		
	10	70.7		9.10		
Unloading Stage	11	56.56		9.10		
,	12	49.49		9.10		
	13	35.35		9.15		
	14	21.21		9.20		
	15	1.414		9.68		
Test regime	Loading Stage No.	Load (kN)	Dial Ga	auge Reading (mm		
Reloading Stage	0	1.414		9.68		
3 3	1	7.07		9.60		
	2	14.14	'	9.52		
	3	21.21		9.48		
	4	28.28		9.42		
	5	35.35		9.35		
	6	42.42		9.27		
	7	49.49		9.20		
•	8	56.56		9.17		
	9	63.63		9.10		

www.ejust.edu.eg CETC221100005.Trans.GEO0

26 of 3





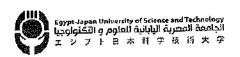
وهدة اختبارات و استشارات المندسة الودنية

				Ind. Mahamad	
Location of test site:	KM 484+75	0 to 484+800	Field team	Mr. Mohamed Mamdouh	
Project title:	Electric Express Tra	Electric Express Train Project - AlZhour		2/11/2022	
Diameter of loading	60	600		م 01:03:00	
plate				م 01:30:00	
Lever ratio	1 N(14)				
Type of Soil		Upper embankment soil (A1-a)			
Bedding material	1	HP			
Temperature		°C	Disl C	Pooling (mm)	
Test regime	Loading Stage No.	Load (kN)	Dial G	auge Reading (mm) 10.00	
Loading Stage	0	1.414		9.80	
	1	7.07			
	2	14.14	9.71		
	3	21.21	9.65		
	4	28.28	"	9.59	
	5	35.35		9.47	
	6	42.42		9.33	
	7	49.49		9.20	
	8	56.56		9.10	
	9	63.63		9.00	
	10	70.7		8.88	
Unloading Stage	11	56.56		8.88	
Onlynding Sanga	12	49.49		8.88	
	13	35.35		8.91	
	14	21.21		8.97	
	15	1.414		9.57	
Test vegime	Loading Stage No.	Load (kN)	Dial G	Dial Gauge Reading (mm)	
<u>Test regime</u> Reloading Stage	0	1.414		9.57	
Kelonaring Brage	1	7.07		9.48	
	2	14.14		9.38	
	3	21.21		9.30	
	4	28.28		9.25	
	5	35.35	- 	9.15	
	6	42.42		9.07	
	7	49.49		9.00	
		56.56	-	8.95	
	8		-	8.90	
	9 63.63 8.5		0.70		

www.ejust.edu.eg CETC221100005.Trans.GEO0

27 of 31





وحدة اختبارات و استشارات المندسة الرمنية

Location of test site:	KM 484+80	0 to 484+850	Field team	Mr. Mohamed Mamdouh		
Project title:			Date:	2/11/2022		
1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Electric Express 112	Electric Express Train Project - AiZhour		01 00 00		
Diameter of loading		00	Time	م 01:38:00		
plate	0			م 02:04:00		
Lever ratio	1		_Note:			
Type of Soil	Upper embank	ment soil (A1-a)	_			
Bedding material			_			
Temperature		5°C		77 - 72 - 4 (mm mm		
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mm		
Loading Stage	0	1.414	<u> </u>	10.00		
	1	7.07		9.80		
	2	14.14		9.71		
	3	21.21		9.62		
	4	28.28		9.55		
	5	35.35		9.40		
-	6	42.42		9.28		
	7	49.49		9.14		
	8	56.56		9.05		
	9	63.63		8.94		
	10	70.7		8.81		
Unloading Stage	11	56.56		8.81		
-	12	49.49		8.81		
	13	35.35		8.84		
	14	21.21		8.91		
	15	1.414	9.56			
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mm		
Reloading Stage	0	1.414		9.56		
	1 .	7.07		9.47		
	2	14.14		9.37		
	3	21.21		9.31		
	4	28.28		9.20		
	5	35.35		9.12		
	6	42.42		9.04		
	7 .	49.49		8.97		
•	8	56.56		8.90		
•	9	63.63		8.83		



وهدة اغتبارات و استشارات المندسة الهدنية

Location of test site:	KM 484+85	0 to 484+900	Field team	Mr. Mohamed Mamdouh	
Project title:	Electric Express Tra	in Project - AlZhour	Date:	2/11/2022	
Diameter of loading			Time	م 02:14:00	
plate	6	600		م 02:45:00	
Lever ratio		1	Note:		
Type of Soil	Upper embankment soil (A1-a)		_		
Bedding material	-				
Temperature		5°C			
Test regime	Loading Stage No.	Load (kN)	Dial Ga	uge Reading (mm)	
Loading Stage	0	1.414		10.00	
	1	7.07		9.79	
	2	14.14		9.66	
	3	21.21	_	9.60	
	4	28.28	9.51		
	5	35.35	9.34		
	6	42.42	9.14		
	7	49.49		8.98	
	8	56.56		8.86	
	9	63.63		8.73	
	10	70.7	8.58		
Unloading Stage	11	56.56	· ·	8.58	
Catalogue Canal	12	49.49		8.58	
	13	35.35		8.62	
	14	21.21	8.70		
	15	1.414	9.41		
Test regime	Loading Stage No.	Load (kN)	Dial Ga	ruge Reading (mm)	
Reloading Stage	0	1.414		9.41	
	1	7.07		9.27	
	2	14.14		9.17	
	3	21.21		9.10	
	4	28.28	9.02		
	5	35.35	8.90		
	6	42.42		8.81	
	7	49.49		8.72	
•	8	56.56		8.65	
	9	63.63	1111	8.57	

www.ejust.edu.eg CETC221100005.Trans.GEO0

29 of 31~

UNIVERSAL INSPECTION REQUEST





مركز الاستشارات الهندسية النقل و للطارات و الطرق (خراء دوليون) دكتورا سعد الجيوشي





	TIFICATION - Mining below will be complete and				Hours				
Contractor Company	EL . ZHOOR . CO			Designer Company*			SGAC		
	Name	Sign		Date			Time		
Issued by Contractor	M. Elkhany	to 1		1/11/20)22		ZH	- F-	58
Received by ER	M·A	11 5 3055	UIR	C1 C		DD		17 HH	MM
CODE-1	S1 to S21 Station Reference		Depot R		F	or Kilon	Kp XXX neter point use	t only Start	Km is
CODE - 2 CODE - 3		St	Work A ub Elemen	ctivity t of Activity					
	EX	PLANATION OF	WORK T	O BE INSPE	CTED				
De	scription	EI	ement				Item		
	Layer 0	FIL	L FERMA		Fr	om st4	84+900 T	o st485+0	00
Checklist Atta		PLIANCE EVIDEN			ppropriate			ndicated	
Drawing F	Reference	ITP Refer	ence			MS	S Referer	nce	
Civil: So	7	A PPn	0.0111	nments by:	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	That das Te	wood of the state	K
INSPECTION F	Confaction RESULT Name	Sign		Date	Time		pproval Status -AWC-R	Please Not A	
Contractor	M. Elkhlaw	1	7 -	111/20	2	1	4		
QA/QC*	m. Ald	An-N)	_	2/11/202	2		A		

* Designer

GARB**

Comment by ER

Representative

Employers

*** Alignment: Bridges: Culvert Only File Name : 900-000 FERMA

on profame (22)



2027

2

2/11/222

Thereare not approved corss section / the survey offers oppen

A

AWC

ميل الردم نسوب الطبقه 0 قطاع شركة الزهور من المحطه (٤٨٤+٩٠٠) الي المحطه (٤٨٥+٠٠٠

تشغيل طبقة (ferma)

				(fer	, طبقة (ma	تشغيل		and sold have	
LEFT LEVEL						RIGHT LEVEL			
DISTANCE C. L		13.44	12	8	4	FERMA	4	8	9.94
SLOP		-4%	-4%	-4%	-4%		-4%	-4%	-4%
offest		13.44	12	8	4	0	4	8	9.94
	Des	57.29	57.35	57.51	57.67	57.83	57.67	57.51	57.43
484+900	act	1,61	1,55	1,39	1,23	1,07	1,23	139	1,47
	Diff.	_	11			-1	41	_	/ \
	Des	57.26	57.32	57.48	57.64	57.80	57.64	57.48	57.40
484+920	act	1,64	1,50	1,48	1,28	1,10	1,26	1,48	1,50
	Diff.	-1		7)		-1	1,52	L	4)
	Des	57.24	57.30	57.46	57.62	57.78	57.62	57.46	57.38
484+940	act	1,66	1,60	1,44	1,23	1,12	1,28	1,44	1,52
	Diff.	-1	-	-/	* 1		_		- 1
	Des	57.21	57.27	57.43	57.59	57.75	57.59	57.43	57.35
484+960	act	1,69	1,63	1,47	1,3/	1,16	1/31	1,47	1,55
	Diff.	~	41	Separation .	- 1		n \	Manager	+ 1
	Des	57.19	57.24	57.40	57.56	57.72	57.56	57.40	57.33
484+980	act	1,71	1,67	1,50	1,34	1,18	1,34	1,50	1,57
	Diff.	-		-1	4)		1		Apr. 7
	Des	57.16	57.22	57.38	57.54	57.76	57.54	57.38	57.30
485+000	act	1.74	1,68	1 52	1,36	1,20	1,36	1,52	1,00
	Diff.	4/	8-7	37	-	-1	-		1
5837 6800 2003									
58,37 58,90 SP.P									
(Second id Samond id Samond id									
	1	V 31/		240	LAN LEW ILEM	النوة			
One desire in a linear									

لتعقاولات العمومية

			غرض عر	9.94	9.94	9.94	9.94	9.94	9.94
		right	east	339045.1792	339025.3545	339005.5297	338985.705	338965.8803	338946.0555
The same	غربع انقطاراك		north	928494.4002	928491.7583	928489.1163	928486.4744	928483.8324	928481.1905
			east	339046.4922	339026.6675	339006.8428	338987.018	338967.1933	338947.3686
شركة الزهور		Б	north	928484.5474	928481.9054	928479.2635	928476.6215	928473.9796	928471.3376
2 dis			east	339048.2676	339028.4429	339008.6182	338988.7934	338968.9687	338949.144
	مادر ا	left	north	928471.2251	928468.5832	928465.9412	928463.2993	928460.6573	928458.0154
	Cro		عرض	13.44	13.44	13.44	13,44	13.44	13.44
		station		484+900	484+920	484+940	484+960	484+980	485+000

97 88 87 97 88 87 89 96 • 57, 48 86 • 57, 54 90 68 57, 54 90 68 57, 57 91 84 94 • 57, 48 87, 62 93 92 88 87, 12 • 57, 12 • 57, 18 66 • 57.21 67 • 57.51 68 69 • 57.47 70 • 57.13 57, 25 • 57, 61 • 57, 61 • 57, 61 • 57, 41 484+000 57.57 54 57, 24 57, 64 57, 64 57, 64 57, 64 \$77,28

\$57,55

\$1,55

\$6,57,55

\$77,55

\$77,55 484 39,45 57. 76 57. 51 24 23
33 57.2857.31

57.29 25
25
22
32 67.68

57.63

26 21
31 57.77

57.78

57.48

57.48

57.48

57.19

4 57.29

57.19 روع القطار السريع 57.31

57.61

57.76

57.76

57.76

57.76

57.76 12 1

51.43 57.42

51.45 2

57.71 3

57.71 3

57.71 3

57.71 4

57.71 57.26

57.26

57.26 لتمقاو لات العمومية

PO	INT	NORTH	EAST	ELEV
	1	928494.439	339045.15	57.415
	2	928489.546	339045.853	57.626
	3	928484.482	339046.904	57.815
	4	928479.443	339047.742	57.706
	5	928474.26	339048.281	57.397
	6	928471.344	339048.243	57.283
	7	928470.677	339042.998	57.255
	8	928475.662	339042.284	57.508
	9	928480.903	339041.445	57.769
	10	928486.349	339040.612	57.707
177	11	928491.571	339039.971	57.454
	12	928494.069	339039.62	57.333
_	13	928493.632	339034.378	57.313
	14	928488.228	339034.596	57.611
	15	928482.877	339035.044	57.75
	16	928477.523	339035.43	57.544
-	17	928471.981	339035.824	57.334
	18	928470.017	339036	57.196
	19	928469,563	339030.839	57.184
-	20	928475.061	339030.111	57.465
	21	928480.729	339029.344	57.723
	22	928486.114	339028.589	57.638
	23	928492.595	339027.628	57.31
	24	928492.383	339025.392	57.32
	25	928486,991	339025.664	57.583
	26	928481.55	339026.305	57.771
	27	928475.878	339027.149	57.524
	28	928469.327	339028.386	57.211
	29	928468.416	339022.793	57.19
	30	928473.986	339021.896	57.479
	31	928479.787	339021.208	57.746
	32	928485.226	339020.181	57.626
	33	928491.649	339019.389	57.288
	34	928490.799	339012.772	57.261
	35	928485.202	339013.486	57.594
	36	928479.808	339014.113	57.763
	37	928474.171	339014.893	57.514
	38	928467.57	339015.763	57.125
	39	928466.657	339008.568	57.151
	460	928472.36	339007.788	57.454
-	57	0.00 0.00	339007.003	57.713
may -	2	928483.612	339006.08	57.613
2-4	Male	928489.852	339005.555	57.263
مع غرب النيل	44	928489.282	338999.958	57.278
الميل	45	928484.187	339000.536	57.55
	46	928478.957	339000.991	57.727
	47	928473.827	339001.549	57.529
	48	928468.826	339002.039	57.352
-	49	928465.512	339002.355	57.105
-	50	928464.685	338996.727	57.098
	51	928470.256	338996.117	57.437

شركـــة انزهــور لتمقاولات العمومية

X			
52	928475.96	338995.154	57.635
53	928481.231	338994.343	57.641
54	928488.476	338993.205	57.237
55	928487.012	338985.777	57.307
56	928481.452	338986.29	57.566
57	928475.809	338986.791	57.675
58	928470.567	338987.524	57.466
59	928466.536	338988.234	57.296
60	928463.994	338988.746	57.183
61	928463.111	338983.202	57.146
62	928468.652	338982.474	57.412
63	928474.077	338981.756	57.64
64	928479.493	338980.56	57.612
65	928486.212	338979.532	57.249
66	928485.545	338974.136	57.212
67	928480.588	338974.944	57.51
68	928475.207	338975.455	57.696
69	928469.811	338975.941	57.472
70	928465.151	338976.451	57.282
71	928462.224	338976.699	57.128
72	928461.466	338968.868	57.184
73	928466.743	338968.194	57.39
74	928472.197	338967.305	57.643
75	928477.219	338966.638	57.566
76	928484.458	338965.799	57.281
77	928484.008	338960.429	57.302
78	928478.74	338961.034	57.429
79	928473.391	338961.702	57.665
80	928467.83	338962.321	57.506
81	928463.406	338963.151	57.336
82	928460.336	338963.485	57.201
83	928459.67	338957.989	57.182
84	928465.166	338957.2	57.445
85	928470.577	338956.528	57.617
86	928475.949	338955.901	57.536
88	928483.459	338955.045	57.268
88	928482.803	338950.118	57.288
- Y	928477.604	338951.265	57.475
3 310.90	928471.947	338951.826	57.653
117 91	928466.543	338952.283	57.485
92	928459.121	338952.8	57.118
93	928458.844	338949.01	57.124
91 92 93 94 95	928464.325	338948.346	57.346
95	928469.842	338947.663	57.567
96	928475.531	338946.938	57.535
97	928482.045	338946.034	57.219





الزهور المقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Project

(484+100 مشون: Location : Soil Embankment

Type of sample : 08/07/2022 **Delivery Date**

: 13/07/2022 Report Date

: 11 Report No. : 01 Sample No.

Dear Gentleman,

Attached here with the Soil Embankment delivered on 08/07/2022

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.

Proctor Test according to ASTM D-1557

CBR according to ASTM D-1883

Note: The sample was brought by the client to our laboratory and the laboratory is not responsible for the way it is taken

3 El Malek El Afdal Street



الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh **Project**

(100+484 St (484) مشون: Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date**

Report Date : 13/07/2022

:11 Report No. Sample No. : 01

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Passing %	
50	98.5	
37.5	95.8	
25	84.7	
19	78.1	
12.50	59.9	
9,50	51.3 45.8 42.7 40.8	
4.75		
2.36		
2.00		
1.18	36.6	
0.600	33.9	
0.425	30.7	
0.300	25.2	
0.150	17.8	

Signature /

3 El Malek El Afdal Street



الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh **Project**

(100+484 St (484 مشون: Location

: Soil Embankment Type of sample

Delivery Date : 08/07/2022 : 13/07/2022 Report Date

Report No. : 11 Sample 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)	14.9



٣ ش الملك الأفضل



الزهور للمقاولات العمومية: Company Name

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh Project

: مشون St (484+100) Location

: Soil Embankment Type of sample

: 08/07/2022 **Delivery Date** : 13/07/2022 Report Date

Report No. : 11 Sample No. :01

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

Test	Results (%)
Liquid Limit	24.3
Plastic Limit	19.4
Plasticity Index	4.9





الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

Soil Classification According to Project Specs (Embankment)

TEST	Results (%)	Limits according Projects Specs	
Group Classification	(A-1-b)	(A-1-a)	(A-1-b)
2.00 mm (No.10).	40.8	Max 50 %	
0.425 mm (No. 40).	30.7	Max 30 %	Max 50 %
0.075 mm (No. 200).	14.9	Max 15 % Max 15	
Characteristics of fraction passing 0.4	425 mm (No.40)		
Liquid Limit	24.3		
Plasticity index	4.9	Max 6 %	Max 6 %

The test results are (Comply - Not Comply) with specifications limits manuscript of Lines Colors

Signature /

تليفون + فاكس ، ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣ www.cel-egypt.com



الزهور للمقاولات العمومية: Company Name

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

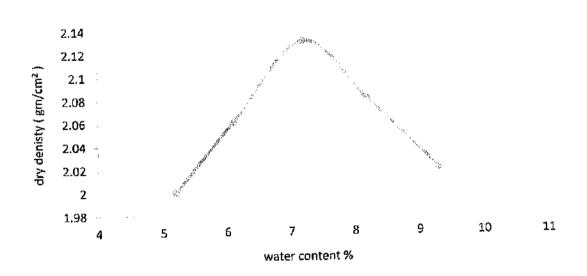
Report No.

:11

Sample No.

: 01

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



Max dry density (gm/cm²)

: 2.13

Optimum moisture content %

: 7.2

Signature



Company Name :

الزهور للمقاولات العمومية:

Project

: Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

Location

(St (484+100 مشون:

Type of sample

: Soil Embankment

Delivery Date

: 08/07/2022

Report Date

: 13/07/2022

Report No.

: 11

Sample No.

: 01

<u>Test Results of California Bearing Ratio on Base Materials</u> <u>ASTM D 1883</u>

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	2.18
1.27	0.050	2.64
1.91	0.075	2.99
2.54	0.100	3.30
3.18	0.125	3.50
3.81	0.150	3.78
4.45	0.175	3.96
5.08	0.200	4.23
5.71	0.225	4.36
6.35	0.250	4.51

CBR Result	St	CBR %	
At 0.1 inch (2.54 mm)	St. Value	Sample results	47.8
penetration	6.90	3.30	77,0

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample-was compacted to dry density of 2.13(gm/cm³)

at 7.2% optimum water content.

Surcharge load 4.30 Kg.

Signature

7

Tel.& Fax: 27367231 - 27363093



الزهور للمقاولات العمومية: Company Name

Project : Electric Express Train, from Al Ain Sokhna to Marsa Matrouh

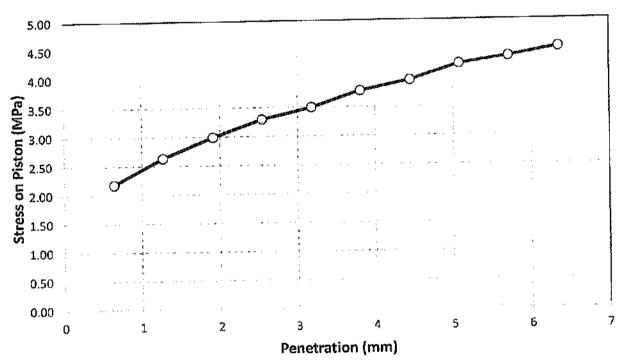
St (484+100) مشون

Type of sample : Soil Embankment

Delivery Date : 08/07/2022 Report Date : 13/07/2022

Report No. : 11 Sample No. : 01

Load Penetration Curve of CBR Test ASTM D-1883











مركز الإستشارات الهندسية للنقل و الطارات و الطرق (خبراء دوليون)

دكتور/ سعد الجيوشي



Electrical Express Train From El ALAMEIN City to FOKA From Station 394+580 To



مشروع القطار السريع (العلمين فوكه) قطاع د/ سعد الجيوشي مكتب سجاك للاستشارات الهندسية

		•								
ACTIVITY : Sand cone	test		laborato	ory results			DATE		2/11/2	2022
		Description of the	ita Walaht of C	oil In Place by t	he Sand sana	Mathad AST	M D 1556			
		Density and Cr	ine weight of 5	on in I face by the	ne Band-cone	_11011				
Company:	EL-ZH	HOUR COM	IPANY	1	ayer level	:		FILL (FERMA)	
	The state of the s									
Description:	Co	ompaction ta	ast	Lay	er Thickne	ess:		0.	25 m	
Station represented :	484+9	000 TO 48	5+000					-		
			Mod	lified Proctor Te	sting Results					
Max. Dry Density . gm/cm3	Optimu	m Moisture Con	tent. %	Degree of	Compaction F	Required .	Bull	Density of Spe	ecified Sand . gm/	em3
2.13		7.2			95%			1	1.48	
			Compaction	Testing Resu	ılts & Calcu	lations				
STATION	484+925	484+950	484+975	485+000					/	
Hole No.	1	2	3	4						
WT, of Sand befor Test ,gm	9672	9578	9484	9327						
WT, of Sand After Test ,gm	5678	5547	5416	5285						
WT, of Sand in Cone + hole ,gm	3994	4031	4068	4042						
WT, of Sand in Cone	1140	1140	1140	1140						
WT, of Sand at hole ,gm	2854	2891	2928	2902						
Volume of the hole, Cm3	1928	1953	1978	1961						
WT, of Soil from Hole ,gm	4264	4265	4266	4267						
Bulk Density of Soil, Gm/cm3	2.211	2.183	2.156	2.176						
Moisture Content, %	6.2	6.9	6.4	7.1						
Dry Density, gm/cm3	2.082	2.042	2.027	2.032						
Compaction, (%)	97.8%	95.9%	95.1%	95.4%						
										2001
Acceptance Criteria	Con	nply			Not C	omply				
CONSULTANT COMMENTS										
					e servi	1 1133	المعارات	ركز الاس	- A	
Site engineer :-					Consultant !	SGAC	meeritali	تحدرو و	1	
Name :- MOHAMED KHAIREY Signature :- Moham		1	لات العمو	اشرک Sig	ame :- gnature :-	و المام	Day	سروعالف شروعالف	<u> </u>	
		13 MA	AND IN	Name of Street, or other Persons of	L			128		

Table 26: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+900 to 484+950)

place loading	Load (E)	Normal stress (s ₀)	Settlement (S)
Loading stage	EN .	MN/m²	mm
n	1.414	0.005	0.32
1	7.07	0,025	0.45
7	14.14	0.050	0.55
3	21.21	0.075	0.62
Δ	28.28	0.100	0.69
E .	35.35	0.125	0.80
6	42.42	0.150	0.91
7	49.49	0.175	1.00
o ·	56.56	0.200	1.07
0	63.63	0.225	1.13
9	03.03 - an emelo Malagraphy and a	i na nama wasan sa kata kata kata kata kata kata kata k	

Table 27: Calculations of the resilient modulus of the tested soil according to DIN18134:

(KM 484+900 to 484+950)

(KM 484+900 to 484+950)		
Parameters	1st loading cycle	2nd loading cycle
(s _b ,max) MN/m	0.25	0.25
a _o (mm)	0.09 () 1 () () () () () () () () (6.32 A. C. A.
a _s (mm/(MN/m ³))	4.12	4.29
a, (mm/(MN2/m²))	0.42	2.84 (197)
Ev= 1.5 r/ (a ₁ +a ₂ , S _{0,Max})	106.44	125.82
EV ₂ /Ev ₁		

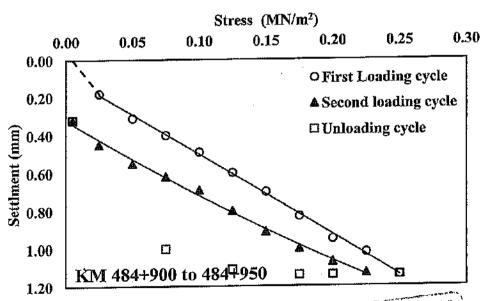
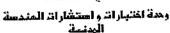


Figure 9: Load-settlement data: plate loading test-performed at (KM 484+900 to 484+950)

www.ejust.edu.eg CETC221100005.Trans.GEO0 17 of 31 E-1057



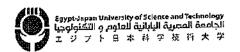


Table 28: Load-settlement data obtained at the first loading and unloading stages of the plate loading test performed at the location (KM 484+950 to 485+000)

plate (oadin)	test perioritied at the location	(((((((((((((((((((
4000	Load (F)	Normal stress (s ₀)	Settlement (S)
Loading stage	kN	MN/m²	mm
6	1,414	0.005	0.00
•		0.025	0.14
1	14.14	0.050	0.25
2	21.21	and the second of the second o	0.35
<u> </u>	28.28	0.100	0.46
4	35.35		0.58
5	in the same of the	0.150	0.72
6	42.42 49.49	0.175	0.83
<u></u>		0.200	0.95
8	56.56 63.63		1.07
9	102 · · · · · ·	0.250	1.20
10	70.7	0.200	1,20
11		• ***	1.20
12	49.49	0.175 0.125	1.17
13	35.35	rander of the state of the state of	1.10
14	21.21	0.075	0.41
<u>15</u>	1.414	0.005	U.41

Table 29: Load-settlement data obtained at the second loading and unloading stages of the plate loading test performed at the location (KM 484+950 to 485+000)

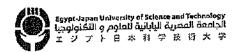
plate loauing	fest beligitied at the location		
	LOGO (1)	Normal stress (s _d)	Settlement (S)
Loading stage	RN:	MN/m ²	mm
ō	1.414	0.005	0.41
1	7.07	0.025	0.48
The state of the s	14.14	0.050	0.58
3	21.21	0.075	0.67
4	28.28	0.100	0.80
Š.	35,35	0.125	0.86
6	42.42	0.150	0.98
5	49.49	0.175	1.06
8	56.56	0.200	1.15
9	63.63	0.225	1.21

Table 30: Calculations of the resilient modulus of the tested soil according to DIN18134:

(KM 484+950 to 485+000)

(KM 484+950 to 485+000)	on the same of the	
Parameters	1st loading cycle	2nd loading cycle
(s. max) MN/m	0.25	0.25
a.(mm)	0.03	0.38
7/AXI/2023	4.22	4.28
ATTITUM MINTER	1.88	- 7.35
a. (mm/(vinz/m/)/	95.98	121.82
EV=11:517/(a j+32, So Max)		
Ev-/Ev ₁	And the state of t	וויבייון וויבייון וויבייון וויבייון וויבייון וויבייון
A PARTIE OF THE	The second secon	And the same of th

www.ejust.edu.eg CETC221100005.Trans.GEO0 18 of 31 E-1875



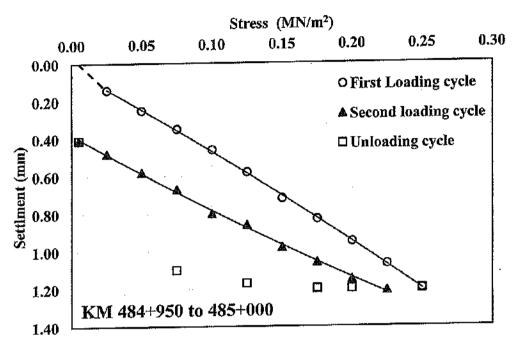


Figure 10: Load-settlement data: plate loading test performed at (KM 484+950 to 485+000)

F-IVS Constitution

www.ejust.edu.eg CETC221100005.Trans.GEO0

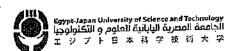


Civil Engineering Testing & Consulting Unit

وهدة اغتبارات و استشارات المندسة المنبية

Location of test site:	· · · · · · · · · · · · · · · · · · ·	KM 484+900 to 484+950		Mr. Mohamed Mamdouh	
Project title:	Electric Express Tra	team Date:	2/11/2022		
Diameter of loading			Time	02:55:00 p	
plate	600			م 03:19:00	
Lever ratio	1		Note:		
Type of Soil	Upper embankment soil (A1-a)				
Bedding material	_		_		
Temperature	25°C			T 10 - /	
Test regime	Loading Stage No.	Load (kN)	Dial Gauge Reading (mm		
Loading Stage	0	1.414	<u> </u>	10.00	
	1	7.07		9.82	
	2	14.14		9.69	
	3	21.21		9.60	
	4	28.28	<u> </u>	9.51	
	5	35.35		9.40	
	6	42,42		9.30	
	7	49.49		9.17	
	8	56.56		9.05	
	9	63.63	·	8.98	
	10	70.7		8.86	
Unloading Stage	11	56.56		8.86	
O	12	49.49		8.86	
,	13	35.35		8.89	
	14	21.21		9.00	
	15	1.414		9.68	
Test regime	Loading Stage No.	Load (kN)	Dial Ga	auge Reading (mn	
Reloading Stage	0	1.414		9.68	
	1	7.07		9.55	
	2	14.14		9.45	
	3	21.21		9.38	
	4	28.28		9.31	
	5	35.35		9.20	
	6	42.42		9.09	
	7	49.49	,	9.00	
	8	56.56		8.93	
	9	63.63	وراء المسمد المراد	matica=8487	

www.ejust.edu.eg CETC221100005.Trans.GEO0



Civil Engineering Testing & Consulting Unit

وحدة اختبارات و استشارات المندسة البدنية

Location of test site:	KM 484+95	0 to 485+000	Field team	Mr. Mohamed Mamdouh	
Project title:	Electric Express Tra	in Project - AlZhour	Date:	2/11/2022	
Diameter of loading			Time	م 03:30:00	
plate	60	00.		م 04:00:00	
Lever ratio		1	Note:		
Type of Soil	Upper embank	ment soil (A1-a)			
Bedding material	wa				
Temperature	25	°C			
Test regime	Loading Stage No.	Load (kN)	Dial Gauge Reading (mm)		
Loading Stage	0	1.414		10.00	
	1	7.07		9.86	
	2	14.14		9.75	
	3	21.21		9.65	
	4	28.28	9.54		
	5	35.35	9.42		
	6	42.42	9.28		
	7	49,49	9.17		
	8	56.56	9.05		
	9	63.63	8.93		
	10	70.7		8.80	
Unloading Stage	11	56.56	8.80		
0 0	12	49.49		8.80	
	13	35.35		8.83	
	14	21.21		8.90	
	15	1.414	9.59		
Test regime	Loading Stage No.	Load (kN)	Dial Ga	auge Reading (mm)	
Reloading Stage	0	1.414	9.59		
5 7	1	7.07	9.52		
	2	14.14	9.42		
	3	21.21	9.33		
	4	28.28	9.20		
	5	35.35	9.14		
	6	42.42		9.02	
	7	49.49	8.94		
	8	56.56		8.85	
	9	63.63	(420 Value II - 11 20)	8-79	

www.ejust.edu.eg CETC221100005.Trans.GEO0