

محضر استلام موقع

مشروع القطار السريع – القطاع الخامس (قوص/ ادفو) (د)
فى المسافة من 645+000 الى 660+000 بطول 15 كم تنفيذ شركة الكرم للمقاولات
العمومية .
بالإشارة الى العقد المبرم بين الهيئة العامة للطرق والكبارى وشركة الكرم للمقاولات
العمومية.
رقم العقد (2024/2023/752) بتاريخ 2023/11/26 لتنفيذ المشروع عالية :

فقد اجتمعت اللجنة يوم الخميس الموافق 2023/11/30 بحضور كلا من :
1. م/ احمد عبد الجبار / ممثل الهيئة العامة للطرق والكبارى
2. م/ محمد حسن / ممثل مكتب الاستشارى اسبكتروم
3. م/ محمود حامد / ممثل الشركة المنفذة الكرم للمقاولات العمومية

وقامت اللجنة بالمرور على موقع المشروع عالية ووجدت اللجنة انه لا يوجد عوائق
ظاهرية تعوق البدء فى التنفيذ (الموقع خالى من العوائق)
وعليه يكون تاريخ 2023/11/30 هو تاريخ استلام الموقع للمشروع عالية .
واقفل المحضر على ذلك .

اللجنة :-

الاسم: محمد حسن
التوقيع: [Signature]
مكتب استشارى اسبكتروم
الاسم: احمد عبد الجبار
التوقيع: [Signature]
الهيئة العامة للطرق والكبارى

شركة الكرم للمقاولات العمومية
الاسم: [Signature]
التوقيع: [Signature]
ب.ض: ٢٤٧ - ١٨٥ - ٢١٥٤٣٠
الشركة المنفذة

رئيس الإدارة المركزية للمنطقة الثامنة – قنا

توقيع/

م/ عماد حسين

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد ،،،،

نتشرف ان نرفق لسيادتكم عدد ١ مقياسة تقديرية لمشروع اعمال انشاء الجسر الترابي للقطار الكهربائي السريع ٦ أكتوبر /
أبوسمبل (القطاع الخامس) من الكم ٦٤٥ + ٠٠٠ حتى الكم ٦٦٠ + ٠٠٠ بطول ١٥ كم (د) على ان تراجع الأسعار بمعرفة الإدارة
بالقاهرة .

اعداد المكتب الاستشاري سبكترم للاستشارات الهندسية وعلي مسؤوليته .

تنفيذ شركة الكرم للمقاولات العمومية .

برجاء التكرم بالعلم والتوجيه باللازم

وتفضلوا بقبول وافر التحية والإحترام ،،،،

تحريرا في ٢٠٢٤/١/٣

المرفقات / عدد (١) مقياسة



رئيس الإدارة المركزية

مهندس /
عماد حسين



مقاييسه معدلة



أعمال إنشاء الجسر الترابي للقطار الكهربائي السريع (أكتوبر / أوسمبل)
من محطة ١١٠,١٣ + ٦٢٩ حتى محطة ٦٢٩,٦٣ + ٧١٥ بطول ٨٦,٥١٤٥ كم
تنفيذ شركة / الكرم للمقاولات العموميه من محطة ٦٤٥+٠٠٠ الى ٦٦٠+٠٠٠ بطول ١٥ كم (د)

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفئة	الاجمالي
2	اعمال الحفر				
1-2	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية لجميع أنواع التربة عدا التربة الصخرية وتسوية السطح بالآلات التسوية والرش بالمياه الأصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافه (95% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. -علاوة اجنية /كم لمسافة نقل ناتج الحفر وتصبيح ١,١ جنية/كم ابتداء من ٤/٥/٢٠٢٣ -علاوة زيادة السولار ٠,٦ جنية /م٣ ابتداء من ٤/٥/٢٠٢٣	م٣	٠	٢٣,٠٠	٠
2-2	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية في التربة المتماسكة عدا التربة الصخرية (باستخدام البلدوزر) وتسوية السطح بالآلات التسوية والرش بالمياه الأصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافه (٩٥% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. -علاوة اجنية /كم لمسافة نقل ناتج الحفر وتصبيح ١,١ جنية/كم ابتداء من ٤/٥/٢٠٢٣ -علاوة زيادة السولار ٠,٧ جنية /م٣ ابتداء من ٤/٥/٢٠٢٣	م٣	٢٠٠,٠٠٠	٢٦,٠٠	٥,٢٠٠,٠٠٠
3-2	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية شديدة المتماسكة (طفلة متحجرة او....) عدا التربة الصخرية (باستخدام البلدوزر) وتسوية السطح بالآلات التسوية والرش بالمياه الأصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافه (95% من الكثافة الجافة القصوى) ومحمل على البند تحميل ونقل الأتربة الزائدة لمسافة ٥٠٠ متر من محور الطريق ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. -علاوة ١ جنية /كم لمسافة نقل ناتج الحفر وتصبيح ١,١ جنية /كم ابتداء من ٤/٥/٢٠٢٣ . -علاوة زيادة السولار للبند ٠,٨ جنية /م٣ ابتداء من ٤/٥/٢٠٢٣	م٣	٠	٣١,٠٠	٠
4-2	بالمتر المكعب اعمال حفر بالمعدات الميكانيكية فى تربة صخرية ذات إجهاد (٢٠٠-١٠٠) كجم/سم ^٢ ذات إجهاد (٢٠٠-١٠٠) كجم/سم ^٢ من يناير ٢٠٢٣ علاوة ١,٦ جنية /م٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣	م٣	٠	٦٠,٠٠	٢,٨٠٠,٠٠٠
	ذات إجهاد (٣٠٠-٢٠٠) كجم/سم ^٢ ذات إجهاد (٣٠٠-٢٠٠) كجم/سم ^٢ من يناير ٢٠٢٣ علاوة ١,٩ جنية /م٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣		١٩,٦١٣	٦٢,٠٠	
	ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢ ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢ من يناير ٢٠٢٣ علاوة ٢,٢ جنية /م٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣		٠	٧٠,٠٠	
	علاوة زيادة إجهاد كل ١٠٠ كجم/سم ^٢ لكل متر مكعب وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣		٠	٨٢,٠٠	
4-2	ذات إجهاد (٤٠٠-٣٠٠) كجم/سم ^٢ علاوة ٢,٢ جنية /م٣ لارتفاع السولار وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣ علاوة زيادة إجهاد كل ١٠٠ كجم/سم ^٢ لكل متر مكعب وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣	م٣	١٨,٠٠٠	٨٨,٠٠	١,٨٠٠,٠٠٠
	علاوة زيادة إجهاد كل ١٠٠ كجم/سم ^٢ لكل متر مكعب وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣		٠	٦,٠٠	
	علاوة زيادة إجهاد كل ١٠٠ كجم/سم ^٢ لكل متر مكعب وذلك للكميات المنفذة بعد ٤/٥/٢٠٢٣		٠	٧,٠٠	
	ومحمل على البند الآتى ١- تحميل ونقل ناتج الحفر لمسافة لا تقل عن ٥٠٠ متر ٢ - ارنكة الميول الجانبية باستخدام المعدات الميكانيكية ٣- توريد اترية مطابقة للمواصفات وتشغيلها باستخدام الات التسوية بسلك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا حتى ١٠ %) ورشها بالمياه الأصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى أقصى كثافة جافه (95% من الكثافة الجافة القصوى). ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.				

استشارى سبكتروم

مهندس الشركة المنفذة

المهندس /
التوقيع /
Spectrum Consulting

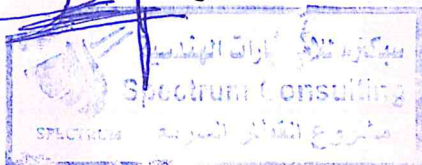
المهندس /
التوقيع /
ب.ض: ٢٤٧ - ١٨٥ - ٩٦٥

مقاييسه معدلة				
   				
أعمال إنشاء الجسر الترابي للقطار الكهربائي السريع (أكتوبر / أوسمبل) من محطة ١١٠,١٣ + ٦٢٩ حتى محطة ٦٢٤,٦٣ + ٧١٥ بطول ٨٦,٥١٤٥ كم تنفيذ شركة / الكرم للمقاولات العمومية من محطة ٦٤٥+٠٠٠ الي ٦٦٠+٠٠٠ بطول ١٥ كم (د)				
رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفئة
3	إعمال الردم Embankment			
1-3	أعمال تحميل وتوريد ونقل أترية مطابقة للمواصفات وتشغيلها باستخدام آلات التسوية بسمك لا يزيد عن ٥٠ سم حتى منسوب (-2 متر) أسفل منسوب الفرمة و بسمك لايزيد عن ٢٥ سم اعلي من منسوب (-2 متر) من منسوب الفرمة لاستكمال المنسوب التصميمي لتشكيل الجسر والأكتاف (نسبة تحمل كاليفورنيا حتى ١٥%) ورشها بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. - فى حالة طلب جهاز الإشراف زيادة نسبة الدمك عن ٩٥% بحسب زيادة ١ جنيه على زيادة نسبة الدمك لكل ١%. - مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١,٤ جنيه لكل كم بالزيادة او النقصان وتصبح ١,٥ جنيه /كم ابتداء من ٤/٥/٢٠٢٣. - السعر يشمل عمل تشوينات و تخطيط و اختبارات و نقل لموقع العمل حتي مسافة ٢ كم ، -علاوة زيادة السولار ١,٩ جنيه /م ٣ ابتداء من ٤/٥/٢٠٢٣ -السعر لا يشمل قيمة المادة المحجربة.	٣م	٢٠٠,٠٠٠	٦٠,٠٠
2-3	اعمال تحميل وتوريد ونقل اترية مطابقة للمواصفات وذلك باستخدام ناتج الحفر الصخرى الصالح وذلك طبقا لتعليمات المهندس المشرف والتدرج المطلوب باستخدام الكاسور ذلك بعد التأكيد من التدرج والمقاسات المطلوبة لاختبار المناخل طبقا لتوصيف الاستشاري وتشغيلها باستخدام الات التسوية بسمك لايزيد عن ٥٠ سم حتى منسوب -٢ متر وبسمك لايزيد عن ٢٥ سم لاستكمال المنسوب التصميمي لتشكيل الجسر والأكتاف (نسبة تحمل كاليفورنيا لا تقل ١٥%) ورشها بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول إلى أقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لأصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. - فى حالة طلب جهاز الإشراف زيادة نسبة الدمك عن ٩٥% بحسب زيادة ١ جنيه على زيادة نسبة الدمك لكل ١%. - مسافة النقل حتى ٢ كم و يتم احتساب علاوة ١,٤ جنيه لكل كم بالزيادة او النقصان وتصبح ١,٥ جنيه /كم ابتداء من ٤/٥/٢٠٢٣. - السعر يشمل عمل تشوينات و تخطيط و اختبارات و نقل لموقع العمل حتي مسافة ٢ كم ، -السعر يشمل مسافة نقل ناتج الحفر وتغذية الكاسور والنقل الى موقع القطاع بمتوسط مسافة ٣ كم -علاوة زيادة السولار ١,٩ جنيه /م ٣	٣م	.	١١٠,٠٠

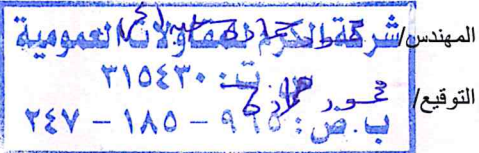
استشارى سبكتروم

المهندس/

التوقيع/



مهندس الشركة المنفذة





مقاييسه معدلة



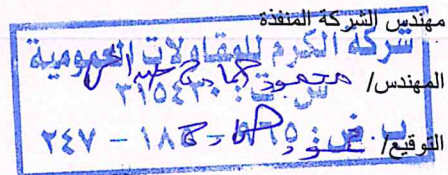
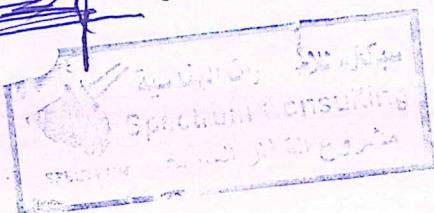
أعمال إنشاء الحسب الترابي للقطار الكهربائي السريع (أكتوبر / أوسمبل)
من محطة ١١٠,١٣ + ٦٢٩ حتى محطة ٦٢٤,٦٣ + ٧١٥ بطول ٨٦,٥١٤٥ كم
تنفيذ شركة / الكرم للمقاولات العموميه من محطة ٦٤٥+٠٠٠ الي ٦٦٠+٠٠٠ بطول ١٥ كم (د)

رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفقة	الاجمالي
4	طبقة تأسيس Prepared Subgrade				
1-4	بالمتر المكعب أعمال توريد وفرش طبقة تأسيس (Prepared Subgrade) من الأحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ١٠٠ مم وألا تزيد نسبة المار من منخل ٢٠٠ عن ١٢% والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٢٥% وألا تزيد نسبة الفاقد بجهاز لوس أنجلوس عن ٣٠% وألا يزيد الامتصاص عن ١٥% وألا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ٨٠ ميجابيسكال ويتم فردها على طبقتين باستخدام آلات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٥ سم ورشها بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد للهراست للوصول إلى أقصى كثافة جافة قصوى (لا تقل عن ٩٥%) من الكثافة العملية والفقة تشمل إجراء التجارب المعملية والحقلية ويتم التنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية والبند بجميع مشتملاته طبقاً للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف. - مسافة النقل لا تقل عن ٢٠ كم. - يتم احتساب علاوة ١,٢ جنيه لكل ١ كم بالزيادة أو النقصان وتصبح ١,٣ جنيه /كم ابتداء من ٤/٥/٢٠٢٣. - السعر لا يشمل قيمة المواد المحجريه. -علاوة زيادة السولار ١,٨ جنيه /م ابتداء ٤/٥/٢٠٢٣	م ^٣	.	١٣٠,٠٠	.
5	طبقات الاساس Subballast				
1-5	بالمتر المكعب أعمال توريد وفرش طبقة أساس من الأحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات وأقصى حجم للحبيبات ما بين ٣١,٥ مم إلى ٤٠ مم وألا يزيد نسبة المار من منخل ٢٠٠ عن ٥% والتدرج الوارد بالاشتراطات الخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠% وألا يقل معامل المرونة (EV2) من تجربة لوح التحميل عن ١٢٠ ميجابيسكال وألا تزيد نسبة الفاقد بجهاز لوس أنجلوس عن ٣٠% وألا يزيد الامتصاص عن ١٥% ويتم فردها على طبقتين باستخدام آلات التسوية الحديثة على أن لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠ سم ورشها بالمياه الأصولية للوصول إلى نسبة الرطوبة المطلوبة والدمك الجيد للهراست للوصول إلى أقصى كثافة جافة قصوى (لا تقل عن ١٠٠%) من الكثافة العملية والفقة تشمل إجراء التجارب المعملية والحقلية ويتم التنفيذ لأصول طبقاً للصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً للمواصفات الفنية للمشروع وتقرير الاستشاري وتعليمات المهندس المشرف. - مسافة النقل لا تقل عن ٢٠ كم. - يتم احتساب علاوة ١,٢ جنيه لكل ١ كم بالزيادة أو النقصان وتصبح ١,٣ جنيه /كم ابتداء من ٤/٥/٢٠٢٣. - السعر لا يشمل قيمة المواد المحجريه. -علاوة زيادة السولار ١,٨ جنيه /م ابتداء ٤/٥/٢٠٢٣	م ^٣	.	١٣٥,٠٠	.

استشارى سبكتروم

المهندس/

التوقيع/



 		 			
مقاييسه معدلة أعمال إنشاء الجسر الترابي للقطار الكهربائي السريع (أكتوبر / أنوسمبل) من محطة ١١٠,١٣ + ٦٢٩ حتى محطة ٦٢٤,٦٣ بطول ٧١٥ + ٨٦,٥١٤٥ كم تنفيذ شركة / الكرم للمقاولات العموميه من محطة ٦٤٥+٠٠٠ الي ٦٦٠+٠٠٠ بطول ١٥كم (د)					
رقم البند	بيان الأعمال	الوحدة	الكمية	سعر الفنة	الاجمالى
6	البلاطات الخرسانية / الرصف الحرسانى				
1-6	بالمتر المسطح أعمال توريد وصب خرسانة عادية سمك ١٥ سم لإرتفاع ١٠متر رأسي لحماية الأكتاف والميول الجانبية تتكون من ٣٠,٨ سن دولوميت متدرج + ٣٠,٤ رمل حرش والإضافات طبقا لتعليمات الإستشاري (فيبر +سيكا) علي أن يكون السن نظيف ومغسول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة مع وضع فوم (بالفاصل) بسمك ٢سم طبقا لتعليمات الإستشاري) والبند يشمل تجهيز وإستعداد مناسب التربة الطبيعيه أسفل البلاطة للوصول إلي المناسيب التصميميه علي أن تحقق الخرسانه إجهاد لا يقل عن ٢٥٠ كجم / سم^٢ وتشطيب السطح وملئ الفواصل بالبيتومين المرمل والتنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف. _ يتم إضافة علاوة قدرها ٥ جنيه بعد أول ١٠متر رأسي علي أن تضاف لكل مسطح (لا يقل عن ٥ متر رأسي)	٢م	٠	٤٣٣,٠٠	
2-6	بالمتر المكعب اعمال توريد وصب خرسانه عاديه لتنفيذ قدمه سفليه وعلويه للاكتاف والميول الجانبيه تتكون من ٣٠,٨ سن دولوميت متدرج + ٣٠,٤ رمل حرش والإضافات طبقا لتعليمات الإستشاري (فيبر +سيكا) علي أن يكون السن نظيف ومغسول والرمل خالي من الشوائب والطفلة والأملاح والمواد الغريبة مع وضع فوم (بالفاصل) بسمك ٢سم طبقا لتعليمات الإستشارى والبند يشمل اعمال الحفر والشدات وكل م يلزم لنهو الاعمال أسفل البلاطة للوصول الى المناسيب التصميميه علي أن تحقق الخرسانه إجهاد لا يقل عن ٢٥٠ كجم/سم^٢ وملئ الفواصل بالبيتومين المرمل والتنفيذ طبقاً لأصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لمواصفات الهيئة العامة للطرق والكباري وتعليمات المهندس المشرف.	٣م	٠,٠٠	٢,٦٨٥,٠٠	
الإجمالي					٢٠,٠٠٠,٠٠٠

مهندس الهيئة

استشاري سبكتروم

مهندس الشركة المنفذة

المهندس/

المهندس/

المهندس/ محمد عبد الحليم

التوقيع/

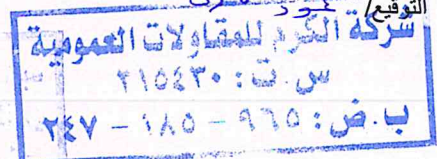
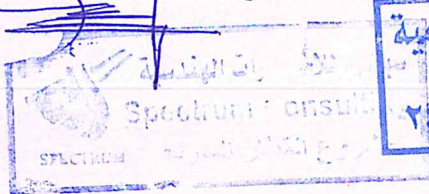
التوقيع/

التوقيع/ محمد صابر

رئيس الادارة المركزية
للمنطقة الثامنة

التوقيع/

م/ عماد حسين





محضر اعتماد حصر كميات



التاريخ : ٢٠٢٣-١٢-١٧

اسم المشروع : مشروع القطار الكهربائي السريع (6 أكتوبر - اسوان - أبو سمبل) القطاع الخامس

قامت شركة برليانت كونسلت للاستشارات المساحية (استشارى الاعمال المساحية لهيئة الطرق والكبارى)

باعتماد الكميات المنفذة الخاصة بشركة الكرم للمقاولات العمومية

م	من المحطة رقم	الى المحطة رقم	التصنيف	الكمية بالمتر المكعب	الملاحظات
1	643+860	658+840	اعمال القطع باستخدام البلدوزر	69785.24	اعمال قطع على (RE05)
2	643+860	658+840	قطع في تربة صخرية	35184.13	اعمال قطع على (RE05)
3	643+860	658+840	اعمال الردم	81757.29	اعمال الردم على (RE05)

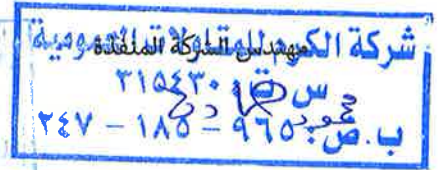
المرفقات :

1- استلام ميزانية شبكية

2- قطاعات عرضية

3- شيت اكسيل لتوضيح اعمال الحصر

استشارى الهيئة





Signature /

Note :- All tests are performed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (kg/cm ²)	Average (kg/cm ²)	Remarks
1	from 645+100 To 645+660	----	----	----	624.9	586.3	
2		----	----	----	655.5		
3		----	----	----	638.2		
4		----	----	----	620.6		
5		----	----	----	546.6		
6		----	----	----	518.6		
7		----	----	----	499.6		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS

ES 7325 - 2011

Company : شركة الهم
Project : Electric Express Train - HSR From Gous To Armant
Delivery Date : 28/10/2023
Test Date : 28/10/2023
Location : st : from 645+100 To 645+660
Report No. : Average 04(1-2-3-4-5-6-7)



Signature / ...

Note :- All tests are performed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length (cm)	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	645+100 To 645+660	10	10	788.2	804	624.9	
2		10	10	594.8	606.7		
3		10	10	384.3	392		
4		10	10	703.6	717.7		
5		10	10	592.3	604.1		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Company : شركة الهم
Project : Electric Express Train - HSR From Qous To Armant
Delivery Date : 28/10/2023
Test Date : 28/10/2023
Location : st : from 645+100 To 645+660
Report No. : 04-1



Signature /

Note :- All tests are preformed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
5	645+660 To 645+100 from	10	10	552	563	655.5	
4		10	10	861	878.2		
3		10	10	487.3	497		
2		10	10	342.5	349.4		
1		10	10	970.5	989.9		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS ES 7325 - 2011

Report No. : 04-2
Location : st : from 645+100 To 645+660
Test Date : 28/10/2023
Delivery Date : 28/10/2023
Project : Electric Express Train - HSR From Qous To Armant
Company : شركة الكرم



Signature / (Signature)

Note :- All tests are preformed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length (cm)	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 645+100 To 645+660	10	10	1040	1061	638.2	
2		10	10	537.6	548.4		
3		10	10	494.8	504.7		
4		10	10	671.9	685.3		
5		10	10	384.3	392		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Company : شركة الكرم
Project : Electric Express Train - HSR From Qous To Armant
Delivery Date : 28/10/2023
Test Date : 28/10/2023
Location : st : from 645+100 To 645+660
Report No. : 04-3



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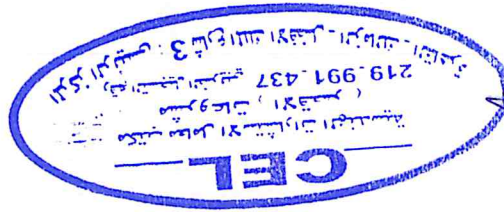
Note :- All tests are performed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length (cm)	Load (KN)	Compressive strength (kg/cm ²)	Average (kg/cm ²)	Remarks
5	645+660 To 645+100 from	10	10	348.6	355.6	620.6	
4		10	10	572.2	583.6		
3		10	10	358.6	365.8		
2		10	10	819.1	835.5		
1		10	10	943.5	962.4		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS

ES 7325 - 2011

Report No. : 04-4
Location : st : from 645+100 To 645+660
Test Date : 28/10/2023
Delivery Date : 28/10/2023
Project : Electric Express Train - HSR From Qous To Armant
Company : شركة الكرم



Signature /

Note :- All tests are preformed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length (cm)	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	645+100 To 645+660	10	10	541.4	552.2	546.6	
2		10	10	531.7	542.3		
3		10	10	490.2	500		
4		10	10	428.2	436.8		
5		10	10	688.3	702.1		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Company : شركة الهم
Project : Electric Express Train - HSR From Qous To Armant
Delivery Date : 28/10/2023
Test Date : 28/10/2023
Location : st : from 645+100 To 645+660
Report No. : 04-5



Signature /
28/10/2023

Note :- All tests are performed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length (cm)	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
5	645+100 To 645+660	10	10	543.1	554	518.6	
4		10	10	480	489.6		
3		10	10	540.6	551.4		
2		10	10	543.1	554		
1		10	10	435	443.7		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS

ES 7325 - 2011

Company : شركة الهم
Project : Electric Express Train - HSR From Qous To Armant
Delivery Date : 28/10/2023
Test Date : 28/10/2023
Location : st : from 645+100 To 645+660
Report No. : 04-6



Signature / *[Signature]*

Note :- All tests are performed according to ES 7325-2011

Sample No.	Station	Diam. (cm)	Length (cm)	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	from 645+100 To 645+660	10	10	367.4	374.7	499.6	
2		10	10	343.9	350.8		
3		10	10	548.7	559.7		
4		10	10	405.8	413.9		
5		10	10	372.9	380.4		
6		10	10	900.2	918.2		

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS

ES 7325 - 2011

Company : شركة اللم
Project : Electric Express Train - HSR From Gous To Armant
Delivery Date : 28/10/2023
Test Date : 28/10/2023
Location : st : from 645+100 To 645+660
Report No. : 04-7



Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 18/11/2023
Test Date : 19/11/2023
Location : st : from 648+680 To 649+050
Report No. : 05-1

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	From 648+680 To 649+050	9.5	10.3	65.4	94.18	145	
2		9.5	10.2	80.7	116.2		
3		9.5	10.4	126.5	182.2		
4		9.5	10.5	111.2	160.1		
5		9.5	10.1	98.2	141.4		
6		9.5	10.5	121.4	174.8		
7		9.5	10.5	101.5	146.2		

Note :- All tests are preformed according to ES 7325-2011

Signature /.....



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3 شارع الملك الافضل
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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company : شركة الكرم

Project : Electric Express Train – HSR From Qous To Armant

Delivery Date : 18/11/2023

Test Date : 19/11/2023

Location : st : from 648+680 To 649+050

Report No. : 05-1

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	From 648+680 To 649+050	9.5	10.3	65.4	94.18	145	
2		9.5	10.2	80.7	116.2		
3		9.5	10.4	126.5	182.2		
4		9.5	10.5	111.2	160.1		
5		9.5	10.1	98.2	141.4		
6		9.5	10.5	121.4	174.8		
7		9.5	10.5	101.5	146.2		

Note :- All tests are preformed according to ES 7325-2011

Signature /.....



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ش.ع. الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27363093

Company : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 26/10/2023
Test Date : 18/11/2023
Location : st : from 648+680 To 649+050
Report No. : 05-2

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
8	From 648+680 To 649+050	9.5	10.2	70.9	102.1	154.5	
9		9.5	10.1	88.2	127		
10		9.5	10.3	126.5	182.2		
11		9.5	10.5	90.9	130.9		
12		9.5	10.4	125.4	180.6		
13		9.5	10.6	141.2	203.3		
14		9.5	10.5	107.8	155.2		

Note :- All tests are preformed according to ES 7325-2011

Signature / ...



Company : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 26/10/2023
Test Date : 18/11/2023
Location : st : from 648+680 To 649+050
Report No. : 05-3

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
15	From 648+680 To 649+050	9.5	10.4	90.8	130.8	153.4	
16		9.5	10.1	71.5	103		
17		9.5	10.4	114.9	165.5		
18		9.5	10.6	90.9	130.9		
19		9.5	10.2	130.4	187.8		
20		9.5	10.1	129.2	186		
21		9.5	10.2	118	169.9		

Note :- All tests are preformed according to ES 7325-2011

Signature /



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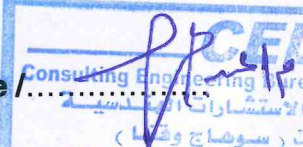
٣ ش الملك الأفضل
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Delivery Date : 26/10/2023
Test Date : 18/11/2023
Location : st : from 648+680 To 649+050
Report No. : Average 05(1/2/3)

RESULTS OF COMPRESSIVE STRENGTH FOR NATURAL ROCK CORES SPECIMENS
ES 7325 - 2011

Sample No.	Station	Diam. (cm)	Length Cm	Load (KN)	Compressive strength (Kg/cm ²)	Average (Kg/cm ²)	Remarks
1	From 648+680 To 649+050	----	----	----	145	150.9	
2		----	----	----	154.5		
3		----	----	----	153.4		

Note :- All tests are preformed according to ES 7325-2011

Signature 
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
مشروعات (سوشال وقها)
رقم التسجيل المصري: 219 - 991 - 537
المركز الرئيسي ٣ شارع الملك الأفضل - الزمالك - القاهرة

M182

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركه الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 26/10/2023
Soil type : Middle Embankment
Location : ST from 654+820 To 654+840
Level : -4 M
Report No. : 251-4

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	654+830	1423	2.28	5.5	2.16	99.4%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.17 gm/cm³

At optimum moisture content = 6.4 %

Signature


مكتب معامل الاستشارات الهندسية
مشاريع و دراسات
الهندسة المدنية
213-9311437
3 شارع الملك الافضل - الزمالك - القاهرة

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



٢ ش الملك الافضل
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢
فاكس :

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

Dear Gentleman,

Attached here with the delivered on 1 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

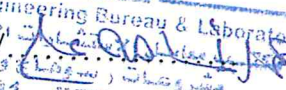
1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

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

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

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مكتب محامل الاستشارات الهندسية
Signature: 
219 - 991 - 537
رقم التسجيل الخرجي: 537 - 991 - 219
المركز الرئيسي شارع ٢، بلك الأقصر - الأقصر - الأقصر

1. Major E. Arlos Street
Cairo
11564



إلى السيد المهندس
المهندس
شركة الكرم

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	36.5	Max 50 %	-----	-----
0.425 mm (No. 40).	25.0	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	5.5	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

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مكتب محامل الاستشارات الهندسية
شروعات (سوق) وقنا
رقم التسجيل المزدوج: 537 - 991 - 219
المركز الرئيسي ٢ شارع الملك الأفضل - الزمالة - القاهرة 7

F. Mounir E. Abdel-Sheer

Chief Engineer

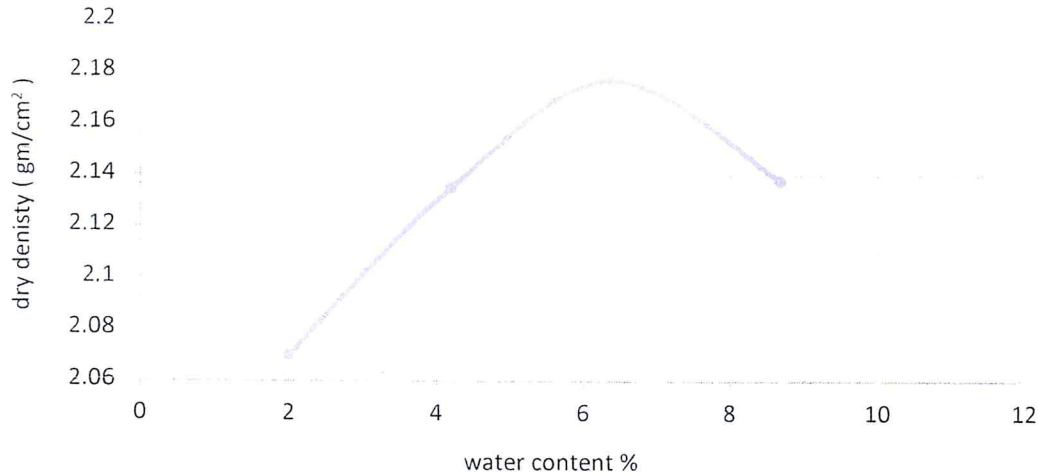
0111 537 991 - 219



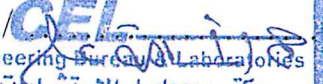
إبراهيم محمد
مهندس
0111 537 991 - 219

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

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



- Max dry density (gm/cm³) : 2.17
- Optimum moisture content % : 6.4 %

Signature 
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
مشروعات (سوهاج وقنا)
رقم التسجيل الضريبي: 219 - 991 - 537
المركز الرئيسي ٢ شارع الملك الأفضل - الزمالك - القاهرة

10 Malek E Afrial Street
Heliopolis - Cairo
T: 2736 2737 F: 2736 2739



عن الملك الأخضر
الحيات
شركة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.6
37.5	1.5	93.4
25	1	82.3
19	¾	72.1
12.50	½	63.7
9.50	3/8	53.9
4.75	4	44.8
2.00	10	36.5
0.425	40	25.0

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مكتب معامل الاستشارات الهندسية
مشاريع (سوهاج وقنا)
رقم التسجيل الضريبي: 219 - 991 - 537
المركز الرئيسي ٣ شارع الملك الأفضل - الزمالك - القاهرة

Signature /

F. Majeed E. Afraji Steer
Zamalek, Cairo
Tel: 27367221 27369093



شركة الملك الأفضل
الزمالك - القاهرة
تلفون: 27367221 27369093

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	5.5

Signature /



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.46
1.91	0.075	2.20
2.54	0.100	2.97
3.18	0.125	3.85
3.81	0.150	4.65
4.45	0.175	5.62
5.08	0.200	6.37
6.35	0.250	7.66

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	43 %
	6.90	2.97	

Notes:

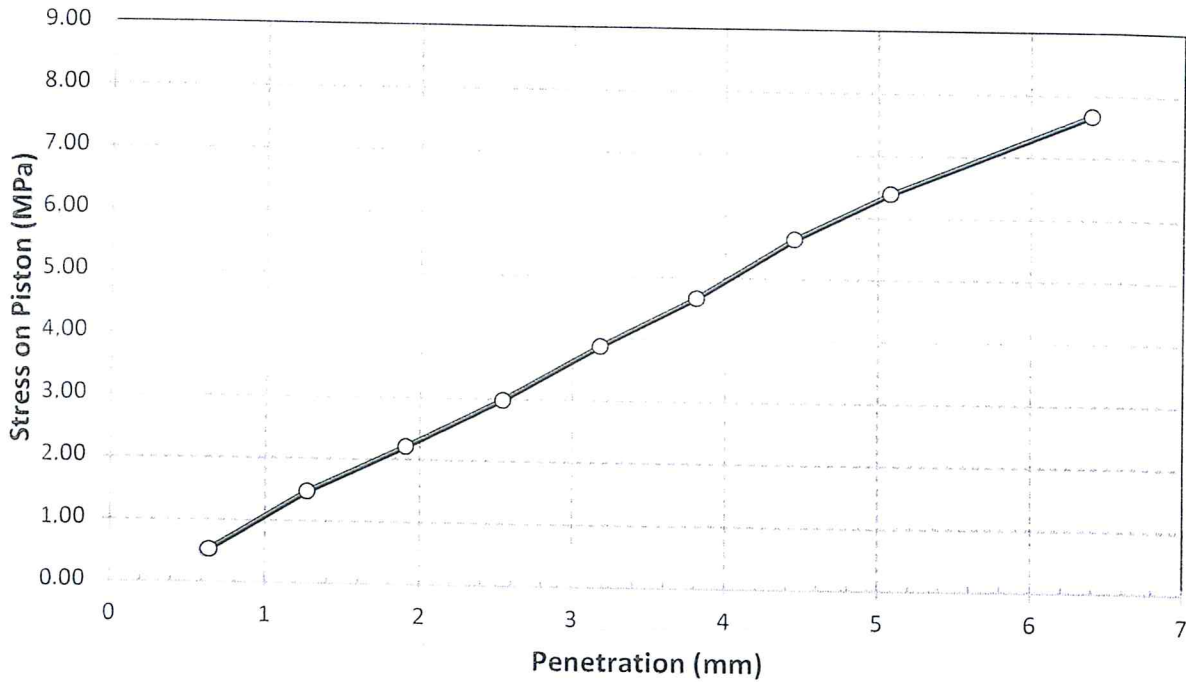
- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.17 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / ...

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 01/10/2023
Reporting Date : 5/10/2023
Reporting No. : 08-5

Load Penetration Curve of CBR Test

ASTM D-1883



Signature



7 E Malek E Aldel Stree

Cairo, Egypt

48 Fax 2736711 27367103



٢ في الملك الأفضل

القاهرة

تلفون ٢٧٣٦٧١٠٣ ٢٧٣٦٧١١١

M142

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 24/10/2023
Soil type : Middle Embankment
Location : ST from 648+160 To 648+220
Level : -3.5
Report No. : 249-5

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	648+180	1788	2.24	6	2.12	97.5%	Comply
2	648+200	1206	2.24	6	2.11	97.2%	Comply

Degree of compaction based on proctor test dated At
Max. dry density = 2.17 gm/cm³
At optimum moisture content = 6.4 %

Signature / 

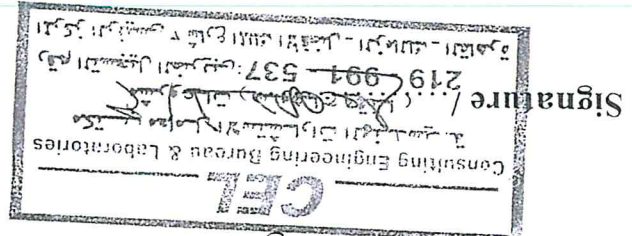
Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armanat
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Dear Gentleman,
Attached here with the delivered on 30 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

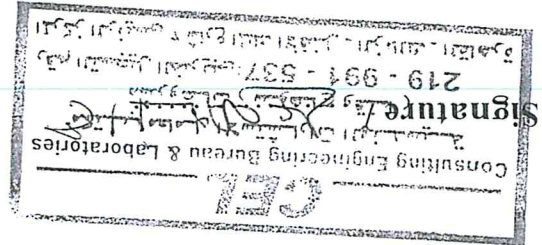
1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armanat
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
0.425	40	21.2
2.00	10	36.4
4.75	4	43.7
9.50	3/8	52.0
12.50	1/2	61.6
19	3/4	71.4
25	1	81.3
37.5	1.5	92.3
50	2	97.0



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Materials finer than 75 µm (no.200) sieve

By washing ASTM D-1140.

Test	Percentage of material finer than Sieve Size 75 µm (No.200)
Results (%)	3.6

Signature/
Consulting Engineering Bureau & Laboratories
مكتب مهندسي الاستشارات والمختبرات
رقم الترخيص: 537
التاريخ: 4/10/2023

Report No. : 08-4
 Date : 4/10/2023
 Project : Electric Express Train - HSR From Qous To Armant



Signature : [Signature]
 Date : 4/10/2023
 Name : [Name]



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

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

Company Name : شركة الكرم
 Project : Electric Express Train - HSR From Qous To Armant
 Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
 Type of sample : Soil Embankment
 Delivery Date : 30/09/2023
 Reporting Date : 4/10/2023
 Reporting No. : 08-4



Company Name : شركة الحرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs			
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)	
2.00 mm (No.10).	36.4	Max 50 %	-----	-----	
0.425 mm (No. 40).	21.2	Max 30 %	Max 50 %	-----	
0.075 mm (No. 200).	3.6	Max 15 %	Max 15 %	Max 15 %	
Characteristics of fraction passing 0.425 mm (No.40)					
Liquid Limit		-----	-----	-----	
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %	

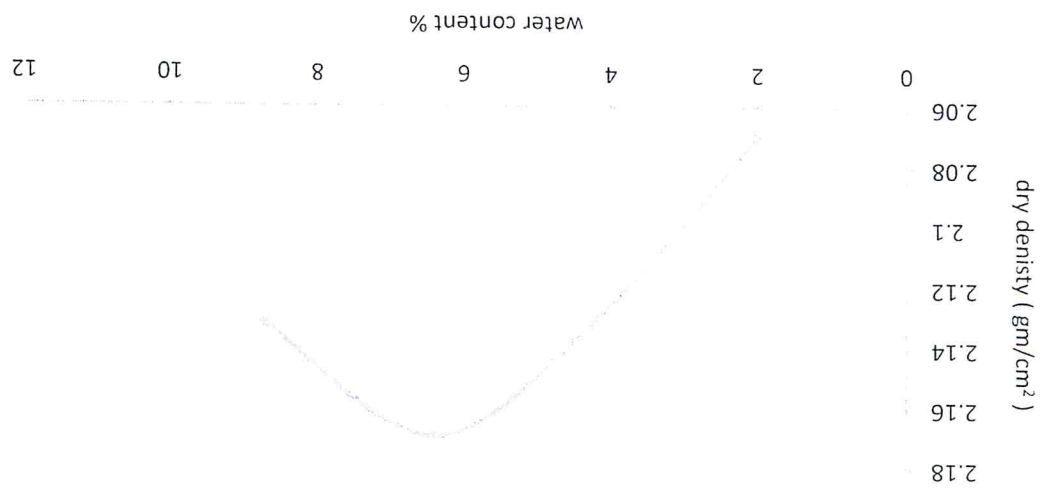
The test results are ☐ Comply - ☐ Not Comply () with specifications limits

Signature
Consulting Engineering Bureau & Laboratories
(CEL)
219 - 991 - 537
مكتب استشارات الهندسة
الهاتف - الفاكس

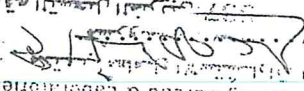
Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Moisture – Density relation of soil

Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm³) : 2.17
- Optimum moisture content % : 6.4 %

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 Signature / 
 219 - 01
 شركة الهندسة والاستشارات والاختبارات

Company Name : شركة الكرم

Project : Electric Express Train – HSR From Qous To Armanat
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"

Type of sample : Soil Embankment

Delivery Date : 30/09/2023

Reporting Date : 4/10/2023

Reporting No. : 08-4

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration	mm	Inch	stress on piston (Mpa)
	0.64	0.025	0.56
	1.27	0.050	1.43
	1.91	0.075	2.11
	2.54	0.100	2.87
	3.18	0.125	3.64
	3.81	0.150	4.57
	4.45	0.175	5.58
	5.08	0.200	6.34
	6.35	0.250	7.63

CBR Result	Stress (Mpa)	CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	41.5 %
	Sample results	
	6.90	
	2.87	

Notes:

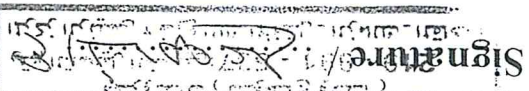
1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample was compacted to dry density of = 2.17 (gm /cm³)

At = 6.4 % optimum water content.

Surcharge load 4.50 Kg.

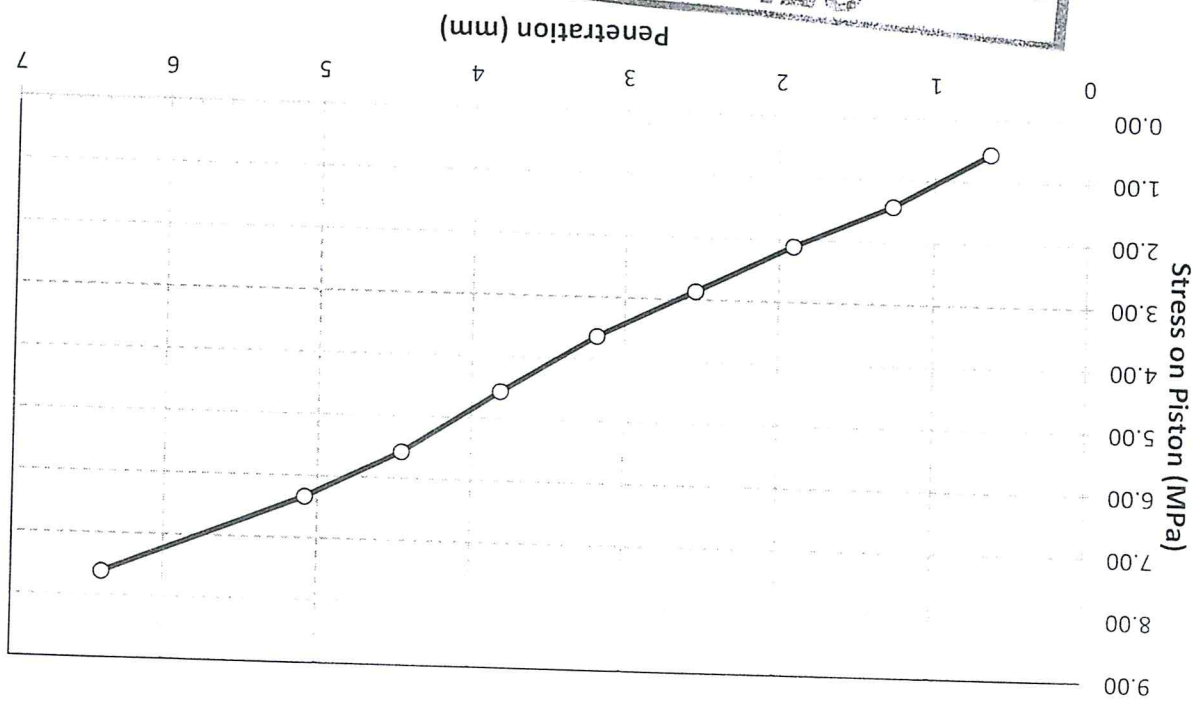
4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature: 

Company Name : شركة الكرم
Project : Electric Express Train - HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Load Penetration Curve of CBR Test

ASTM D-1883



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CEL
219-991-557
219-991-557

M180

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 26/10/2023
Soil type : Middle Embankment
Location : ST from 654+760 To 654+780
Level : -2.5 M
Report No. : 251-3

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	647+770	1657	2.27	5.8	2.15	99.0%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.17 gm/cm³

At optimum moisture content = 6.4 %

Signature /



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



3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27363093
فاكس :

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

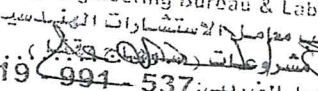
Dear Gentleman,

Attached here with the delivered on 30 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

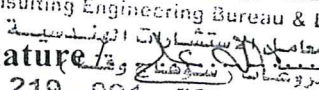
1. Sieve analysis according to ASTM D-422.
2. Material finer than sieve No. 200 according to ASTM D-1140.
3. Liquid limits and plasticity index of soil according to ASTM D-4318.
4. Soil classification according to Project Specs.
5. Proctor Test according to ASTM D-1557
6. CBR according to ASTM D-1883

Signature / 
219 994 537
رقم التسجيل الضريبي: 537 - 994 - 219
المركز الرئيسي: ٣ شارع الملك الأفضل - الزمالك - القاهرة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.0
37.5	1.5	92.3
25	1	81.3
19	¾	71.4
12.50	½	61.6
9.50	3/8	52.0
4.75	4	43.7
2.00	10	36.4
0.425	40	21.2

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
Signature: 
رقم التسجيل المهنى: 537 - 991 - 219
المركز الرئيسى ٣ شارع الملك الأفندي - الزمالك - القاهرة

Dr. Maher E. Afifi Shreef

Lab. No. : 08-4

Date : 4/10/2023



المركز الرئيسى

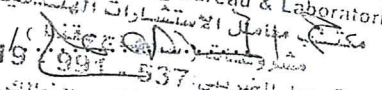
القاهرة

المركز الرئيسى ٣ شارع الملك الأفندي - الزمالك - القاهرة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

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

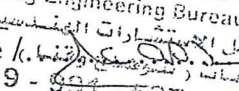
Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	3.6

Signature 
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
رقم التسجيل المهني 537-991-219
المركز الرئيسي 3 شارع الملك الأفندي - الزعامة - القاهرة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

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

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

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مكتب معامل الاستشارات الهندسية
Signature : 
رقم الترخيص : 537 - 994 - 219
المركز الرئيسي : شارع الملك المؤسس - الزهراء - القاهرة

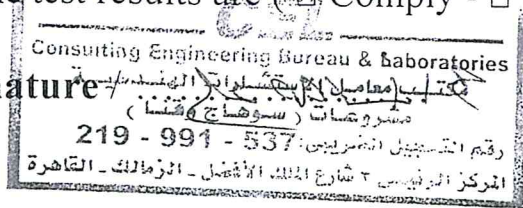
Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	36.4	Max 50 %	-----	-----
0.425 mm (No. 40).	21.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	3.6	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

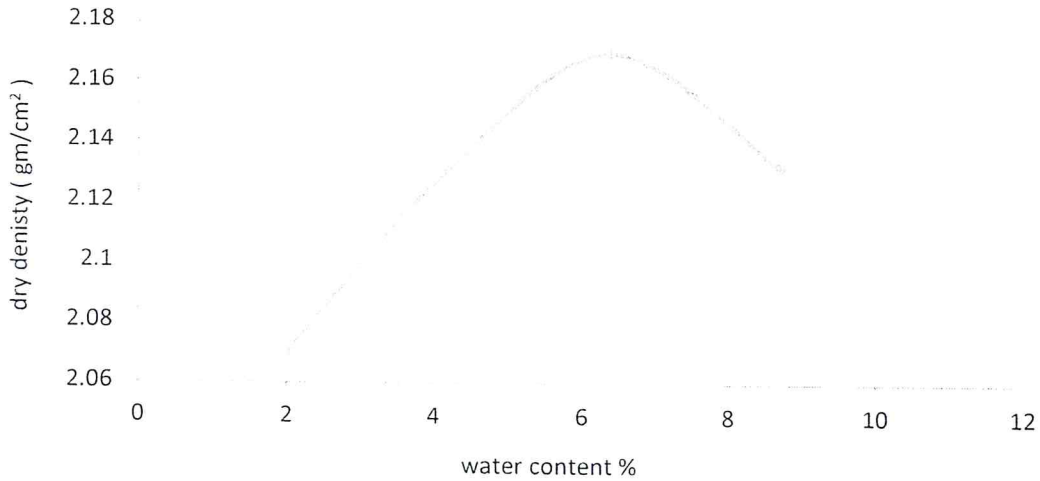
Signature



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Moisture – Density relation of soil

Test result (Modified proctor test)
ASTM D-1557



- Max dry density (gm/cm²) : 2.17
- Optimum moisture content % : 6.4 %

Signature



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.56
1.27	0.050	1.43
1.91	0.075	2.11
2.54	0.100	2.87
3.18	0.125	3.64
3.81	0.150	4.57
4.45	0.175	5.58
5.08	0.200	6.34
6.35	0.250	7.63

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	41.5 %
	6.90	2.87	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.17 (gm /cm³)
At = 6.4 % optimum water content.
Surcharge load 450 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature

المركز الرئيسي
الزمالك - القاهرة

1169

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Consulting Engineering Bureau & Laboratories
مكتب معمل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 26/10/2023
Soil type : Middle Embankment
Location : ST from 651+700 To 651+800
Level : -2.5 M
Report No. : 251-5

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	651+740	1058	2.25	6.4	2.12	97.6%	Comply
2	651+780	1320	2.22	5.8	2.10	96.8%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.17 gm/cm³

At optimum moisture content = 6.4 %

Signature

مكتب معمل الاستشارات الهندسية
شروعات الأقبية
رقم الترخيص المبرمج 437
المركز الرئيسي 3 شارع الملك الأفضل - الزمالة

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



3 شارع الملك الأفضل
الزمالة - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

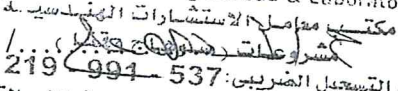
Dear Gentleman,

Attached here with the delivered on 30 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

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

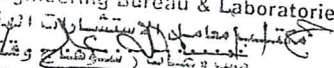
Signature / 

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية
شركة الكرم
رقم التسجيل الضريبي: 537-219994
المركز الرئيسي ٣ شارع الملك الافضل - الزمالك - القاهرة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.0
37.5	1.5	92.3
25	1	81.3
19	¾	71.4
12.50	½	61.6
9.50	3/8	52.0
4.75	4	43.7
2.00	10	36.4
0.425	40	21.2

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Signature: 
219 - 991 - 537
رقم التسجيل المهنى: 537 - 991 - 219
المركز الرئيسى: شارع الملك الأفندي - الزمالك - القاهرة

El-Mahk E. Afia Sheer

Cairo - Egypt

0111 24682933 0111 24682933

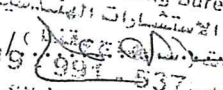


إدارة مختبر
إدارة مختبر
إدارة مختبر

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

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

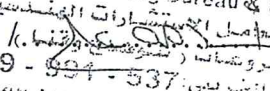
Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	3.6

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مكتب معامل الاستشارات الهندسية
Signature: 
رقم التسجيل الضريبي: 537-991-219
المركز الرئيسي ٣ شارع الملك الأفندي - الزمالك - القاهرة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

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

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

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مكتب معامل الاستشارات الهندسية
Signature : 
219 - 994 - 537
رقم التسجيل التشريعي: 537 - 994 - 219
المركز الرئيسي ٣ شارع الملك الأفندي - الزمالك - القاهرة

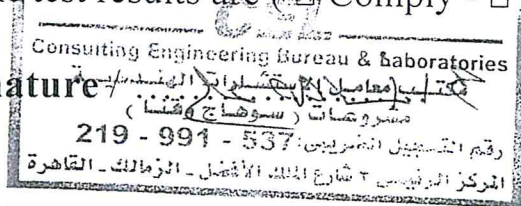
Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	36.4	Max 50 %	-----	-----
0.425 mm (No. 40).	21.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	3.6	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Test Results of California Bearing Ratio on Base Materials

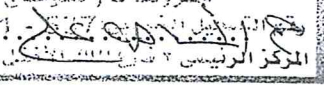
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.56
1.27	0.050	1.43
1.91	0.075	2.11
2.54	0.100	2.87
3.18	0.125	3.64
3.81	0.150	4.57
4.45	0.175	5.58
5.08	0.200	6.34
6.35	0.250	7.63

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	41.5 %
	6.90	2.87	

Notes:

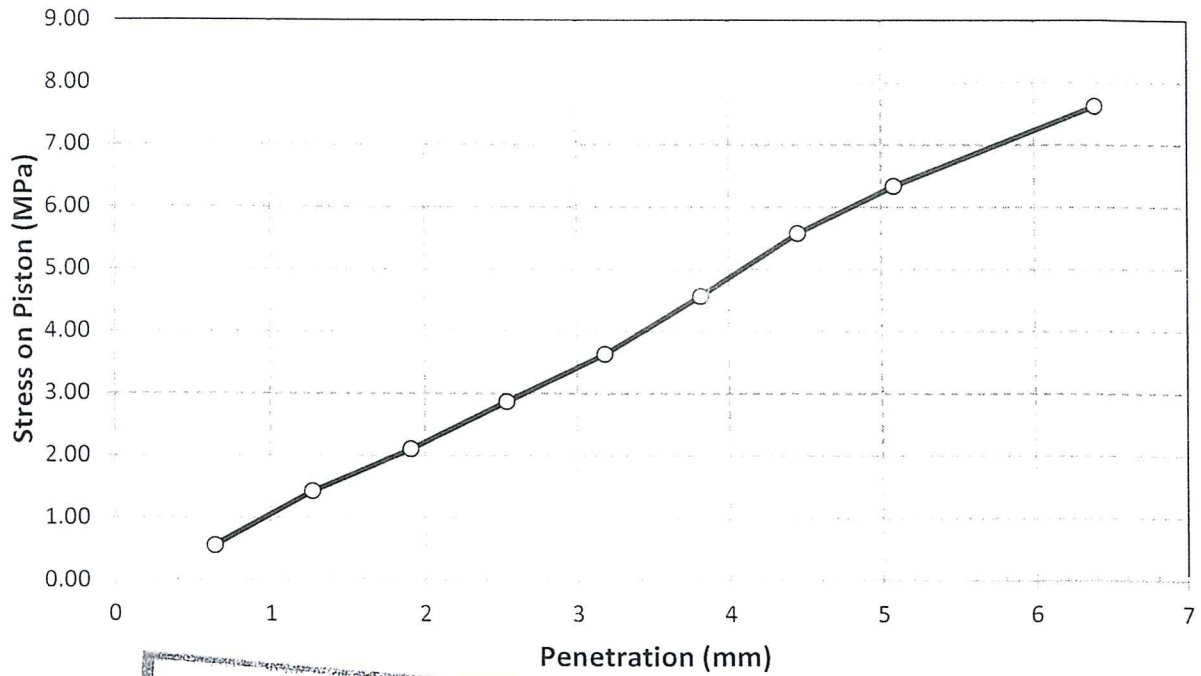
- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.17 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 K.g.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature: 
المركز الرئيسي - الزمالة - القاهرة

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Load Penetration Curve of CBR Test

ASTM D-1883



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مكتب معامل الاستشارات الهندسية
Signature:
رقم التسجيل المهنى: 537 - 991 - 219
المركز الرئيسي: ش.ج. القاهرة - 11511

E. M. El-Afifi, Street

El-Dokki, Cairo

TEL: 0111 537 991 219



تم اعتماد المختبر
وفقاً لمواصفات
المعيار الدولي
ISO 17025

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 7 /11/ 2023
Soil type : Middle mbankment
Location : ST from 653+800 TO 654+000
Level : -1.5 M
Report No. : 270-4

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

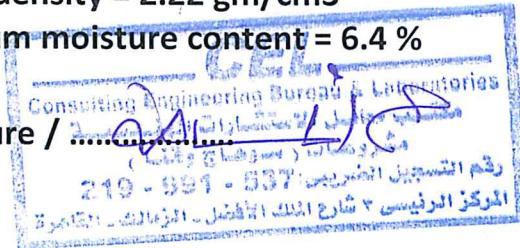
Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	653+830	1348	2.31	5	2.20	99.0%	Comply
2	653+860	1357	2.27	5	2.16	97.4%	Comply
3	653+890	1376	2.33	5.5	2.20	99.3%	Comply
4	653+920	1507	2.25	6	2.12	95.6%	Comply
5	653+950	1559	2.27	6.4	2.13	96.2%	Comply
6	653+980	1499	2.28	5.5	2.16	97.5%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature /



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Zamalek, Cairo.
Te& Fax : 27367231 - 27363093



٢ شارع الملك الأفطال
الزمالك - القاهرة
تليفون / فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

Dear Gentleman,

Attached here with the delivered on 14 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature / 



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.0
37.5	1.5	91.0
25	1	85.7
19	3/4	73.6
12.50	1/2	72.1
9.50	3/8	64.0
4.75	4	49.6
2.00	10	40.3
0.425	40	25.0

Signature /.....



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Zamalek, Cairo
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3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

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

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

Signature /.....



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

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

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

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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



3 شارع الملك الافضل
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	40.3	Max 50 %	-----	-----
0.425 mm (No. 40).	25.0	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.4	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit	0	-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature / ..  مكتب معامل الاستشارات الهندسية
مشروعات (الأقبية)
رقم الترخيص التجاري 219.991.437
المركز الرئيسي 3 شارع الملك الأفندي - الزمالة - القاهرة

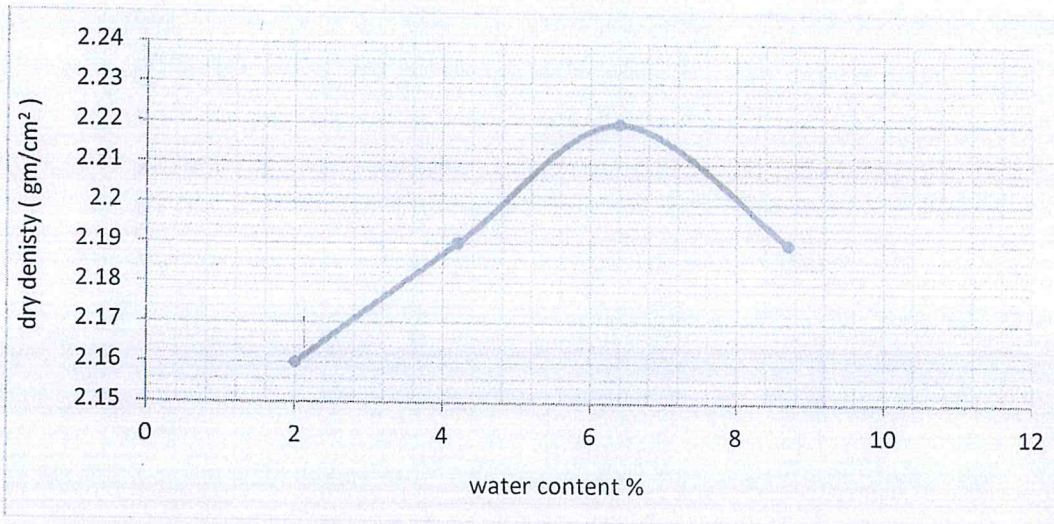
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



3 شارع الملك الأفندي
الزمالة - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

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



- Max dry density (gm/cm³) : 2.22
• Optimum moisture content % : 6.4 %

Signature /



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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



3 شارع الملك الأفطال - الزمالك - القاهرة
الهاتف : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.47
1.27	0.050	1.38
1.91	0.075	2.34
2.54	0.100	3.13
3.18	0.125	4.06
3.81	0.150	4.88
4.45	0.175	5.60
5.08	0.200	6.13
6.35	0.250	6.90

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	45.4 %
	6.90	3.13	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

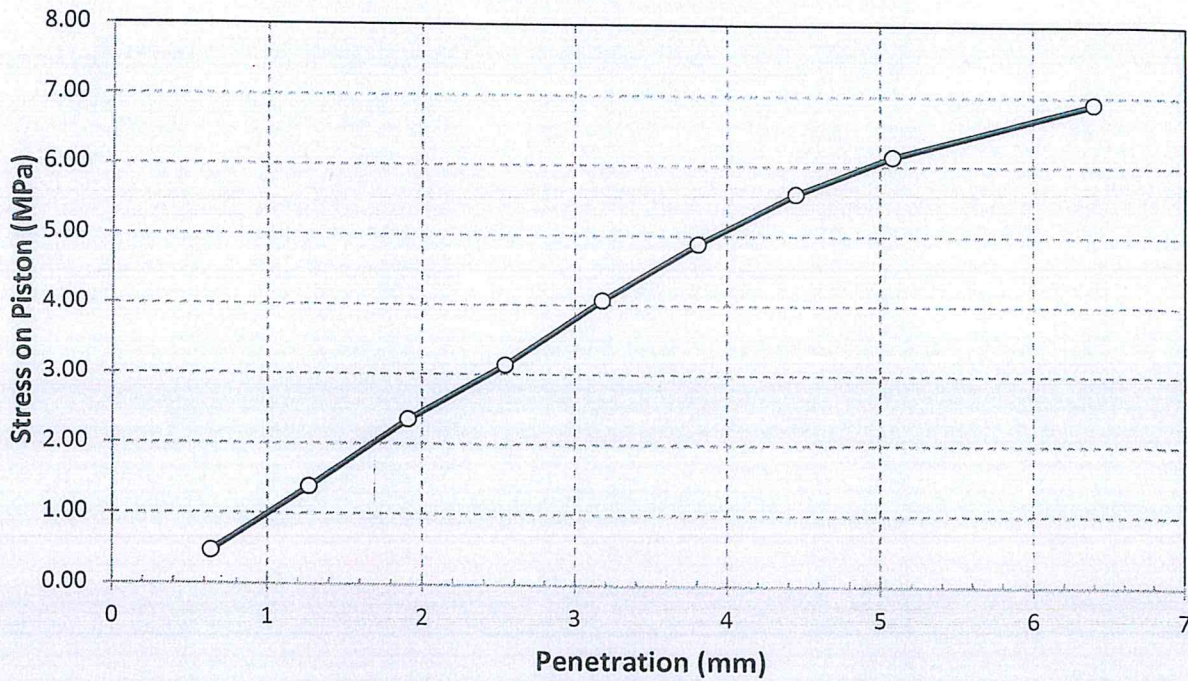
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



إش. الملك الأفـال
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 654+320 E=487066.907 N=2853121.816
Type of sample : Soil Embankment (Lower Embankment -5.5 M)
Delivery Date : 14-10-2023
Reporting Date : 18-10-2023
Reporting No. : 02

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / ...



3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363003



أش الملك الأفديل
الزمالك القاهرة
تليفون : 27367231 - 27363003

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

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

Location Name		Contractor Company				Designer Company				
From 643+860 to 658+840		El Karam for contracting				(SPECTRUM) Engineering Consulting Office				
Issued by contractor	Name	Sign	Date			Time				
	Eng. Mahmoud Hamada	م/ محمود حمادة	15/10/2023			10:00 ص				
Contractor UIR Reference	KS-UE(128)					Revision6				
Received by ER			C1	C2	C3	DD	MM	YY	HH	MM
CODE-1 S1 to S21 Station Reference	CODE-1 D1 to S3 Depot Reference	CODE-1 Kp XXX Note For Kilometer point only Start Km is used				CODE-2 Work Activity		CODE-3 Sub Element of Activity		

EXPLANATION OF WORK TO BE INSPECTED		
Area	Element	Item
	from St (650+800) to St (650+900)	(-0.25)

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

COMPLIANCE EVIDENCE Must be Included as appropriate			
Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference		MS Reference

Comments by:(Brilliant)	Comments by:(SPECTRUM) CIVIL	Comments by:(SPECTRUM) QC
تم استلام الأعمال المساحة ولا مانع من متابعه الأعمال كمدني	تم الفحص البصري ولا مانع من استكمال باقي الأعمال / هادي مصطفى	تم الاطلاع على الأعمال / هادي مصطفى

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	محمد كوردي	محمد كوردي	16/10/2023			
QA/QC*	محمد كوردي	محمد كوردي	18/10/23			
GARB**						
Employers Representative						

		from		to		STATION						اسم الثانية	
		650+800.00		650+900.00								H5R074	
												143,31	
												145,34	

م.ب.

13/10/2022

		from		to		STATION			
		650+800.00		650+900.00					

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 15/10/2023
Soil type : Upper Embankment
Location : ST from 650+800 TO 650+900
Level : - 0.25 M
Report No. : 209

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	650+820	1709	2.29	6.4	2.16	97.1%	Comply
2	650+840	1449	2.32	5.5	2.20	99.2%	Comply
3	650+860	1703	2.29	5.5	2.17	97.8%	Comply
4	650+880	1752	2.23	5.6	2.11	95.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

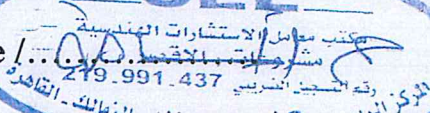
Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	¾	71.3
12.50	½	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

Signature / 
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العموميه
رقم التسجيل المميز: 279.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 2736723 - 27363093



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 2736723 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

Signature / 
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العموميه
219.991.437
3 شارع الملك الافضل - الزمالك - القاهرة

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

Signature / ...



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شركة الكرم للمقاولات العموميه
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



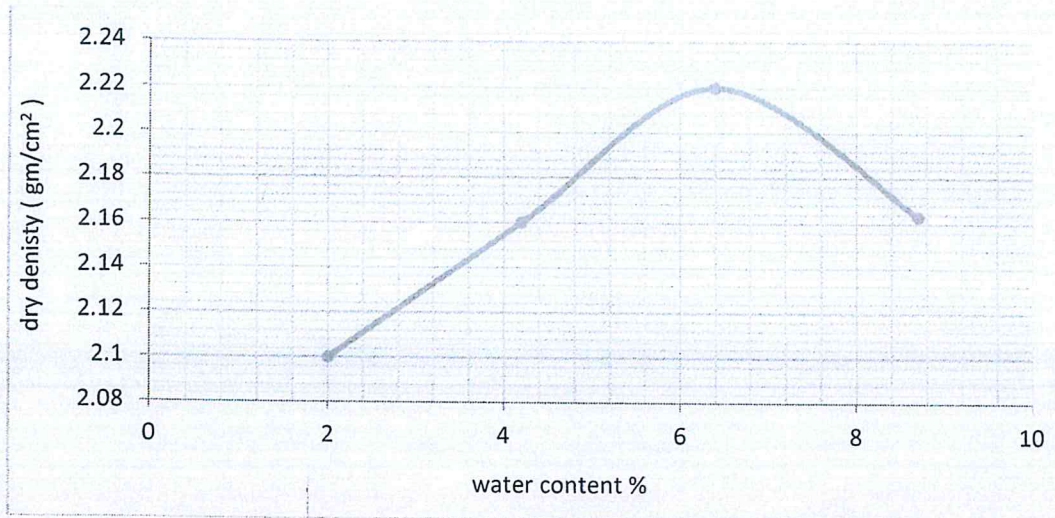
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



3 شارع الملك الأفضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



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

Signature / 

مكتب معامل الاستشارات الهندسية
استشارات ومقاولات
219.991.437
شركة الكرم للمقاولات العمومية
3 شارع الملك الأفندي - القاهرة

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



3 شارع الملك الأفندي
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature : 

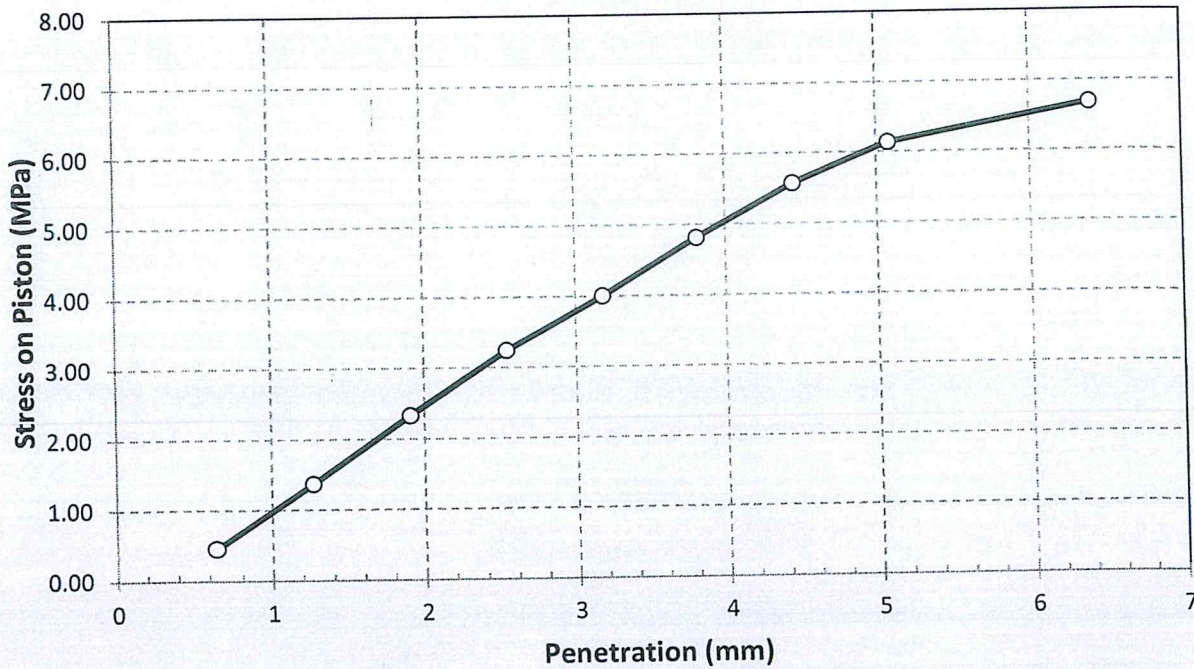
3 E Malek El Afdaj Street
Zamalek, Cairo 11511-991.437
Tel & Fax : 27363093 - 27363093

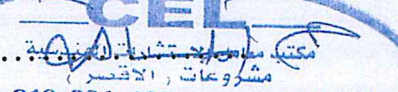


إلى الملك الأفدي
الملك الأفدي
الملك الأفدي

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / 
مكتب معامل الاستشارات الهندسية
مشروعات , الاقصر
الزمامك - القاهرة
219.991.437
المقر الرئيسي : 3 شارع الملك الافضل - الزمامك - القاهرة

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



الزمامك - القاهرة
تليفون : 27367231 - 27363093
فاكس : 27363093

4135

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مكتب معامل الاستشارات الهندسية

Company Name : شركه الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 18/10/2023
Soil type : Upper Embankment
Location : ST from 650+920/651+000
Level : - (0.25)M
Report No. : 239

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	650+940	1597	2.32	5.6	2.20	98.9%	Comply
2	650+980	1620	2.29	5.8	2.17	97.6%	Comply
3	650+995	1547	2.33	5.5	2.21	99.4%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature / 
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مكتب معامل الاستشارات الهندسية
مشروعات (سوهاج وقنا)
رقم التسجيل الضريبي: 537 - 991 - 219
المركز الرئيسي ٣ شارع الملك الأفضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo
Tel & Fax: 27367231 - 27369093



٣ شارع الملك الأفضل
الزمالك - القاهرة
هاتف : ٢٧٣٦٧٢٣١ - ٢٧٣٦٩٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	3/4	71.3
12.50	1/2	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

Signature /...
مكتب معامل الاستشارات الهندسية
مشاريع البنية التحتية
رقم السجل المهنى 219.991.437
المركز الرئيسى 3 شارع الملك الافضل - الزمالك - القاهرة

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



3 شارع الملك الافضل
للزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

Signature / 
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العموميه
قسم ومعدات (الافسار)
رقعة الترخيص المبرسي 219.991.437
شارع الملك الافضل - الزمالك - القاهرة

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

Signature /... 
219.991.437
المركز الرئيسي 3 شارع الملك الأفضل - الزمالك - القاهرة

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



3 شارع الملك الأفضل
الزمالك - القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature / ...



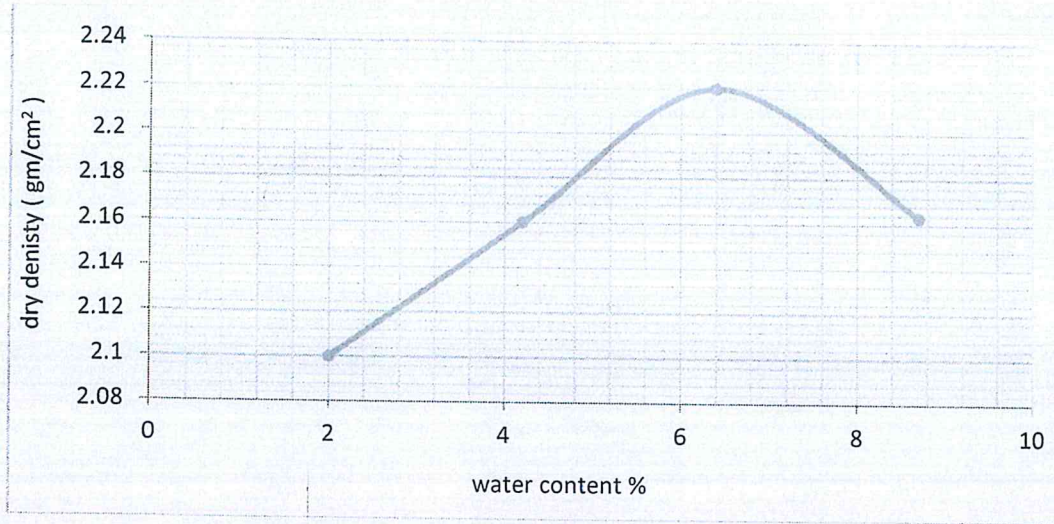
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



أش الملك الأفضل
الزمامك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



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

Signature /



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



ش.م.ك. الملك الأفديل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

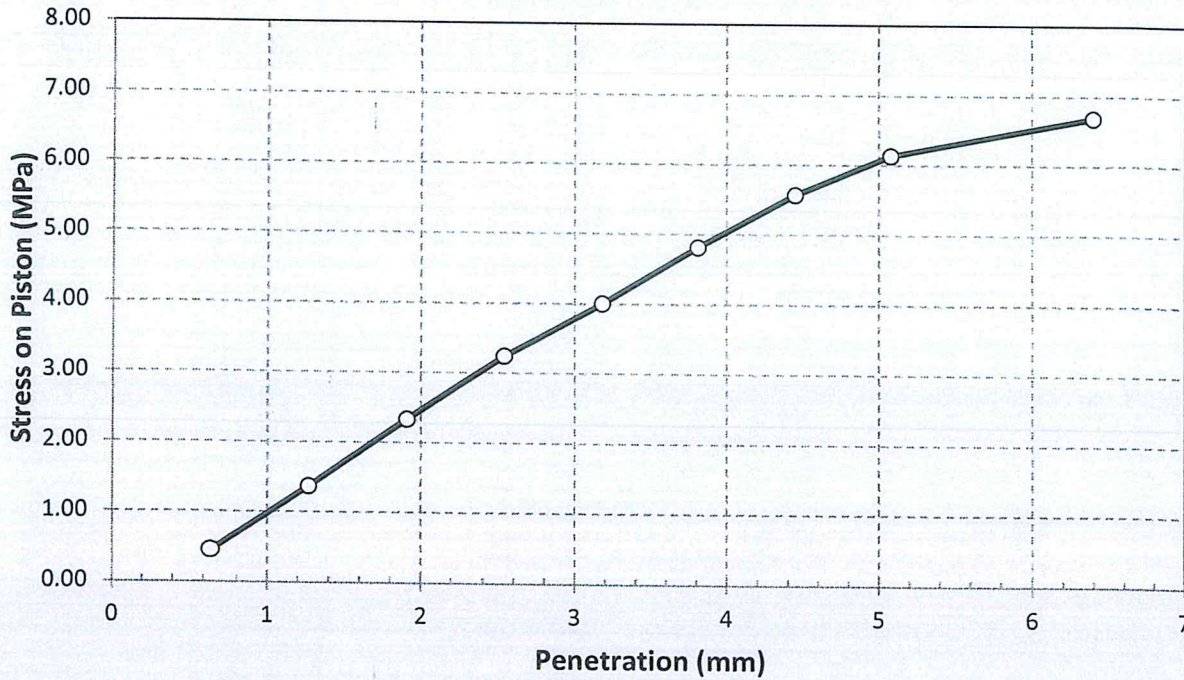
3 B. Malek El Afdaj Sites
Zamalek, Cairo 219-991.437
Tel & Fax 27367233-27362093



شركة الكرم للمقاولات العموميه
الزمالك القاهرة
تليفون : 27367233 - 27362093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test
ASTM D-1883



Signature /



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



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

4136

CEL

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مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 18/10/2023
Soil type : Upper Embankment
Location : ST from 651+100/651+240
Level : - (0.25)M
Report No. : 238

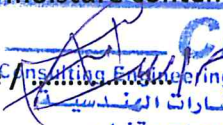
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	651+120	1452	2.27	6.4	2.13	96.1%	Comply
2	651+140	1461	2.29	5.6	2.16	97.5%	Comply
3	651+160	1619	2.33	6	2.19	98.8%	Comply
4	651+185	1659	2.30	6	2.17	97.6%	Comply
5	651+200	1580	2.36	6.4	2.22	99.8%	Comply
5	651+230	1633	2.33	5.8	2.20	99.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture-content = 6.4 %

Signature:  Consulting Engineering Bureau & Laboratories

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

3 El Malek El Afdal Street

٣ ش الملك الأفضل

651+230
Tel/Fax: 27367231 - 27363093



2.20 99.2% Comply

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /... 

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	3/4	71.3
12.50	1/2	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

CEL
مكتب معامل الاستشارات الهندسية
مشاريع المياه والاعمار
رقم السجل التجاري 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 2736723 - 27363093



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 2736723 - 27363093
فاكس :

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

Signature /



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

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تليفون : 27367231 - 27363093
فاكس : 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



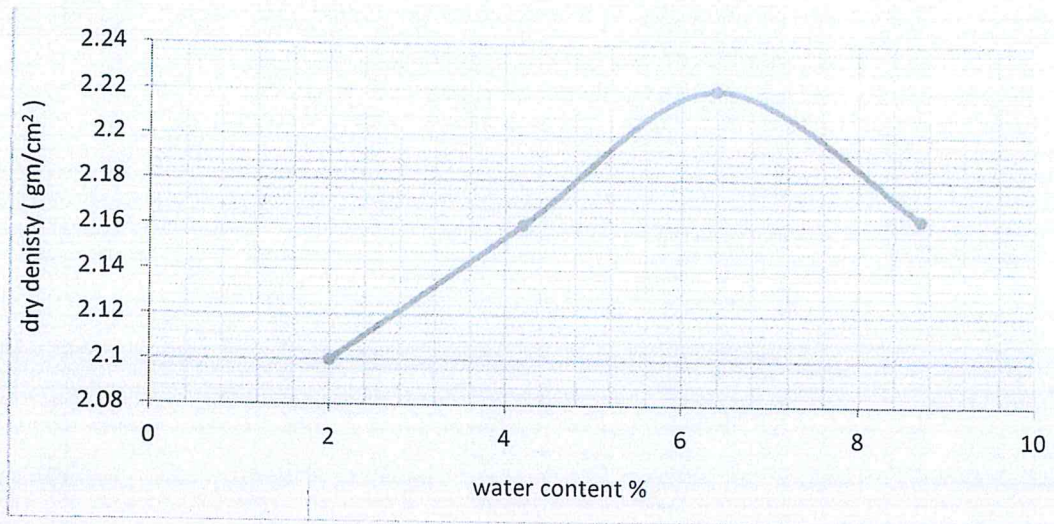
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27369093



ش.م.ك. الملك الأفضل
الزمامك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣١

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



- Max dry density (gm/cm³) : 2.22
- Optimum moisture content % : 6.4 %

Signature / 

مكتب معاميل الاستشارات الهندسية
مشاريع ومعاميل : القاهرة
219.991.437
شركة الكرم للمقاولات العموميه - القاهرة

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Tel& Fax : 27367231 - 27363093



3 شارع الملك الافندي
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

3 E. Malek El Afdal Street
Zamalek, Cairo 11511, Egypt
Tel & Fax : 27369093
27369093

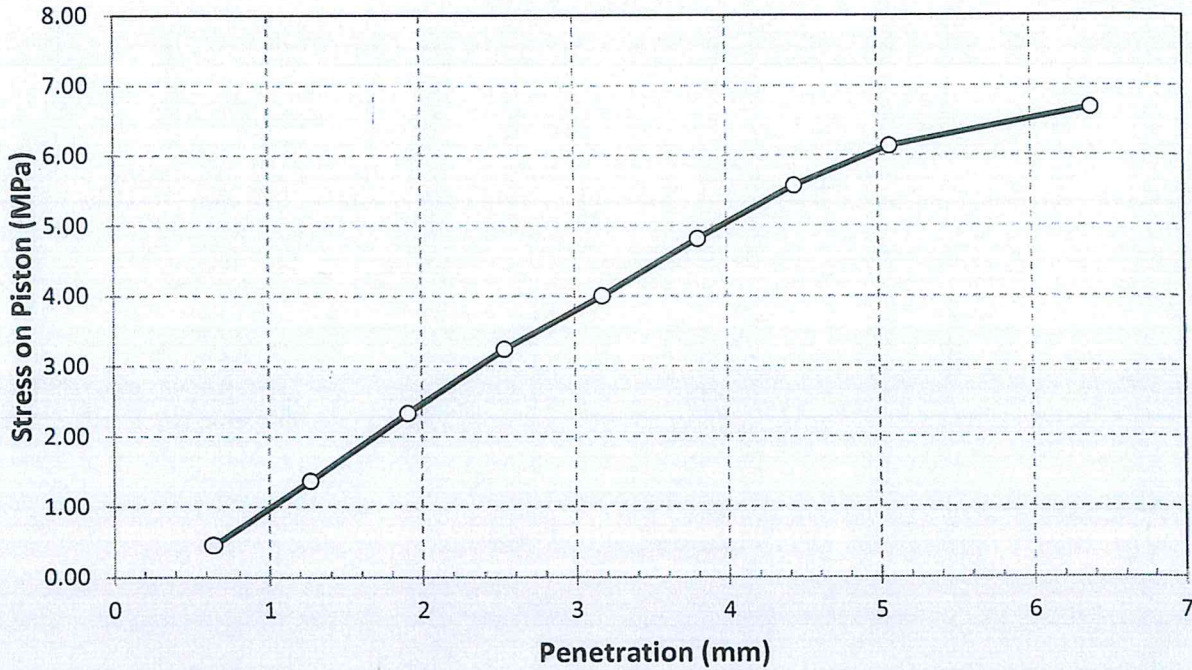


ش. الكرم للاستشارات
الزمالك القاهرة
تليفون : 27369093 - 27369093
فاكس : 27369093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test

ASTM D-1883



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أش الملك الافضل
الزمالة - القاهرة
تليفون : 27367291 - 27363093

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	محمد محمد	محمد محمد	17/10/2023			
QA/QC*	عبدالله	عبدالله	18/10/23			
GARB**						
Employers Representative						

5141

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 17/10/2023
Soil type : Upper Embankment
Location : ST from 650+220/650+360
Level : -0.25 M
Report No. : 219

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	650+240	1531	2.24	6	2.11	95.0%	Comply
2	650+260	1426	2.33	6	2.20	99.0%	Comply
3	650+280	1746	2.29	6.4	2.15	97.0%	Comply
4	650+300	1412	2.27	5.8	2.14	96.6%	Comply
5	650+320	1338	2.28	6.4	2.14	96.6%	Comply
6	650+360	1318	2.29	6.4	2.15	97.0%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature:  Consulting Engineering Bureau & Laboratories



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٢ في الملك الافضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣٣ - ٢٧٣٦٩٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

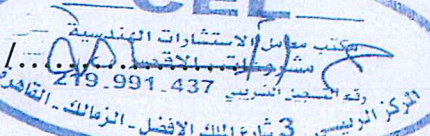
Signature / ...



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	¾	71.3
12.50	½	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

Signature /... 
مكتب معامل الاستشارات الهندسية
مشاريع القمامة
رقم السجل التسريحي 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 2736723 / - 27363093



3 شارع الملك الافضل
زمالك القاهرة
تليفون : 2736723 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

Signature /



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3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

Signature / ...



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شركة الكرم للمقاولات العموميه
القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



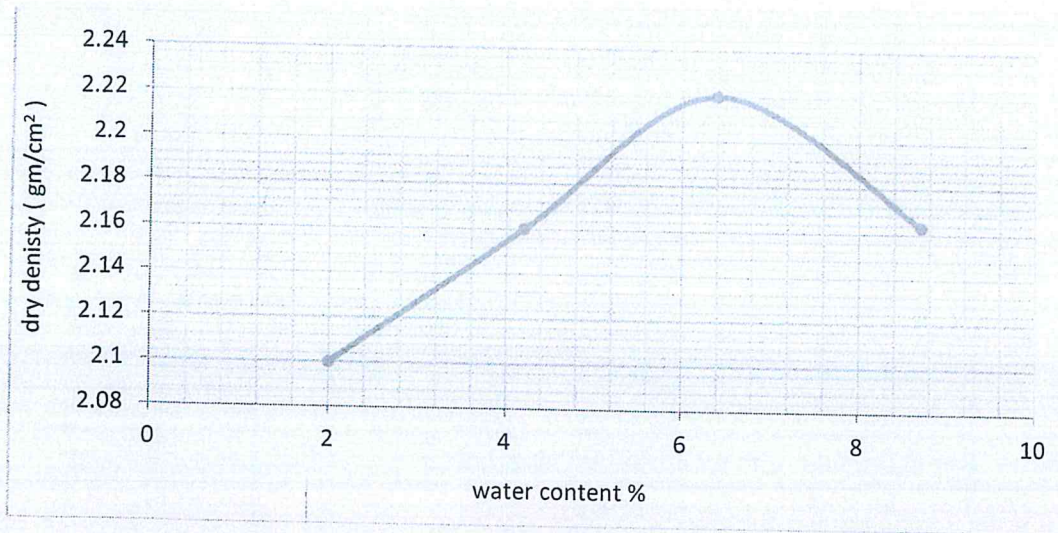
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3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27369093
فاكس :

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



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

Signature /



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3 شارع الملك الأفدال
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

3 E Malek El Afdaj Street
Zamalek, Cairo 11511
Tel & Fax : 27367433 - 27369093

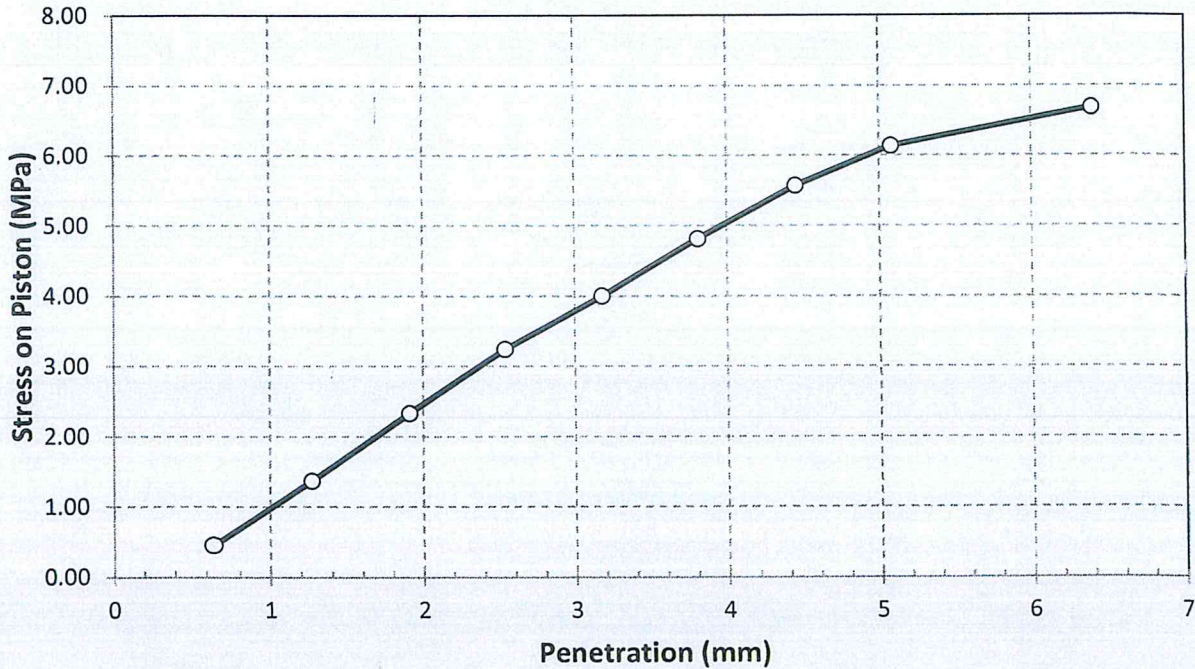


إس.إم.ك.الأنشغال
الزمالك القاهرة
التليفون : 27367433 - 27369093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test

ASTM D-1883



Signature /



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الزمالة - القاهرة
تليفون : 27367231 - 27363093



Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 18/10/2023
Soil type : Upper Embankment
Location : ST from 651+100/651+240
Level : - (0.25)M
Report No. : 238

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	651+120	1452	2.27	6.4	2.13	96.1%	Comply
2	651+140	1461	2.29	5.6	2.16	97.5%	Comply
3	651+160	1619	2.33	6	2.19	98.8%	Comply
4	651+185	1659	2.30	6	2.17	97.6%	Comply
5	651+200	1580	2.36	6.4	2.22	99.8%	Comply
5	651+230	1633	2.33	5.8	2.20	99.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture-content = 6.4 %

Signature



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651+230 Cairo
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3 شارع الملك الأفضل

651+230 Cairo 1633 Station 2.33 2.20 99.2% Comply

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	¾	71.3
12.50	½	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

Signature /...
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العموميه
رقم السجل التجاري 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالة - القاهرة

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



3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

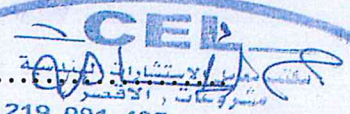
Signature /



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

Signature / 
219.991.437
المركز الرئيسي في شارع الملك الاكبر - الزمالك - القاهرة

3 El Malek El Afridi Street
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Tel& Fax: 27367233 - 27363093



ش. الملك الاكبر
الزمالك - القاهرة
تليفون : 27367233 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



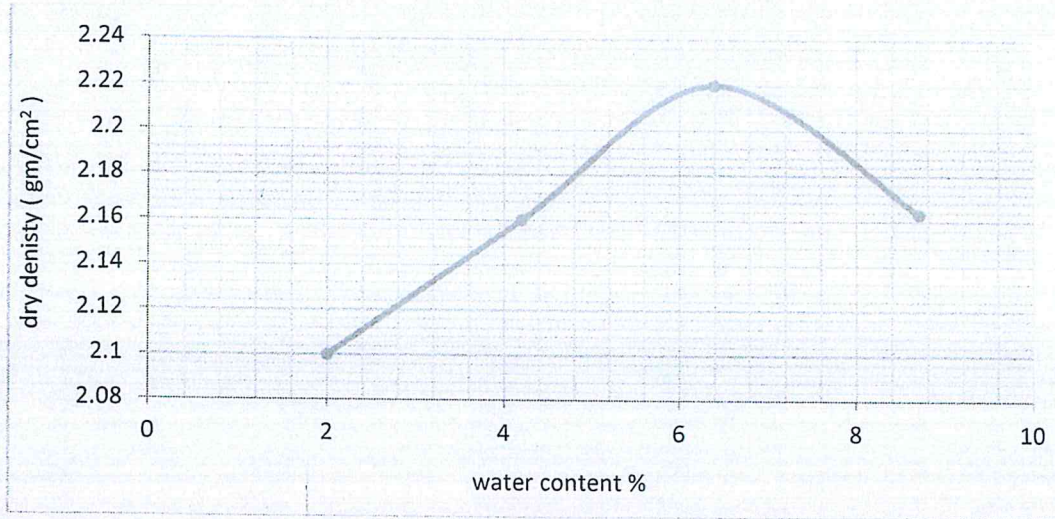
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax: 27367231 - 27363093



الزمنك الافضل
الزمنك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣١

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



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

Signature /



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



شارع الملك الأفندي
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

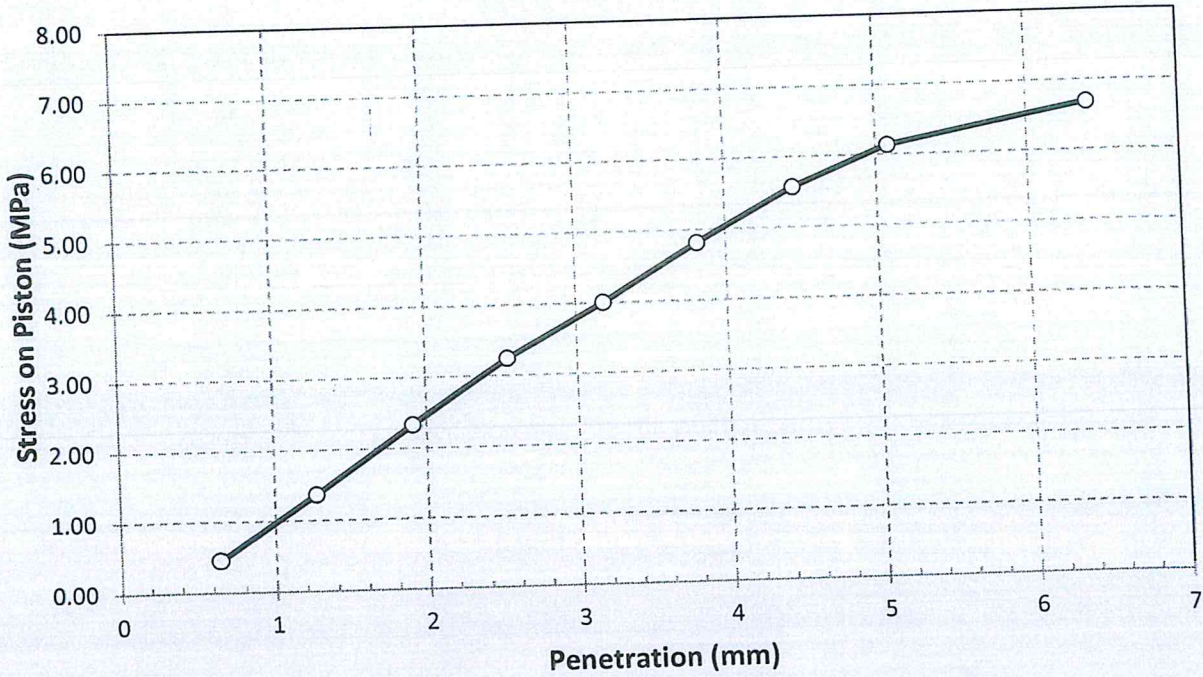
3 E Malek El Afdaj Street
Zamalek, Cairo 11511-991.437
Tel & Fax 27362093 - 27362093

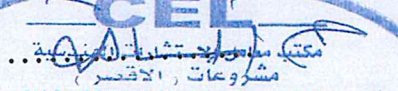


إلى الملك الأفدي
الملك الأفدي
تليفون : 27362093 - 27362093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / 

مكتب معامل الاستشارات الهندسية
مشروعات (الاقصر)
رقم التسجيل الفرعي 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

3.El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 2736723 - 27363093



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 2736723 - 27363093
فاكس :

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

Location Name		Contractor Company		Designer Company	
From 643+860 to 658+840		EI Karam for contracting			
Issued by contractor		Name	Eng. Mahmoud Hamada	Date	10/10/2023
		Sign		Time	10:00 ص
Contractor UIR Reference		KS-UE(112)			
		Revising			
Received by ER	CODE-1 S1 to S21	CODE-1 D1 to S3	CODE-1 KP XXX Note For Kilometer point only Start Km is used	CODE-2 Work Activity	
				CODE-3 Sub Element of Activity	CODE-3 Sub Element of Activity
				C1	C2
				EW	QS
				DD	MM
				YY	HH
				MM	MM

EXPLANATION OF WORK TO BE INSPECTED		
Area	Element	Item
	from St (651+000) to St (651+140)	(-0.5)

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

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

COMPLIANCE EVIDENCE Must be included as appropriate			
☐ Checklist Attached	☐ Test Results Attached	☐ Calibration Attached	☐ Other as indicated
Drawing Reference	ITP Reference	MS Reference	

Comments by:(Brilliant)	Comments by:(SPECTRUM) CIVIL	Comments by:(SPECTRUM) QC
-------------------------	------------------------------	---------------------------

INSPECTION RESULT					
Organisation	Name	Sign	Date	Time	Approval Status
Contractor	مهندس محمد	مهندس محمد	11/10/2023		A-AWC-R
QA/QC*			12/10/23		
GARB**					
Employers Representative					

$$\text{Max. dry density} = 2.20 \text{ gm/cm}^3$$

Degree of compaction based on proctor test dated At

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	651+025	1448	2.24	6	2.11	96.1%	Comply
2	651+050	1521	2.30	6	2.17	98.7%	Comply
3	651+075	1448	2.24	6.4	2.10	95.7%	Comply
4	651+098	1352	2.30	6.4	2.16	98.2%	Comply
5	651+115	1335	2.30	6.4	2.16	98.2%	Comply
6	651+135	1697	2.24	6	2.11	96.0%	Comply

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

Company Name	: شركة الكرم
Project	: Electric Express Train – HSR From Qous To Armanat
Testing Date	: 11/10/2023
Soil type	: Upper Embankment
Location	: ST from 651+000 To 651+140(0.5)
Level	: - 0.5 M
Report No.	: 176

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مكتب استشارات الهندسة والمختبرات



zinn

1. Sieve analysis according to ASTM
2. Material finer than sieve No. 200
3. Liquid limits and plasticity index
4. Soil classification according to Proctor Test according to ASTM D
5. Proctor Test according to ASTM D
6. CBR according to ASTM D-1883

This sample is representative for 5,000 M³

Attached here with the delivered on 1 / 10 / 2023

Dear Gentleman,

Company Name	: شركة المقاولات العمومية
Project	: Electric Express Train – HSR From Qous To Armant
Location	: St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample	: Soil Embankment
Delivery Date	: 1/10/2023
Reporting Date	: 5/10/2023
Reporting No.	: 04-3

Signature

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

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10000 Wilshire Blvd., Suite 1000
Beverly Hills, CA 90212
(310) 277-1111

CEL

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مكتب دراسات (سوقيات وبنية)

مكتب دراسات (سوقيات وبنية)

مكتب دراسات (سوقيات وبنية)

الرقم التسجيل المبرمج: 219 - 991 - 537

مكتب دراسات (سوقيات وبنية)

Signature

Percentage of material finer than Sieve Size 75 µM (No.200)	6.6
Test	Results (%)

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

Company Name : شركة المقاولات المعمارية

Project : Electric Express Train – HSR From Qous To Armant

Location : St: 650+800 E= 48947.1891 N=2854194.3005

Type of sample : Soil Embankment

Delivery Date : 1/10/2023

Reporting Date : 5/10/2023

Reporting No. : 04-3

Company Name : شركة الكرم للمقاولات المعمارية
 Project : Electric Express Train – HSR From Qous To Armanat
 Location : St: 650+800 E= 48947.1891 N=2854194.3005
 Type of sample : Soil Embankment
 Delivery Date : 1/10/2023
 Reporting Date : 5/10/2023
 Reporting No. : 04-3

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

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

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مكتب استشارات الهندسة والبحوث
No. 537
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Riyadh 11513, Saudi Arabia
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E: info@cel-saudi.com

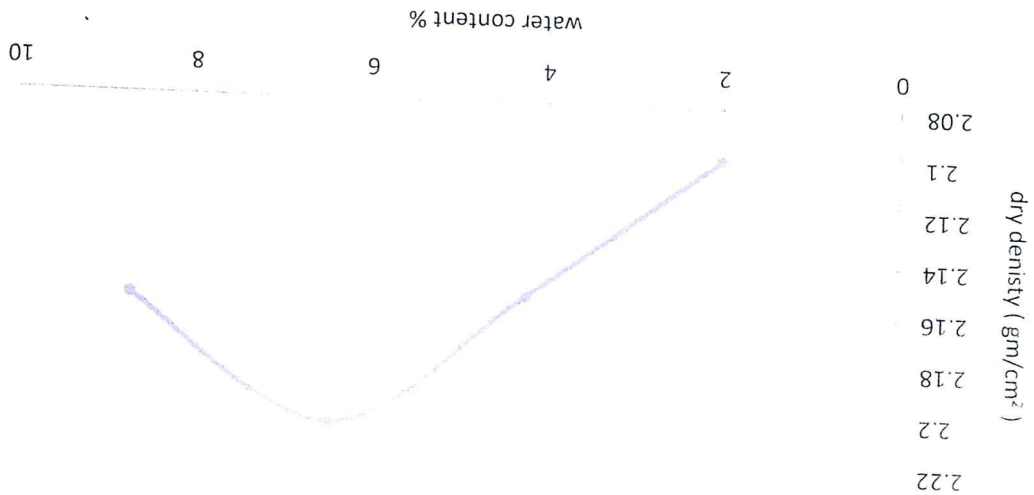
Signature /



Dr. Maher E. Almal Sheer
 Technical Director
 011 4611111

Company Name : شركة المقاولات المعممة
 Project : Electric Express Train - HSR From Qous To Armanat
 Location : St: 650+800 E= 48947.1891 N=2854194.3005
 Type of sample : Soil Embankment
 Delivery Date : 1/10/2023
 Reporting Date : 5/10/2023
 Reporting No. : 04-3

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



• Max dry density (gm/cm³) : 2.20

• Optimum moisture content % : 6.4 %

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 Consulting Engineering Bureau & Laboratories
 219 - 991 - 537
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Company Name : شركة المقاولات العمومية
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 1/10/2023
Reporting Date : 5/10/2023
Reporting No. : 04-3

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs			
		Group Classification	2.00 mm (No.10).	0.425 mm (No. 40).	0.075 mm (No. 200).
		(A-1-a)	42.5	25.9	6.6
		(A-1-a)	Max 50 %	Max 30 %	Max 15 %
		(A-1-b)	-----	Max 50 %	Max 15 %
		(A-2-4)	-----	-----	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)					
Liquid Limit			-----	-----	-----
Plasticity index			-----	Max 6 %	Max 10 %
			0	Max 6 %	Max 10 %

The test results are () with specifications limits

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- Notes:

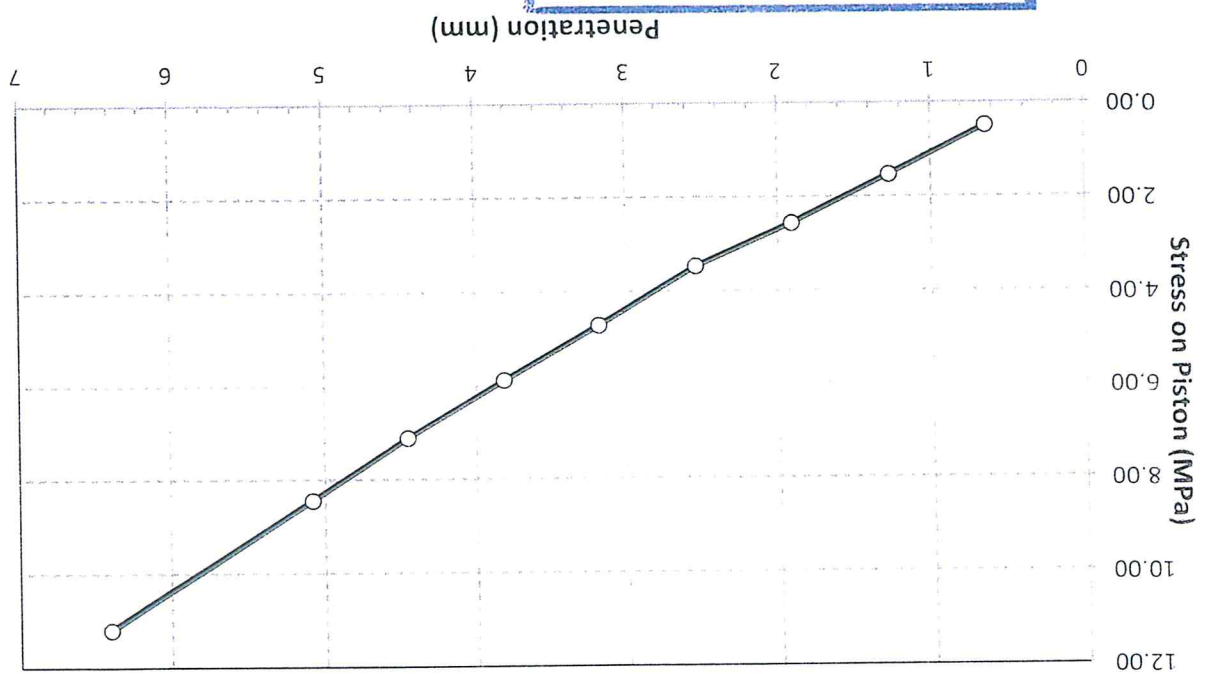
penetration	mm	Inch	stress on piston (Mpa)			
				CBR Result	Stress (Mpa)	CBR %
	6.35	0.250	11.20			
	5.08	0.200	8.43			
	4.45	0.175	7.09			
	3.81	0.150	5.87			
	3.18	0.125	4.70			
	2.54	0.100	3.45			
	1.91	0.075	2.54			
	1.27	0.050	1.52			
	0.64	0.025	0.48			

ASTM D 1883

Company Name : شركة الكهرباء العامة
Project : Electric Express Train - HSR From Qous To Arment
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 1/10/2023
Reporting Date : 5/10/2023
Reporting No. : 04-3

Company Name : شركة المقاولات العمومية
 Project : Electric Express Train - HSR From Qous To Armant
 Location : St: 650+800 E= 48947.1891 N=2854194.3005
 Type of sample : Soil Embankment
 Delivery Date : 1/10/2023
 Reporting Date : 5/10/2023
 Reporting No. : 04-3

Load Penetration Curve of CBR Test
ASTM D-1883



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 مقر العمل: (سوق ج. ص. 1)

Signature

IAS
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 Testing Laboratory

15 March 5 April Street
 Giza, Cairo
 T: 2736723 2736723

مهندسين
 مختبرات
 اختبار



Signature /

Max. dry density = 2.17 gm/cm³
At optimum moisture content = 6.4 %

Degree of compaction based on proctor test dated At

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	651+980	1519	2.26	6.4	2.12	97.7%	Comply
2	652+000	1442	2.25	5.6	2.13	98.2%	Comply

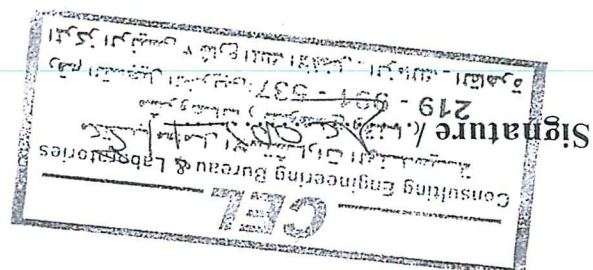
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 26/10/2023
Soil type : Middle Embankment
Location : ST from 651+960 To 652+020
Level : -1.75 M
Report No. : 251-7

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مجلس إدارة
مجلس إدارة



مجلس إدارة
مجلس إدارة
مجلس إدارة



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

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

Company Name : شركة الكرم
Project : Electric Express Train - HSR From Qous To Armanit
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4



Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armanat
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs			
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)	
2.00 mm (No.10).	36.4	Max 50 %	-----	-----	
0.425 mm (No. 40).	21.2	Max 30 %	Max 50 %	-----	
0.075 mm (No. 200).	3.6	Max 15 %	Max 15 %	Max 15 %	
Characteristics of fraction passing 0.425 mm (No.40)					
Liquid Limit		-----	-----	-----	
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %	

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

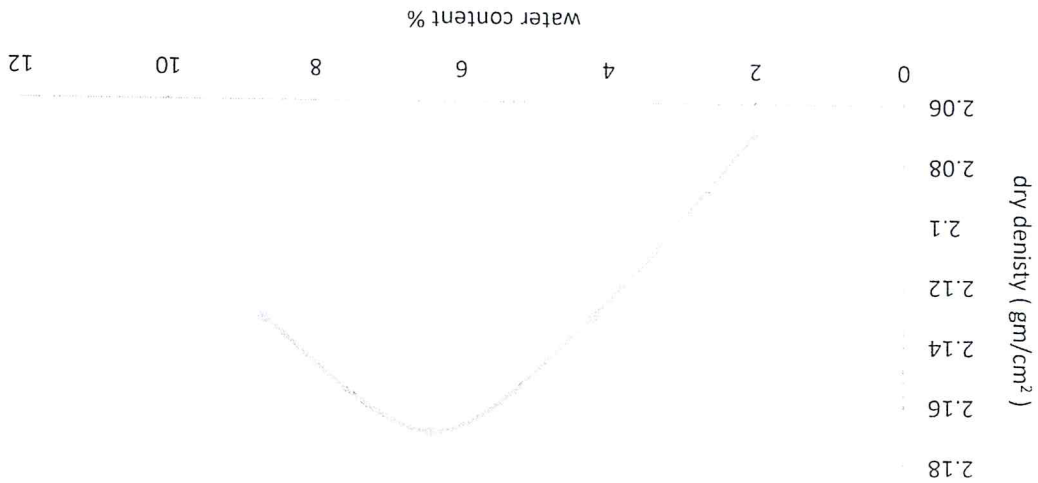
Signature
Consulting Engineering Bureau & Laboratories
219 - 991 - 537
مكتب استشارات الهندسة والاختبارات

Company Name : شركة الحرم
Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"
Type of sample : Soil Embankment
Delivery Date : 30/09/2023
Reporting Date : 4/10/2023
Reporting No. : 08-4

Moisture – Density relation of soil

Test result (Modified proctor test)

ASTM D-1557



- Max dry density (gm/cm³) : 2.17
- Optimum moisture-content % : 6.4 %



Signature

Company Name : شركة الكرم

Project : Electric Express Train – HSR From Qous To Armant
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"

Type of sample : Soil Embankment

Delivery Date : 30/09/2023

Reporting Date : 4/10/2023

Reporting No. : 08-4

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

penetration	mm	Inch	stress on piston (Mpa)
	0.64	0.025	0.56
	1.27	0.050	1.43
	1.91	0.075	2.11
	2.54	0.100	2.87
	3.18	0.125	3.64
	3.81	0.150	4.57
	4.45	0.175	5.58
	5.08	0.200	6.34
	6.35	0.250	7.63

CBR Result	Stress (Mpa)	CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results
	6.90	2.87
		41.5 %

Notes:

1- Attached graph shows penetration resistance versus penetration magnitude.

2- The sample was compacted to dry density of = 2.17 (gm /cm³)

At = 0.4 % optimum water content.

consolidating Surcharge load 4.50 Kg.

4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature

Company Name : شركة الكرم

Project : Electric Express Train - HSR From Qous To Armanat
Location : st: 647+920 E= 32°54'53.6" N=25°49'23.7"

Type of sample : Soil Embankment

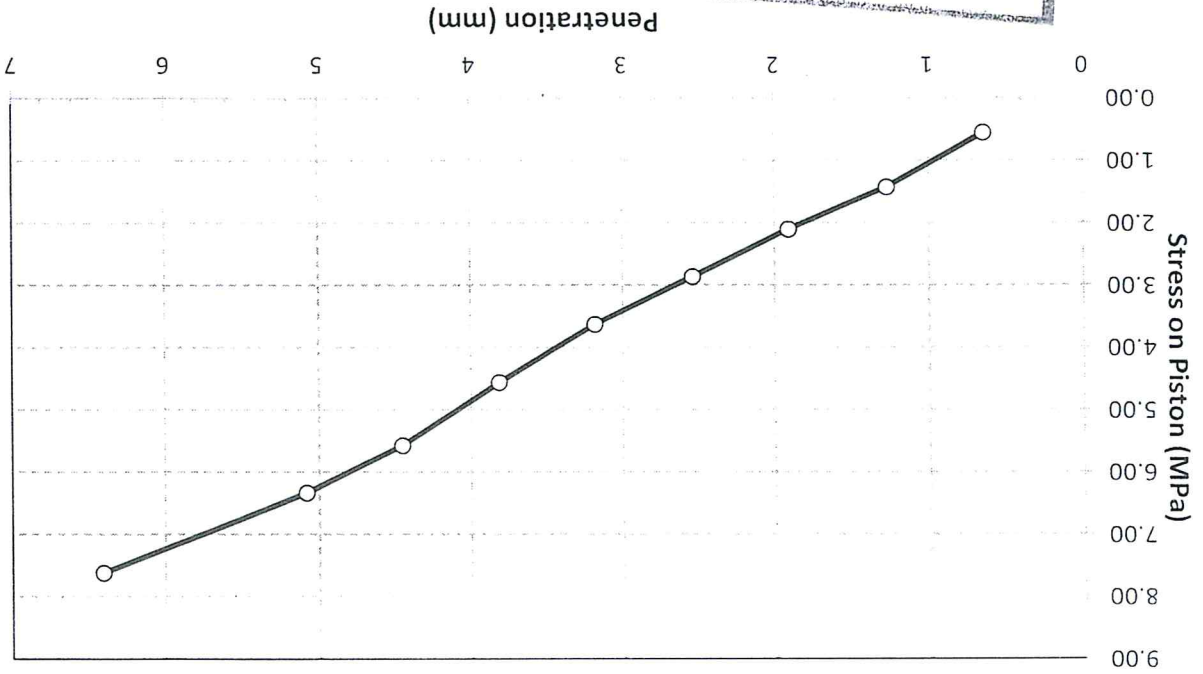
Delivery Date : 30/09/2023

Reporting Date : 4/10/2023

Reporting No. : 08-4

Load Penetration Curve of CBR Test

ASTM D-1883



Signature: *[Signature]*
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219 - 991 - 557 (Phone)
مكتب مهندسي البحوث والدراسات

4168

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Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 29/10/2023
Soil type : Upper Embankment
Location : ST from 651+600 To 651+680
Level : - 1.75 M
Report No. : 254

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	651+620	1526	2.28	6	2.16	98.9%	Comply
2	651+645	1486	2.24	6.4	2.10	96.5%	Comply
3	651+675	1478	2.27	5.8	2.15	98.4%	Comply

Degree of compaction based on proctor test dated At
Max. dry density = 2.18 gm/cm³
At optimum moisture content = 6.4 %

Signature /



3 El Malek El Afdal Street
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3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27363098

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Dear Gentleman,

Attached here with the delivered on 10 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.2
37.5	1.5	93.6
25	1	81.4
19	$\frac{3}{4}$	72.8
12.50	$\frac{1}{2}$	68.5
9.50	$\frac{3}{8}$	60.1
4.75	4	55.7
2.00	10	48.9
0.425	40	20.3

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	9.8

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

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

Signature 

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	48.9	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	9.8	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

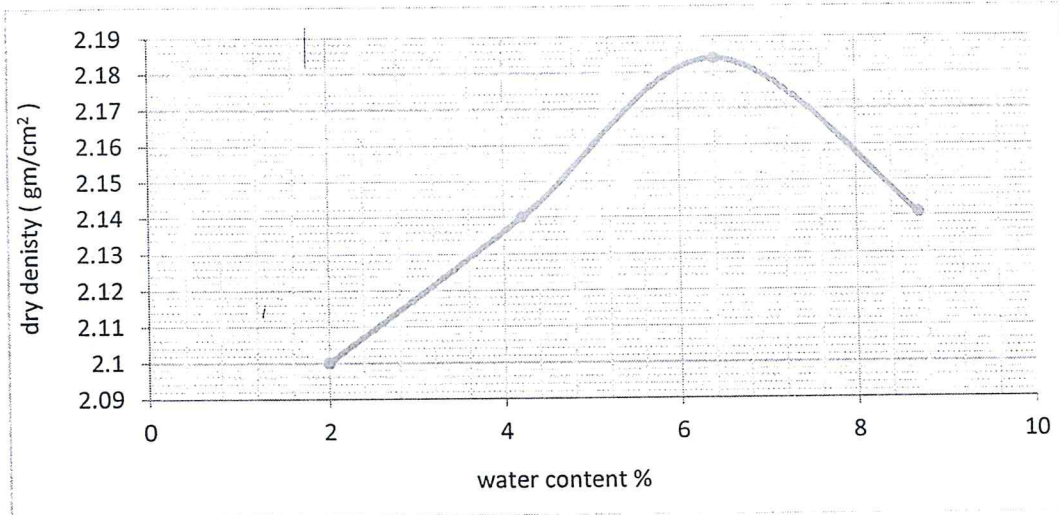
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



٢ شارع الملك الافضل
الزمالك، القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

Signature

مكتب معامل الاستشارات الهندسية
مستودعات الأقصر
رقم الترخيص: 27367231
المركز الرئيسي: 3 شارع الملك الأفطال - الجيزة

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



٢ شارع الملك الأفطال
الزمالك القاهرة
تليفون فاكس: 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.48
1.27	0.050	1.34
1.91	0.075	2.30
2.54	0.100	3.20
3.18	0.125	4.05
3.81	0.150	4.82
4.45	0.175	5.52
5.08	0.200	6.08
6.35	0.250	7.29

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	46.4 %
	6.90	3.20	

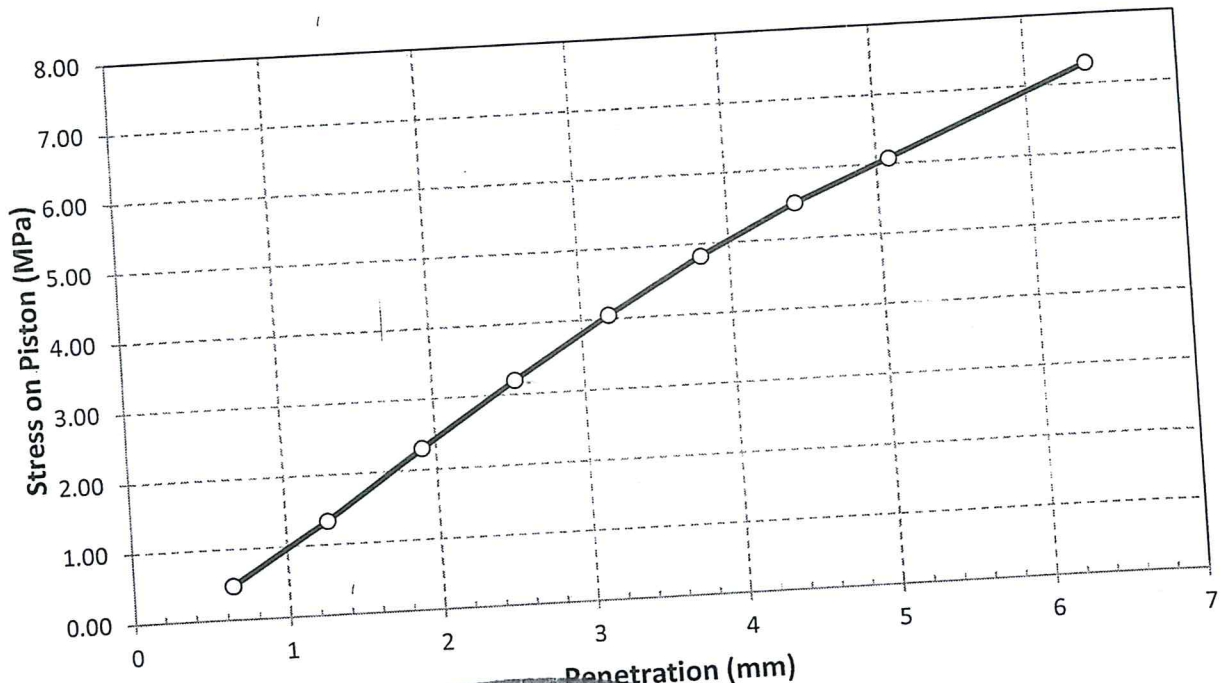
Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Load Penetration Curve of CBR Test
ASTM D-1883



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



شركة الكرم للمقاولات العمومية
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.2
37.5	1.5	93.6
25	1	81.4
19	¾	72.8
12.50	½	68.5
9.50	3/8	60.1
4.75	4	55.7
2.00	10	48.9
0.425	40	20.3

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شركة الملك الأفطس
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	9.8

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

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

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مكتب معامل الاستشارات الهندسية
الزمالك - القاهرة
219.991.437
3 شارع الملك الافضل - الزمالك - القاهرة

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



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون - فاكس : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	48.9	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	9.8	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

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المهندسين والقياسيين
219/991.437
3 شارع الملك الأفندي - الزمالة - القاهرة

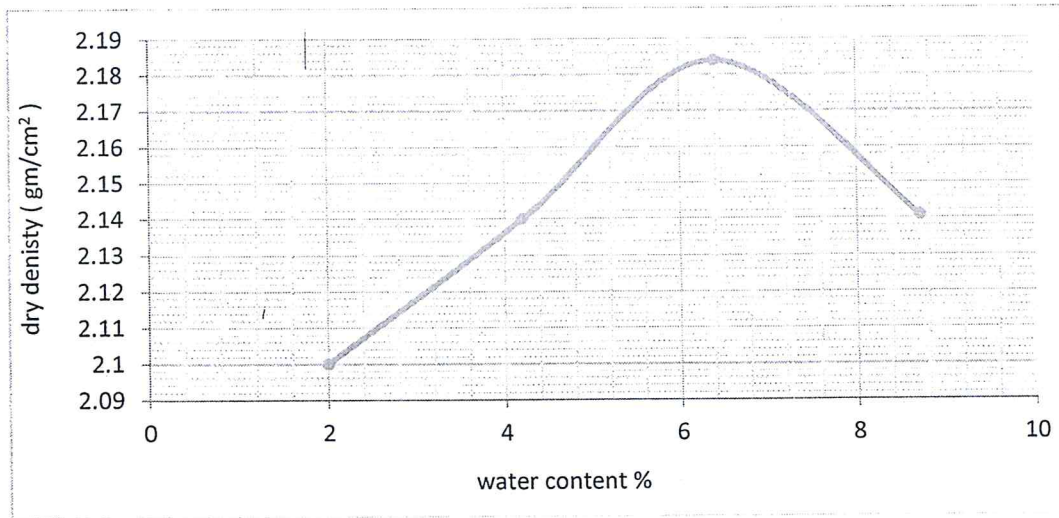
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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



3 شارع الملك الأفندي
الزمالة - القاهرة
تليفون - فاكس : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

Signature

مكتب معامل الاستشارات الهندسية
مهندسات والاقليم
رقم الترخيص: 27367231
المرکز الرئيسي 3 شارع الملك الافضل - الجيزة

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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



ش الملك الافضل
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.48
1.27	0.050	1.34
1.91	0.075	2.30
2.54	0.100	3.20
3.18	0.125	4.05
3.81	0.150	4.82
4.45	0.175	5.52
5.08	0.200	6.08
6.35	0.250	7.29

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	46.4 %
	6.90	3.20	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature

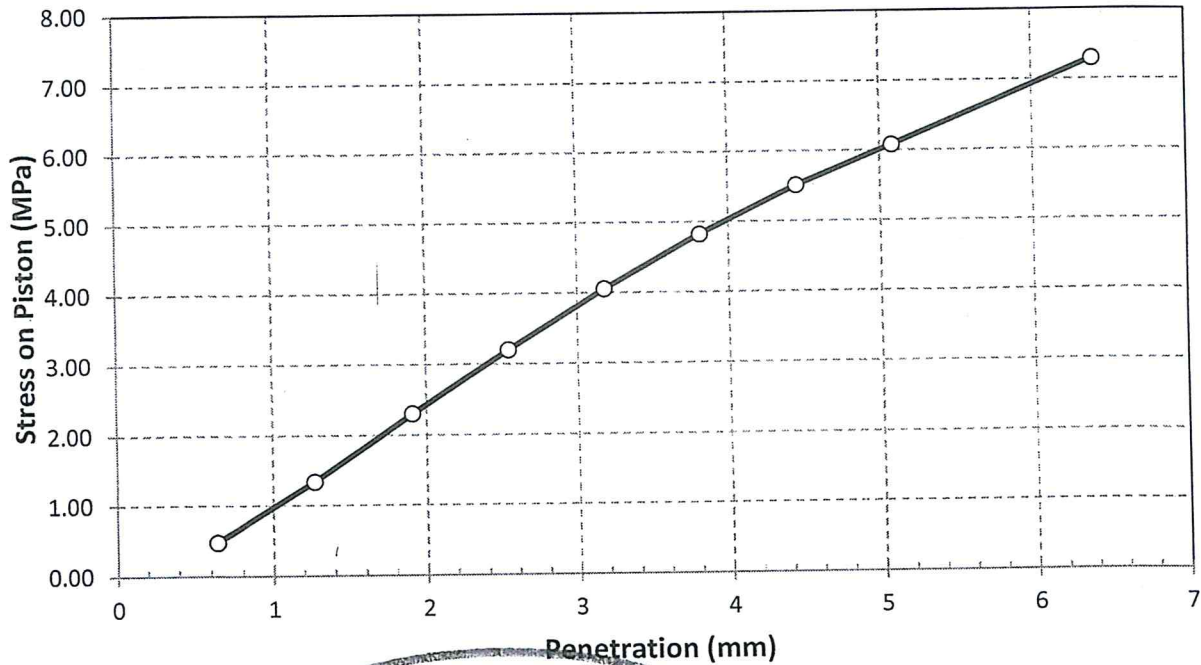
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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



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الزمالك القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Load Penetration Curve of CBR Test
ASTM D-1883

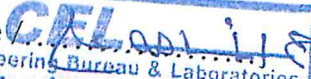


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Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 3/10/2023
Reporting Date : 7/10/2023
Reporting No. : 06-3

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

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

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

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 3/10/2023
Reporting Date : 7/10/2023
Reporting No. : 06-3

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.48
1.27	0.050	1.33
1.91	0.075	2.29
2.54	0.100	3.19
3.18	0.125	4.03
3.81	0.150	4.82
4.45	0.175	5.50
5.08	0.200	6.08
6.35	0.250	6.80

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	46.2 %
	6.90	3.19	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

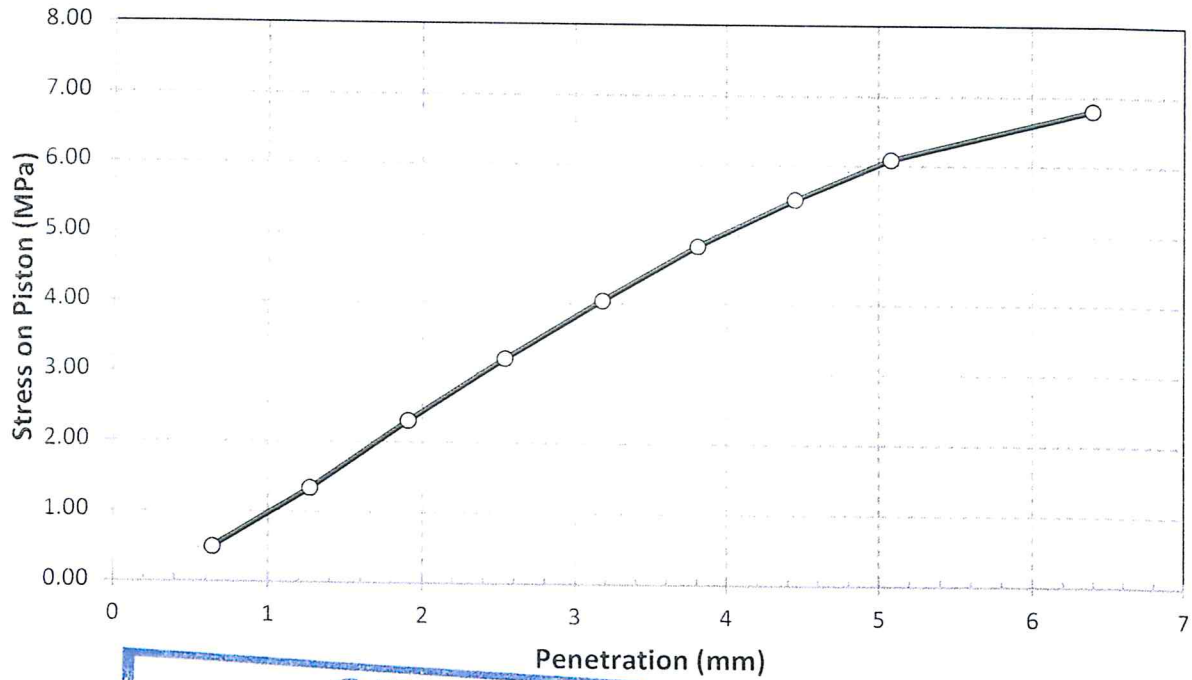
Signature / 



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 3/10/2023
Reporting Date : 7/10/2023
Reporting No. : 06-3

Load Penetration Curve of CBR Test

ASTM D-1883



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مكتب محامل الاستشارات الهندسية
مسرور عثمان زكي يوسف
رقم التسجيل الضريبي: 557 - 991 - 219
المركز الرئيسي ٣ شارع الملك الأفضل - الزمالك - القاهرة

11, Maadi E. Abdel Stree
Cairo, Egypt
Tel: 011 2306221 - 2306222



11 شارع الملك الأفضل
القاهرة - مصر
الهاتف: 011 2306221 - 2306222

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

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

Location Name		Contractor Company				Designer Company					
From 643+860 to 658+840		El Karam for contracting				(SPECTRUM) Engineering Consulting Office					
Issued by contractor	Name	Sign	Date			Time					
			19/10/2023			10:00 ص					
Contractor UIR Reference		KS-ME(136)						Revision 6			
Received by ER			UIR	C1	C2	C3	DD	MM	YY	HH	MM
				KP	EW	QS					
CODE-1 S1 to S21 Station Reference	CODE-1 D1 to S3 Depot Reference	CODE-1 Kp XXX Note For Kilometer point only Start Km is used				CODE-2 Work Activity			CODE-3 Sub Element of Activity		

EXPLANATION OF WORK TO BE INSPECTED		
Area	Element	Item
	from St (651+740) to St (651+880)	(-3.5)

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

COMPLIANCE EVIDENCE Must be Included as appropriate			
Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference		MS Reference

Comments by:(Brilliant)	Comments by:(SPECTRUM) CIVIL	Comments by:(SPECTRUM) QC
تم استلام العمل المصاحف ولا مانع من متابعة العمل محمد شيب	العمل المصاحف سماستكمال باقى العمل 1/10/23 محمد شيب	تم الاستلام محمد شيب

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	محمد محمود شيب	محمد شيب	19/10/23			
QA/QC*	محمد شيب	محمد شيب	20/10/23			
GARB**						
Employers Representative						

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Zamalek, Cairo
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إدارة المختبر
مختبر التربة
مختبر التربة



Signature /

Degree of compaction based on proctor test dated At
Max. dry density = 2.18 gm/cm³
At optimum moisture content = 6.4 %

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
2	651+820	1818	2.21	6.4	2.07	95.1%	Comply
1	651+780	1808	2.26	6.4	2.12	97.3%	Comply

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

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 19/10/2023
Soil type : Middle Embankment
Location : ST from 651+740 To 651+840
Level : - 3.5 M
Report No. : 241



136

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Dear Gentleman,

Attached here with the delivered on 10 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /



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شركة الكرم للمقاولات العمومية
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.2
37.5	1.5	93.6
25	1	81.4
19	3/4	72.8
12.50	1/2	68.5
9.50	3/8	60.1
4.75	4	55.7
2.00	10	48.9
0.425	40	20.3

Signature /



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٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣١
الزمالك القاهرة
تليفون - فاكس

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	9.8

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

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

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الزماملكة - القاهرة
3 شارع الملك الافضل - الزماملكة - القاهرة
219.990.4370 - 219.990.4370

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	48.9	Max 50 %	-----	-----
0.425 mm (No. 40).	20.3	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	9.8	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

مكتب معامل الاستشارات الهندسية
المهندسين ، الاقصر
219/991 437
البريد الإلكتروني: info@cel-eg.com
3 شارع الملك الافضل - الزمالة

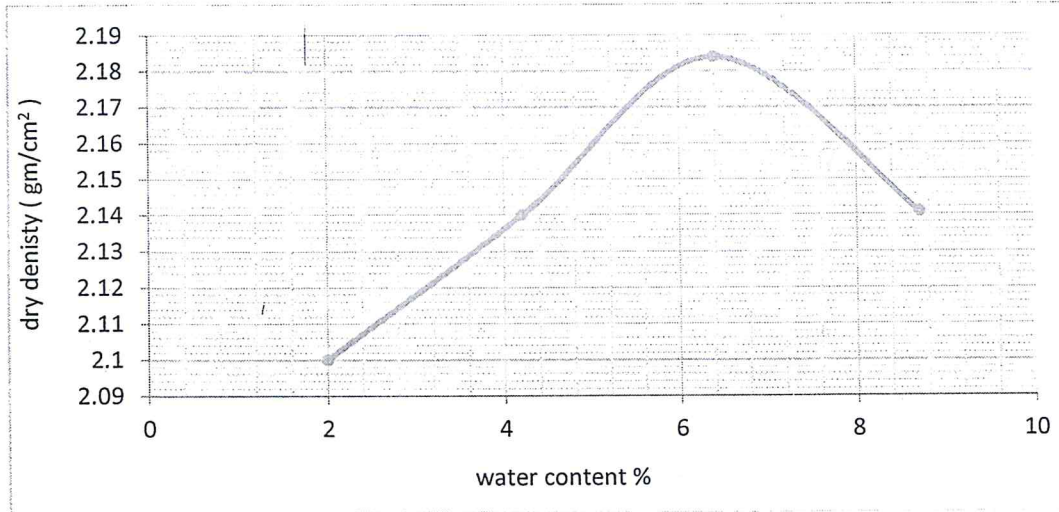
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Tel& Fax : 27367231 - 27363093



3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

Signature

مكتب معامل الاستشارات الهندسية
مستودعات الاقصر
رقم الترخيص 27363093
المركز الرئيسي 3 شارع الملك الاكبر - الجيزة

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



ش.ع. الملك الاكبر
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.48
1.27	0.050	1.34
1.91	0.075	2.30
2.54	0.100	3.20
3.18	0.125	4.05
3.81	0.150	4.82
4.45	0.175	5.52
5.08	0.200	6.08
6.35	0.250	7.29

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	46.4 %
	6.90	3.20	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of $\approx 2.18 \text{ (gm /cm}^3\text{)}$
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature

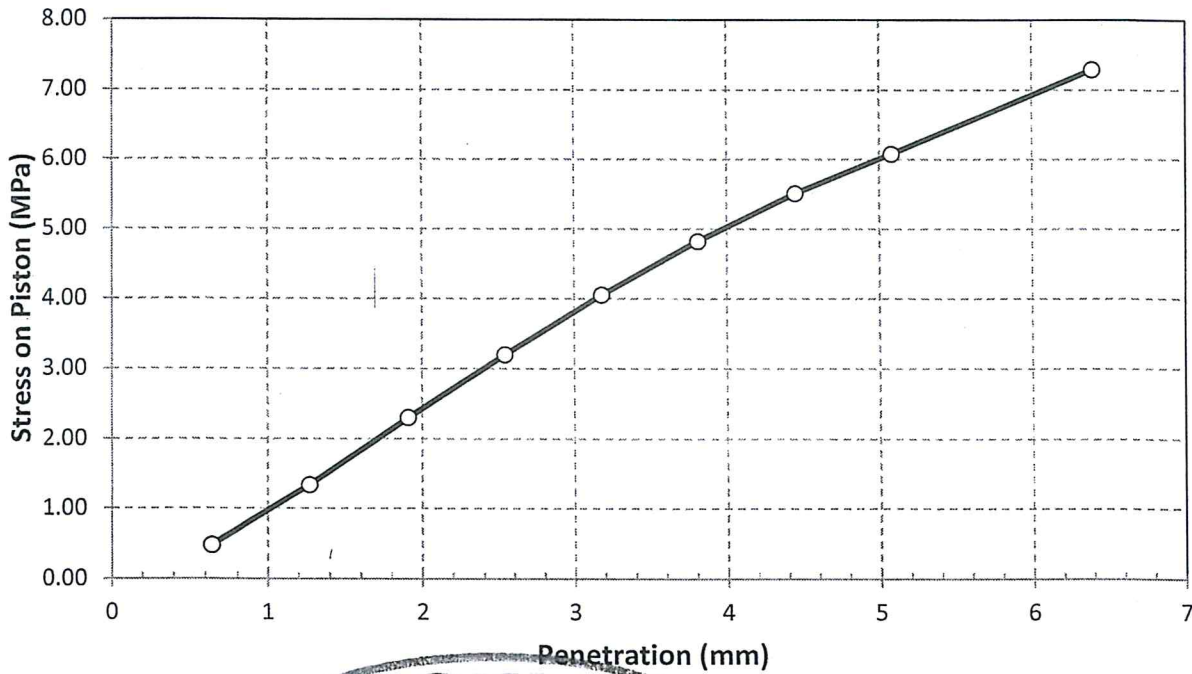
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Tel& Fax : 27367231 - 27363093



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الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



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الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 9/10/2023
Soil type : Upper Embankment
Location : ST from 649+720 To 647+740

Level : - 0.75 M

Report No. : 158

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

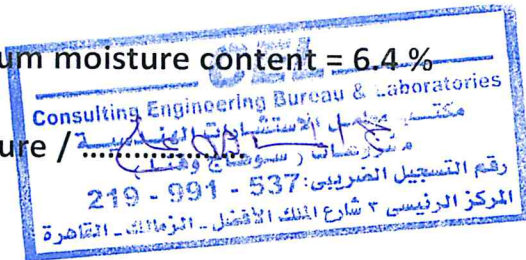
Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	649+750	1397	2.29	5.8	2.17	99.3%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.18 gm/cm³

At optimum moisture content = 6.4 %

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Dear Gentleman,

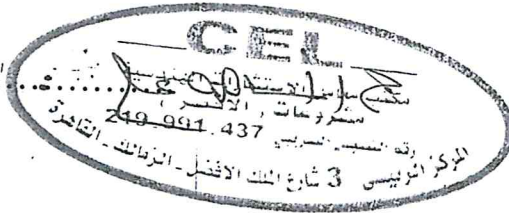
Attached here with the delivered on 7 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /



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



٢ في الملك الافضل
الزمالة - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	99.1
37.5	1.5	92.3
25	1	77.2
19	3/4	70.8
12.50	1/2	57.4
9.50	3/8	52.0
4.75	4	48.9
2.00	10	42.5
0.425	40	23.6

Signature /...



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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	7.2

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

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

Signature /... 

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	42.5	Max 50 %	-----	-----
0.425 mm (No. 40).	23.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				23.6
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /

مكتب معامل الاستشارات الهندسية
سجل مهندسين رقم 219/99
المرکز الرئيسي 3 شارع الهند الأفضل - القاهرة

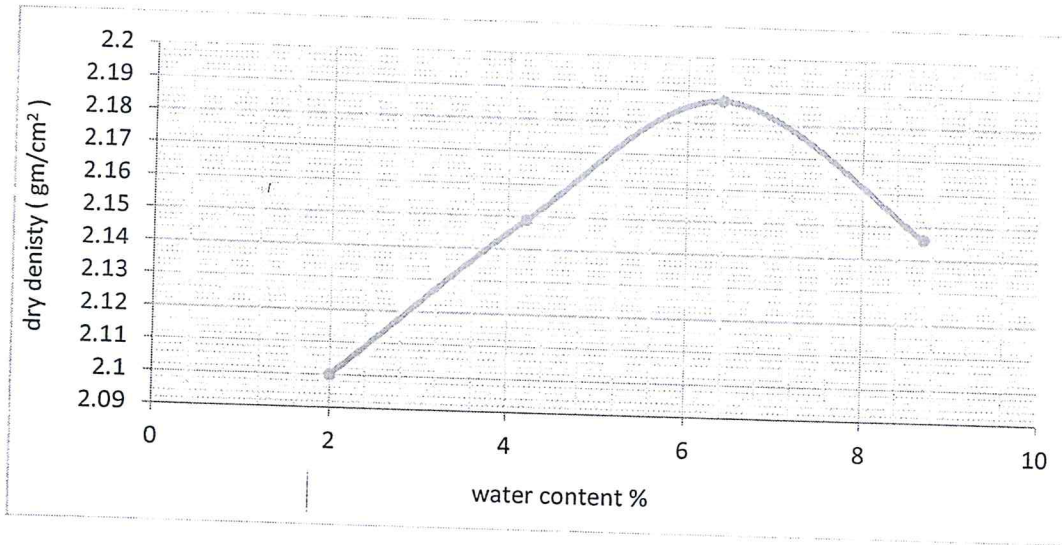
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش.م.ك الملك الأفضل
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

Signature

CEL
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العمومية
219.991 437
المركز الرئيسي 3 شارع الملك الأفندي - الزمالك - القاهرة

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



ش الملك الأفندي
الزمالك، القاهرة
تليفون : 27367231 - 27363093
فاكس :

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

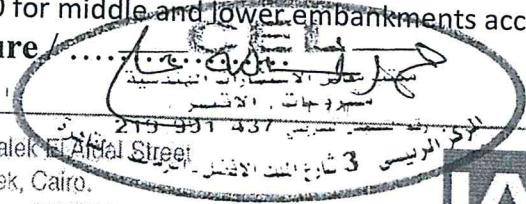
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.46
1.91	0.075	2.48
2.54	0.100	3.39
3.18	0.125	4.63
3.81	0.150	5.81
4.45	0.175	7.03
5.08	0.200	8.39
6.35	0.250	11.12

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.1 %
	6.90	3.39	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

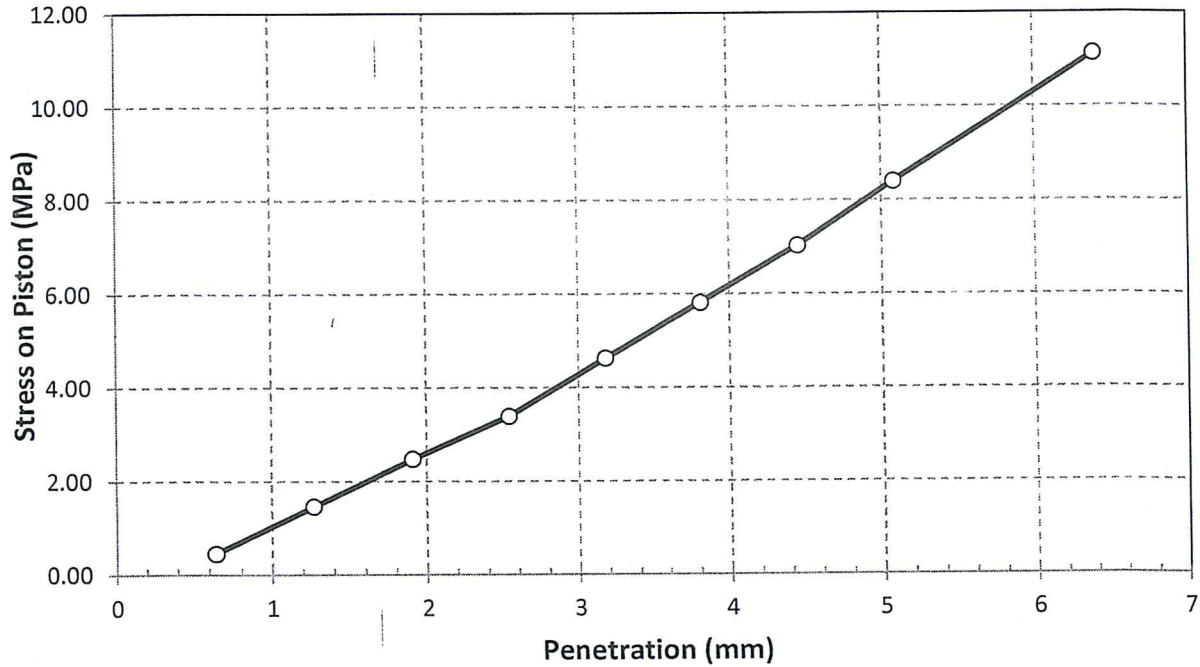
Signature : 
3 El Malek El Aghal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



ش. الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



٢ شارع الملك الأفضل
الزمالة - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

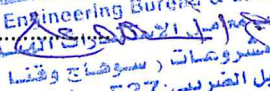
Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 9/10/2023
Soil type : Upper Embankment
Location : ST from 647+620/647+720
Level : - 0.25 M
Report No. : 159
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	647+640	1374	2.26	5.8	2.13	97.8%	Comply
2	647+665	1352	2.27	6	2.14	98.2%	Comply
3	647+695	1352	2.23	6.4	2.09	96.0%	Comply
4	647+710	1389	2.28	6	2.15	98.5%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.18 gm/cm³

At optimum moisture content = 6.4%

Signature / 
Mohamed E. Aljishi
مكتبة الاستشارات الهندسية
مستشار (سويش) ومفتش
رقم التسجيل الضريبي: 537 - 991 - 249
المركز الرئيسي ٣ شارع الملك فيصل - الزمالة - القاهرة

Mohamed E. Aljishi
Manager / مدير
مكتب الاستشارات الهندسية



مكتبة الاستشارات الهندسية
مستشار (سويش) ومفتش
رقم التسجيل الضريبي: 537 - 991 - 249
المركز الرئيسي ٣ شارع الملك فيصل - الزمالة - القاهرة

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Dear Gentleman,

Attached here with the delivered on 7 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	99.1
37.5	1.5	92.3
25	1	77.2
19	¾	70.8
12.50	½	57.4
9.50	3/8	52.0
4.75	4	48.9
2.00	10	42.5
0.425	40	23.6

Signature /...



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



٢ شارع الملك الافضل
الزمالة - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	7.2

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

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

Signature /...



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



ش الملك الافضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٢٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	42.5	Max 50 %	-----	-----
0.425 mm (No. 40).	23.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				23.6
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

مكتب معامل الاستشارات الهندسية
سجل مهندسين رقم 219-99
المرکز التأسيسي 3 شارع البنك الإفريقي - الدقي - القاهرة

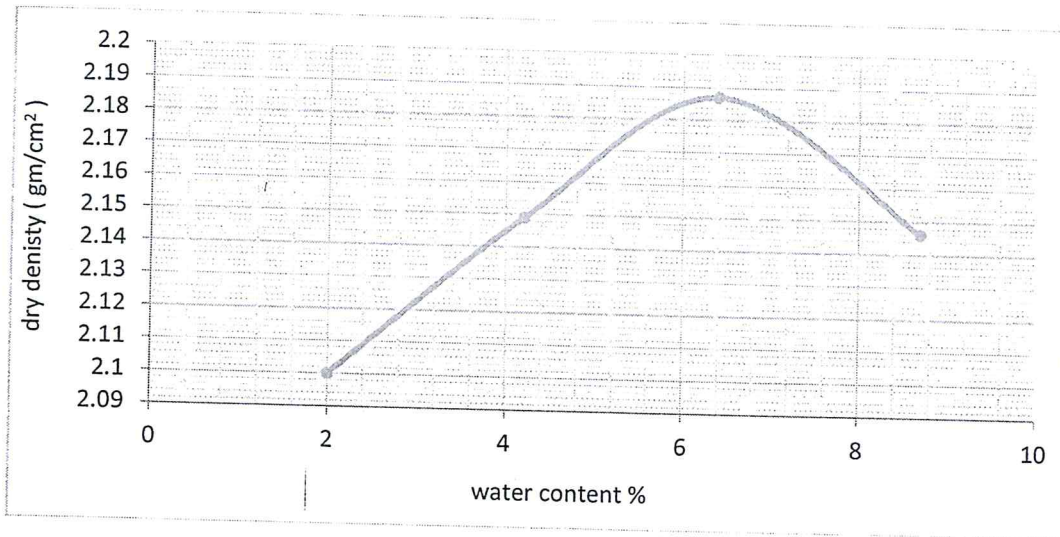
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش. الملك الأفدال
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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



- Max dry density (gm/cm³) : 2.18
- Optimum moisture content % : 6.4 %

Signature



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



3 شارع الملك الأفندي
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.46
1.91	0.075	2.48
2.54	0.100	3.39
3.18	0.125	4.63
3.81	0.150	5.81
4.45	0.175	7.03
5.08	0.200	8.39
6.35	0.250	11.12

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.1 %
	6.90	3.39	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

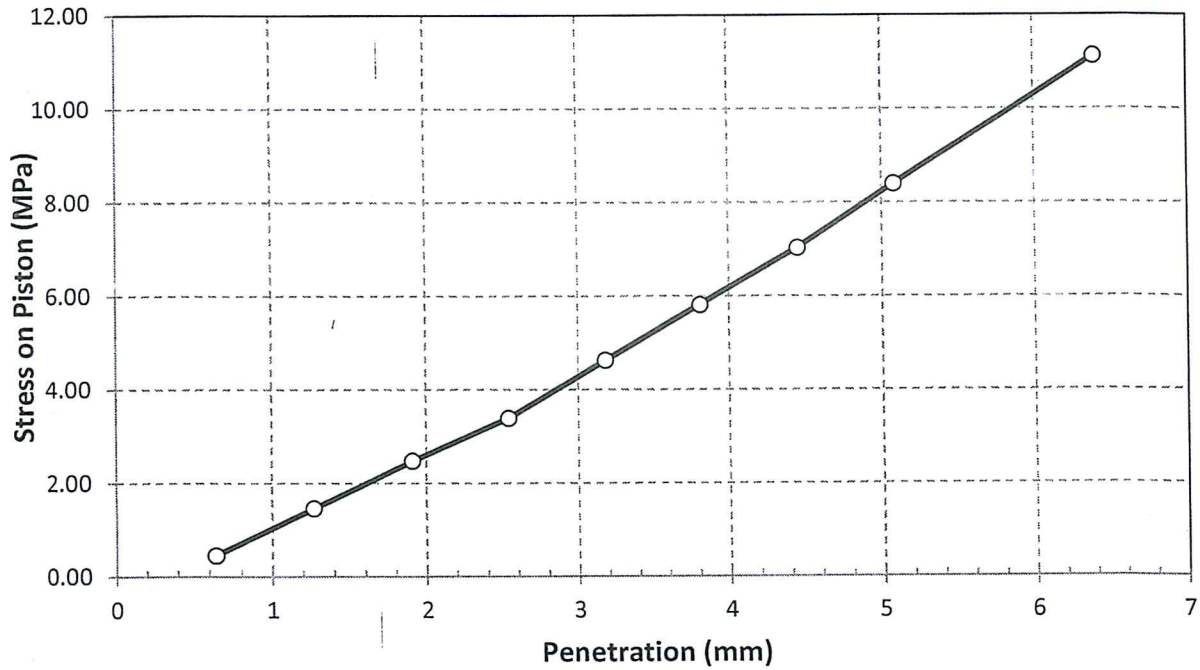
3 El Malek El Afek Street
Zamalek, Cairo.
Tel&Fax: 27367231 - 27363093



ش. الملك الافضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



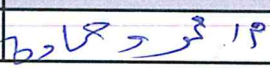
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



3 شارع الملك الاغسل
الزمالة - القاهرة
تليفون : 27367231 - 27363093

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

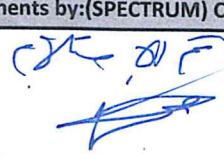
The Work described below will be complete and ready for inspection at planned time shown

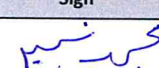
Location Name		Contractor Company				Designer Company					
From 643+860 to 658+840		El Karam for contracting				(SPECTRUM) Engineering Consulting Office					
Issued by contractor	Name	Sign	Date			Time					
	Eng. Mahmoud Hamada		09/10/2023			10:00 ص					
Contractor UIR Reference	KS-UE(104)					Revision6					
Received by ER				C1	C2	C3	DD	MM	YY	HH	MM
				KP	EW	QS					
CODE-1 S1 to S21 Station Reference	CODE-1 D1 to S3 Depot Reference	CODE-1 Kp XXX Note For Kilometer point only Start Km is used				CODE-2 Work Activity		CODE-3 Sub Element of Activity			

EXPLANATION OF WORK TO BE INSPECTED		
Area	Element	Item
	from St (647+720) to St (647+820)	(-0.25)

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

COMPLIANCE EVIDENCE Must be Included as appropriate			
Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference		MS Reference

Comments by:(Brilliant)	Comments by:(SPECTRUM) CIVIL	Comments by:(SPECTRUM) QC
تم استلام الأعمال المساحة والمناقصات متباعدة الأعمال محمدي	تم العنصر البصري ولا مانع من استكمال باقي الأعمال 1/4 هيئة مساحه	تم الاستلام 

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	محمدي		9/10/2023			
QA/QC*	محمدي		10/10/23			
GARB**						
Employers Representative						

4104

CEL

Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 9/10/2023
 Soil type : Upper Embankment
 Location : ST from 647+720 To 647+820
 Level : - 0.25 M
 Report No. : 157
Compaction test by using Sand – Cone Test Method
ASTM D- 1556

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	647+740	1283	2.24	6	2.11	97.0%	Comply
2	647+765	1590	2.23	6.4	2.10	96.2%	Comply
3	647+795	1503	2.22	6.4	2.09	95.9%	Comply
4	647+810	1387	2.27	6	2.14	98.0%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.18 gm/cm³

At optimum moisture content = 6.4%

Signature: 
 Consulting Engineering Bureau & Laboratories
 مكتب معامل الاستشارات الهندسية
 مشروع القاهرة
 رقم التسجيل الضريبي: 219 - 991 - 537
 المركز الرئيسي ٣ شارع الملك الأفضل - الزمالك - القاهرة

Mr. Mohamed El Solh

Project No. 11

Date of Issue: 10/10/2023



Date of Issue: 10/10/2023

Project No. 11

Date of Issue: 10/10/2023

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Dear Gentleman,

Attached here with the delivered on 7 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	99.1
37.5	1.5	92.3
25	1	77.2
19	¾	70.8
12.50	½	57.4
9.50	3/8	52.0
4.75	4	48.9
2.00	10	42.5
0.425	40	23.6

Signature / ...



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Tel& Fax: 27367231 - 27363093



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
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Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	7.2

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

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

Signature / ..



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٢ شارع الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	42.5	Max 50 %	-----	-----
0.425 mm (No. 40).	23.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				23.6
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /

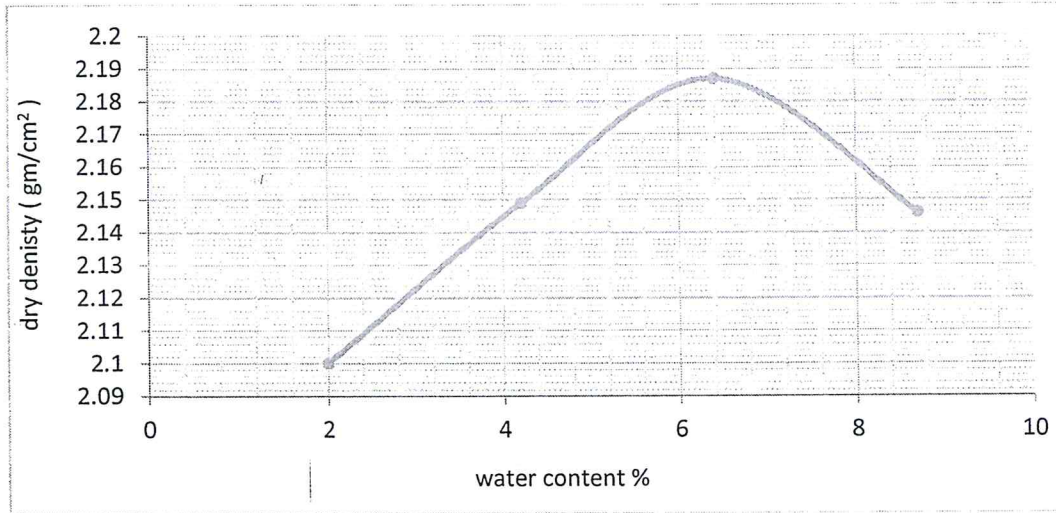
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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش. الملك الأفدال
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

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الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
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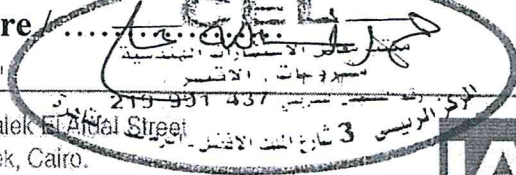
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.46
1.91	0.075	2.48
2.54	0.100	3.39
3.18	0.125	4.63
3.81	0.150	5.81
4.45	0.175	7.03
5.08	0.200	8.39
6.35	0.250	11.12

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.1 %
	6.90	3.39	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

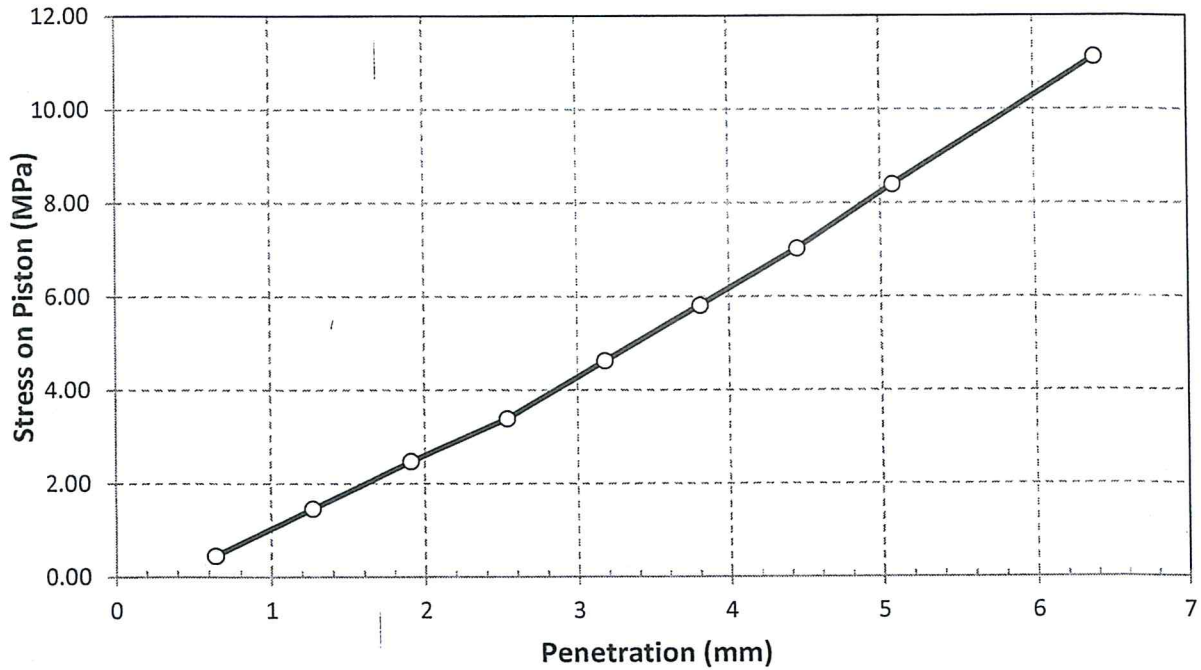
Signature : 
219 991 437
3 El Malek El Arfal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش. الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



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ش. الملك الأفندي
الزمالة القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

UNIVERSAL
INSPECTION
REQUEST

شركة الكرم
للخدمات الهندسية



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

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

Location Name		Contractor Company		Designer Company	
From 643+860 to 658+840		El Karam for contracting		(SPECTRUM) Engineering Consulting Office	
Issued by contractor	Name Eng. Mahmoud Hamada	Sign	Date 09/10/2023	Time 10:00 ص	
Contractor UIR Reference	KS-UE(106)			Revision6	
Received by ER		UIR	C1 KP	C2 EW	C3 QS
			DD	MM	YY
			HH	MM	
CODE-1 S1 to S21 Station Reference	CODE-1 D1 to S3 Depot Reference	CODE-1 Kp XXX Note For Kilometer point only Start Km is used		CODE-2 Work Activity	CODE-3 Sub Element of Activity

EXPLANATION OF WORK TO BE INSPECTED		
Area	Element	Item
	from St (650+700) to St (650+800)	(-0.5)

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

COMPLIANCE EVIDENCE Must be Included as appropriate			
Checklist Attached ☐	Test Results Attached ☐	Calibration Attached ☐	Other as indicated ☐
Drawing Reference	ITP Reference		MS Reference

Comments by:(Brilliant)	Comments by:(SPECTRUM) CIVIL	Comments by:(SPECTRUM) QC
تم استلام العمل المساحة ولا مانع من متابعة العمل محمدي	تم الفحص البصري ولا مانع من استكمال باقي الأعمال 15/10/2023	تم استلام 4

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	محمد محمود	محمد محمود	11/10/2023			
QA/QC*	محمد محمود	محمد محمود	11/10/2023			
GARB**						
Employers Representative						



Consulting Engineering Bureau & Laboratories

مكتب معامل الاستشارات الهندسية

Company Name : شركه الكرم

Project : Electric Express Train – HSR From Qous To Armant

Testing Date : 10/10/2023

Soil type : Upper Embankment

Location : ST from 650+700 TO 650+800

Level : - 0.50 M

Report No. : 162

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptanc e
1	650+720	1276	2.25	6	2.12	97.2%	Comply
2	650+740	1543	2.29	6.4	2.15	98.5%	Comply
3	650+760	1286	2.30	6.4	2.16	99.1%	Comply
4	650+780	1407	2.31	7.4	2.15	98.8%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.18 gm/cm³

At optimum moisture content = 6.4 %



Mark E. Attila Street

$$S_{\text{max}} = \frac{1}{2} \left(\frac{1}{\alpha} + \frac{1}{\beta} \right) \left(\frac{1}{\alpha} + \frac{1}{\beta} + 1 \right)$$


1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Dear Gentleman,

Attached here with the delivered on 7 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /


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Zamalek, Cairo,
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٢ في الملك الافضل
الزمالة - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
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RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
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37.5	1.5	92.3
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9.50	3/8	52.0
4.75	4	48.9
2.00	10	42.5
0.425	40	23.6

Signature / ...



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Zamalek, Cairo.
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3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
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Type of sample : Soil Embankment
Delivery Date : 7/10/2023
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Reporting No. : 04-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	7.2

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

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

Signature /



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Zamalek, Cairo.
Tel& Fax: 27367231 - 27363093



٢ شارع الملك الأفضل
الزمالك، القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢
فاكس : ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	42.5	Max 50 %	-----	-----
0.425 mm (No. 40).	23.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				23.6
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature

مكتب معامل الاستشارات الهندسية
سكسوط جات ، الأقصر ، الإقليم
219.991.487
الكرم الرئيسي 3 شارع الهندسة الأفضل - أرمانت - الأقصر

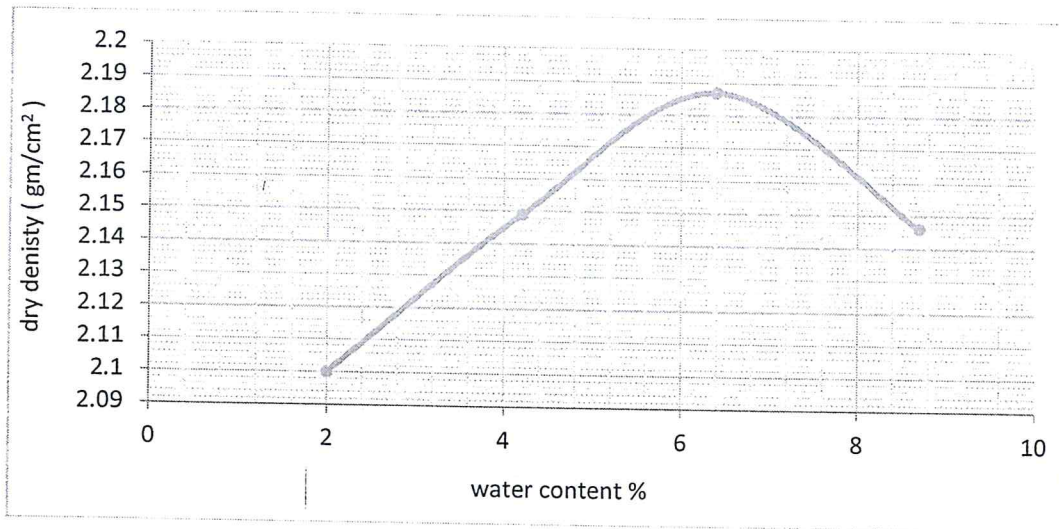
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣١

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
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Reporting No. : 04-5

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



- Max dry density (gm/cm³) : 2.18
- Optimum moisture content % : 6.4 %

Signature

CEL
مكتب معامل الاستشارات الهندسية
مهندسين معتمدين
219 991 437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

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Zamalek, Cairo.
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ش. الملك الافضل
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٠٩٣ فاكس : ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
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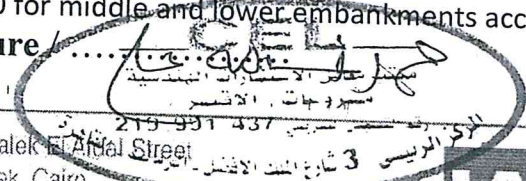
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.46
1.91	0.075	2.48
2.54	0.100	3.39
3.18	0.125	4.63
3.81	0.150	5.81
4.45	0.175	7.03
5.08	0.200	8.39
6.35	0.250	11.12

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.1 %
	6.90	3.39	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

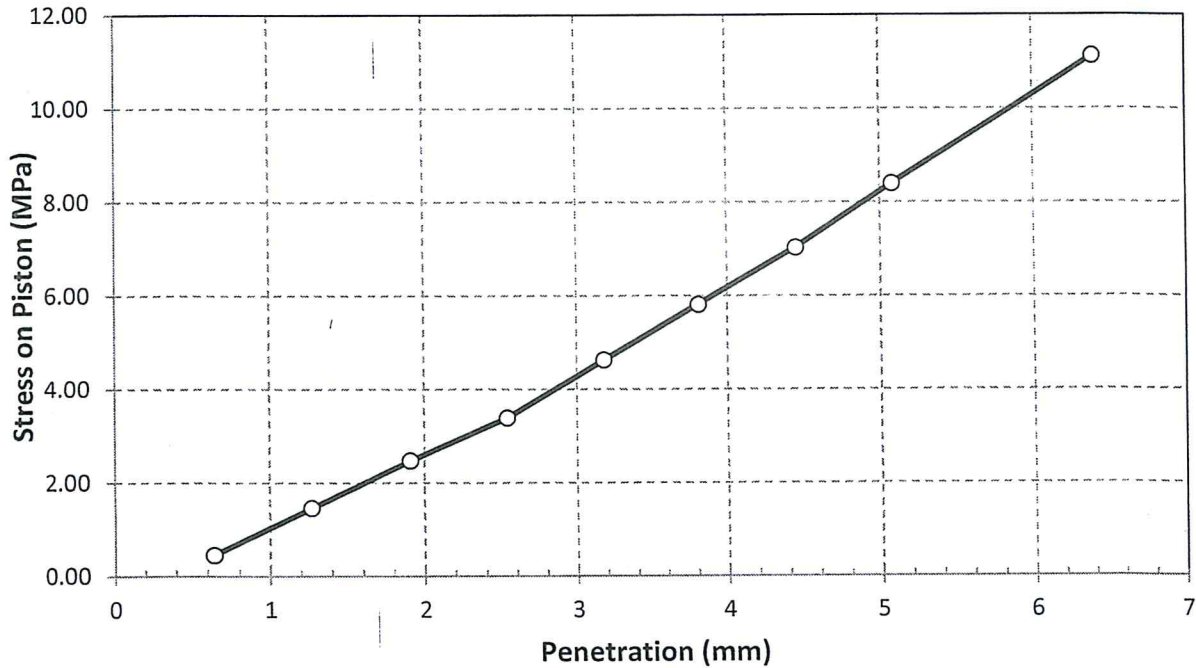
Signature : 
3 El Malek El Afzal Street
Zamalek, Cairo.
Tel&Fax: 27367231 - 27363093



٢ ش الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢ فاكس :

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Load Penetration Curve of CBR Test
ASTM D-1883



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ش.ع. الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

CEL
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 مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Dat : 18/10/2023
 Soil type : Upper Embankment
 Location : ST from 652+020/652+040
 Level : - (1.25) M
 Report No. : 235

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptanc e
1	652+030	1449	2.27	5.6	2.15	96.7%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature / 
 Consulting Engineering Bureau & Laboratories
 مكتب معامل الاستشارات الهندسية
 مشروعات (سوهاج وقنا)
 رقم التسجيل الضريبي: 537 - 991 - 219
 المركز الرئيسي ٣ شارع الملك الأفضل - الزمالة - القاهرة

3 El Malek El Afdal Street
 Zamalek, Cairo.
 Tel & Fax 27367231 - 27369093



٣ شارع الملك الأفضل
 الزمالة - القاهرة
 تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٩٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature / ...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	3/4	71.3
12.50	1/2	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

CEL
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العموميه
رقم السجل التجاري: 219.991.437
المركز الرئيسي: 3 شارع الملك الافضل - الزمالك - القاهرة

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



3 شارع الملك الافضل
الزمالك - القاهرة
الهاتف : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

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Tel & Fax : 27367231 - 27363093

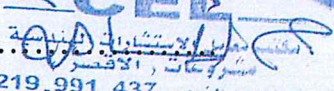


في الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093
فاكس :

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

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3 شارع الملك الافندي
الزمالك القاهرة
الهاتف : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /



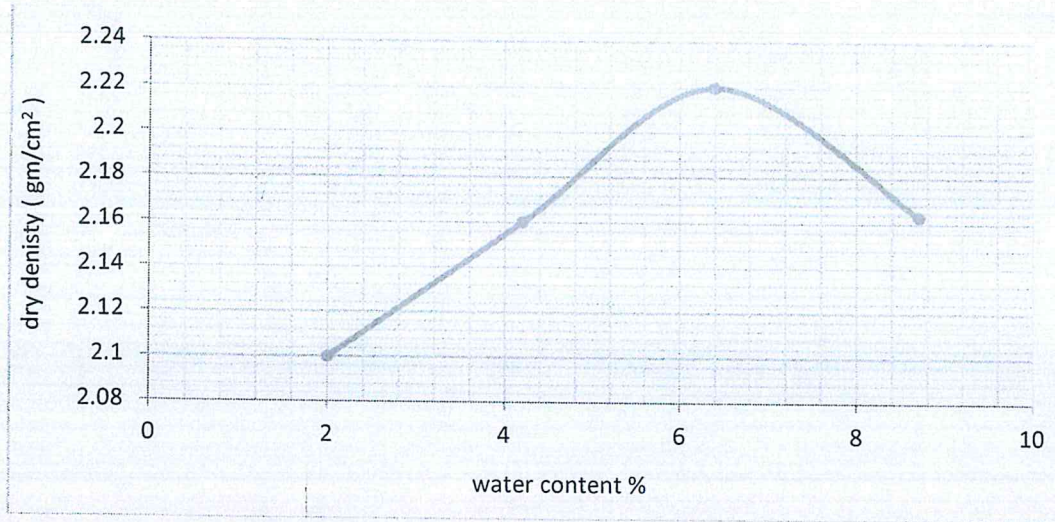
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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



3 شارع الملك الافضل
الزمامك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



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

Signature /



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3 شارع الملك ابي الفضل
الزطاك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 

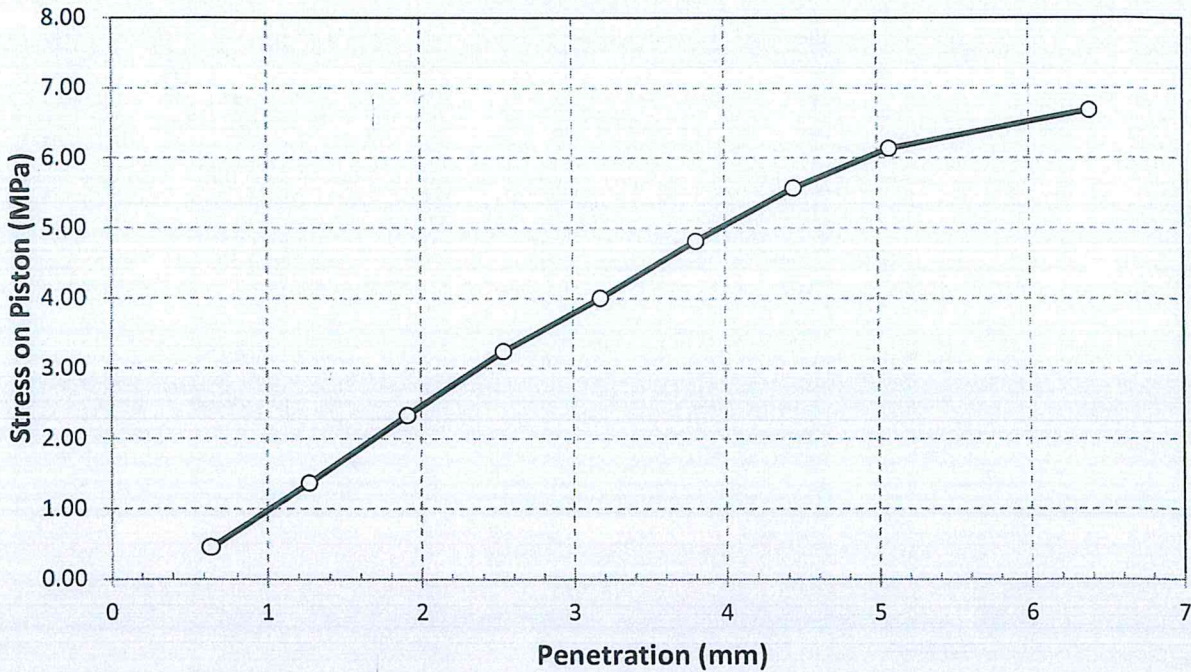
3 E Malek El Afdaj Street
Zatoula - 219-991-437
Tel & Fax : 27369093 - 27369093



3 E Malek El Afdaj Street
Zatoula - 219-991-437
Tel & Fax : 27369093 - 27369093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test
ASTM D-1883



Signature /



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Zamalek, Cairo.
Tel& Fax : 27367291 - 27363093



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الزمالة - القاهرة
تليفون : 27367291 - 27363093

0106

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مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 10/10/2023
Soil type : Upper Embankment
Location : ST from 650+700 TO 650+800
Level : - 0.50 M
Report No. : 162

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	650+720	1276	2.25	6	2.12	97.2%	Comply
2	650+740	1543	2.29	6.4	2.15	98.5%	Comply
3	650+760	1286	2.30	6.4	2.16	99.1%	Comply
4	650+780	1407	2.31	7.4	2.15	98.8%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.18 gm/cm³

At optimum moisture content = 6.4 %



11, Mounir El Attia Street

Zamalek, Cairo

TEL: 219-991-537



شركة الكرم

مكتب معامل الاستشارات الهندسية

رقم التسجيل الضريبي: 219-991-537

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Dear Gentleman,

Attached here with the delivered on 7 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature /



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



٢. في الملك الأفضل
الزمالة القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	99.1
37.5	1.5	92.3
25	1	77.2
19	¾	70.8
12.50	½	57.4
9.50	3/8	52.0
4.75	4	48.9
2.00	10	42.5
0.425	40	23.6

CEL
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العمومية
الزمالك - القاهرة
219 990 437
Signature / ...

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



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27363093
فاكس :

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	7.2

Signature /...



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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

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

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Zamalek, Cairo.
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٢ شارع الملك الأفضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	42.5	Max 50 %	-----	-----
0.425 mm (No. 40).	23.6	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	7.2	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				23.6
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /

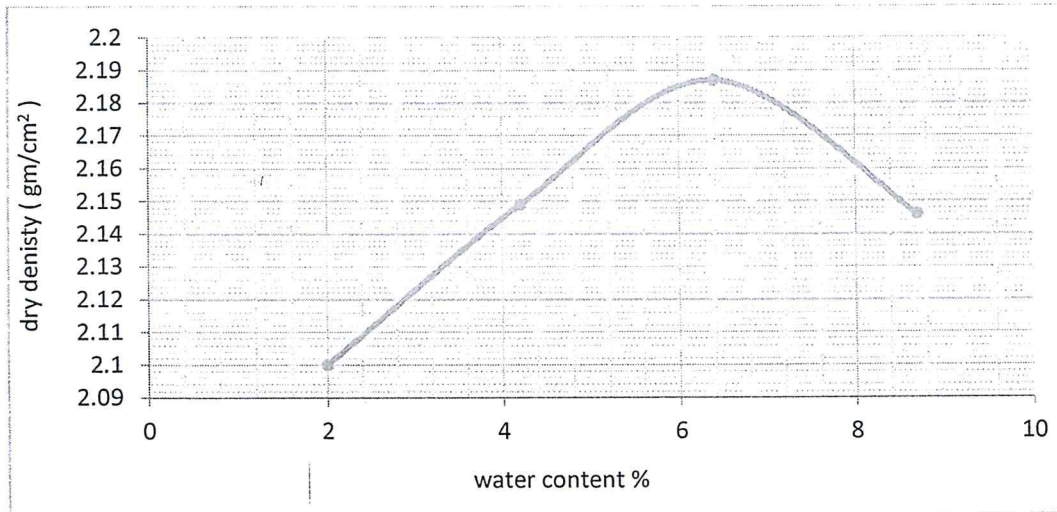
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



3 شارع الملك الأفضل
الزمالك القاهرة
هاتف : 27367231 - 27363093

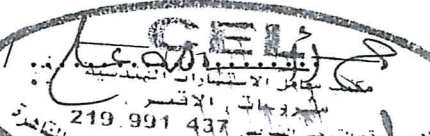
Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

Signature :


مكتب الاستشارات الهندسية
مهندسين معتمدين
219.991 437
المركز الرئيسي 3 شارع الملك الافندي - الزمالك - القاهرة

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



٣ شارع الملك الافندي
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣١

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

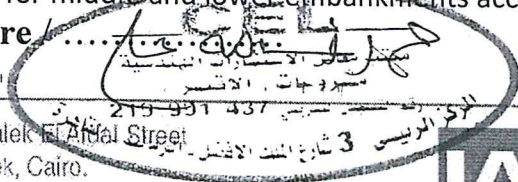
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.46
1.91	0.075	2.48
2.54	0.100	3.39
3.18	0.125	4.63
3.81	0.150	5.81
4.45	0.175	7.03
5.08	0.200	8.39
6.35	0.250	11.12

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.1 %
	6.90	3.39	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature : 

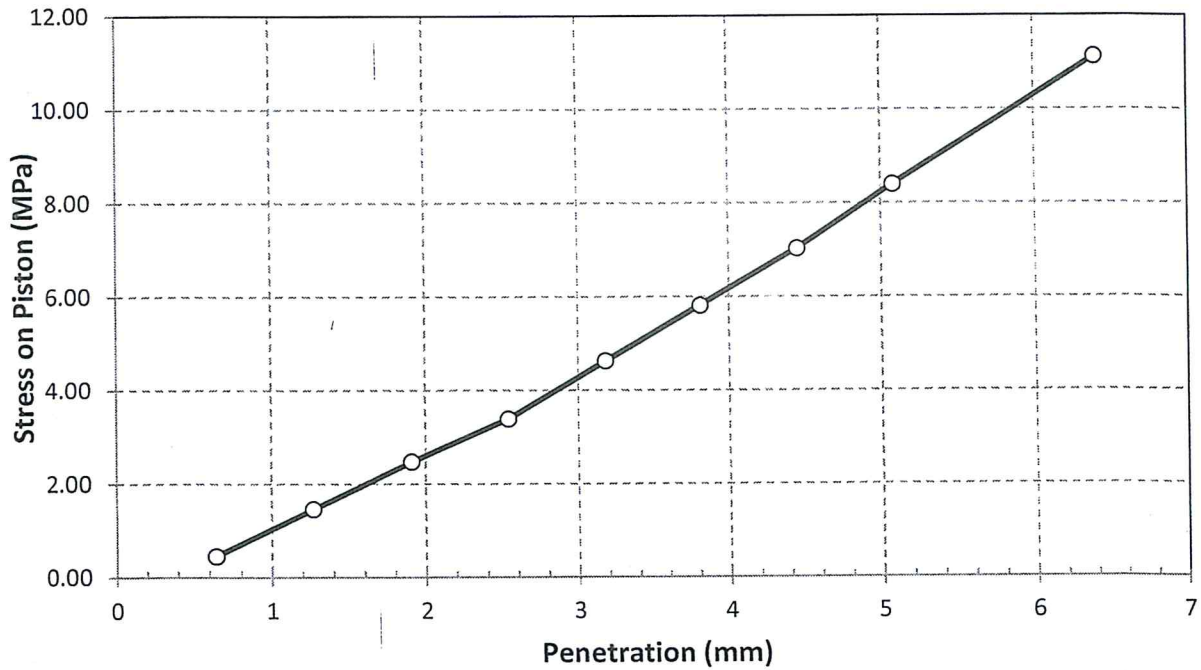
3 El Malek El Afnan Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش. الملك الافضل
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣٢

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 650+800 E= 48947.1891 N=2854194.3005
Type of sample : Soil Embankment
Delivery Date : 7/10/2023
Reporting Date : 11/10/2023
Reporting No. : 04-5

Load Penetration Curve of CBR Test
ASTM D-1883



Signature



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Zamalek, Cairo.
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ش. الملك الأفطل
الزمالك القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 24/10/2023
Soil type : Upper Embankment
Location : ST from 651+380 To 651+420
Level : -1
Report No. : 249-7

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	651+400	1586	2.29	5.8	2.16	97.4%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature /



Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Dear Gentleman,

Attached here with the delivered on 3 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

Signature / ... 
مكتب الاستشارات الهندسية
مقاولات، الاقصر
رقم التسجيل التجاري 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

3-El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax 27367231 - 27369093

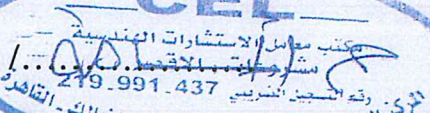


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Tel& Fax 27367231 - 27369093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	97.1
37.5	1.5	90.0
25	1	86.5
19	¾	71.3
12.50	½	61.0
9.50	3/8	53.4
4.75	4	51.8
2.00	10	46.6
0.425	40	28.1

Signature / 
مكتب معامل الاستشارات الهندسية
شركة الكرم للمقاولات العموميه
رقم السجل التجاري 279.991.437 القاهرة
المركز الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

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



3 شارع الملك الافضل
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	8.1

Signature /



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3 شارع الملك الافضل
الزمالك القاهرة
الهاتف : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

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

Signature / ...



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Tel & Fax : 27367231 - 27363093



3 شارع الملك الأفطس
الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	46.6	Max 50 %	-----	-----
0.425 mm (No. 40).	28.1	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	8.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature / 
مكتب معامل الاستشارات الهندسية
3 شارع الملك الافضل - الزمالك - القاهرة
219.991.437
رقم الترخيص المصري

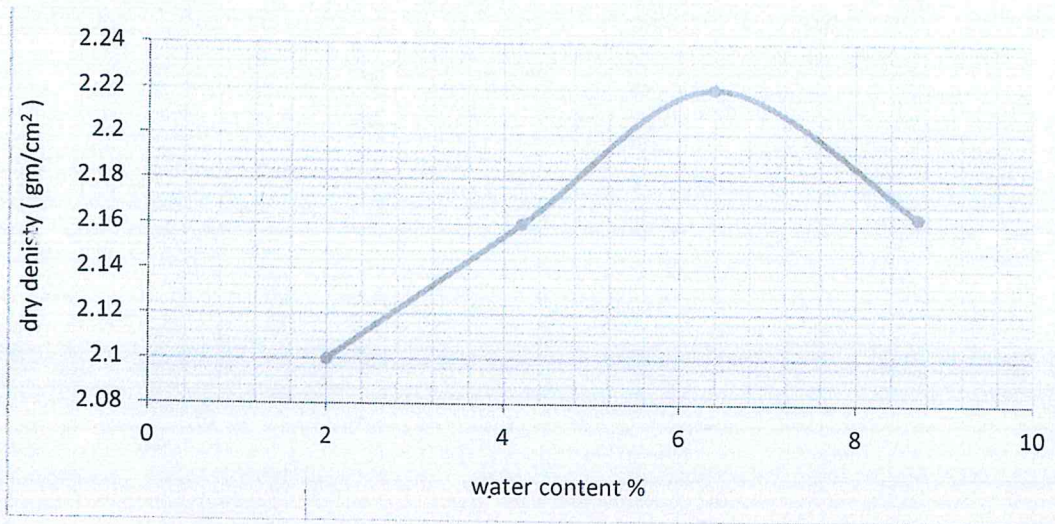
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel& Fax : 27367231 - 27369093



3 شارع الملك الافضل
الزمالك - القاهرة
تليفون : 27367231 - 27369093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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



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

Signature /



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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



3 شارع الملك الأفطال
الزمالك القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٧٢٣١

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.37
1.91	0.075	2.33
2.54	0.100	3.24
3.18	0.125	3.98
3.81	0.150	4.81
4.45	0.175	5.57
5.08	0.200	6.13
6.35	0.250	6.69

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	47 %
	6.90	3.24	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

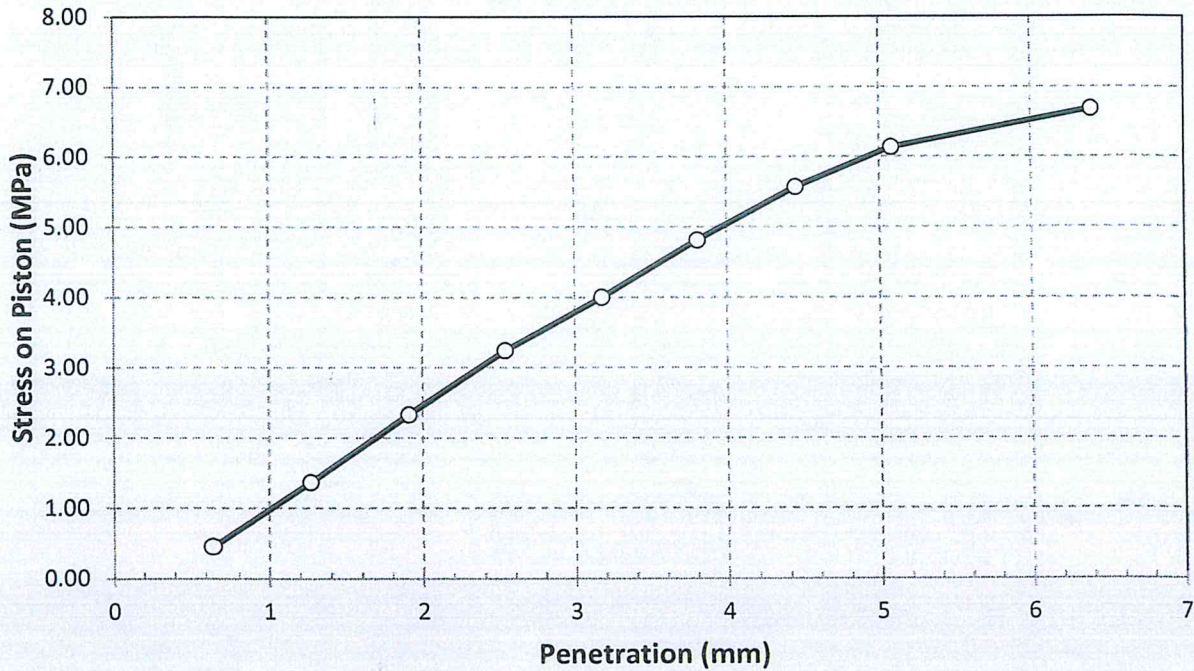
3 E. Malek El Afdaj Sites
Zamalek, Cairo 219-991.437
Tel & Fax 27369093 - 27369093



ش. الملك الأفديج
الزمالك القاهرة
تليفون : 27369093 - 27369093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 03/10/2023
Reporting Date : 07/10/2023
Reporting No. : 05-4

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / 
مكتب معامل الاستشارات الهندسية ..
مشروعات , الاقصر
رقه الترخيص الهندسي 219.991.437
المركز الرئيسي 3 شارع الملك الافضل - الزمالة - القاهرة

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



3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

CEL

Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
 Project : Electric Express Train – HSR From Qous To Armant
 Testing Date : 24/10/2023
 Soil type : Upper Embankment
 Location : ST from 651+480 To 651+580
 Level : -1.25 M
 Report No. : 249-8

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	651+500	1377	2.32	5.6	2.20	99.1%	Comply
2	651+520	1650	2.24	5.8	2.11	95.2%	Comply
3	651+540	1543	2.24	5.5	2.12	95.5%	Comply
4	651+560	1517	2.29	5.8	2.16	97.4%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

Signature

مكتب معامل الاستشارات الهندسية
 مشروعات الاستشارات الهندسية
 رقم التسجيل الرئيسي 437
 المركز الرئيسي 3 شارع الميادين
 القاهرة

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

Dear Gentleman,

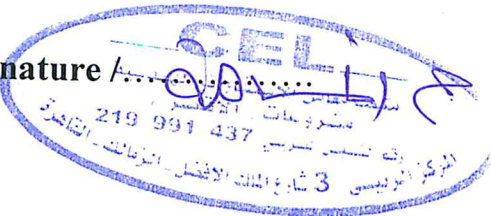
Attached here with the delivered on 5 / 10 / 2023

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



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.8
37.5	1.5	86.3
25	1	80.2
19	$\frac{3}{4}$	71.1
12.50	$\frac{1}{2}$	63.3
9.50	$\frac{3}{8}$	60.0
4.75	4	50.4
2.00	10	36.4
0.425	40	23.2

Signature /



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3 شارع الملك الأفندي
الزمالك - القاهرة
تليفون : 27367231 - 27363093
فاكس :

CEL
Consulting Engineering Bureau & Laboratories
مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	6.8

Signature /



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3 شارع الملك الافضل
الزمالك - القاهرة
تليفون - فاكس : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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

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

Signature / ...



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

Soil Classification

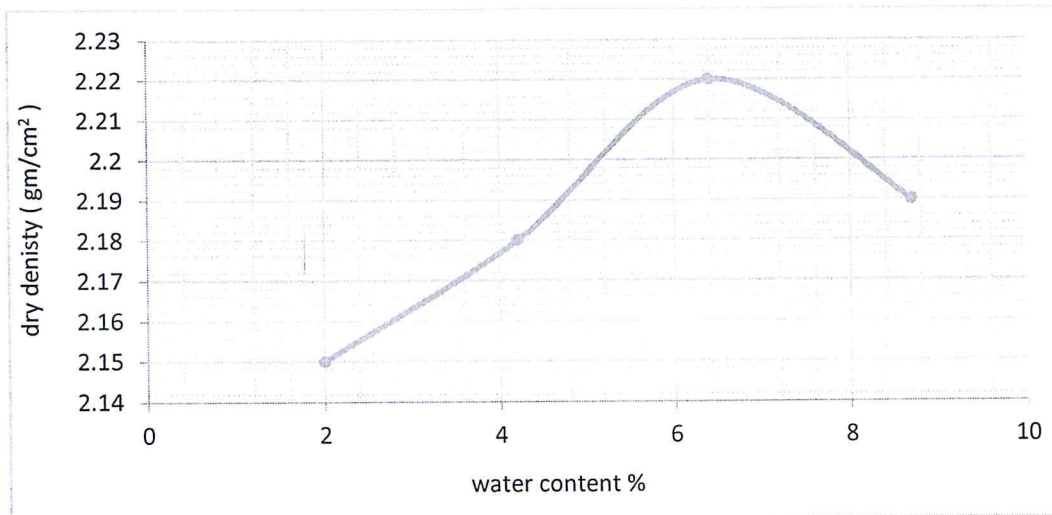
TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	36.4	Max 50 %	-----	-----
0.425 mm (No. 40).	23.2	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	6.8	Max 15 %	Max 15 %	Max 15 %
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

Signature /

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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



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

Signature /

مكتب محسن للمقاولات الهندسية
مشاريع القناطر الخيرية
الكرم الرئيسي 3 شارع الملك الافضل - الزمالة - القاهرة

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

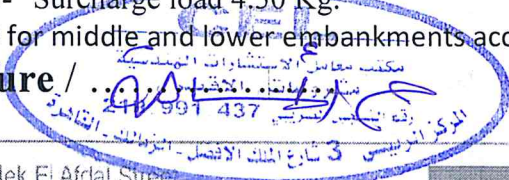
Test Results of California Bearing Ratio on Base Materials
ASTM D 1883

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.46
1.27	0.050	1.27
1.91	0.075	2.03
2.54	0.100	2.89
3.18	0.125	3.96
3.81	0.150	4.87
4.45	0.175	6.08
5.08	0.200	7.20
6.35	0.250	8.93

CBR Result	Stress (Mpa)		CBR 100 %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	41.9 %
	6.90	2.89	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature / 
مكتب معامل الاستشارات الهندسية
3 شارع الملك الافضل - الزمالة - القاهرة
تليفون : 27367231 - 27369093
فاكس : 27367231

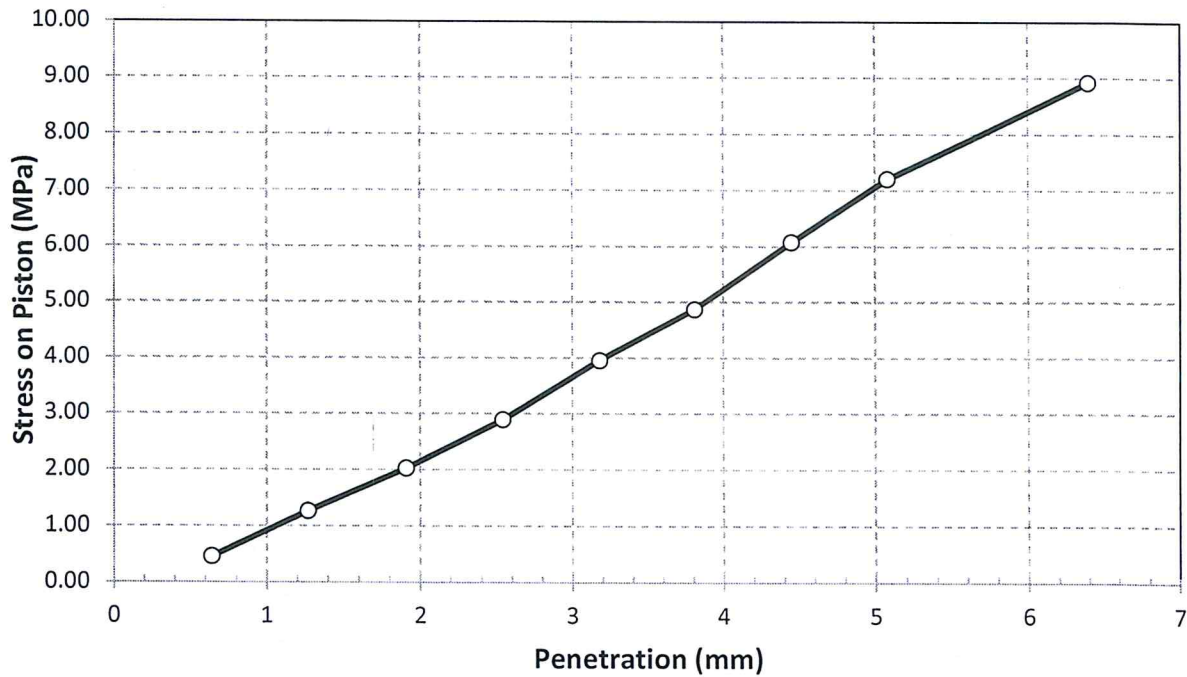
3 El Malek El Afdal Street
Zamalek, Cairo.
Tel & Fax : 27367231 - 27369093



3 شارع الملك الافضل
الزمالة - القاهرة
تليفون : 27367231 - 27369093
فاكس : 27367231

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

Load Penetration Curve of CBR Test
ASTM D-1883



Signature / ...



4161

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 22/10/2023
Soil type : Upper Embankment
Location : ST from 652+040 To 652+120
Level : - 1 M
Report No. : 248-9

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	652+060	1341	2.27	6.4	2.13	96.1%	Comply
2	652+080	1355	2.24	5.6	2.12	95.3%	Comply
3	652+100	1537	2.28	5.8	2.16	97.1%	Comply
4	652+110	1328	2.33	5.5	2.21	99.7%	Comply

Degree of compaction based on proctor test dated At
Max. dry density = 2.22 gm/cm³
At optimum moisture content = 6.4 %

Signature /


Company Name : شركة القرم للخدمات الهندسية
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

Dear Gentleman,

Attached here with the delivered on 5 / 10 / 2023

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 /
CEL
219 991 437
30/10/2023

Company Name : شركة المقاولات المعمورة
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	94.8
37.5	1.5	86.3
25	1	80.2
19	¾	71.1
12.50	½	63.3
9.50	3/8	60.0
4.75	4	50.4
2.00	10	36.4
0.425	40	23.2

Signature /
CEL
219 901 437
05/10/2023

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



المختبر المعتمد
إجمالي - القاهرة
27367231 - 27363093

Company Name : شركة الكرم للقاولات المعممة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	6.8

Signature /
219 991 437
219 991 437

Company Name : شركة المحاسن الهندسية
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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

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

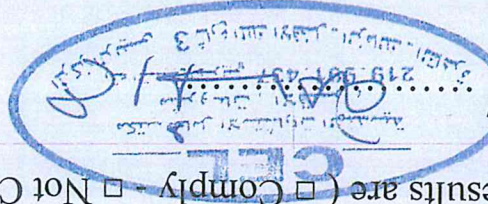
CEL
Signature /
05/10/2023
05/10/2023

Company Name : شركة القاولات المعمورة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E=488570.0472 N=28533420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

Soil Classification

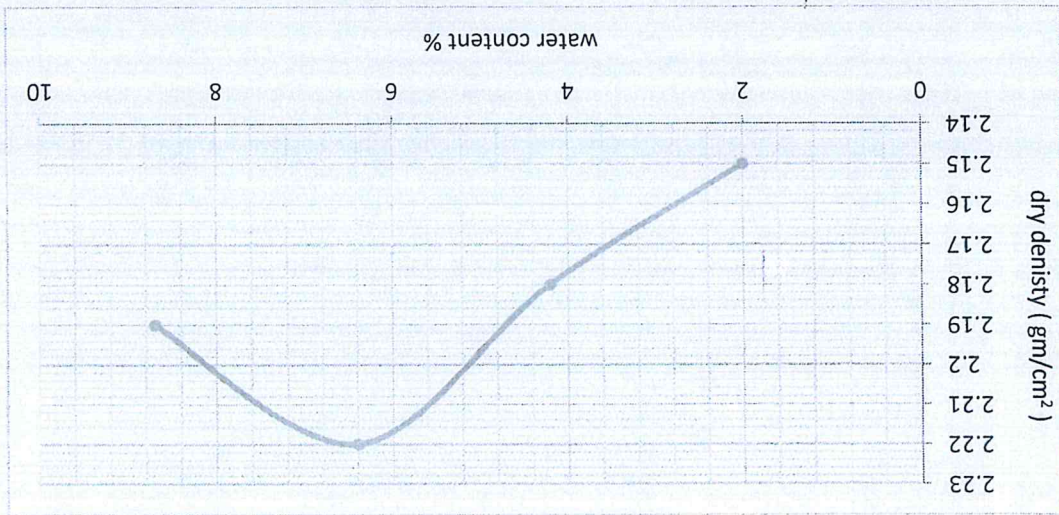
TEST	Results (%)	Limits according Projects Specs			
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)	
2.00 mm (No.10).	36.4	Max 50 %	-----	-----	
0.425 mm (No. 40).	23.2	Max 30 %	Max 50 %	-----	
0.075 mm (No. 200).	6.8	Max 15 %	Max 15 %	Max 15 %	
Liquid Limit		-----	-----	-----	
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %	

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

Signature /


Company Name : شركة المقاولات المعمورة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E=488570.0472 N=2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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



- Max dry density (gm/cm³) : 2.22
- Optimum moisture content % : 6.4 %

Signature /
[Signature]

Company Name : شركة الكرم للخدمات الهندسية
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E= 488570.0472 N= 2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

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

penetration	CBR Result		Stress (Mpa)	CBR 100 %
	mm	Inch		
	0.64	0.025	0.46	
	1.27	0.050	1.27	
	1.91	0.075	2.03	
	2.54	0.100	2.89	
	3.18	0.125	3.96	
	3.81	0.150	4.87	
	4.45	0.175	6.08	
	5.08	0.200	7.20	
	6.35	0.250	8.93	
At 0.1 inch (2.54 mm) penetration		St. Value	Sample results	41.9 %
		6.90	2.89	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm/cm³)
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

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Zamalek, Cairo
Tel: 27367231 - 27363093

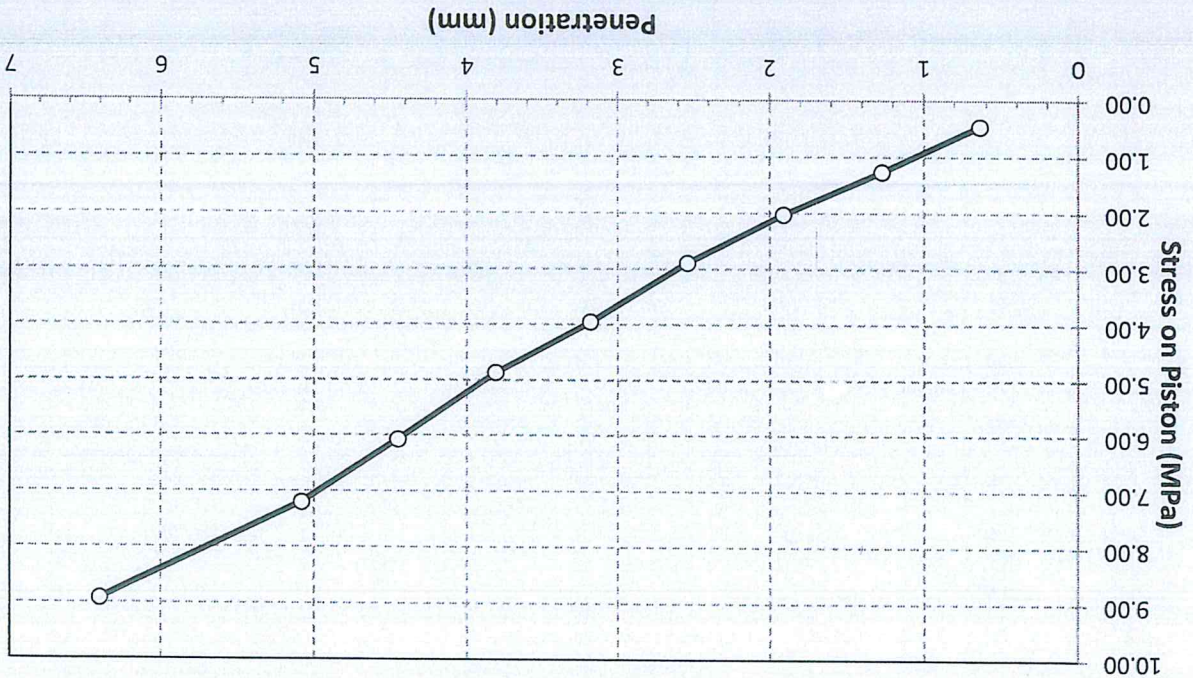


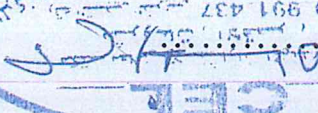
TESTING LABORATORY
ZAMALEK - CAIRO
TEL: 27367231 - 27363093

Company Name : شركة المقاولات المعممة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 652+000 E=488570.0472 N=2853420.4459
Type of sample : Soil Embankment
Delivery Date : 05/10/2023
Reporting Date : 09/10/2023
Reporting No. : 05-8

Load Penetration Curve of CBR Test

ASTM D-1883



Signature / 
CEL
219 991 437
3



At optimum moisture content = 6.4 %

Max. dry density = 2.22 gm/cm³

Degree of compaction based on proctor test dated At

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/cm ³	Moisture Content %	Dry Density (gm/cm ³)	Degree of Compaction (%)	Acceptance
1	644+840	1778	2.30	5.6	2.18	98.2%	Comply
2	644+860	1434	2.26	5.8	2.14	96.2%	Comply

ASTM D-1556

Compaction test by using Sand – Cone Test Method

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armat
Testing Date : 17/10/2023
Soil type : Upper Embankment
Location : ST from 644+820/644+840
Level : - (0.75) M
Report No. : 225

Company Name : شركة للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Dear Gentleman,

Attached here with the delivered on 11 / 9 / 2023

This sample is representative for 5.000 M³

Materials test

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

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3 شارع النسي 3
المنطقة الصناعية - الجيزة

Company Name : شركة المقاولات المعمورة
Project : Electric Express Train - HSR From Qous To Arman
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
0.425	40	29.5
2.00	10	41.1
4.75	4	49.0
9.50	3/8	53.2
12.50	1/2	57.4
19	3/4	71.5
25	1	80.8
37.5	1.5	90.6
50	2	96.7

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CEL



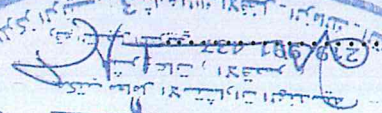
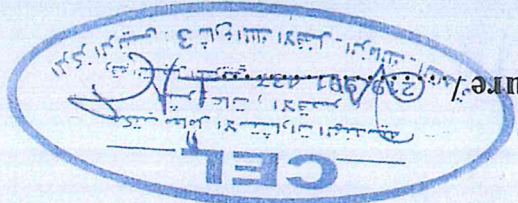
إدارة المختبرات
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2023-09-16

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Company Name : شركة المقاولات المعمورة
 Project : Electric Express Train – HSR From Qous To Armant
 Location : St: 644+100 E=491185.4746 N=2857077.9472
 Type of sample : Soil Embankment
 Delivery Date : 11/9/2023
 Reporting Date : 16/9/2023
 Reporting No. : 03-2

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ m (No.200)	10.1

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Signature: 19.03.2016

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

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

Company Name	: شركة المقاولات المعمورة
Project	: Electric Express Train - HSR From Qous To Armant
Location	: St: 644+100 E=491185.4746 N=2857077.9472
Type of sample	: Soil Embankment
Delivery Date	: 11/9/2023
Reporting Date	: 16/9/2023
Reporting No.	: 03-2

Company Name : شركة المقاولات المعمورة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs
• Group Classification	(A-1-a)	(A-1-a)
2.00 mm (No.10).	41.1	Max 50 %
0.425 mm (No. 40).	29.5	Max 30 %
0.075 mm (No. 200).	10.1	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)		
Liquid Limit		-----
Plasticity index	0	Max 6 %
		Max 6 %
		Max 10 %

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

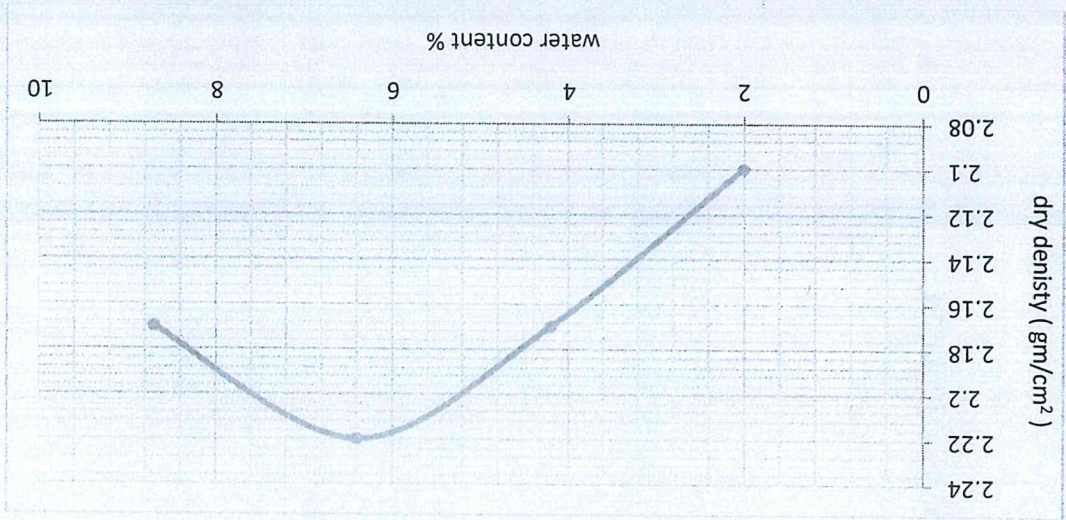
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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



LABORATORY
ZAMALEK, CAIRO
TEL: 27367231 - 27363093

Company Name : شركة المقاولات المعمورة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

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



- Max dry density (gm/cm³) : 2.22
- Optimum moisture content % : 6.4 %

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Company Name : شركة المقاولات المعممة
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Test Results of California Bearing Ratio on Base Materials

ASTM D 1883

CBR Result	Stress (Mpa)		CBR %
	St. Value	Sample results	
At 0.1 inch (2.54 mm) penetration		6.90	49.9 %

penetration	mm	Inch	stress on piston (Mpa)
	0.64	0.025	0.51
	1.27	0.050	1.47
	1.91	0.075	2.48
	2.54	0.100	3.44
	3.18	0.125	4.41
	3.81	0.150	5.14
	4.45	0.175	5.72
	5.08	0.200	6.08
6.35	0.250	6.23	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm/cm³)
- At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.

4- CBR > 10 for middle and lower embankments according project spec page No 36.

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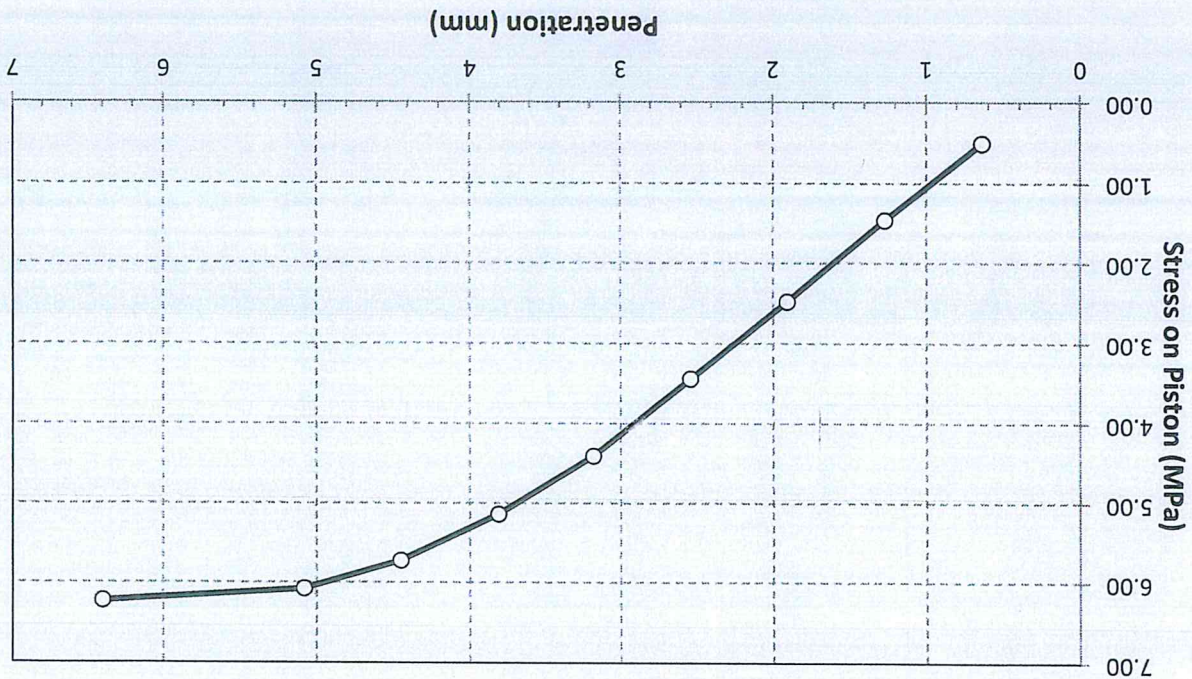
TESTING LABORATORY : 0516 516 516
TESTING LABORATORY : 0516 516 516

3 El Mark El Aldhahabi 437
Zamalek, Cairo
Tel: Fax: 27367231 27367231

Company Name : شركة المقاولات العمومية
Project : Electric Express Train - HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Load Penetration Curve of CBR Test

ASTM D-1883



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الكويتية

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الاستشارات
والمختبرات
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٤١٨٥

Company Name : شركة الكرم

Project : Electric Express Train – HSR From Qous To Armant

Testing Dat : 11 /11/ 2023

Soil type : Upper mbankment

Location : ST from 651+600 To 651+680

Level : -1 M

Report No. : 284

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	651+620	1607	2.19	5	2.09	95.4%	Comply
2	651+640	1730	2.19	5	2.08	95.1%	Comply
3	651+660	1434	2.23	6	2.11	96.2%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.19 gm/cm³

At optimum moisture content = 6.4 %

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3 : 219 991 437
3 : 219 991 437

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10/13

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

Materials test

This sample is representative for 5.000 M³

Attached here with the delivered on 10 / 9 / 2023

Dear Gentleman,

Company Name	: شركة الكرام
Project	: Electric Express Train - HSR From Qous To Armanat
Location	: st: 653+300 = E 487327.225 N 2852891.2659
Type of sample	: Soil Embankment
Delivery Date	: 10/9/2023
Reporting Date	: 14/9/2023
Reporting No.	: 10

Company Name : شركة الجرم
Project : Electric Express Train - HSR From Qous To Armant
Location : st: 653+300 = E 487327.225 N 2852891.2659
Type of sample : Soil Embankment
Delivery Date : 10/9/2023
Reporting Date : 14/9/2023
Reporting No. : 10

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
0.425	40	18.63
2.00	10	25.57
4.75	4	30.15
9.50	3/8	48.92
12.50	1/2	53.67
19	3/4	69.24
25	1	75.54
37.5	1.5	86.23
50	2	97.68



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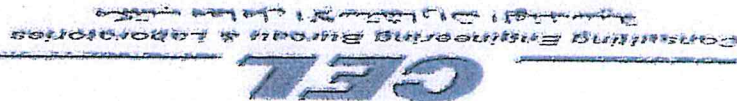
3 El Mahok El Ahdal Street
Zamalek, Cairo.
Tel/Fax : 27367231 - 27367003

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Consulting Engineer
30/09/2023

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

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

Company Name : شركة الهم
Project : Electric Express Train - HSR From Qous To Armant
Location : st: 653+300 = E 487327.225 N 2852891.2659
Type of sample : Soil Embankment
Delivery Date : 10/9/2023
Reporting Date : 14/9/2023
Reporting No. : 10



Company Name : **مصر القمار**
 Project : **Electric Express Train - HSR From Qous To Armant**
 Location : **st: 653+300 = E 487327.225 N 2852891.2659**
 Type of sample : **Soil Embankment**
 Delivery Date : **10/9/2023**
 Reporting Date : **14/9/2023**
 Reporting No. : **10**

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	12.48

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 2191 901 - 507

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

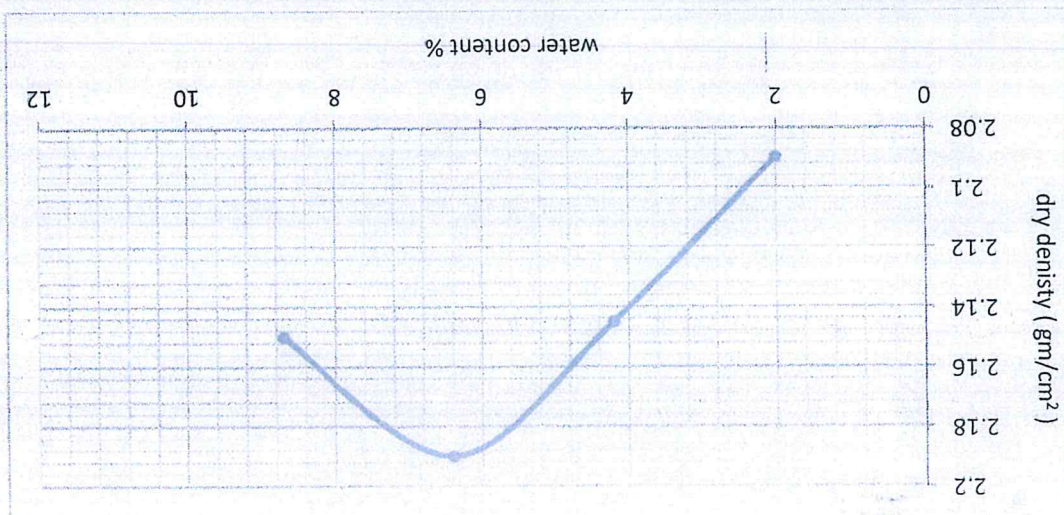
TEST	Results (%)	Limits according Projects Specs
• Group Classification	(A-1-a)	(A-1-a)
2.00 mm (No.10).	25.57	Max 50 %
0.425 mm (No. 40).	18.63	Max 30 %
0.075 mm (No. 200).	12.48	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)		
Liquid Limit		-----
Plasticity index	0	Max 6 %
		Max 6 %
		Max 10 %

Soil Classification According To Project Specs :

Company Name	شركة الكهرباء
Project	Electric Express Train - HSR From Qous To Armanat
Location	st: 653+300 = E 487327.225 N 2852891.2659
Type of sample	Soil Embankment
Delivery Date	: 10/9/2023
Reporting Date	: 14/9/2023
Reporting No.	: 10

Company Name : شركة
Project : Electric Express Train - HSR From Qous To Armant
Location : st: 653+300 = E 487327.225 N 2852891.2659
Type of sample : Soil Embankment
Delivery Date : 10/9/2023
Reporting Date : 14/9/2023
Reporting No. : 10

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



• Max dry density (gm/cm³) : 2.19

• Optimum moisture content % : 6.4 %

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إدارة المختبر
مختبر - أبحاث
10770-41-4070701 : 052 : 052

Company Name : شركة الجمل
Project : Electric Express Train - HSR From Qous To Armant
Location : st: 653+300 = E 487327.225 N 2852891.2659
Type of sample : Soil Embankment
Delivery Date : 10/9/2023
Reporting Date : 14/9/2023
Reporting No. : 10

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

penetration		stress on piston (Mpa)	
mm	Inch		
0.64	0.025	0.48	
1.27	0.050	1.49	
1.91	0.075	2.51	
2.54	0.100	3.46	
3.18	0.125	4.42	
3.81	0.150	5.24	
4.45	0.175	5.85	
5.08	0.200	6.15	
6.35	0.250	6.41	

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

- Notes:**
- 1- Attached graph shows penetration resistance versus penetration magnitude.
 - 2- The sample was compacted to dry density of = 2.19 (gm/cm³)
 - 3- Surcharge load 4.50 Kg.
 - 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /



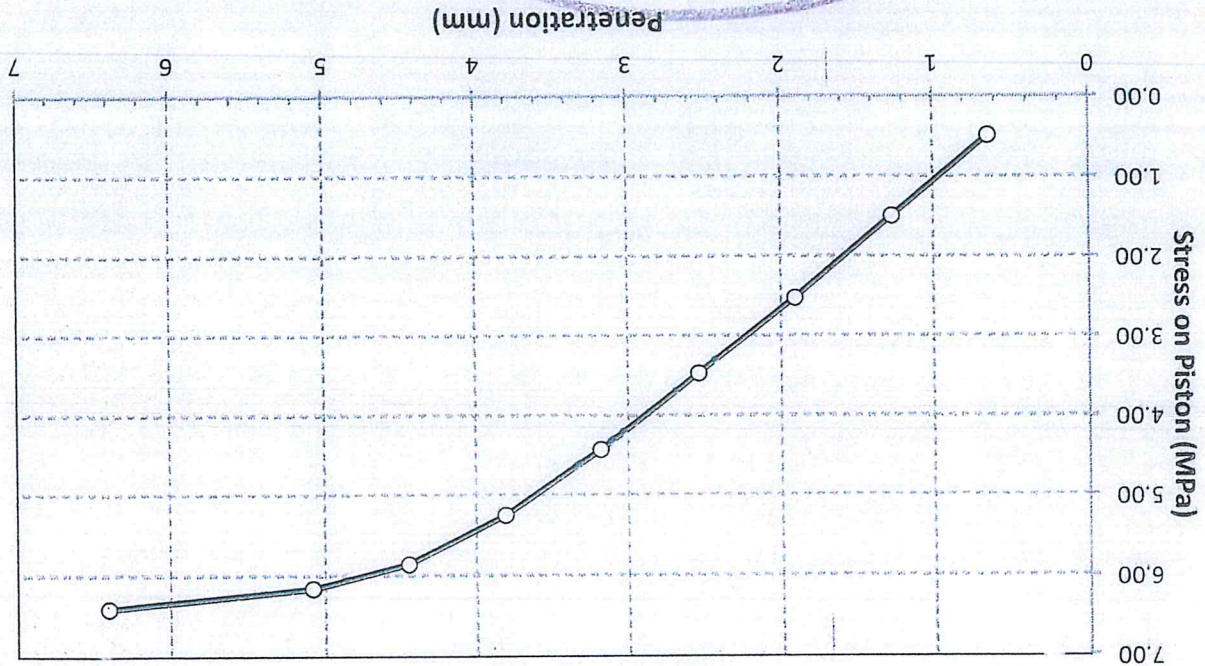
3 El Malek El Ahdal Street
Zamalek, Cairo
Tel/Fax : 27367231 - 27353093

إدارة الجودة
إدارة المخزون
إدارة المشتريات
1979-14-1071971 : 5555 0555



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ASTM D-1883

Load Penetration Curve of CBR Test

Company Name : شركة الهم
Project : Electric Express Train - HSR From Qous To Armanat
Location : st: 653+300 = E 487327.225 N 2852891.2659
Type of sample : Soil Embankment
Delivery Date : 10/9/2023
Reporting Date : 14/9/2023
Reporting No. : 10

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Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Dat : 6 /11/ 2023
Soil type : Upper mbankment
Location : ST from 652+040 To 652+120
Level : -0.5 M
Report No. : 266-4

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

Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	652+060	1721	2.22	5.5	2.11	96.7%	Comply
2	652+080	1587	2.24	6.4	2.11	96.8%	Comply
3	652+100	1587	2.27	5.6	2.15	98.7%	Comply
4	652+110	1954	2.26	6	2.13	97.7%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.18 gm/cm³

At optimum moisture content = 6.4 %

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[Handwritten signature and blue circular stamp of CEL]

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Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Dear Gentleman,

Attached here with the delivered on 10 / 10 / 2023

This sample is representative for 5.000 M³

Materials test

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

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٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣
الزمالك - القاهرة
تليفون : فاكس :

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	98.2
37.5	1.5	93.6
25	1	81.4
19	¾	72.8
12.50	½	68.5
9.50	3/8	60.1
4.75	4	55.7
2.00	10	48.9
0.425	40	20.3

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الزمالة القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	9.8

Signature /



Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

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

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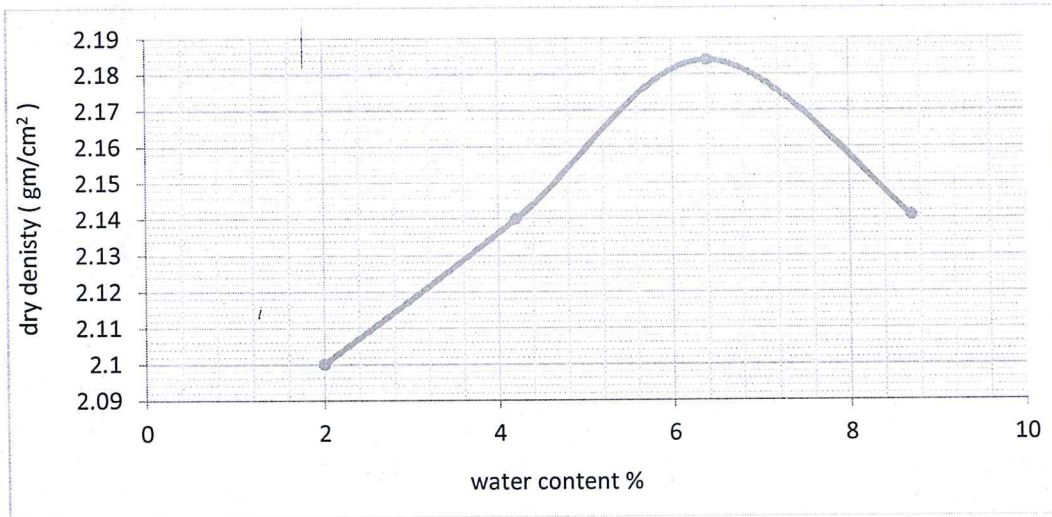
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Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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



- Max dry density (gm/cm²) : 2.18
- Optimum moisture content % : 6.4 %

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مشاريع وخدمات الاختبار
رقم التسجيل: 27367231 - 27363093
الفرع الرئيسي: 3 شارع الملك الأفضل - القاهرة

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Zamalek, Cairo.
Tel& Fax : 27367231 - 27363093



ش.ع. الملك الأفضل
الزمالك القاهرة
تليفون : 27367231 - 27363093
فاكس :

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.48
1.27	0.050	1.34
1.91	0.075	2.30
2.54	0.100	3.20
3.18	0.125	4.05
3.81	0.150	4.82
4.45	0.175	5.52
5.08	0.200	6.08
6.35	0.250	7.29

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	46.4 %
	6.90	3.20	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.18 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /

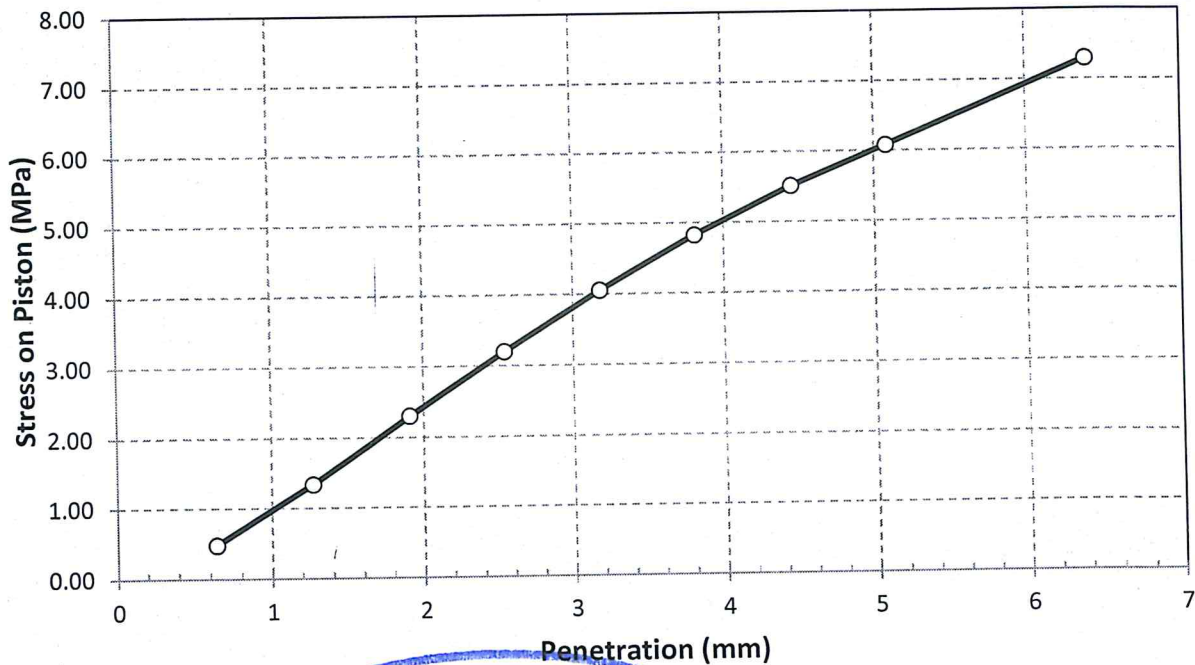
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ش. الملك الأفضل
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 651+500 E= 488952.1897 N=2853742.8853
Type of sample : Soil Embankment
Delivery Date : 10/10/2023
Reporting Date : 14/10/2023
Reporting No. : 06-5

Load Penetration Curve of CBR Test
ASTM D-1883



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مكتب معامل الاستشارات الهندسية

Company Name : شركة الكرم
Project : Electric Express Train – HSR From Qous To Armant
Testing Date : 15/10/2023
Soil type : Upper Embankment
Location : ST from 647+340 TO 647+440
Level : - 0.25 M
Report No. : 207

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

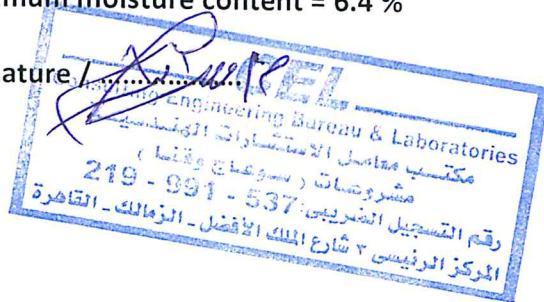
Test #	Station	Test Hole Volume cm ³	Bulk Density gm/ cm ³	Moisture Content %	Dry Density (gm/ cm ³)	Degree of Compaction (%)	Acceptance
1	647+360	1531	2.26	5.8	2.13	96.1%	Comply
2	647+380	1426	2.32	5.6	2.19	98.8%	Comply
3	647+400	1746	2.29	6	2.16	97.4%	Comply
4	647+420	1412	2.27	5.8	2.14	96.5%	Comply

Degree of compaction based on proctor test dated At

Max. dry density = 2.22 gm/cm³

At optimum moisture content = 6.4 %

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3 شارع الملك الأفطال
الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣٧ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Dear Gentleman,
Attached here with the delivered on 11 / 9 / 2023
This sample is representative for 5.000 M³

Materials test

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

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مسودة جابت ٢٠٢٣
رقعة التسجيل ٢٠٢٣
219.991.437
الوكيل الرئيسي 3 شارع الملك الافضل - الزمالك - القاهرة

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الزمالك - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

RESULTS OF SIEVE ANALYSIS According to ASTM D-422.

Sieve Size (mm)	Sieve Size (IN)	Passing %
50	2	96.7
37.5	1.5	90.6
25	1	80.8
19	¾	71.5
12.50	½	57.4
9.50	3/8	53.2
4.75	4	49.0
2.00	10	41.1
0.425	40	29.5

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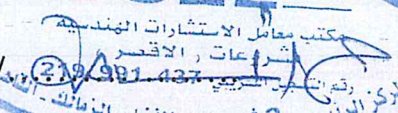


٢ شارع الملك الافضل
الزمالة - القاهرة
تليفون : ٢٧٣٦٧٢٣١ - ٢٧٣٦٣٠٩٣

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

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

Test	Results (%)
Percentage of material finer than Sieve Size 75 μ M (No.200)	10.1

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شركات و الاقصر
رقم الترخيص: 27367231-437
المركز الرئيسي: 3 شارع الملك الافضل - الزمالة

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

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

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

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الزمالك - القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Soil Classification According To Project Specs :

TEST	Results (%)	Limits according Projects Specs		
• Group Classification	(A-1-a)	(A-1-a)	(A-1-b)	(A-2-4)
2.00 mm (No.10).	41.1	Max 50 %	-----	-----
0.425 mm (No. 40).	29.5	Max 30 %	Max 50 %	-----
0.075 mm (No. 200).	10.1	Max 15 %	Max 15 %	Max 15 %
Characteristics of fraction passing 0.425 mm (No.40)				
Liquid Limit		-----	-----	-----
Plasticity index	0	Max 6 %	Max 6 %	Max 10 %

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

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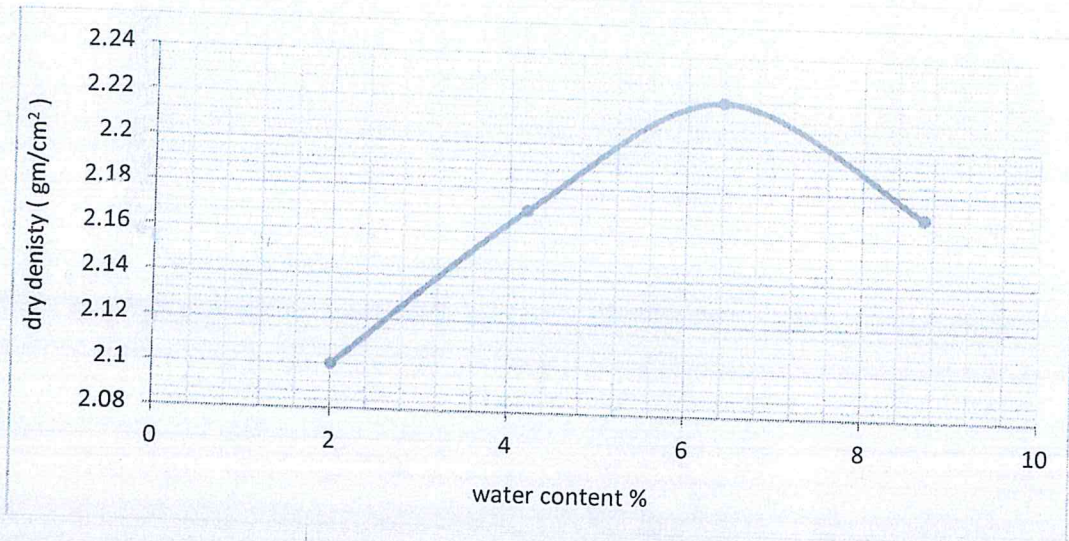
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3 شارع الملك الافضل
الزمالك القاهرة
تليفون : 27367231 - 27363093

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

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



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

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مكتب معامل الاستشارات الهندسية
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رقم تسجيل الفرعي 219.991.437
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Company Name : شركة الكرم للمقاولات العمومية
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

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

penetration		stress on piston (Mpa)
mm	Inch	
0.64	0.025	0.51
1.27	0.050	1.47
1.91	0.075	2.48
2.54	0.100	3.44
3.18	0.125	4.41
3.81	0.150	5.14
4.45	0.175	5.72
5.08	0.200	6.08
6.35	0.250	6.23

CBR Result	Stress (Mpa)		CBR %
At 0.1 inch (2.54 mm) penetration	St. Value	Sample results	49.9 %
	6.90	3.44	

Notes:

- 1- Attached graph shows penetration resistance versus penetration magnitude.
- 2- The sample was compacted to dry density of = 2.22 (gm /cm³)
At = 6.4 % optimum water content.
- 3- Surcharge load 4.50 Kg.
- 4- CBR > 10 for middle and lower embankments according project spec page No 36.

Signature /
مكتب محاسن الاستشارات الهندسية
مشروعات (الاقصر)
رقم التسجيل النقري 1437
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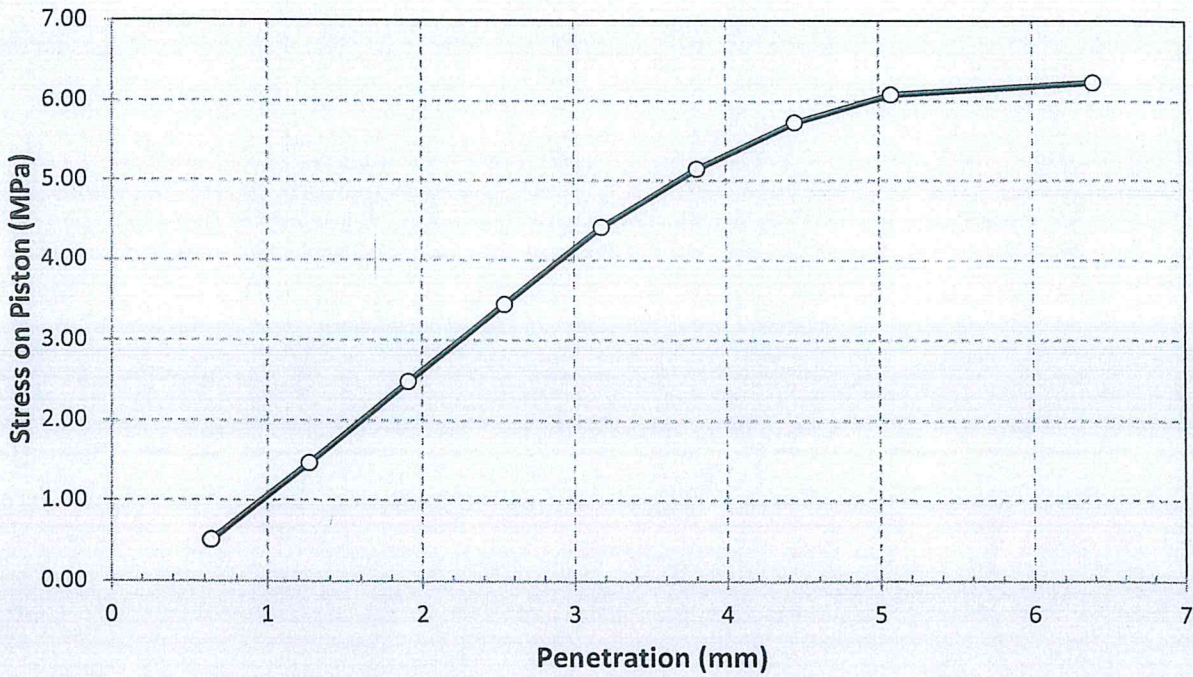


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الزمالك القاهرة
تليفون : ٢٧٣٦٧٠٩٢ - ٢٧٣٦٧٠٩١

Company Name : شركة الكرم للمقاولات العموميه
Project : Electric Express Train – HSR From Qous To Armant
Location : St: 644+100 E=491185.4746 N=2857077.9472
Type of sample : Soil Embankment
Delivery Date : 11/9/2023
Reporting Date : 16/9/2023
Reporting No. : 03-2

Load Penetration Curve of CBR Test

ASTM D-1883



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الزمالة القاهرة
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