



المركز الرئيسي

إدارة التحصيل

Q2024/01/25400

رقم القيد

2024/05/28 12:09:49 م

تحريرا في

السادة / شركة الحياة للمقاولات العامة واعمال المحاجر والمؤمن له الإضافى/ الهيئة العامة للطرق والكبارى والنقل  
،، تحية طيبة وبعد

نحيط سيادتكم علما بأن الوثائق و الملاحق /إصالات التجديد الآتي بيانها :

نهاية السريان	بداية السريان	نوع التأمين	رقم الملاحق	رقم الوثيقة
2025/05/27	2024/05/27	حوادث شخصية		61001011278/0

باسمكم ولصالح مسددة ايداع بنكي وساريره المفعول

ونفضلوا بقبول فائق الاحترام ،،

تم إعداده بواسطة :-

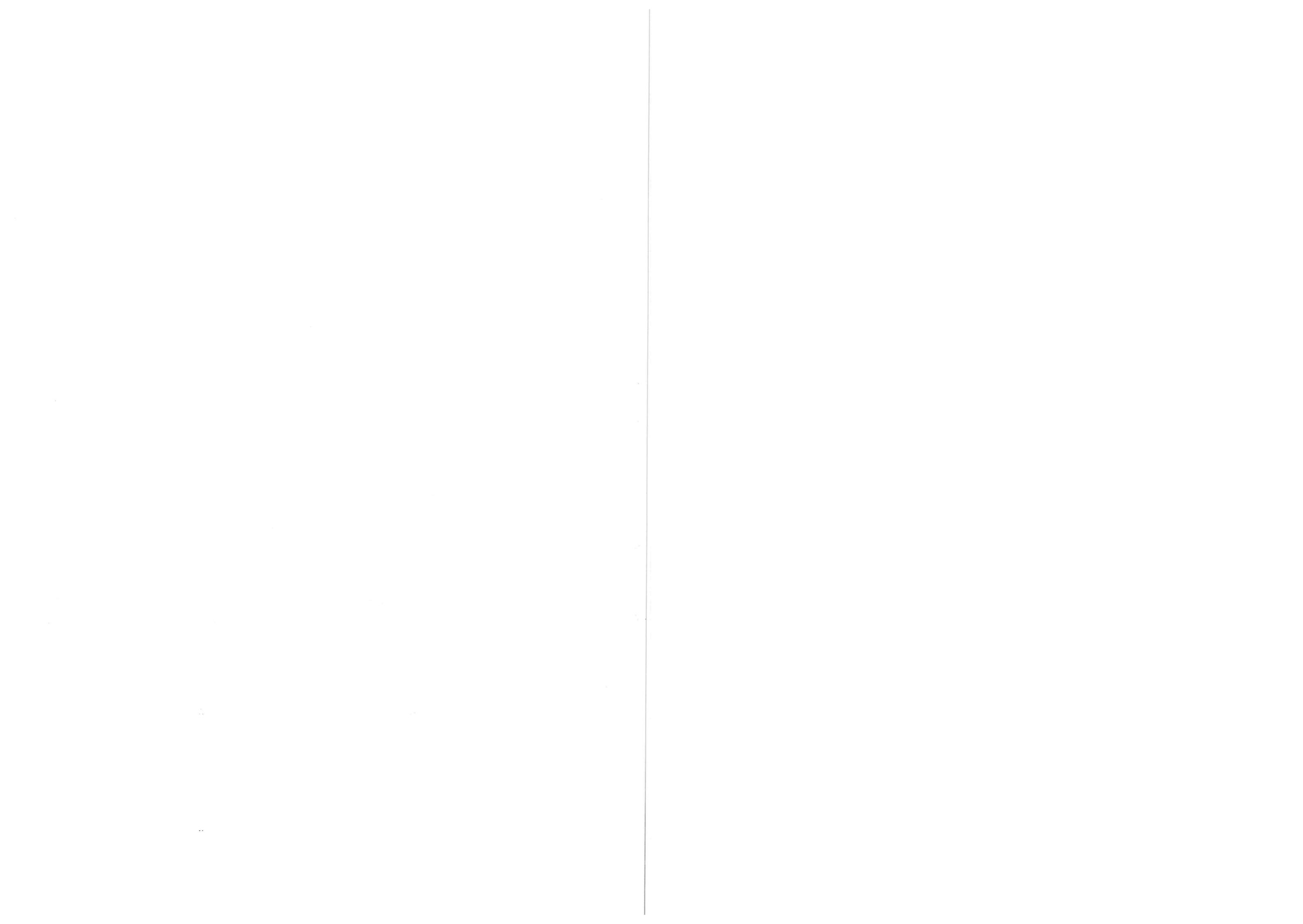
محمد على شكري

مدير الفرع

جلال محمد عبدالقى عبد الحافظ

ملحوظة:- أي كشط أو تعديل في هذا المستند فاته يعتبر لاغي ولا يعنى به





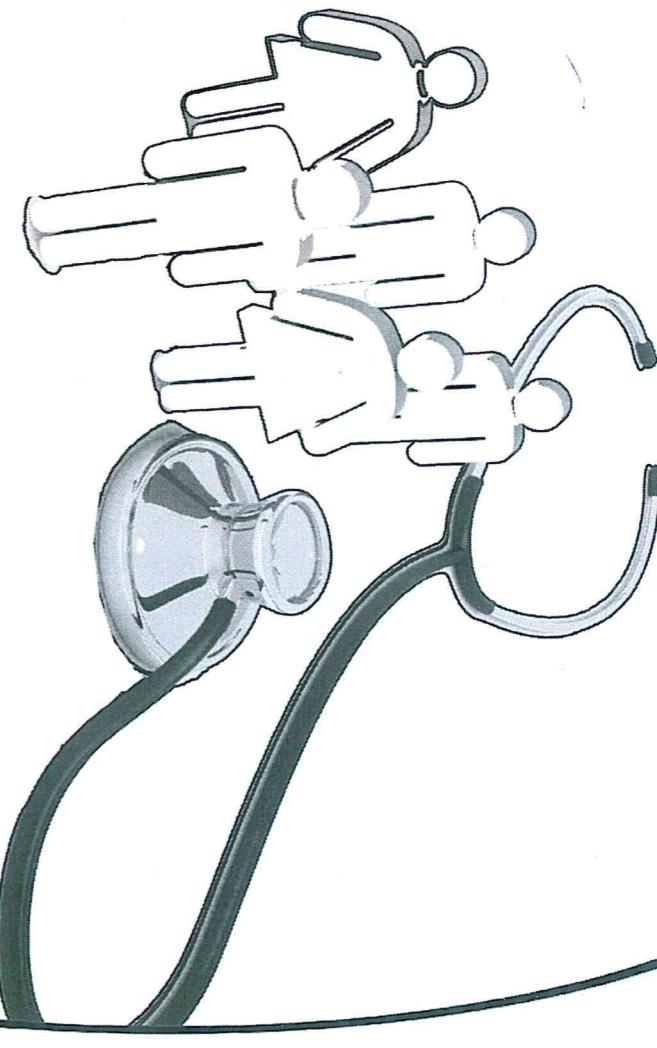




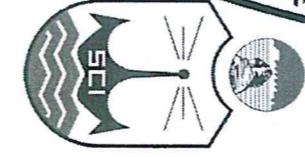


## تأمين كسر الزجاج

تأمين المسؤولية المهنية للأطباء



- تغطية جميع أنواع الزجاج لفاتريرات الملاط وداخل العمارات والشركات ضد ما يصيبه من كسر بفعل غير متعمد من المؤمن له أو بفعل مستخدميه
- يتم استبدال الأشياء المكسورة بثلها أو بدفع قيمتها نقدا



كود العميل 68215

907

## قناة السuez للتأمين Suez Canal Insurance

شركة مساهمه مصرية خاضعه لادام القانون لسنة 1981 ومسجله في 1979 تحت رقم (5)

فلاكس : 02/37491365 - 02/33354070

الفرع الرئيسي : 31 محمد كامل موسى - المهندسين

تلفون وفاكس : 02/37601051 - 02/37606868

المركز الرئيسي : 02/33363241

لصالح فرع المركز الرئيسى تاريخ الاصدار 2024/05/28

بيان التأمين فى يوم 2024/05/27 ينتهى التأمين فى يوم 2025/05/27

عدد المؤمن عليه حسب المذكور بالوثيقة 8 صفحه رقم الباركود 20576208



2024/05/28 ص 11:12:53



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Call Center 16569

عنوان المؤمن له / العريش  
المركز الرئيسي : 31 محمد كامل مرسى - المهندسين. الجيزة - تليفون : 33350981 - 33355258 - 37606868 - 33355194

وثيقة التأمين من الحوادث الشخصية رقم (61001011278/0) اصدار جديد  
اسم المؤمن له (المتعاقد) شركة الحياة للمقاولات العامة واعمال المحاجر والمؤمن له بالإضافة إلى الهيئة العامة للطرق والجبارى والنقل البررى



قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر التراقي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : ( 1-2 ) أعمال حفر باستخدام المعدات الميكانيكية في التربة المتتماسكة عدا الصخرية

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 3م

الكمية	الإبعاد (متر)		الموقع الكيلومترى		بيان الاعمال بالمقاييس
	مساحة المقطع	طول	من	إلى	
213157.89	142.105	1500.00	511+500	510+000	القطاع الأول
<b>213157.89</b>	اجمالي الكميات خلال فترة المستخلص الحالية (م³)				
<b>213157.89</b>	الاجمالي الكلي (م³)				

مهندس الهيئة العامة  
للطرق والجسور

م/ إبراهيم الحناوى

مهندس الاستشاري  
مكتب د/ خالد قنديل

م/ خالد فوزي

مهندس الاستشاري  
مكتب XYZ

م / محمد خليل

مهندس الشركة

م / توفيق عرب امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر التراسي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند وبيانه : ( 1-3 ) أعمال حفر باستخدام المعدات الميكانيكية في تربة صخرية ذات اجهاد ( 100 - 200 ) كجم/سم<sup>2</sup>  
تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

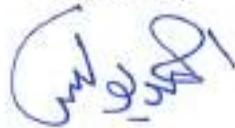
مقدار العمل السابق :

الكمية	الابعاد ( متر )		الموقع الكيلومترى		بيان الاعمال بالمقاييس
	مساحة المقطع	طول	الى	من	
98736.84	65.825	1500.00	511+500	510+000	القطاع الأول
<b>98736.84</b>	<b>اجمالي الكميات خلال فترة المستخلص الحالية ( م<sup>3</sup> )</b>				
<b>98736.84</b>	<b>الاجمالي الكلى ( م<sup>3</sup> )</b>				

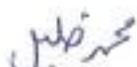
مهندس الهيئة العامة  
للطرق والجسور  
م / ابواصحاح الحاربي



مهندس الاستشاري  
مكتب د/ خالد قنديل  
م / خالد فوزي



مهندس الاستشاري (xyz)  
م / محمد خليل



مهندس الشركة  
م / توفيق عربى امام



قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر التراسي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند وبيانه : ( 1-3 ) أعمال حفر باستخدام المعدات الميكانيكية في تربة صخرية ذات اجهاد ( 300 - 200 ) كجم/سم<sup>2</sup>

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق :

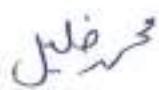
الكمية	الابعاد ( متر )		الموقع الكيلومترى		بيان الاعمال بالمقاييس
	مساحة المقطع	طول	الى	من	
94421.04	62.947	1500.00	511+500	510+000	القطاع الأول
<b>94421.04</b>		اجمالي الكميات خلال فترة المستخلص الحالية (م <sup>3</sup> )			
<b>94421.04</b>		الاجمالي الكلى (م <sup>3</sup> )			

مهندس الهيئة العامة  
للطرق والجسور  
م / ابراهيم العناوي

مهندس الاستشاري  
مكتب د/ خالد قنديل  
م / خالد فوزي

مهندس الاستشاري (xyz)  
م / محمد خليل

مهندس الشركة  
م / تونى عرب اسلم


قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر الترابي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند وبيانه : ( 1-3 ) أعمال حفر باستخدام المعدات الميكانيكية في تربة صخرية ذات اجهاد ( 300 - 400 ) كجم/سم<sup>2</sup>

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 0.0 3م

الكمية	الابعاد ( متر )		الموقع الكيلومترى		بيان الاعمال بالمقاييس
	مساحة المقطع	طول	الى	من	
315263.16	210.175	1500.00	511+500	510+000	القطاع الأول
<b>315263.16</b>					اجمالي الكميات خلال فترة المستخلص الحالية (م <sup>3</sup> )
<b>315263.16</b>					الاجمالي الكلى (م <sup>3</sup> )

مهندس الهيئة العامة  
للطرق والجسور  
م / ابراهيم الحناوي

مهندس الاستشاري  
مكتب د/ خالد قنديل  
م / خالد فوزي

مهندس الاستشاري (xyz)  
م / محمد خليل

مهندس الشركة  
م / تونى عرب امام

محمد داوى

محمد خليل



قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر التراقي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 500+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : ( 3-1 ) أعمال توريد و تشغيل اتربة صالحة للردم مطابقة للمواصفات

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجز

مقدار العمل السابق : 3م 0.0

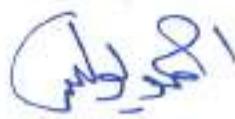
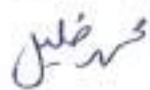
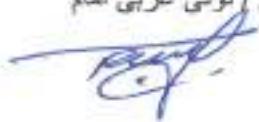
الكمية	الإبعاد ( متر )		الموقع الكيلومترى		بيان الاعمال بالمقاييس
	مساحة المقطع	طول	الى	من	
20000.00	40.000	500.00	511+000	510+500	القطاع الأول
20000.00	40.000	500.00	511+500	511+000	القطاع الثاني
<b>40000.00</b>		اجمالي الكميات خلال فترة المستخلص الحالية (م³)			
<b>40000.00</b>		الاجمالي الكلى (م³)			

مهندس الهيئة العامة  
للطريق والكباري  
م / ابراهيم الحلواني

مهندس الاستشاري  
مكتب د/ خالد قنديل  
م / خالد فوزي

مهندس الاستشاري (xyz)  
م / محمد خليل

مهندس الشركة  
م / تونى عربى امام

قائمة الكميات الواردة بالمستخلص جاري (4)

عملية : مشروع استكمال أعمال تنفيذ الجسر التراسي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 500+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند وبيانه : ( 3-1 ) علاوة تحصيل رسوم الكارتة والموازين طبقاً للائحة الشركة الوطنية

تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

الkartas والموازين

مقدار العمل السابق :

الكمية	بيان الكميات
40000.00	الكميات طبقاً لقوائم الكميات
40000.00	اجمالي الكميات خلال فترة المستخلص الحالية (م³)
40000.00	الاجمالي الكلي (م³)

مهندس الهيئة العامة  
للطرق والجسور  
م / ايادى العناوى

مهندس الاستشاري  
مكتب د/ خالد قنديل  
م / خالد فوزي

مهندس الاستشاري (xyz)  
م / محمد خليل

مهندس الشركة  
م / تونى عربى لام

محمد حسنين

محمد حسنين

محمد حسنين

قائمة كميات بالمستخلص جاري ( 4 )

مشروع استكمال أعمال تنفيذ الجسر التراسي بمشروع إنشاء الخط الأول لشبكة القطار الكهربائي السريع (السخنة - القاهرة - الإسكندرية - العلمين - مطروح) بالأمر المباشر لتنفيذ المسافة القطاع من الكم 510+000 إلى الكم 511+500 بطول 1.5 كم اتجاه مطروح

رقم البند و بيانه : ( 3-1 ) علاوة تحصيل رسوم الكارتة والموازين طبقاً للائحة الشركة الوطنية 288.5 كم

علاوة مسافة النقل

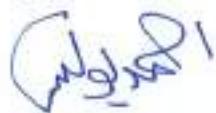
تنفيذ : شركة الحياة للمقاولات العامة وأعمال المحاجر

مقدار العمل السابق : 3م 0.00

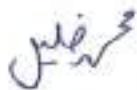
الكمية	بيان بالكميات
40000.00	الكمية طبقاً لقوائم الكميات
40000.00	اجمالي الكميات خلال فترة المستخلص الحالية ( 3م )
40000.00	الاجمالي الكلي ( 3م )

مهندس الهيئة العامة  
للطرق والجسور  
م / يحيى الحناوى

مهندس الاستشاري  
مكتب د/ خالد قنديل  
م / خالد فوزي



مهندس الاستشاري (xyz)  
م / محمد خليل



مهندس الشركة  
م / تونى عربى امام





## السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة وبعد،،،،

بالإحالة إلى مشروع القطار الكهربائي فالق السرعة (فوكة - مطروح) (القطاع السابع)

نشرف بأن ترفق لسيادتكم طيه المعايضة المعدلة للقطاعات الآتية:

الاتجاه	نهاية القطاع (كم)	بداية القطاع (كم)	اسم الشركة	مسلسل
مطروح	511+500	510+000	الحياة للمقاولات العامة وأعمال المحاجر	1

يرجاء من سعادتكم التفضل بالإحاطة والتوجيه اللازم

ونفضلوا سعادتكم بقبول فائق الاحترام والتقدير،،،

رئيس الادارة المركزية

المنطقة الخامسة - غرب الدلتا

عميد مهندس /

" هانى محمد محمود طه "

٢٠١٩

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### مشروع القطار الكهربائي المترفع

المقاومة المعدلة لبيود الاعمال للقطاع السابع (فوكه - مطروح) - شركة العين للمقاولات العامة وأعمال المحاجر  
القطاع من المحطة 510+000 إلى المحطة 511+500

رقم الاعمال	بيانات الأساس	الوحدة	الكمية	القيمة	الاجمالى
4	المنظر المكشوف أصل أوردة وفرش طبقة تالب ( prepared Subgrade ) من الأحمدار الصالحة المطرحة تكون تكسير قشرات وأسطوانة للمواد والتسمى حجم المعيقات 100 مم ولا تزيد نسبة السر من متطلبات 200 عن 12 % و الفارق الوردي بالارتفاعات الخاصة للمترفع لا تقل نسبة المعدل كثافتها عن 25 % ولا تزيد نسبة ذلك بمقدار 10% الجuros من 30 % ولا تزيد المعدلات عن 15% ولا يزيد معدل التردد ( E2 ) من تصرية لوح التحديد عن 80 ميجاپاسكال ويتم فردها على طبقتين باستخدام الآلات البصورية الحديثة حتى لا يزيد سمك الطبقة بعد إتمام النطاف عن 25 سم و رشها بالمواد الأساسية للرسول إلى نسبة الرطوبة المطلوبة والتأكد بعد التسليمات الوصول إلى التنس كثافة وجافة عصوى ( لا تقل عن 95 % ) من المعايير المعتمدة والتي تتضمن اجزاء التبارب المعدلة والمعادلة و يتم التأكد بذلك بالوسائل الصناعية والدراسات التقنية المعتمدة والتثبت بجودة منتجاته طبقاً للمواصفات الفنية الstralior و تغير الاختبار وتتحقق التهانس المشرف مسافة الفاصل لا تقل عن 20 متر - يتم اختبار علائقه 1.3 جنتي تل 1 كم بزيادة او النقصان	3+	4,748	146.40	696,089
4-1	القيمة المحددة بمقدارها مليون سنتل لثالث 68 ملايين تصدير رسوم الـ ١٠٪ والموازير مطابقاً لائحة الضرائب الوطنية				
	الاجمالى				78,523,000
	٢٠٢٣/١٢/٢٥				

مدير عام المشروعات  
م. محمد حسني فياض

مدير المشروع الملكي  
م. إبراهيم الخطوري

يعتذر  
رئيس الإدارة المركزية  
منطقة غرب الدلتا  
الأسكندرية - مرسى مطروح  
عمر مهندس /  
هانى محمد محمود طه " ٢٥٩ "





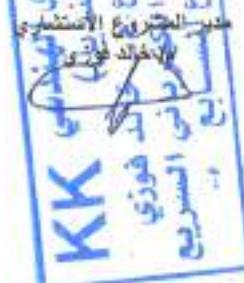
### مشروع القطار الكهربائي السريع

المقايسة المعدلة لبيان الأعمال للقطاع السابع (فوكه - مطروح) - شركة العبة للمقاولات العامة وأعمال المحاجر  
القطاع من المحطة 510+000 إلى المحطة 511+500

رقم البند	بيان الأجمالى	الندة	النوية	الوحدة
1				اعمال الحفر
1-2	6,502,600	30.50	213,200	٣٩
1-3				اعمال الحفر
3	4,284,150	101.400	42,250.00	٣٩
	18,156,938	429.750	42,250.00	٣٩
	549,250	13.000	42,250.00	٣٩

مدير عام المشروعات  
م/محمد حسني فياض

مدير المشروع الممثل  
م/أبراهيم الحناوي



**SUBMISSION of  
TEST RESULTS**



Contractor Company			Designer Company							
Issued by Contractor	Name	Sign	Date	Time						
	ENG:TONY ARABY		23/10/2023							
Received by ER		STR	C1	C2	C3	DD	MM	YY	HH	MM
						23	10	23		

AH-1-18 / HA-11

CODE-1	S1 to S21 Station Reference	D1 to 53 Depot Reference	Kp XXX Note For Kilometer point only Start Km is used
CODE - 2		Work Activity	
CODE - 3		Sub Element of Activity	

NB: Package 1 Only (Package 2 via Aconex)

**THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW**

Description of Test Materials		SAND CONE TEST FILL LAYER			
Location of Test		511+380 TO 511+500 (-1.75)			
Item	TEST LOCATION	Specification ASTM D1556	Test Requirement 95% MDD	Test Result	REMARKS
1	511+405			97.4%	APPROVED
2	511+430			97.4%	APPROVED
3	511+455			97.7%	APPROVED
4	511+480			97.3%	APPROVED
5	511+500			97.8%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		23-10-2023	A
Designer QA/QC	Eng / Attaia		23-10-2023	A
GARB *	Hussein Fouad		23-10-2023	
Employers Representative				

\* Alignment / Bridges: Culvert Only

UNIVERSAL  
INSPECTION  
REQUEST



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

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

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT.							
Issued by Contractor	Name	Sign	Date	Time							
Received by Employers Representative	Eng.AHMED TAWFIK	<i>M-A</i>	22/10/2023	C1 KPS10	C2 EW	C3 CS	DD 22	MM 10	YY 2023	HH	MM
CODE-1	51 to 521 Station Reference	D1 to S3 Depot Reference			Kp 510 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**

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -1.75 FROM T.O.E	From st. {511+380} To {511+500}

**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 <input type="checkbox"/>	Test Results Attached <input type="checkbox"/>	Calibration Attached <input type="checkbox"/>	Other as indicated <input type="checkbox"/>
Drawing Reference	ITP Reference		MS Reference

Civil	Survey	Material
mohamed shabana visual inspection is accepted 22-10-2023	<i>Ahmed</i> LeveLisi > APPlOvEs	mohamed shabana compaction is accepted 23-10-2023

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	Eng.AHMED TAWFIK	<i>Fat</i>				
QA/QC*						
GARB**	ENG/Khaled fawzy	<i>Ab</i>			A	
Employers Representative Notes						
Employers Representative Sign	M-A	20/10/2023			A	

\* Designer

\*\* Alignment: Bridges: Culvert only



*Electric Express Train - HSR*

From El Ain El Sokhna City To Matrouh

Section - 7 From foka - Matrouh

From Station 510+000  
To Station 511+500

المدينة القوية للتنمية

المجلس  
الوطني للطاقة والبيئة (GARBLT)

Testing Date :	23 /10/2023	Company	AL HAYAH	
Material :			Code	AH-1-18
Location :	511+380	511+500	Code	HA-(1)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -1.75 FROM T.O.E	

Station	511+405	511+430	511+455	511+480	511+500	
Hole no	1	2	3	4	5	
Bulk density specific sand (gm/cm <sup>3</sup> )	1.50	1.50	1.50	1.50	1.50	
wt .of sand befor test	8387	8427	8462	8512	8552	
WT .of sand after test	4128	4163	4198	4233	4268	
WT . Of sand fill cone	1550	1550	1550	1550	1550	
WT . Of sand in hole	2709	2714	2714	2729	2734	
Volume of hole	1806	1809	1809	1819	1823	
WT . Of sample from hole (gm)	4094	4107	4127	4139	4159	
Bulk density of soil (gm/cm <sup>3</sup> )	2.27	2.27	2.28	2.28	2.28	

Average water content %	7.8	7.9	8.1	8.2	8	
Dry density (gm/cm <sup>3</sup> )	2.10	2.10	2.11	2.10	2.11	
Max dry density (gm/cm <sup>3</sup> )	2.16	2.16	2.16	2.16	2.16	
Compaction ratio %	97.4	97.4	97.7	97.3	97.8	
Observations						
Lab Engineer :	AHMED TAWFIK		Consultant Eng. :	Mohamed Shaker		
Sign :			Sign :			

**SUBMISSION of  
TEST RESULTS**



ENGINEERING CONSULTING OFFICE  
الهندسة الاستشارية للمشروعات  
ج.م.ع. - ECO



Contractor Company	Designer Company																		
Issued by Contractor	Name	Sign	Date																
	ENG:TONY ARABY		27/10/2023																
Received by ER		STB	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>C1</td> <td>C2</td> <td>C3</td> <td>DD</td> <td>MM</td> <td>YY</td> <td>HH</td> <td>MM</td> </tr> <tr> <td></td> <td></td> <td></td> <td>27</td> <td>10</td> <td>23</td> <td></td> <td></td> </tr> </table>	C1	C2	C3	DD	MM	YY	HH	MM				27	10	23		
C1	C2	C3	DD	MM	YY	HH	MM												
			27	10	23														

AH-1-22 / HA-2

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

NB: Package 1 Only (Package 2 via Aconex)

**THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW**

Description of Test Materials		SAND CONE TEST FILL LAYER			
Location of Test		510+820 TO 510+980 (-1.75)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	510+845	ASTM D1556	> 95% MDD	97.8%	APPROVED
2	510+870			97.8%	APPROVED
3	510+895			98.4%	APPROVED
4	510+920			98%	APPROVED
5	510+945			98.5%	APPROVED
6	510+970			98.4%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		27-10-2023	A
Designer QA/QC	Eng / Attia	M. Attia	27-10-2023	A
GARB *	Hussein Fouad	Hussein	27-10-2023	
Employers Representative				

\* Alignment / Bridges: Culvert Only

**UNIVERSAL  
INSPECTION  
REQUEST**



**RECEIPT OF NOTIFICATION - Minimum Notice Period not less than 24**

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

Contractor  
Company

AL-HAYAA

Designer Company\*

KK CONSULT

Issued by  
Contractor

Name

Sign

Date

Time

Eng.AHMEDTAWFIK

25/10/2023

Received by  
Employers  
or Representative

M-A

10

26-3-023 UIR

01

02

03

00

MM

YY

HH

SS

KPH

EW

CS

28

10

2023

Kp STD Note

\*For Kilometer point only Start Km is used

CODE-1

51 to 521  
Station Reference

01 to 53  
Design Reference  
Work Activity

CODE-2

CODE-3

Basic Element of Activity

**EXPLANATION OF WORK TO BE INSPECTED**

Description

Element

Item 160

CIVIL/SURVEY/MATERIAL

1.75m-2.00m

From st. (510+820) To (510+960)

**INSPECTION DETAILS** The following will be ready at the Planned inspection Time.

Planned Inspection Date

26-10-2023

Planned Inspection Time

Checklist Attached

Test Results Attached

Calibration Attached

Other as Indicated

Drawing Reference

ITP Reference

MS Assurance

Civil

Mohamed Shabana  
Visual inspection  
is accepted.

Survey

Amr El Sayed  
levels is APPROVED

Material

Mohamed Shabana  
Construction is  
accepted.

**INSPECTION RESULT**

Organisation	Name	Sign	Date	Time	Approval Status	Please Tick if Not Attend
Contractor	Eng.AHMEDTAWFIK	Amr El Sayed			A-AWCR	
QA/QC*						
GARB**	ENG/Khaled fawzy	CJ			A	
Employers Representative Notes						
Employers Representative Sign	M-A	10-10-2023			A	

\* Designer

\*\* Alignment, Bridges, Columns only



*Electric Express Train - HSR*

From El Ain El Sokhna City To Matrouh

Section - 7 From foka - Matrouh

From Station 510+000  
To Station 511+500

جامعة الإسكندرية

جامعة الإسكندرية  
جامعة الإسكندرية  
جامعة الإسكندرية

Testing Date:

27 /10/2023

Company

AL HAYAH

Material:

Code AH-1-22

Location:

510+820

510+980

Code HA-(2)

Layer Thickness:

Level layer

REPLACEMENT FILL LAYER -1.75 FROM  
T.O.E

Station	510+845	510+870	510+895	510+920	510+945	510+970
Hole no.	1	2	3	4	5	6
Bulk density specified sand (gm/cm <sup>3</sup> )	1.50	1.50	1.50	1.50	1.50	1.50
WT. of sand before test	8700	8740	8775	8825	8865	8905
WT. of sand after test	4400	4435	4470	4505	4540	4575
WT. of sand fill cone	1550	1550	1550	1550	1550	1550
WT. of sand in hole	2750	2755	2755	2770	2775	2780
Volume of hole	1833	1837	1837	1847	1850	1853
WT. of sample from hole (gm)	4170	4183	4203	4215	4235	4248
Bulk density of soil (gm/cm <sup>3</sup> )	2.27	2.28	2.29	2.28	2.29	2.29

Average water content %	7.7	7.8	7.7	7.8	7.7	7.8
Dry density (gm/cm <sup>3</sup> )	2.11	2.11	2.12	2.12	2.13	2.13
Max dry density (gm/cm <sup>3</sup> )	2.16	2.16	2.16	2.16	2.16	2.16
Compaction ratio %	97.8	97.8	98.4	98.0	98.4	98.4
Observations						

Lab number:	ED-TAWFIK	Consultant Eng.:	muhammed shabana
Sign:		27-10-2023	



SUBMISSION OF  
TEST RESULTS



ENGINEERING CONSULTING OFFICE  
الهندسة والتخطيط للمقاولات  
Engineering Consulting Office



Contractor Company				Designer Company							
Issued by Contractor	Name	Sign		Date		Time					
	ENG:TONY ARABY			15/11/2023		15	11	23			
Received by ER			STR	<input type="checkbox"/> C1	<input checked="" type="checkbox"/> C2	<input type="checkbox"/> C3	DD	MM	YY	HH	MM

AH-2-38 / HA-4

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

NB: Package 1 Only (Package 2 via Aconex)

THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW

Description of Test Materials		SAND CONE TEST FILL LAYER			
Location of Test		510+640 TO 510+760 (-1.25)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	510+665	ASTM D1556	> 95% MDD	97.1%	APPROVED
2	510+690			97.1%	APPROVED
3	510+715			97.4%	APPROVED
4	510+740			97.1%	APPROVED
5	510+760			97.6%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		15-11-2023	A
Designer	Eng. Attia		15-11-2023	A
GARB *	Hassan Fouad		15-11-2023	
Employers Representative				

\* Alignment / Bridges: Culvert Only

**UNIVERSAL  
INSPECTION  
REQUEST**



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

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

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT							
Issued by Contractor	Name	Sign	Date	Time							
Received by Employers Representative	Eng.AHMED TAWFIK	Ahmed Tawfiq	14/11/2023								
	M.A	11/2023	UIR	C1	C2	C3	DD	MM	YY	HH	MM
			KPS10	EW	CS	14	11	2023			
CODE-1	S1 to S21 Station Reference		S1 to S3 Depot Reference		Kp 510 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**

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -1.25 FROM T.O.E	From st. [510+640] To [510+760]

**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 <input type="checkbox"/>	Test Results Attached <input type="checkbox"/>	Calibration Attached <input type="checkbox"/>	Other as indicated <input type="checkbox"/>
Drawing Reference	ITP Reference		MS Reference

Civil	Survey	Material
monument connected visual inspection is approved	Survey Levels is Approved	monument connected compaction test is approved 15/11/2020

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	Eng.AHMED TAWFIK	Ahmed Tawfiq				
QA/QC*						
GARB**	ENG/Khaled fawzy	Fawzy				A
Employers Representative Notes						
Employers Representative Sign	M.A	11/2023				A

\* Designer

\*\* Alignment: Bridges: Deliver only



*Electric Express Train - HSR*

From El Ain El Sokhna City To Matrouh

Section - 7 From foka - Matrouh

From Station 510+000  
To Station 511+500



Testing Date :	15 /11/2023	Company	AL HAYAH	
Material :			Code	AH-2-38
Location :	510+640	510+760	Code	HA-(4)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -1.25 FROM T.O.E	

Station	510+665	510+690	510+715	510+740	510+760	
Hole no	1	2	3	4	5	
Bulk density specific sand (gm/cm <sup>3</sup> )	1.50	1.50	1.50	1.50	1.50	
wt .of sand befor test	8377	8417	8452	8502	8542	
WT .of sand after test	4158	4193	4228	4263	4298	
WT . Of sand fill cone	1550	1550	1550	1550	1550	
WT . Of sand in hole	2669	2674	2674	2689	2694	
Volume of hole	1779	1783	1783	1793	1796	
WT . Of sample from hole (gm)	3984	3997	4017	4029	4049	
Bulk density of soil (gm/cm <sup>3</sup> )	2.24	2.24	2.25	2.25	2.25	

Average water content %	5.8	5.9	6.1	6.2	6
Dry density (gm/cm <sup>3</sup> )	2.12	2.12	2.12	2.12	2.13
Max dry density (gm/cm <sup>3</sup> )	2.18	2.18	2.18	2.18	2.18
Compaction ratio %	97.1	97.1	97.4	97.1	97.6
Observations					
Lab Engineer :	AHMED TAWFIK		Consultant Eng. :		
Sign :			Sign :		

**SUBMISSION of  
TEST RESULTS**



Contractor Company			Designer Company							
Issued by Contractor	Name	Sign	Date	Time						
	ENG:TONY ARABY		17/11/2023							
Received by ER		STR	C1	C2	C3	DD	MM	YY	HH	MM
						17	11	23		

AH-2-41 / HA-4

CODE-1	51 to 523. Station Reference	D1 to 53 Depot Reference	Kp XXX Note
CODE -2		Work Activity	For Kilometer point only Start Km is used
CODE -3		Sub Element of Activity	

NB: Package 1 Only (Package 2 via Aconex)

**THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW**

Description of Test Materials		SAND CONE TEST FILL LAYER			
Location of Test		511+380 TO 511+500. (-1.00)			
Item	TEST LOCATION	Specification ASTM D1556	> 95% MDD	Test Result	REMARKS
1	511+405			97.8%	APPROVED
2	511+430			97.8%	APPROVED
3	511+455			98.2%	APPROVED
4	511+480			97.8%	APPROVED
5	511+500			98.1%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	Code
Contractor	ENG:TONY ARABY		17-11-2023	A
Designer QA/QC Eng-Al Attiq.			17-11-2023	A
GARB *	Hussein Fouad		17-11-2023	
Employers Representative				

\* Alignment / Bridges: Culvert Only

UNIVERSAL  
INSPECTION  
REQUEST



AH-2-41

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

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

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT							
Issued by Contractor	Name	Sign	Date	Time							
Received by Employers Representative	Eng.AHMED TAWFIK		16/11/2023	C1	C2	C3	DD	MM	YY	HH	MM
				KLP510	EW	CS	16	11	2023		
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference	Kp 510 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**

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -1.00 FROM T.O.E	From st. [S11+380] To [S11+500]

**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 <input type="checkbox"/>	Test Results Attached <input type="checkbox"/>	Calibration Attached <input type="checkbox"/>	Other as indicated <input type="checkbox"/>
Drawing Reference	ITP Reference	MS Reference	

Civil	Survey	Material
Woven geotextile visual inspection is approved	 Leveil is APPROVED	Woven geotextile completion test is approved 17/11/2023

INSPECTION RESULT	Approval Status	Please Tick if Not Attend
Organisation	Name	Sign
Contractor	Eng.AHMED TAWFIK	
QA/QC*		
GAR&**	ENG/Khaled fawzy	
Employers Representative Notes		A
Employers Representative Sign	M-A	

\* Designer

\*\* Alignment: Bridges: Culvert only



### Electric Express Train - HSR

From El Ain El Sokhna City To Matrouh

Section - 7 From foka - Matrouh

From Station 510+000  
To Station 511+500



Testing Date :	17/11/2023	Company	AL HAYAH	
Material :			Code	AH-2-41
Location :	511+380	511+500	Code	HA-(4)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -1.00 FROM T.O.E	

Station	511+405	511+430	511+455	511+480	511+500
Hole no	1	2	3	4	5
Bulk density specific sand (gm/cm <sup>3</sup> )	1.50	1.50	1.50	1.50	1.50
wt .of sand befor test	8078	8118	8153	8203	8238
WT .of sand after test	3980	4015	4050	4085	4120
WT . Of sand fill cone	1550	1550	1550	1550	1550
WT . Of sand in hole	2548	2553	2553	2568	2568
Volume of hole	1699	1702	1702	1712	1712
WT . Of sample from hole (gm)	3832	3845	3865	3877	3897
Bulk density of soil (gm/cm <sup>3</sup> )	2.26	2.26	2.27	2.26	2.28

Average water content %	5.8	5.9	6.1	6.2	6.4
Dry density (gm/cm <sup>3</sup> )	2.13	2.13	2.14	2.13	2.14
Max dry density (gm/cm <sup>3</sup> )	2.18	2.18	2.18	2.18	2.18
Compaction ratio %	97.8	97.8	98.2	97.8	98.1
Observations					
Lab Engineer :	AHMED TAWFIK		Consultant Eng. :	momen salah	
Sign :			Sign :	17/11/2023	

SUBMISSION of  
TEST RESULTS



Contractor Company				Designer Company						
Issued by Contractor	Name	Sign		Date	Time					
	ENG:TONY ARABY			5/12/2023						
Received by ER		STR	C1	C2	C3	DD	MM	YY	HH	MM
						5	12	23		

AH-2-54 / HA-6

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

NB: Package 1 Only (Package 2 via Aconex)

THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW

Description of Test Materials		SAND CONE TEST FILL LAYER			
Location of Test		511+120 TO 511+260 (-0.75)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result	REMARKS
1	511+145	ASTM D1556	> 95% MDD	97.5%	APPROVED
2	511+170			97.6%	APPROVED
3	511+195			97.9%	APPROVED
4	511+220			97.5%	APPROVED
5	511+240			98%	APPROVED
6	511+260			98.2%	APPROVED

Comments by:	Comments by:

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	ENG:TONY ARABY		5-12-2023	A
Designer QA/QC	Eng. Attia		5-12-2023	A
GARB *	Hussein Fouad		5-12-2023	
Employers Representative				

\* Alignment / Bridges: Culvert Only

VERSAL  
SPECTION  
REQUEST



AH 2-54

RECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

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

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT							
Issued by Contractor	Name	Sign	Date	Time							
	Eng.AHMED TAWFIK		4/12/2023								
Received by Employers Representative	M-A	12/2023	UIR	C1 K.P510	C2 EW	C3 CS	DD 4	MM 12	YY 2023	HH	MM
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference	Kp 510 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

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	Front [515-120] To [511-250]

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

Planned Inspection Date	Planned Inspection Time
4.12.2023	

COMPLIANCE EVIDENCE Must be included as appropriate

Checklist Attached <input type="checkbox"/> Drawing Reference	Test Results Attached <input type="checkbox"/> ITP Reference	Calibration Attached <input type="checkbox"/> MS Reference	Other as indicated <input type="checkbox"/>

Civil	Survey	Material
Hawdah 4/12/2023 Visual inspection is accepted	Jumra Gaji Tencils is APPROVED Accepted sufficient	Hawdah 5/12/2023 Compaction

INSPECTION RESULT					Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R	
Contractor	Eng.AHMED TAWFIK					
QA/QC*						
GARB**	ENG/Khaled fawzy				A	
Employers Representative Notes						
Employers Representative Sign	M-A	12/2023			A	

\* Designer

\*\* Alignment: Bridges: Culverts only



### Electric Express Train - HSR

From El Ain El Sokhna City To Matrouh

Section - 7 From foka - Matrouh

From Station 510+000

To Station 511+500

الهيئة القومية للنفط

الشركة الوطنية  
للملاحة والكتاراف والتخل الترمو  
(GARBLT)



Testing Date :	5 /12/2023	Company	AL HAYAH	
Material :			Code	A14-2-S4
Location :	511+120	511+260	Code	H A -(6)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	

Station	511+145	511+170	511+195	511+220	511+240	511+260
Hole no	1	2	3	4	5	6
Bulk density specific sand (gm/cm <sup>3</sup> )	1.50	1.50	1.50	1.50	1.50	1.50
wt .of sand befor test	8387	8427	8462	8512	8552	8592
WT .of sand after test	4128	4163	4198	4233	4268	4303
WT . Of sand fill cone	1550	1550	1550	1550	1550	1550
WT . Of sand in hole	2709	2714	2714	2729	2734	2739
Volume of hole	1806	1809	1809	1819	1823	1826
WT . Of sample from hole (gm)	4094	4107	4127	4139	4159	4179
Bulk density of soil (gm/cm <sup>3</sup> )	2.27	2.27	2.28	2.28	2.28	2.29

Average water content %	6.6	6.7	6.9	7	6.8	6.9
Dry density (gm/cm <sup>3</sup> )	2.13	2.13	2.13	2.13	2.14	2.14
Max dry density (gm/cm <sup>3</sup> )	2.18	2.18	2.18	2.18	2.18	2.18
Compaction ratio %	97.5	97.6	97.9	97.5	98.0	98.2
Observations						

Lab Engineer :	AHMED TAWFIK	Consultant Eng. :	<i>Hamed</i>
Sign :	<i>[Signature]</i>	Sign :	<i>511-120-23</i>



**SUBMISSION of  
TEST RESULTS**



**ENGINEERING CONSULTING OFFICE**  
جهاز التخطيط والتعمير والتخطيط  
للمشروعات العامة



Contractor Company			Designer Company							
Issued by Contractor	Name	Sign	Date	Time						
	ENG:TONY ARABY		12/12/2023							
Received by ER			C1	C2	CE	DD	MM	YY	HH	MM
						12	12	23		

AH-2-59 / HA-7

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

NB: Package 1 Only (Package 2 via Aconex)

**THE FOLLOWING TEST RESULTS ARE ATTACHED FOR REVIEW**

Description of Test Materials	SAND CONE TEST FILL LAYER			
Location of Test	510+600 TO 510+680 (-0.75)			
Item	TEST LOCATION	Specification	Test Requirement	Test Result
1	510+625	ASTM.D1556	≥ 95% MDD	98.1%
2	510+650			98.1%
3	510+675			98.4%

Comments by:	Comments by:

**APPROVAL STATUS**

Organisation	Name	Sign	Date	Remarks
Contractor	ENG:TONY ARABY		12-12-2023	A
Designer	Eng. Attia	M. Attia	12-12-2023	A
GARB *	Hussein Fawaz		12-12-2023	
Employers Representative				

\* Alignment / Bridges: Culvert Only

AH-2-59

UNIVERSAL  
INSPECTION  
REQUEST

## ECEIPT of NOTIFICATION - Minimum Notice Period not less than 24

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

Contractor Company	AL-HAYAA		Designer Company*	KK CONSULT								
Sued by Contractor	Name	Sign	Date	Time								
	Eng.AHMED TAWFIK		11/12/2023									
Received by Employers Representative	M-A	12/12/2023	UIR	C1	C2	C3	DD	MM	YY	HH	MM	
				KPS10	EW	CS	11	12	2023			
CODE-1	S1 to S21 Station Reference		D1 to S3 Depot Reference			Kp 510 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

Description	Element	Item
CIVIL/SURVEY/MATERIAL	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	From S1-(510+00) To( 510+680)

## 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 <input type="checkbox"/>	Test Results Attached <input type="checkbox"/>	Calibration Attached <input type="checkbox"/>	Other as indicated <input type="checkbox"/>
Drawing Reference	ITP Reference		MS Reference

Civil	Survey	Material
Handy 11/12/2023 Visual inspection is accepted	Handy 12/12/2023 Levels is approved	Handy 12/12/2023 Accepted, sufficient Completion

INSPECTION RESULT						Approval Status	Please Tick if Not Attend
Organisation	Name	Sign	Date	Time	A-AWC-R		
Contractor	Eng.AHMED TAWFIK						
QA/QC*							
GARB**	ENG/Khaled fawzy					A	
Employers Representative Notes							
Employers Representative Sign	M-A	12/12/2023				A	

\* Designer

\*\* Alignment: Bridge Survey only



*Electric Express Train - HSR*

From El Ain El Sokhna City To Matrouh

Section - 7 From foka - Matrouh

From Station 510+000  
To Station 511+500



Testing Date :	١٢ / ١٢ / ٢٠٢٣	Company	AL HAYAH	
Material :			Code	AH-٢-٥٩
Location :	510+600	510+680	Code	HA-(7)
Layer Thickness :	-	Level layer	REPLACEMENT FILL LAYER -0.75 FROM T.O.E	

Station	510+625	510+650	510+675			
Hole no	1	2	3			
Bulk density specified sand (gm/cm <sup>3</sup> )	1.50	1.50	1.50			
wt .of sand before test	8377	8417	8452			
WT .of sand after test	4128	4163	4198			
WT . Of sand fill cone	1550	1550	1550			
WT . Of sand in hole	2699	2704	2704			
Volume of hole	1799	1803	1803			
WT . Of sample from hole (gm)	4067	4080	4100			
Bulk density of soil (gm/cm <sup>3</sup> )	2.26	2.26	2.27			

Average water content %	6.7	6.8	7		
Dry density (gm/cm <sup>3</sup> )	2.12	2.12	2.13		
Max dry density (gm/cm <sup>3</sup> )	2.16	2.16	2.16		
Compaction ratio %	98.1	98.1	98.4		
Observations					

Lab Engineer :	AHMED TAWFIK	Consultant Eng. :	
Sign :		Sign :	

**MATERIAL  
INSPECTION  
REQUEST**



Location Name	Contractor Company	Designer Company								
Electric express train	AL-HAYAH COMPANY	k.k								
Issued by Contractor	Name	Sign	Date			Time				
	Eng. Ahmed TAWFIK	Ahmed Tawfiq	19-10-2023							
Contractor reference	HA - {2} 19-10-2023									
Received by ER	MIR		C1	C2	C3	DD	MM	YY	HH	MM
						19	10	23		

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

Description of Materials		FILL MATERIAL RESULTS				
Location to be Used	From	To	LAYER			
	510+500	510+600	-1.75 / استهلال			
	510+600	510+700	-1.75 / استهلال			
	510+720	510+820	-1.75 / استهلال			
	510+820	510+920	-1.75 / استهلال			
	510+920	510+980	-1.75 / استهلال			
	511+000	511+180	FILL REPLACEMENT LAYER -1.5			
	511+180	511+280	FILL REPLACEMENT LAYER -1.5			
	511+280	511+380	FILL REPLACEMENT LAYER -1.5			
	511+380	511+500	FILL REPLACEMENT LAYER -1.5			
MAR Approval No				Date		
Supplier Name						
Test Requirement	Specification			Clause		
Reference Photos	Yes attached / No		Other			
Item	Description	Unit	Quantity	Arrival Date	Note	
1	Sieve analysis	m³	3000	17-10-2023		
2	Classification	m³	3000	17-10-2023		
3	Proctor & O.m.c	m³	3000	18-10-2023		
4	L.L & P.L & PI	m³	3000	17-10-2023		
5	C.B.R	m³	3000	19-10-2023		
Comments by:			Comments by:			
A sample has been taken from fill material by K.K office to ( Al Tawakol laboratory ) and the results founded meet the specifications and accepted.			Test result few estimated quantities of about (3000 m³)			

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK	Ahmed Tawfiq	19-10-2023	
QA/QC *	Wasseem		19-10-2023	
GARB**	Hussein Fouad	Hussein	19-10-2023	
Comments by				
Employers Representative				

\* Designer

\*\* Alignment / Bridges/ Culvert Only

# MATERIAL APPROVAL REQUEST



الوزير المسؤول  
وزير النقل والمواصلات



Location Name	Contractor Company			Designer Company							
Electric express train	AL-HAYAH Company			k.k							
Issued by Contractor	Name	Sign		Date			Time				
	Eng. Ahmed TAWFIK	<i>Ahmed Tawfik</i>		19-10-2023							
Contractor Reference	HA - (2) - 19-10-2023										
Received by ER			MAR	C1	C2	C3	00	MM	YY	HH	MM
							19	10	23		

NB: Package 1 only (Package 2 via Content)

The following test result are attached for review

Description of Materials		Soil (A-1-A)												
Location to be Used		K.P (510+500)												
Item	Specification	Test requirement			Test result attachment			Remarks						
1	ASTM D 75	Aggregate Sampling			According to specifications									
2	ASTM C 136	Sieve Analysis			According to specifications									
3	ASTM D 1440	Passing Sieve, No 200			14.11									
4	ASTM D 4318	Atterberg limit			N. Pl									
5	ASTM D 2974	Moisture content			7.3 %									
6	ASTM D 1557	Modified proctor			2.16									
7	ASTM D 1883	CBR			67.2%									
Comments by:		Comments by:												

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK	<i>Ahmed Tawfik</i>	19-10-2023	
Contractor QA/QC *	<i>mohamed elsaid</i>	<i>m-elsaid</i>	22-10-2023	
GARB**	<i>Hussein Fouad</i>	<i>Hussein</i>	22-10-2023	
Employers Representative				

\* Designer

\*\* Aggregates/Bridges/ Culvert only

 <b>KK</b> ENGINEERING CONTRACTING OFFICE الشركة المقاولاتية للمهندسين ج.م.ع	<b>Electric Express Train - HSR</b> From El Ain El-Sokhna City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 568+177	 وزارة للاتصالات والمواصلات (M.R.T)
Operating Lab	Al Tawkol Central Lab	

### PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	17/10/2023	CODH	ZONE	510+000	511+500
LOCATION	K.P (510+500)		Material	fill material layer	
NAME COMPANY	AL Hayah	AL Hayah ( 2 ) HA - 2	quantity	3500m <sup>3</sup>	
<u>1-visual inspection test</u>					

#### 2-Gradient test

A-gradation of bulk materials			SAMPLE WEIGHT (gm)		40235.00		gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2 1/4 "	3/8 "	# 4	PASS
Mass retained (g)	0.0	1105.0	2335.0	4340.0	3825.0	4200.0	4860.0	
Cumulative Retained (g)	0.0	1105.0	3440.0	7780.0	11605.0	15805.0	20665.0	CLASS A1-a
Cumulative Retained %	0.0	2.7	8.5	19.3	28.8	39.3	51.4	PRO 2.16
Cumulative Passing %	100.0	97.3	91.5	80.7	71.2	60.7	48.6	WC 7.3%
								CBR 67.2%

B-soft material gradation			WT.OF sample		500.00		gm	CORR.CORR.
sieve size	#10	#40	#200					-
Cumulative Retained (g)	43.00	254.00	355.00					
Cumulative Retained %	8.60	50.80	71.00					
Cumulative Passing %	91.40	49.20	29.00					

C-General gradient		2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40	# 200
sieve size(in)	sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	97.3	91.5	80.7	71.2	60.7	48.6	44.5	23.9	14.11	

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

Contractor

ENG  
SIGN

Ahmed Haleem



Consultant

mohamed elsaied

m-elsayed  
29-10-2022



**Electric Express Train - HSR**  
**From El Ain El Sokhna City To El Alamein - MATROUH**  
**Section - T From FOKA TO MARSA MATROUH**  
**From Station 504+000 To Station 566+177**



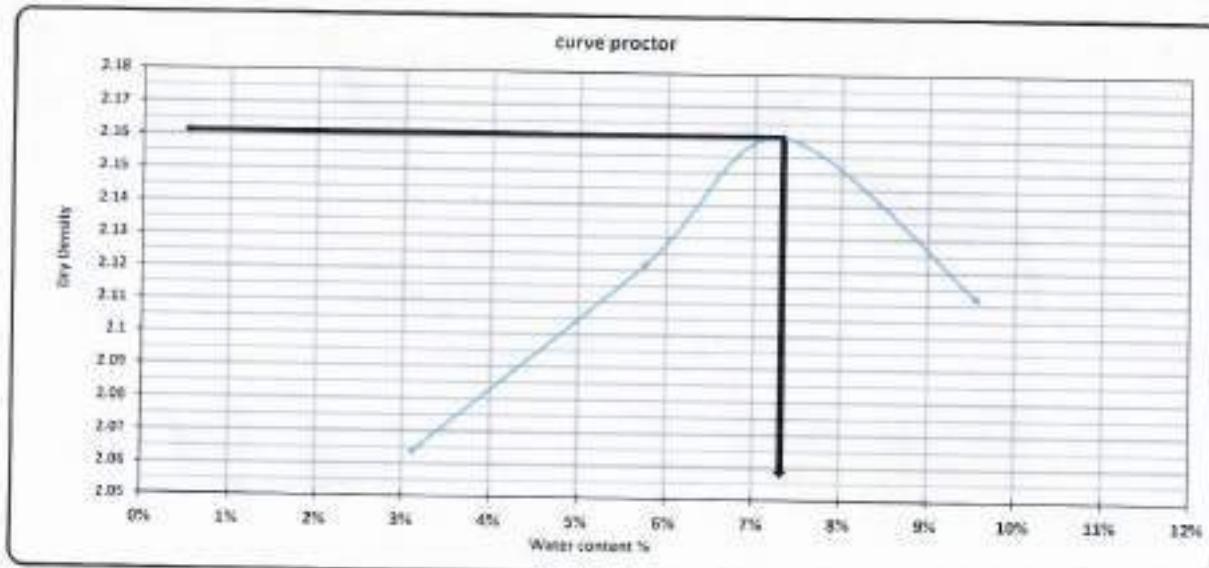
**MODIFIED PROCTOR TEST ASTM D1557**

TESTING DATE:	18/10/2023	code:	Station	510+000	511+500
LOCATION	K.P (510+500)		Material	fill material	
NAME COMPANY	AL Hayah	Al Hayah (2) WA-2	quantity	3600m³	

Weight of empty mold:	5620.0	MAX.Dry Density:	2.16
Mold Volume:	2124.0	Water content %:	7.3%

trial no.	1	2	3	4	
Wt. Of Mold+ wet soil	10140.0	10285.0	10545.0	10515	
WT. WET SOIL	4520.0	4765.0	4925.0	4915.0	
Wt. Density	2.128	2.143	2.118	2.114	

Tare No.	10	11	12	13	14	15	16	17	
Tare wt.	55.34	55.83	55.83	53.21	53.66	53.41	57.21	56.33	
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	
Wt. Of dry soil & tare	147.10	147.20	145.20	144.30	143.35	143.50	141.91	141.82	
Wt. Of water	2.9	2.8	4.8	5.7	6.7	6.5	8.1	8.2	
Wt. Of dry soil	91.8	91.4	91.4	91.1	89.7	89.1	84.7	85.5	
Water content %:	3.2%	3.1%	5.3%	6.3%	7.4%	7.2%	9.6%	9.8%	
AV. Water content %:	3.1%	5.8%	7.3%	9.6%					
Dry Density	2.064	2.121	2.161	2.112					



**Consultant**

mohamed elszaid  
  
 22-10-2023



## Electric Express Train - HSR



### California Bearing Ratio TEST

Testing Date :	19/10/2023	Code	FROM STA	510+000	511+500
Location :	K.P (510+509)		Material	fill material	
Company Name	AL Hayah	AL Hayah (2) HA-1	quantity	3500m <sup>3</sup>	

:- Test Results

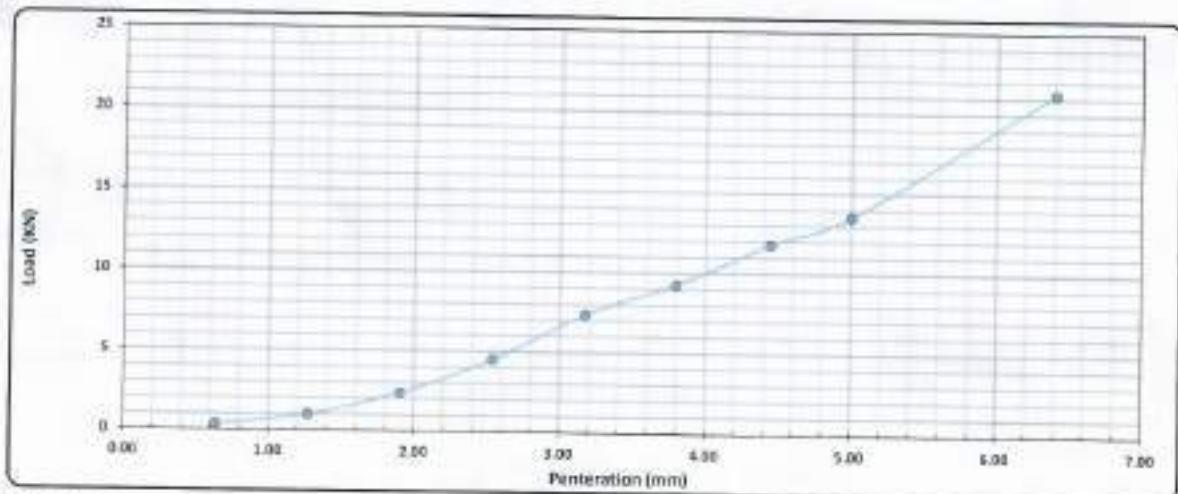
Compaction % for Mold	
Mold No.	2
Mold Vol. (cm <sup>3</sup> )	7715
Mold WT. (gms)	8178
Mold WT + Wet WT. (gms)	10005
Wet WT. (gms)	1897
Wet Density (g/cm <sup>3</sup> )	2.218
Dry Density (g/cm <sup>3</sup> )	1.668
Proctor Density (g/cm <sup>3</sup> )	2.160
Compaction %	95.7

Moisture Ratio After Compacted Mold	
Tare No.	11
Tare WT. (gms)	61.6
Tare WT + Wet WT. (gms)	159
Tare WT + Dry WT. (gms)	145.8
Water WT. (gms)	8.4
Dry WT. (gms)	93.8
Maintain Current %	6.8

Swelling	
Mold No.	2
Date	19/10/2023
Total Height (mm)	0.00
Final Height (mm)	0.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

Leading Reading :-

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.81	4.45	5.08	5.71
Load Reading (Kg)	34	100	264	592	817	1030	1308	1505	2360
Load (KN)	0.3	1.0	2.4	4.8	7.4	9.3	11.8	13.5	21.2



Calculations :-

Penetration	Load	Standard Load	CBR	Mold - Compaction	Compaction	CBR
(mm)	(KN)	(KN)	(%)	(%)	(%)	(%)
2.58	4.52	13.4	33.8%			33.6%
0.64	11.55	28.0	67.0%	96	95	67.2%

Lab. Specimen

Name :



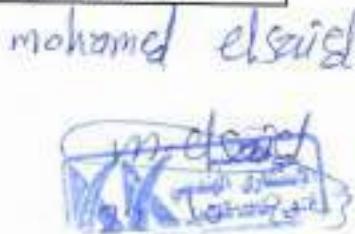
Lab. Engineer

Name :



Consultant Engineer

Name :



**MATERIAL  
INSPECTION  
REQUEST**



الهيئة العامة للمياه والري  
GAWRI



Location Name	Contractor Company	Designer Company									
Electric express train	AL-HAYAH COMPANY	k.k									
Issued by Contractor	Name	Sign	Date	Time							
	Eng. Ahmed TAWFIK		20-11-2023								
Contractor reference	HA - (5) 20-11-2023										
Received by ER			MIR	C1	C2	C3	DD	MM	YY	HH	MM

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

Description of Materials		FILL MATERIAL RESULTS					
Location to be Used	From	To	LAYER				
	510+500	511+120	REPLACEMENT FILL LAYER -1.00 FROM T.O.E				
	511+320	511+500	REPLACEMENT FILL LAYER -0.75 FROM T.O.E				

MAR Approval No				Date	
Supplier Name					
Test Requirement	Specification			Clause	
Reference Photos	Yes attached / No		Other		
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m³	5000	18-11-2023	
2	Classification	m³	5000	18-11-2023	
3	Proctor & O.m.c	m³	5000	19-11-2023	
4	L.L & P.L & PI	m³	5000	18-11-2023	
5	C.B.R	m³	5000	20-11-2023	
Comments by:			Comments by:		
A sample has been taken from fill material by K.K office to ( Al Tawakol laboratory ) and the results founded meet the specifications and accepted.			<i>test result for estimated quant. 1.9 G of absent (5000m³)</i>		

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK	<i>[Signature]</i>	20-11-2023	
QA/QC *	Hassen	<i>[Signature]</i>	20-11-2023	
GARB**	Hussein Fouad	<i>[Signature]</i>	20-11-2023	
Comments by				
Employers Representative				

\* Designer

\*\* Alignment / Bridges: Culvert Only

# MATERIAL APPROVAL REQUEST



Location Name	Contractor Company			Designer Company								
Electric express train	AL-HAYAH Company			k.k								
Issued by Contractor	Name	Sign		Date	Time							
	Eng. Ahmed TAWFIK			20-11-2023								
Contractor Reference	HA - (5) - 20-11-2023											
Received by ER				MAR	C1	C2	C3	DD	MM	YY	HH	MM
								20	11	23		

NB: Package 1 only (Package 2 via Content)

The following test result are attached for review

Description of Materials		Soil (A-1-A)									
Location to be Used		K.P (510+500)									
Item	Specification	Test requirement		Test result attachment				Remarks			
1	ASTM D 75	Aggregate Sampling		According to specifications							
2	ASTM C 136	Sieve Analysis		According to specifications							
3	ASTM D 1440	Passing Sieve, No 200		8.93							
4	ASTM D 4318	Atterberg limit		N. PI							
5	ASTM D 2974	Moisture content		6 %							
6	ASTM D 1557	Modified proctor		2.17							
7	ASTM D 1883	CBR		60%							
Comments by:		Comments by: <i>test result</i>									

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		20-11-2023	
Contractor QA/QC *	Hassan		20-11-2023	
GARB**	Hussein Fouad		20-11-2023	
Employers Representative				

\* Designer

\*\* Alignment/Bridges: Culvert only



**Electric Express Train - HSR**  
**From El Ain El Sakhna City To El Atamein - MATROUH**  
**Section - T From FORA To MARSA MATROUH**  
**From Station 504+000 To Station 568+177**



Operating Lab

Al Tawakil Central Lab

**PARTICLE SIZE DISTRIBUTION OF SOIL**

TESTING DATE:	18/11/2023	code	ZONE	510+000	511+500
LOCATION	K.P (510+000)		Material	fill material layer	
NAME COMPANY	AL Hayah	AL Hayah (S)	quantity	5000m³	

I-visual inspection test

HA- 5

I-Gradient test

I-gradation of bulk materials			SAMPLE WEIGHT [gm]		20745.00		gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2/1 "	3/8 "	# 4	PASS
Mass retained (g)	0.0	0.0	1652.0	2356.0	3752.0	2348.0	3362.0	
Cumulative Retained (g)	0.0	0.0	1652.0	2908.0	7600.0	11008.0	14360.0	6385.0
Cumulative Retained %	0.0	0.0	7.5	18.8	36.9	53.1	69.2	WC
Cumulative Passing %	100.0	100.0	92.5	81.2	63.1	46.9	30.78	CBR
								COH. PRO.
								-

I-coat material gradation			WT.OF sample		500.00		gm	COH. INC.
sieve size	#10	#40	#200					
Cumulative Retained (g)	50.00	195.00	365.00					
Cumulative Retained %	10.00	39.00	71.00					
Cumulative Passing %	90.00	61.00	29.00					

I-General gradient

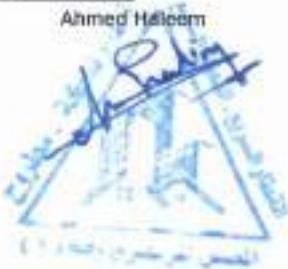
sieve size(in)	2"	1.5"	1"	3/4"	1/2"	3/8"	# 4	# 10	# 40	# 200
sieve size(mm)	60.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	100.0	92.5	81.2	63.1	46.9	30.8	27.7	18.0	3.5
										<15

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

Contractor

ENG  
SIGN

Ahmed Halleem



Consultant

Hassan





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



**MODIFIED PROCTOR TEST ASTM D1557**

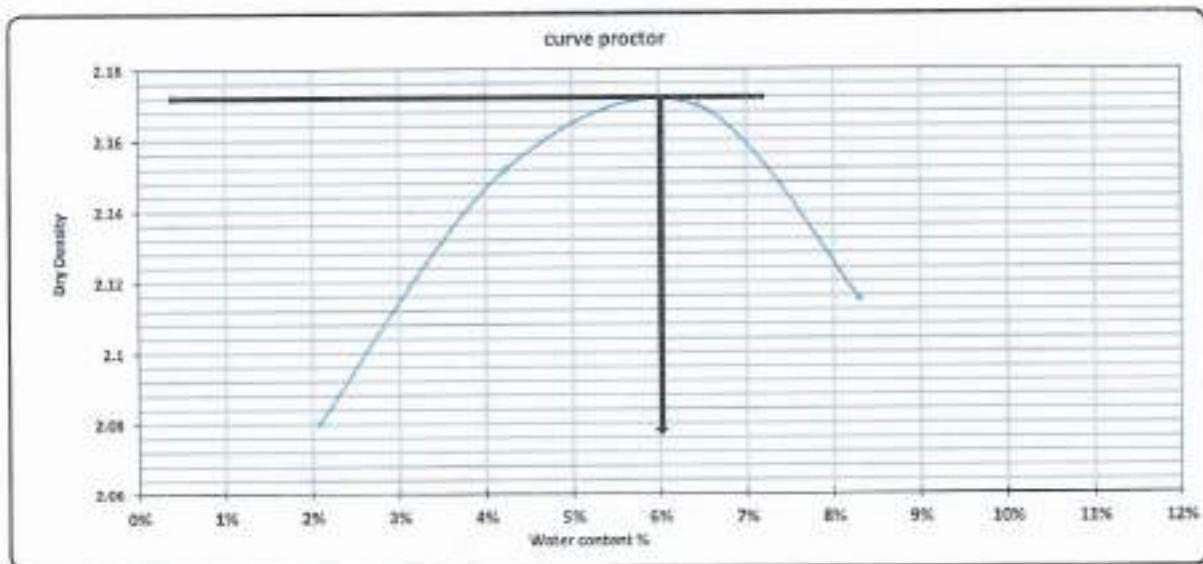
TESTING DATE:	19/11/2023	code	ZONE	510+000	511+500
LOCATION	K.P (510+500)	AL Hayah ( E )	Material	fill material layer	
NAME COMPANY	AL Hayah		quantity	5000m <sup>3</sup>	

RA-5

Weight of empty mold :	4620.0	MAX Dry Density	2.37
Mold Volume:	2124.0	Water content %	6.0%

trial no :	1	2	3	4	
Wt. Of Mold + wet soil	10130.0	10280.0	10525.0	10495	
WT. WET SOIL	4910.0	4763.0	4995.0	4865.0	
Wt. Density	2.325	2.242	2.309	2.290	

Tare No.	1	2	3	4	5	6	7	8	
Tare wt.	52.0	56.0	54.21	53.22	55.36	53.21	51.23	55.26	
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	
Wt. Of dry soil & tare	145.00	145.10	146.20	146.00	144.22	144.21	142.80	142.40	
Wt. Of water	2.0	1.9	2.8	4.0	5.8	5.8	7.2	7.6	
Wt. Of dry soil	98.7	91.3	92.0	92.8	93.4	91.8	91.6	97.0	
Water content %	2.1%	2.1%	4.1%	4.3%	6.5%	6.4%	7.9%	8.7%	
AV. Water content %	2.1%		4.2%		6.4%		8.5%		
Dry Density	2.000		2.152		2.170		2.115		



Contractor

ENG Ahmed Hafez

SIG



Consultant

20/11/2023





## Electric Express Train - HSR



### California Bearing Ratio TEST

Testing Date:	20/11/2023	Cone	FROM STA.:	S10+000	S11+500
Location :	KCP (S10+500)	AL-HAYAH (5)	Material:	fill material	
Company Name:	Al Hayah		Quantity:	500m <sup>3</sup>	

**H-A-S**

#### Test Results

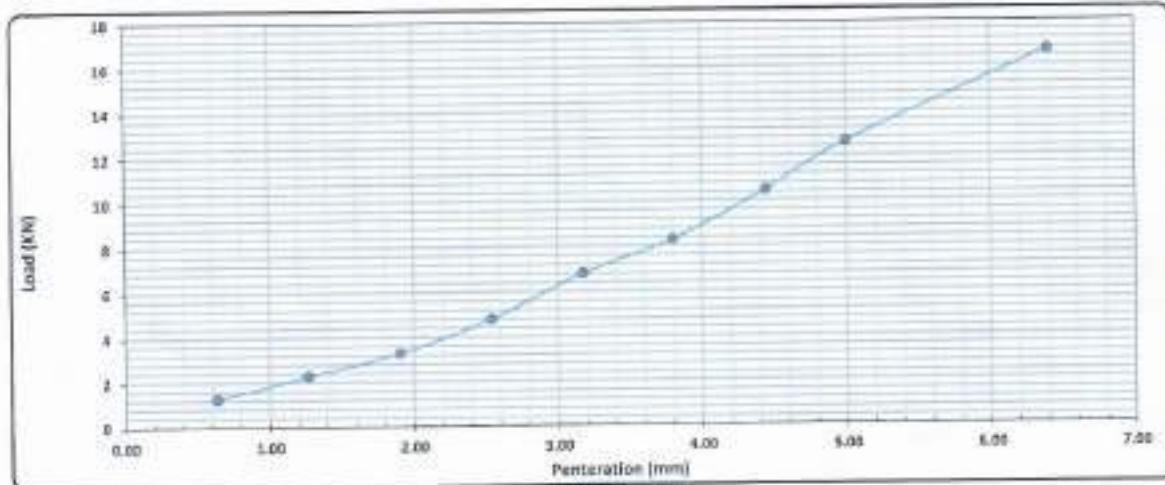
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm <sup>3</sup> )	2210
Mold WT. (gm)	5210
Mold WT. + Wet WT. (gm)	10150
Wet WT. (gm)	4938
Wet Density (g/cm <sup>3</sup> )	2.292
Dry Density (g/cm <sup>3</sup> )	2.160
Dry Density (g/cm <sup>3</sup> )	2.178
Compaction %	45.7

Moisture Ratio After Compacted Mold	
Num of test	15
Dry WT. (gm)	55.42
Dry WT. + Wet WT. (gm)	110
Dry WT. + Wet WT. (gm)	116.7
Water WT. (gm)	5.3
Dry WT. (gm)	54.3
Moisture Content %	20

Swelling	
Mold No.	1
Date	20/11/2023
Total Height (mm)	820
Stand Height (mm)	800
Difference	0.09
Sample Height (mm)	128.0
Swelling Ratio %	0.08%

#### Loading Reading

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.08	5.72
Load Reading (kg)	1.49	151	365	532	756	928	1182	1400	1852
Load (KN)	1.3	2.3	3.3	4.3	5.3	6.3	7.3	8.3	10.7



#### Calculations

Penetration	Load	Standard Load	CBR	Mold - Compaction	Consistency	CBR
0.64	(KN)	(KN)	(%)	(%)	(%)	(%)
2.59	4.79	13.4	20.9%	100	65	34.2%
5.08	12.66	20.9	42.9%			66.6%

Lab. Specialist

Name:

Sign:

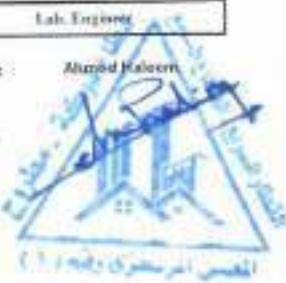


Lab. Engineer

Name:

Ahmed Haloom

Sign:



Consultant Engineer

Name:

Hassan

Sign:



**MATERIAL  
INSPECTION  
REQUEST**



Location Name	Contractor Company	Designer Company								
Electric express train	AL-HAYAH COMPANY	k.k								
Issued by Contractor	Name	Sign	Date			Time				
	Eng. Ahmed TAWFIK		19-12-2023							
Contractor reference	HA - (8) 19-12-2023									
Received by ER	MIR		C1	C2	C3	DD	MM	YY	HH	MM
						19	12	23		

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

Description of Materials		FILL MATERIAL RESULTS					
Location to be Used	From	To	LAYER				
	510+500	510+880	Fill replacement layer -0.5 from T.O.E				
	511+060	511+500	Fill replacement layer -0.25 from T.O.E				
MAR Approval No					Date		
Supplier Name							
Test Requirement	Specification			Clause			
Reference Photos	Yes attached / No		Other				
Item	Description	Unit	Quantity	Arrival Date	Note		
1	Sieve analysis	m³	5000	17-12-2023			
2	Classification	m³	5000	17-12-2023			
3	Proctor & O.m.c	m³	5000	18-12-2023			
4	L.L & P.L & PI	m³	5000	17-12-2023			
5	C.B.R	m³	5000	19-12-2023			
Comments by:			Comments by:				
A sample has been taken from fill material by K.K office to ( Al Tawakol laboratory ) and the results founded meet the specifications and accepted.			Test result for estimated quantity for about (5000m³)				

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		19-12-2023	
QA/QC *	mohamed Sallam		26/12/2023	
GARB**	Hanifa Fouad		26-12-2023	
Comments by				
Employers Representative				

\* Designer

\*\* Alignment / Bridges: Culvert Only

**MATERIAL  
APPROVAL  
REQUEST**



Location Name	Contractor Company				Designer Company							
Electric express train	AL- HAYAH Company				k.k							
Issued by Contractor	Name	Sign	Date		Time							
	Eng. Ahmed TAWFIK		19-12-2023									
Contractor Reference	HA - (8) - 19-12-2023											
Received by ER	MAR				C1	C2	C3	DD	MM	YY	HH	MM
								19	12	23		

NB: Package 1 only (Package 2 via Content)

The following test result are attached for review

Description of Materials		Soil (A-1-a)									
Location to be Used		K.P (S10+500)									
Item	Specification	Test requirement		Test result attachment		Remarks					
1	ASTM D 75	Aggregate Sampling		According to specifications							
2	ASTM C 136	Sieve Analysis		According to specifications							
3	ASTM D 1440	Passing Sieve, No 200		9.39							
4	ASTM D 4318	Atterberg limit		N.A.							
5	ASTM D 2974	Moisture content		7.2%							
6	ASTM D 1557	Modified proctor		2.17							
7	ASTM D 1883	CBR		50.7%							
Comments by:			Comments by:								

**APPROVAL STATUS**

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		19-12-2023	
Contractor: QA/QC *	mohamed sallan		26/12/2023	
GARB**	l-tawfiq Fouad		26-12-2023	
Employers Representative				

\* Designer

\*\* Alignment/Bridges/Culvert only

		Electric Express Train - HSR From El Ain El Sokhma City To El Alamein - MATROUH Section - 7 From FOKA To MARSA MATROUH From Station 504+000 To Station 568+177	 المجلس الأعلى للطرق والجسور	
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Operating Lab

Al Tawakol Central Lab

## PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	17-12-2023	CODE	ZONE	510+000	511+500
LOCATION	K.P (510+000)		Material	fill material layer	
NAME COMPANY	AL Hayah	AL Hayah ( E )	quantity	5000m <sup>3</sup>	
1-visual inspection test			HA-8		

## 2-Gradient test

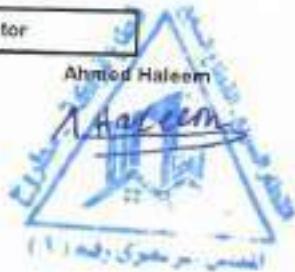
A-gradation of bulk materials			SAMPLE WEIGHT [gm]		24530.00		gm	table classify
sieve size	2 "	1.5 "	1 "	3/4 "	2 1/4 "	3/8 "	# 4	PASS
Mass retained (g)	0.0	0.0	1520.0	2280.0	3554.0	3576.0	5370.0	
Cumulative Retained (g)	0.0	0.0	1520.0	3800.0	7354.0	10938.0	16300.0	8236.0
Cumulative Retained %	0.0	0.0	6.2	15.5	30.0	44.6	66.4	PRO
Cumulative Passing %	100.0	100.0	93.8	84.5	70.0	55.4	33.55	WC
								50.7%

B-soft material gradation			WT.OF sample	500.00		gm	CORR. PRO	-
sieve size	#10	#40	#200				CORR.WC	-
Cumulative Retained (g)	40.00	240.00	360.00					
Cumulative Retained %	8.00	48.00	72.00					
Cumulative Passing %	92.00	52.00	28.00					

C-General gradient										
sieve size(in)	.2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40	# 200
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425	0.075
Cumulative Passing %	100.0	100.0	93.8	84.5	70.0	55.4	33.6	30.9	17.6	9.35
										<15

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

Contractor

ENG  
SIGN

Consultant

26/11/2023





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



**MODIFIED PROCTOR TEST ASTM D1557**

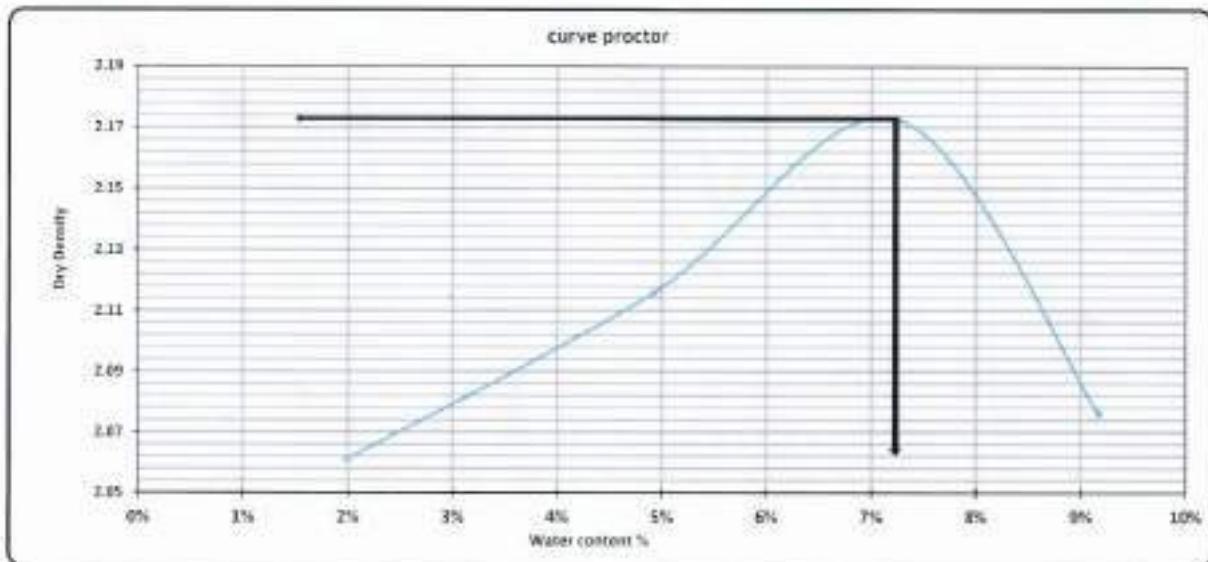
TESTING DATE:	18-12-2023	CODE	ZONE	510+000	511+500
LOCATION	K.P (510+500)		Material	fill material layer	
NAME COMPANY	AL Hayah	AL Hayah (8)	quantity	5000m³	

**HA-8**

Weight of empty mold :	5620.0	MAX Dry Density	2.17
Mold Volume:	2114.8	Water content %	7.2%

trial no:	1	2	3	4	
Wt. Of Mold+ wet soil	10488.0	10335.0	10569.0	10434	
Wt. Wet Soil	4465.0	4115.0	4949.0	4814.0	
Wt. Density	2.182	2.228	2.330	2.298	

Tare No.	9	10	11	12	13	14	15	16	
Tare wt.	55.45	55.87	55.31	53.96	53.48	54.83	54.33	55.15	
Wt. Of wet soil & tare	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	
Wt. Of dry soil & tare	148.21	148.18	148.48	148.61	148.40	143.65	141.86	142.15	
Wt. Of water	1.8	1.9	4.6	4.4	6.1	6.1	8.1	7.8	
Wt. Of dry soil	92.8	92.2	90.1	91.7	89.9	88.8	87.8	86.8	
Water content %	1.9%	2.1%	5.0%	4.8%	7.3%	7.1%	9.3%	9.0%	
AV, Water content %	2.0%		4.8%		7.2%		9.2%		
Dry Density	2.061		2.116		2.153		2.076		



**Contractor**  
**ENG Ahmed Haleem**  
**SIC: 11000**  
**المنسق المقيم للمشروع رقم ١٣**



**Consultant**

26/12/2023





## Electric Express Train - HSR



### California Bearing Ratio TEST

Testing Date:	19-12-2023	Code:	FROM STA:	510+000	TO STA:	511+500
Location:	K.P (510+500)		Material:	fill material		
Company Name:	AL Hayah	AL Hayah ( S )	quantity:	500m <sup>3</sup>		

**HA-B**

#### Test Results

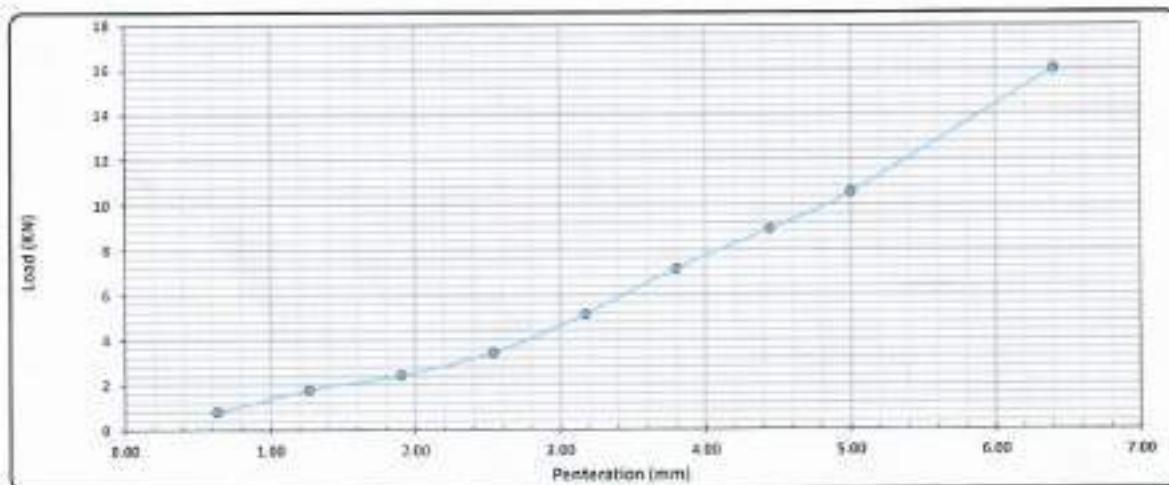
Compaction % for Mold	
Mold No.	1
Max Vol. (cm <sup>3</sup> )	220
Mold WT. (gm)	0.09
Mold WT + Wet WT. (gm)	103.0
Wet WT. (gm)	102.9
Wet Density (g/cm <sup>3</sup> )	1.287
Dry Density (g/cm <sup>3</sup> )	1.143
Precise Density (g/cm <sup>3</sup> )	1.137
Compaction %	98.5

Moisture Ratio After Compacted Mold	
Wet of dry	1.1
Tare WT. (gm)	88.32
Tare WT + Wet WT. (gm)	196
Tare WT + Dry WT. (gm)	143.9
Water WT. (gm)	8.1
Dry WT. (gm)	88.4
Moisture Content %	6.9

Swelling	
Mold No.	1
Date:	19-12-2023
Total Height (mm)	8.00
Final Height (mm)	8.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

#### Loading Reading:

Penetration (mm)	0.54	1.27	1.91	2.54	3.18	3.80	4.45	5.09	6.40
Load Reading (kg)	99	197	276	389	570	795	999	1178	1780
Load (kN)	0.8	1.8	2.4	3.4	5.1	7.2	8.5	10.5	16.0



#### Calculations:

Penetration	Load	Standard Load	CBR	Mold Compaction	Compaction	CBR
0.000	(Kg)	(kN)	(%)	(%)	(%)	(%)
2.50	3.42	13.4	25.6%	99	99	24.7%
5.00	10.50	33.0	52.6%			50.7%

Lab. Specialist

Name:



Lab. Engineer

Name: Ahmed El-Balwi



Consultant Engineer

Name:

Sign: 26112 P  
20/23



<b>MATERIAL INSPECTION REQUEST</b>	   
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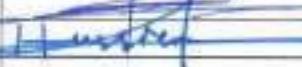
Location Name	Contractor Company	Designer Company								
Electric express train	AL-HAYAH COMPANY	k.k								
Issued by Contractor	Name	Sign	Date		Time					
	Eng. Ahmed TAWFIK		17-01-2024							
Contractor reference	HA - (10) 17-01-2024									
Received by ER		MIR	C1	C2	C3	DD	MM	YY	HH	MM
						17	01	24		

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

Description of Materials		FILL MATERIAL RESULTS							
Location to be Used	From	To	LAYER						
	510+500	511+220	Fill replacement layer ferma level						

MAR Approval No.				Date	
Supplier Name					
Test Requirement		Specification		Clause	
Reference Photos		Yes attached / No		Other	
Item	Description	Unit	Quantity	Arrival Date	Note
1	Sieve analysis	m <sup>3</sup>	4300	15-01-2024	
2	Classification	m <sup>3</sup>	4300	15-01-2024	
3	Proctor & O.m.c	m <sup>3</sup>	4300	16-01-2024	
4	LL & P.L & PI	m <sup>3</sup>	4300	15-01-2024	
5	C.B.R	m <sup>3</sup>	4300	17-01-2024	

Comments by:		Comments by:	
A sample has been taken from fill material by K.K office to ( Al Tawakol laboratory ) and the results founded meet the specifications and accepted.		<i>Test result for estimated quantity of about (4300m<sup>3</sup>)</i>	

APPROVAL STATUS				
Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		17-01-2024	
QA/QC *	<i>mohamed Zellam</i>		<i>17/1/2024</i>	
GARB**	<i>Hussein Fouad</i>		<i>17-1-2024</i>	
Comments by				
Employers Representative				

\* Designer

\*\* Alignment / Bridges/ Culvert Only

**MATERIAL  
APPROVAL  
REQUEST**



Location Name	Contractor Company			Designer Company									
Electric express train	AL-HAYAH Company			k.k									
Issued by Contractor	Name	Sign	Date	Time									
	Eng. Ahmed TAWFIK		5-01-2024										
Contractor Reference	HA - (10) - 17-01-2024			MAR		C1	C2	C3	DD	MM	YY	HH	MM
Received by ER				MAR					17	01	24		

NB: Package 1 only (Package 2 via Content)

The following test result are attached for review

Description of Materials		Soil (A-1-b)												
Location to be Used		K.P (510+500)												
Item	Specification	Test requirement	Test result attachment		Remarks									
1	ASTM D 75	Aggregate Sampling	According to specifications											
2	ASTM C 136	Sieve Analysis	According to specifications											
3	ASTM D 1440	Passing Sieve, No 200	14.84											
4	ASTM D 4318	Atterberg limit	N.A											
5	ASTM D 2974	Moisture content	7.3%											
6	ASTM D 1557	Modified proctor	2.15											
7	ASTM D 1883	CBR	53.7%											
Comments by:		Comments by:												

**APPROVAL STATUS**

Organisation	Name	Sign	Date	A-AWC-R
Contractor	Eng. Ahmed TAWFIK		17-01-2024	
Contractor QA/QC*	mohamed salman		17/1/2024	
GARB**	Hussein Fouad		17-1-2024	
Employers Representative				

\* Designer

\*\* Alignment/Bridges; Culvert only



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



Operating Lab

Al Tawakel Central Lab

## PARTICLE SIZE DISTRIBUTION OF SOIL

TESTING DATE:	15-01-2024	Code	ZONE	510+000	511+500
LOCATION	K.P (510+500)		Material	fill material layer	
NAME COMPANY	AL Hayah	AL Hayah ( 10 )	quantity	4300m³	

1-visual inspection test

HA-10

## 2-Gradient test

A-gradation of bulk materials			SAMPLE WEIGHT [gm]		37316.00		gm	table classify	soil classify
sieve size	2 "	1.5 "	1 "	3/4 "	2/1 "	3/8 "	# 4	PASS	CLASS
Mass retained (g)	0.0	1233.0	2111.0	2362.0	3144.0	3565.0	4256.0		A-1-b
Cumulative Retained (g)	0.0	1233.0	3344.0	5696.0	8840.0	12396.0	16849.0	20665.0	PRO
Cumulative Retained %	0.0	3.3	9.0	15.3	23.7	33.2	44.6		WC
Cumulative Passing %	100.0	96.7	91.0	84.7	76.3	66.8	55.38		CBR
								CORR PRO	-
								CORR INC	-

B-soil material gradation			WT.OF sample		500.00		gm
sieve size	#10	840	#200				
Cumulative Retained (g)	25.00	205.00	366.00				
Cumulative Retained %	5.00	41.00	73.20				
Cumulative Passing %	95.00	59.00	26.00				

C-General gradient									
sieve size(in)	2 "	1.5 "	1 "	3/4 "	1/2 "	3/8 "	# 4	# 10	# 40
sieve size(mm)	50.0	37.5	25.0	19.0	5.0	9.5	4.75	2.00	0.425
Cumulative Passing %	100.0	86.7	81.0	84.7	76.3	66.8	55.4	52.8	42.7
									40.56
									<15

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

Contractor

ENG

Ahmed Haleem

SIGN



Consultant





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



### MODIFIED PROCTOR TEST ASTM D1557

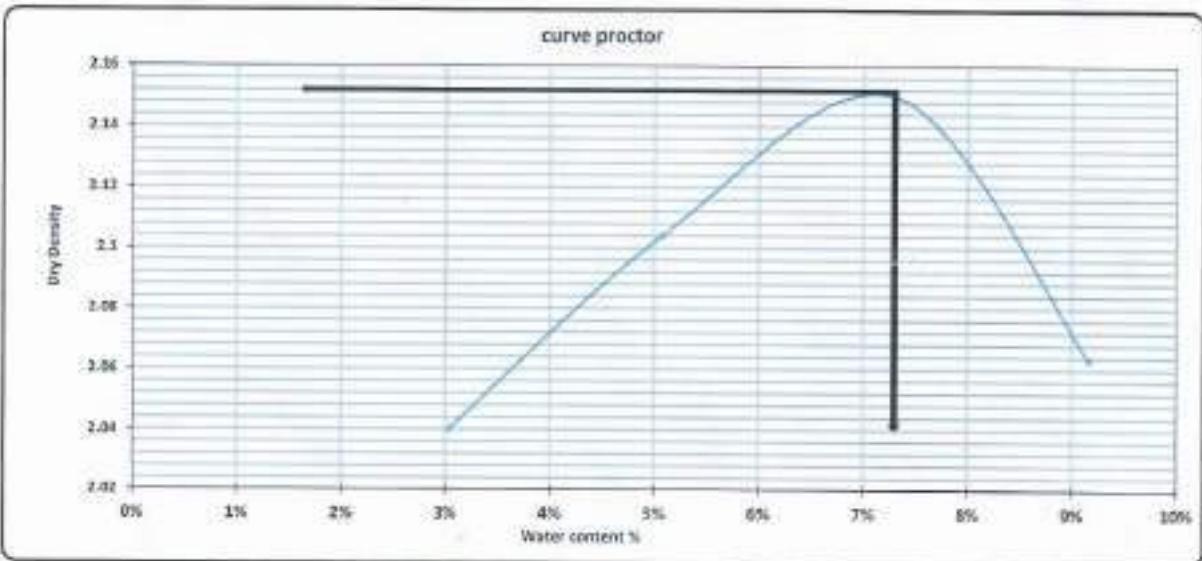
TESTING DATE:	16-01-2024	code	ZONE	510+000	511+500
LOCATION	K.P (510+500)		Material	fill material layer	
NAME COMPANY	AL Hayah	AL Hayah ( 10 )	quantity	4300m <sup>3</sup>	

HA-10

Weight of empty mold :	5620.0	MAX Dry Density	2.165
Mold Volume:	2124.0	Water content %	7.2%

trial no:	1	2	3	4	
Wt. Of Mold+ wet soil	10005.0	10215.0	10220.0	10204	
WT. WET SOIL	4465.0	4605.0	4590.0	4754.0	
WT. DENSITY	2.192	2.110	2.107	2.152	

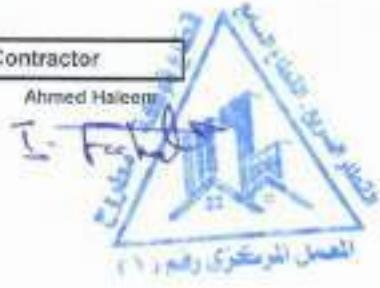
Tare No.	10	11	12	13	14	15	2	3	4	
Tare wt.	54.21	54.21	52.26	51.21	56.23	53.21	54.68	55.11		
Wt. Of wet soil & tare	156.9	156.9	156.8	156.8	156.8	156.8	156.0	156.0		
Wt. Of dry soil & tare	147.21	147.31	145.31	145.22	145.52	143.52	141.87	142.18		
Wt. Of water	2.8	2.9	4.7	4.8	6.5	6.5	8.1	7.8		
Wt. Of dry soil	54.0	52.8	52.0	51.9	57.2	56.3	57.2	57.1		
Water content %	3.0%	3.1%	5.0%	5.1%	7.4%	7.2%	9.3%	9.6%		
AV.Water content %	3.0%	3.1%	5.0%	5.1%	7.3%	7.2%	9.2%	9.5%		
Dry Density	2.048	2.104	2.159	2.104	2.063	2.063				



Contractor

ENG

Ahmed Haleem



Consultant





## Electric Express Train - HSR



### California Bearing Ratio TEST

Testing Date :	17-01-2024	Code	FROMESTA:	510+600	511+500
Location :	K.P (E10+000)	AL Hayah ( 10 )	Material	fill material	
Company Name	AL Hayah		quantity	4200m <sup>3</sup>	

**HA-10**

#### Test Results

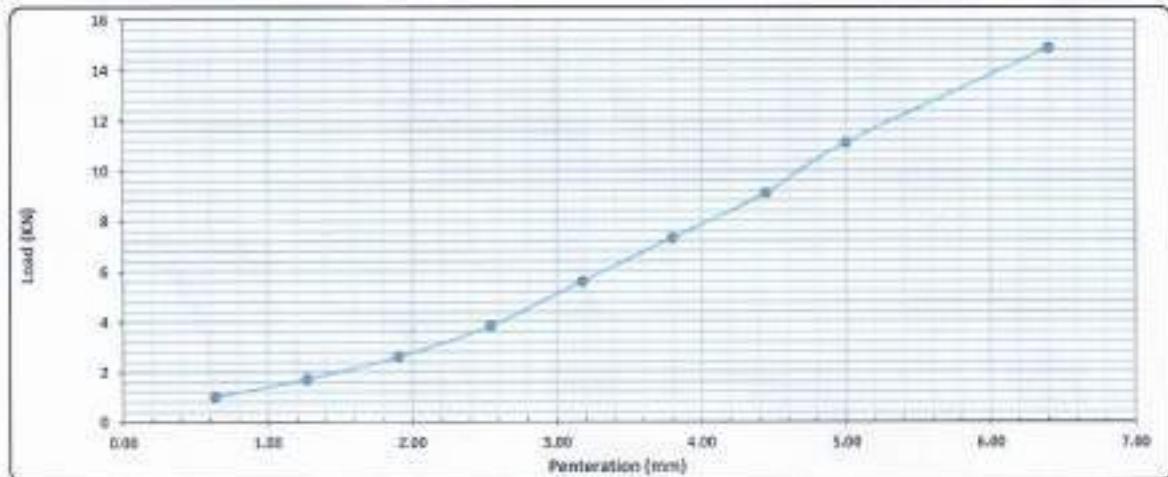
Compaction % for Mold	
Mold No.	1
Mold Vol. (cm <sup>3</sup> )	2178
Mold WT. (gm)	4982
Mold WT. + Mat. WT. (gm)	9978
Wet WT. (gm)	4908
Mat. Density (g/cm <sup>3</sup> )	2.06
Dry Density (g/cm <sup>3</sup> )	2.118
Proctor Density (g/cm <sup>3</sup> )	2.126
Compaction %	96.1

Moisture Ratio After Compacted Mold	
No. of test	1
Tare WT. (gm)	35.30
Tare WT. + Wet WT. (gm)	150
Tare WT. + Dry WT. (gm)	143.67
Water WT. (gm)	6.3
Dry WT. (gm)	143.3
Moisture Content %	7.2

Swelling	
Mold No	2
Date	17-01-2024
Total Height (mm)	6.00
Final Height (mm)	6.00
Difference	0.00
Sample Height (mm)	120.0
Swelling Ratio %	0.00%

#### Loading Reading :

Penetration (mm)	0.64	1.27	1.91	2.54	3.18	3.80	4.45	5.00	5.63
Load Reading (kg)	110	190	250	425	621	812	1018	1235	1652
Load (kN)	1.0	1.7	2.5	5.3	7.6	10.3	13.1	16.1	21.3



#### Calculations :-

Penetration	Load	Standard Load	CBB	Mold - Compaction	Compaction	CBB
0.64	(Kg)	(kN)	(%)	(%)	(%)	(%)
2.50	2.83	12.4	28.7%	88	98	27.7%
5.63	11.12	30.0	55.5%			55.5%

Lab. Specialist

Name :



Sig :

Lab. Engineer

Name : Ahmed Hafez

Sig :



Consultant Engineer

Name :



Sig :



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	511 + 280	To	511 + 480	
Taste Date	1-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/min). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000		0,000
1,000	2,1	0,707	0,01	19,88	19,95		0,120	0,050		0,085
2,000	17,1	5,652	0,08	19,75	19,86		0,250	0,140		0,195
3,000	34,2	11,304	0,16	19,50	19,75		0,500	0,250		0,375
4,000	53,3	17,663	0,25	19,12	19,73		0,880	0,270		0,575
5,000	70,5	23,315	0,33	18,85	19,69		1,150	0,310		0,730
6,000	89,8	29,673	0,42	18,65	19,40		1,350	0,400		0,875
7,000	106,8	35,325	0,50	18,40	19,50		1,600	0,500		1,050
8,000	134,2	41,977	0,58	18,15	19,65		1,450	0,350		0,900
9,000	161,1	48,625	0,67	18,00	19,70		1,350	0,300		0,825
9,000	2,1	0,707	0,01	18,92	19,80		1,080	0,200		0,640
10,000	2,1	0,707	0,01	18,92	19,80		1,080	0,200		0,640
11,000	17,1	5,652	0,08	18,81	19,78		1,190	0,220		0,705
12,000	34,2	11,304	0,16	18,77	19,69		1,230	0,310		0,770
13,000	53,3	17,663	0,25	18,70	19,64		1,300	0,360		0,830
14,000	70,5	23,315	0,33	18,64	19,55		1,360	0,450		0,905
15,000	89,8	29,673	0,42	18,59	19,45		1,410	0,550		0,980

For this calculation  $a_1$  and  $a_2$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

	$a$	SS	SW
0.7 $\sigma_1$	0.35	0.72187	0.76937
0.3 $\sigma_1$	0.15	0.3525	
0.7 $\sigma_2$	0.35	0.92167	0.75160
0.3 $\sigma_2$	0.15	0.77001	0.2
D (mm)	300		
$E_v_1$	111.87		
$E_v_2$	296.71		
Area (Sqm)	0.07068		

Passage

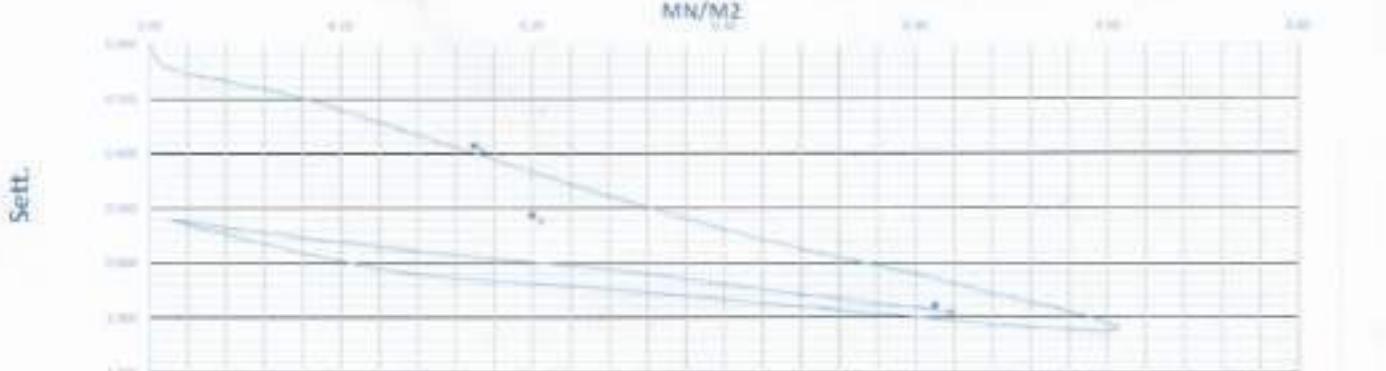
$E_v = 0.7 \cdot D \cdot d\sigma / dS$

$E_v$  = deformation modulus

$d\sigma$  = load increment

$dS$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Heissen AS

Sign :

2023





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	<b>AL HAYAH</b>			
Location	511 + 280	To	511 + 480	
Taste Date	1-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

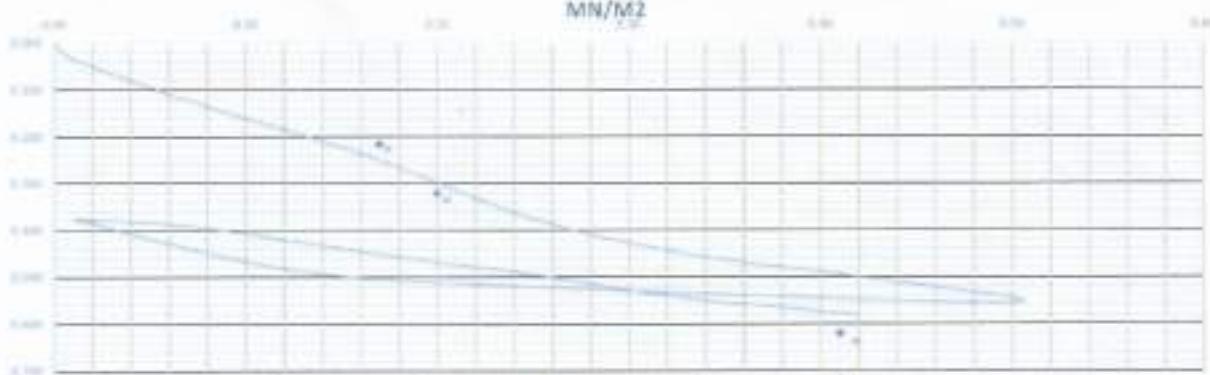
Diameter = 300mm

Loading	Load	Load	Stress	Blat. 1	Blat. 2	Blat. 3	Sett. 1	Sett. 2	Sett. 3	Avg.
Stage No.	Bar	KS	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.98	19.95		0.020	0.050		0.035
2.000	17.1	5.652	0.08	19.85	19.83		0.150	0.120		0.135
0.080	34.2	11.304	0.16	19.77	19.76		0.230	0.240		0.235
4.000	53.3	17.663	0.25	19.65	19.60		0.350	0.400		0.375
5.000	70.5	23.315	0.33	19.55	19.55		0.450	0.450		0.450
6.000	89.8	29.673	0.42	19.50	19.50		0.500	0.500		0.500
7.000	106.8	35.325	0.50	19.47	19.42		0.530	0.530		0.555
8.000	53.4	17.663	0.25	19.47	19.49		0.530	0.510		0.520
9.000	26.7	8.831	0.12	19.51	19.52		0.490	0.480		0.485
9.000	2.1	0.707	0.01	19.64	19.61		0.360	0.390		0.375
10.000	2.1	0.707	0.01	19.64	19.61		0.360	0.390		0.375
11.000	17.1	5.652	0.08	19.62	19.59		0.380	0.410		0.395
12.000	34.2	11.304	0.16	19.55	19.56		0.450	0.440		0.445
13.000	53.3	17.663	0.25	19.51	19.56		0.490	0.500		0.495
14.000	70.5	23.315	0.33	19.45	19.46		0.550	0.540		0.545
15.000	89.8	29.673	0.42	19.40	19.44		0.600	0.560		0.580

For this calculation,  $\sigma_1$  and  $\sigma_2$  are usually taken from the load steps between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

MN/M2

Sett.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED-HALEEM

Sign :

Consultant Engineer

Name :

Wassef

Sign :

Sign :



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	511 + 180	To	511 + 280	
Test Date	2-11-2023			
Layer level	-0.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 8 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loadstep	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg.
Stage No.	Bar	kN	MN/MZ	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.92	19.98		0.089	0.020		0.050
2.000	17.1	5.652	0.08	19.72	19.85		0.280	0.150		0.215
3.000	34.2	11.304	0.16	19.45	19.76		0.550	0.240		0.395
4.000	53.3	17.663	0.25	19.15	19.70		0.850	0.300		0.575
5.000	70.5	23.315	0.33	19.00	19.60		1.000	0.460		0.700
6.000	89.8	29.673	0.42	18.75	19.52		1.250	0.480		0.865
7.000	106.8	35.325	0.50	18.52	19.42		1.480	0.580		1.030
8.000	53.4	17.663	0.25	18.56	19.67		1.440	0.330		0.885
9.000	26.7	8.831	0.12	18.67	19.72		1.330	0.280		0.805
9.000	2.1	0.707	0.01	18.94	19.82		1.060	0.180		0.620
10.000	2.1	0.707	0.01	18.94	19.82		1.060	0.180		0.620
11.000	17.1	5.652	0.08	18.82	19.76		1.180	0.240		0.710
12.000	34.2	11.304	0.16	18.78	19.66		1.220	0.340		0.780
13.000	53.3	17.663	0.25	18.70	19.60		1.300	0.460		0.850
14.000	70.5	23.315	0.33	18.62	19.55		1.380	0.450		0.915
15.000	89.8	29.673	0.42	18.55	19.49		1.450	0.510		0.980

For this calculation  $\alpha_1$  and  $\beta_1$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

	$\alpha$	$\beta_1$	$\gamma_1$
0.7 $\sigma_1$	0.35	0.72063	
0.3 $\sigma_1$	0.15	0.37715	0.34813
0.7 $\sigma_1$	0.35	0.92944	
0.3 $\sigma_1$	0.15	0.80004	0.12644
D (mm)	300		
$E_1$	179.76		
$E_2$	347.66		
$A_{pl} (Sq.m)$	0.07068		

Table 1

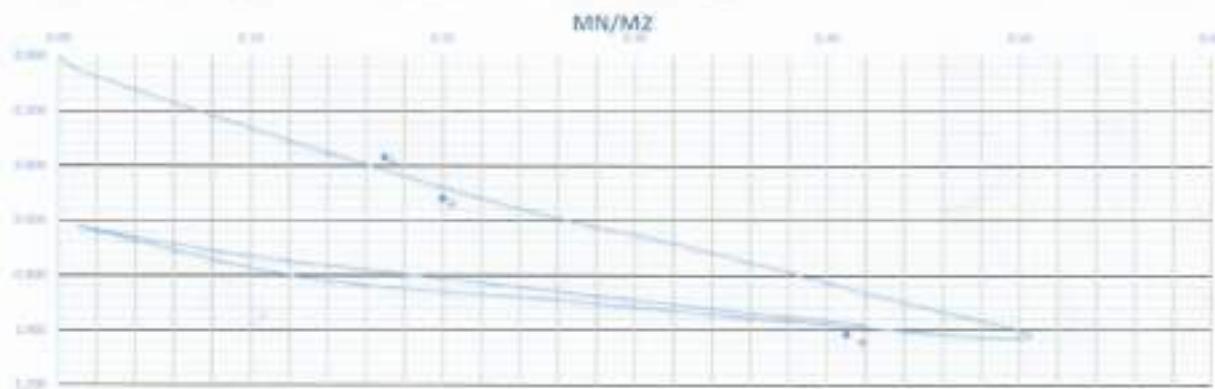
$E_1 = 0.75 \cdot D \cdot \Delta\sigma^2 / \Delta s$

$E_1$  = deformation modulus.

$\Delta\sigma$  = load increment

$\Delta s$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Commerce	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	511 + 000	To	511 + 180	
Taste Date	4-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Lading	Load	Load	Stress	Sett.1	Sett.2	Sett.3	Sett.4	Sett.5	Avg.
Stage No.	For	KN	MN/M2	mm	mm	mm	mm	mm	mm
0,000	0.0	0,000	0,00	20,00	20,00	0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,92	19,89	0,080	0,110	0,095	
2,000	17,1	5,652	0,08	19,85	19,65	0,150	0,350	0,250	
0,080	34,2	11,304	0,16	19,60	19,25	0,400	0,750	0,575	
4,000	53,3	17,663	0,25	19,50	18,95	0,580	1,050	0,775	
5,000	70,5	23,315	0,33	19,50	18,65	0,700	1,350	1,025	
6,000	89,8	29,673	0,42	19,20	18,35	0,880	1,650	1,225	
7,000	106,8	35,325	0,50	18,90	18,15	1,100	1,870	1,485	
8,000	53,4	17,663	0,25	19,15	18,20	0,850	1,800	1,325	
9,000	26,7	8,831	0,12	19,25	18,31	0,750	1,690	1,220	
9,000	2,1	0,707	0,01	19,40	18,58	0,600	1,420	1,010	
10,000	2,1	0,707	0,01	19,40	18,58	0,600	1,420	1,010	
11,000	17,1	5,652	0,08	19,25	18,52	0,750	1,480	1,115	
12,000	34,2	11,304	0,16	19,12	18,42	0,880	1,580	1,230	
13,000	53,3	17,663	0,25	18,85	18,30	1,150	1,700	1,425	
14,000	70,5	23,315	0,33	18,65	18,28	1,350	1,720	1,535	
15,000	89,8	29,673	0,42	18,45	18,18	1,550	1,820	1,685	

	*	AS	Ar
0,7 $\sigma_1$	0,35	0,9775	0,46312
0,3 $\sigma_1$	0,15	0,53437	
0,76 $_2$	0,35	1,56813	0,34832
0,3 $\sigma_2$	0,15	1,23091	
D (mm)	308		
Ev <sub>1</sub>	97,17		
Ev <sub>2</sub>	129,10		
Area (Sq.m)	0,07083		

EV =  $E_s = D \cdot \Delta\sigma / \Delta e$

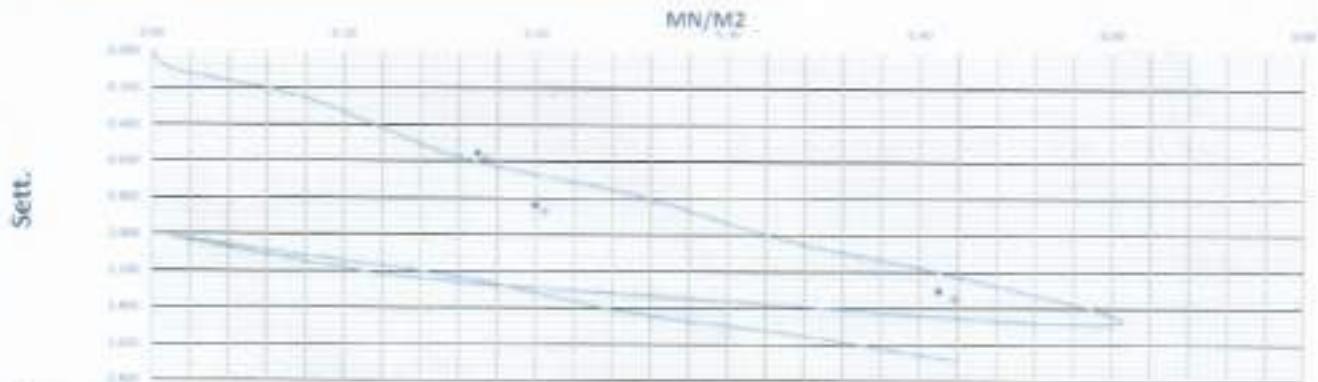
$E_s$  = deformation modulus

$D$  = load increment

$\Delta e$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m

For this calculation  $\Delta e$  and  $\Delta \sigma$  are usually taken from the load span between 0,3  $\sigma_{max}$  and 0,7  $\sigma_{max}$ :



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
Company Name	Plate Load Test Results			
Location	AL HAYAH			
Taste Date	511 + 000 To 511 + 180			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $<0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Sett.	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Step/No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000	0.000	0.000
1.000	2.1	0.707	0.01	19.95	19.98		0.050	0.020		0.035
2.000	17.1	5.652	0.08	19.85	19.87		0.150	0.130		0.140
0.080	34.2	11.304	0.16	19.80	19.83		0.200	0.170		0.185
4.000	53.3	17.663	0.25	19.72	19.75		0.280	0.250		0.265
5.000	70.5	23.315	0.33	19.62	19.65		0.380	0.350		0.365
6.000	89.8	29.673	0.42	19.53	19.54		0.470	0.460		0.465
7.000	106.8	35.325	0.50	19.48	19.47		0.520	0.530		0.525
8.000	53.4	17.663	0.25	19.50	19.52		0.500	0.480		0.490
9.000	26.7	8.831	0.12	19.59	19.61		0.410	0.390		0.400
9.000	2.1	0.707	0.01	19.68	19.70		0.320	0.300		0.310
10.000	2.1	0.707	0.01	19.68	19.70		0.320	0.300		0.310
11.000	17.1	5.652	0.08	19.64	19.66		0.360	0.340		0.350
12.000	34.2	11.304	0.16	19.60	19.60		0.400	0.400		0.400
13.000	53.3	17.663	0.25	19.55	19.54		0.450	0.460		0.455
14.000	70.5	23.315	0.33	19.49	19.48		0.510	0.520		0.515
15.000	89.8	29.673	0.42	19.44	19.42		0.560	0.580		0.570

For this calculation  $\Delta e_1$  and  $\Delta e_2$  are usually taken from the load span between 0.3  $e_{max}$  and 0.7  $e_{max}$ .

	*	55	45
0.7 $e_1$	0.35	0.4125	0.23312
0.3 $e_1$	0.15	0.17938	0.2
0.7 $e_2$	0.35	0.52722	0.13722
0.3 $e_2$	0.15	0.39	
D (mm)	300		
$E_1$	161.67		
$E_2$	127.94		
Area (Square)	0.0785		

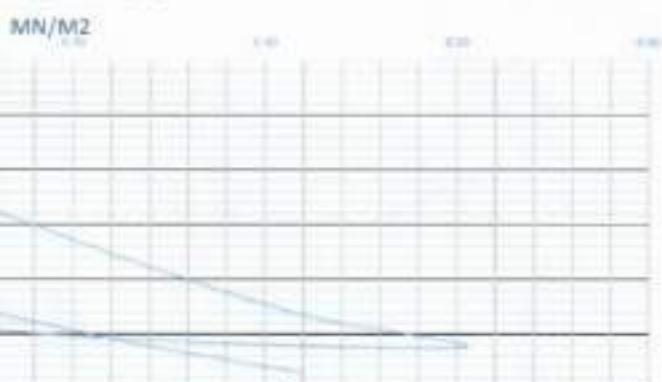
$E_c = 0.73 \cdot D \cdot \Delta e / \Delta e$

$E_c$  = deformation modulus

$\Delta e$  = load increment

$\Delta e$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : Hassan

Sign : 7/11/2022





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
	Plate Load Test Results			
Company Name	AL HAYAH			
Location	510 + 780	To	510 + 880	Station
Taste Date	5-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Stress	Sett 1	Def 1	Def 2	Sett 3	Sett 2	Sett 4	Avg.
Step No.	Ric	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000	0.000	
1.000	2.1	0.767	0.01	19.86	19.95		0.140	0.050	0.095	
2.000	17.1	5.652	0.08	19.75	19.92		0.250	0.080	0.165	
3.000	34.2	11.304	0.16	19.50	19.82		0.500	0.180	0.340	
4.000	53.3	17.663	0.25	19.10	19.72		0.900	0.280	0.590	
5.000	70.5	23.315	0.33	18.94	19.65		1.060	0.350	0.795	
6.000	89.8	29.673	0.42	18.77	19.63		1.230	0.370	0.800	
7.000	106.8	35.325	0.50	18.52	19.60		1.480	0.400	0.940	
8.000	53.4	17.663	0.25	18.39	19.65		1.410	0.350	0.880	
9.000	26.7	8.831	0.12	18.68	19.70		1.320	0.300	0.810	
9.000	2.1	0.767	0.01	18.89	19.78		1.110	0.220	0.665	
10.000	2.1	0.767	0.01	18.89	19.78		1.110	0.220	0.665	
11.000	17.1	5.652	0.08	18.84	19.77		1.160	0.230	0.695	
12.000	34.2	11.304	0.16	18.74	19.75		1.260	0.250	0.755	
13.000	53.3	17.663	0.25	18.65	19.73		1.350	0.270	0.810	
14.000	70.5	23.315	0.33	18.58	19.71		1.420	0.290	0.855	
15.000	89.8	29.673	0.42	18.50	19.68		1.500	0.320	0.910	

For this calculation,  $\Delta\sigma$  and  $\Delta\delta$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

MN/M2

Sett

	*	55	45
0.7 $\sigma_1$	0.35	0.4755	0.35938
0.3 $\sigma_1$	0.15	0.31813	0.2
0.1 $\sigma_1$	0.05	0.86722	0.14222
D (mm)	300		
$E_v$	125.22		
$E_u$	114.41		
Area (Square)	0.07665		
1000	1.00	1.00	

$$E_v = 0.7 \cdot D \cdot \Delta\sigma \cdot \Delta\delta$$

$E_v$  = deformation modulus

$\Delta\sigma$  = load increment

$\Delta\delta$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name : AHMED HALEEM

Name : WASSA

Sign :

Sign :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	<b>AL HAYAH</b>			
Location	510 + 880	To	511 + 000	
Taste Date	5-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Stress	Dia1	Dia2	Dia3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bur	%	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000		0,000
1,000	2,1	0,707	0,01	19,80	19,89		0,200	0,110		0,155
2,000	17,1	5,652	0,08	19,58	19,84		0,420	0,160		0,290
3,000	34,2	11,304	0,16	19,46	19,80		0,540	0,200		0,370
4,000	53,3	17,663	0,25	19,33	19,75		0,670	0,250		0,460
5,000	70,5	23,315	0,33	19,25	19,64		0,750	0,360		0,555
6,000	89,8	29,673	0,42	19,12	19,50		0,880	0,500		0,690
7,000	106,8	35,325	0,50	19,05	19,43		0,950	0,570		0,760
8,000	134,4	17,663	0,25	19,10	19,45		0,900	0,550		0,725
9,000	26,7	8,831	0,12	19,15	19,47		0,850	0,530		0,690
10,000	2,1	0,707	0,01	19,23	19,60		0,770	0,400		0,585
11,000	17,1	5,652	0,08	19,20	19,54		0,800	0,460		0,630
12,000	34,2	11,304	0,16	19,15	19,50		0,850	0,500		0,675
13,000	53,3	17,663	0,25	19,10	19,46		0,900	0,540		0,720
14,000	70,5	23,315	0,33	19,08	19,40		0,920	0,600		0,760
15,000	89,8	29,673	0,42	19,06	19,34		0,940	0,660		0,800

For this calculation  $\Delta \sigma_1$  and  $\Delta \sigma_2$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

MN/M2



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :



	$\delta$	AS	SE
0.7 $\sigma_1$	0.35	0.62875	0.24875
0.3 $\sigma_1$	0.18	0.36	
0.7 $\sigma_2$	0.35	0.74889	0.69388
0.3 $\sigma_2$	0.15	0.675	0.2
D (mm)	300		
$E_1$	167.44		
$E_2$	479.31		
Area (Sq.m)	0.07068		

$E_1 = 0.75 \cdot D \cdot \Delta \sigma / \Delta \delta$

$E_1$  = deformation modulus

$\Delta \sigma$  = load increment

$\Delta \delta$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Owner Consultant	Contractor Consultant	CENTRAL LAB	Counterpart	Other
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	510 + 880	To	511 + 000	
Taste Date	5-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loadstep	Load	Step	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	NVE Sett.
Stage No.	Bar.	N/m²	MN/m²	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000	0.000
1.000	2.1	0.707	0.01	19.82	19.82		0.180	0.180	0.180
2.000	17.1	5.652	0.08	19.75	19.76		0.250	0.240	0.245
0.080	34.2	11.304	0.16	19.51	19.55		0.490	0.450	0.470
4.000	53.3	17.663	0.25	19.35	19.43		0.650	0.570	0.610
5.000	70.5	23.315	0.33	19.36	19.32		0.840	0.680	0.760
6.000	89.8	29.673	0.42	19.00	19.23		1.000	0.770	0.885
7.000	106.8	35.325	0.50	18.87	19.15		1.130	0.850	0.990
8.000	53.4	17.663	0.25	18.90	19.17		1.100	0.830	0.965
9.000	26.7	8.831	0.12	19.05	19.25		0.950	0.750	0.850
9.000	2.1	0.707	0.01	19.18	19.38		0.820	0.620	0.720
10.000	2.1	0.707	0.01	19.18	19.38		0.820	0.620	0.720
11.000	17.1	5.652	0.08	19.17	19.37		0.830	0.630	0.730
12.000	34.2	11.304	0.16	19.08	19.35		0.920	0.650	0.785
13.000	53.3	17.663	0.25	18.96	19.25		1.040	0.750	0.895
14.000	70.5	23.315	0.33	18.93	19.20		1.070	0.800	0.935
15.000	89.8	29.673	0.42	18.89	19.17		1.110	0.830	0.970

	$\delta$	AS	Sa
0.7 $\sigma_z$	0.35	0.79512	0.35125
0.3 $\sigma_z$	0.15	0.44187	
0.7 $\sigma_z$	0.35	0.94278	0.20278
0.3 $\sigma_z$	0.15	0.74	0.2
D (mm)	500		
Ev <sub>1</sub>	126.37		
Ev <sub>2</sub>	121.43		
Area / S <sub>0.3</sub> (m)	0.87065		

Initial 170 Final 149

$$E_s = 0.75 \cdot D \cdot \Delta \sigma / \Delta z$$

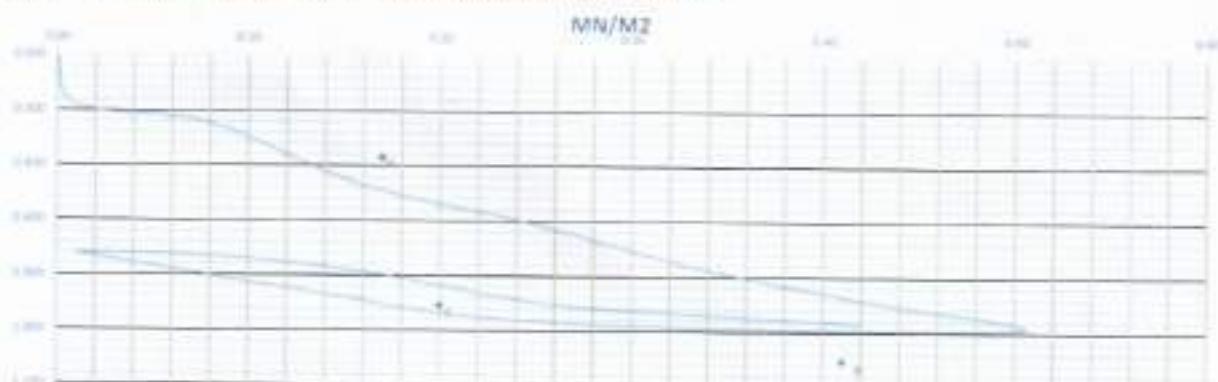
$E_s$  = deformation modulus

$\Delta \sigma$  = load increment

$\Delta z$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m

For this calculation  $\delta_e$  and  $\delta_v$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .



Sett.

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HADEEM

Sign :

Consultant Engineer

Name :

Sign :





Owner Consultant	Contractor Consultant	CONTRACTOR	Contractor	Owner
Plate Load Test Results				
Company Name		AL HAYAH		
Location		510 + 520	To	510 + 660
Test Date				7-11-2023
Layer level				-1.5

### EQUIPMENT AND TEST PROCEDURE

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 6 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Sess	Dial 1	Dial 2	Dial 3	Sess 1	Sess 2	Sess 3	Avg	Sem
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000	
1,000	2,1	0,707	0,01	19,87	19,87		0,130	0,130	0,130	0,130	
2,000	17,1	5,652	0,08	19,63	19,72		0,370	0,280	0,325	0,325	
0,080	34,2	11,304	0,16	19,46	19,57		0,540	0,430	0,485	0,485	
4,000	53,3	17,663	0,25	19,30	19,42		0,700	0,580	0,640	0,640	
5,000	70,5	23,315	0,33	19,14	19,25		0,860	0,750	0,805	0,805	
6,000	89,8	29,673	0,42	19,02	19,14		0,980	0,860	0,920	0,920	
7,000	106,8	35,325	0,50	18,90	19,01		1,100	0,990	1,045	1,045	
8,000	53,4	17,663	0,25	18,92	19,05		1,080	0,950	1,015	1,015	
9,000	26,7	8,831	0,12	19,00	19,18		1,000	0,820	0,910	0,910	
9,000	2,1	0,707	0,01	19,10	19,30		0,900	0,700	0,800	0,800	
10,000	2,1	0,707	0,01	19,10	19,30		0,900	0,700	0,800	0,800	
11,000	17,1	5,652	0,08	19,09	19,29		0,910	0,710	0,810	0,810	
12,000	34,2	11,304	0,16	19,05	19,22		0,950	0,780	0,865	0,865	
13,000	53,3	17,663	0,25	19,00	19,15		1,000	0,850	0,925	0,925	
14,000	70,5	23,315	0,33	18,96	19,09		1,040	0,910	0,975	0,975	
15,000	89,8	29,673	0,42	18,90	19,03		1,100	0,970	1,035	1,035	

	#	5%	4%
0,7 $\sigma_1$	0,35	0,81063	0,34563
0,3 $\sigma_1$	0,15	0,465	
0,7 $\sigma_2$	0,35	0,98853	0,36853
0,3 $\sigma_2$	0,15	0,82	
D (mm)	300		
$E_1$	134,29		
$E_2$	167,30		
Ave (Sq.m)	0,07807		

1-100 1-100 1-100

$E_1 = 0,78 \cdot D = 10 \cdot 134,29$

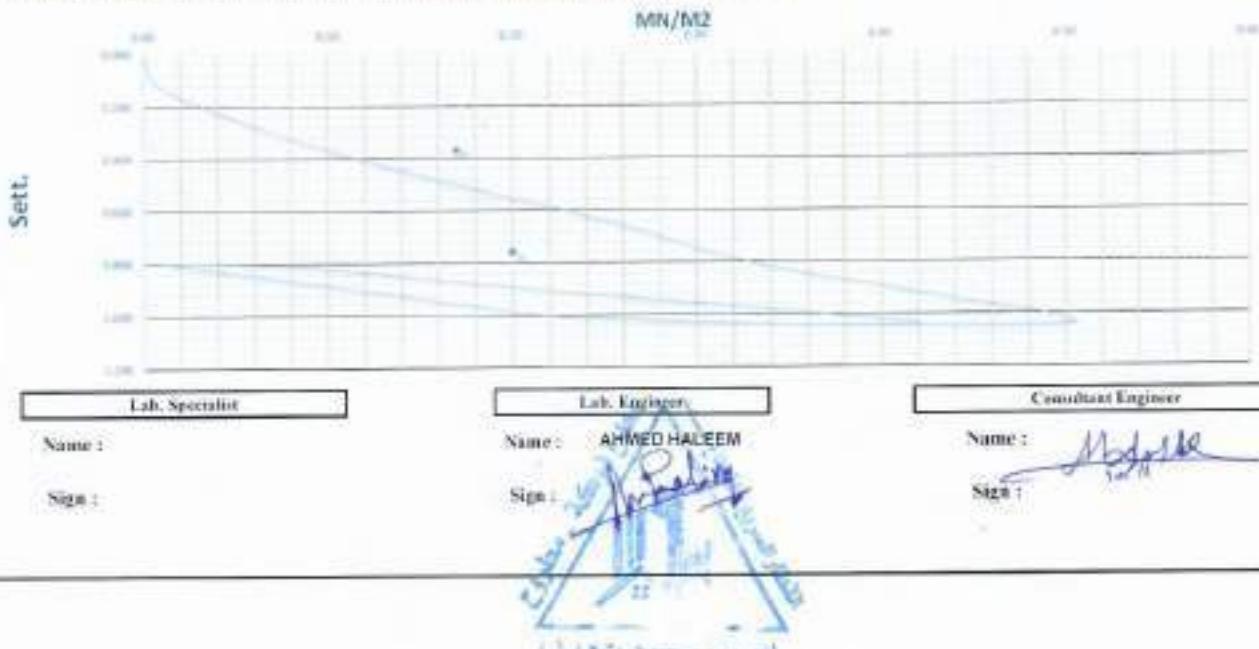
$E_2 =$  deformation modulus

$\Delta \sigma =$  load increment

$\Delta s =$  settlement increment

$D =$  diameter of the plate, generally 0.30 m

For this calculation  $\Delta \sigma$  and  $\Delta s$  are usually taken from the load steps between 0,3  $\sigma_{max}$  and 0,7  $\sigma_{max}$ .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	510 + 520	To	510 + 660	Station 510 + 640
Test Date	7-11-2023			
Layer level	-1.5			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/min). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 6 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	KN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000	0.000	0.000
1.000	2.1	0.707	0.01	19.96	19.97		0.049	0.030	0.035	
2.000	4.1	1.414	0.08	19.78	19.88		0.220	0.120	0.170	
3.000	6.1	2.121	0.16	19.53	19.78		0.470	0.220	0.345	
4.000	8.1	2.828	0.25	19.40	19.62		0.600	0.380	0.490	
5.000	10.1	3.535	0.33	19.23	19.50		0.770	0.500	0.635	
6.000	12.1	4.242	0.42	19.12	19.44		0.880	0.560	0.720	
7.000	14.1	4.949	0.50	19.02	19.37		0.980	0.630	0.805	
8.000	16.1	5.656	0.58	19.06	19.41		0.940	0.590	0.765	
9.000	18.1	6.363	0.66	19.14	19.48		0.860	0.520	0.690	
10.000	20.1	7.070	0.01	19.34	19.61		0.660	0.390	0.525	
11.000	22.1	7.777	0.01	19.32	19.58		0.680	0.420	0.550	
12.000	24.1	8.484	0.16	19.21	19.52		0.790	0.480	0.635	
13.000	26.1	9.191	0.25	19.14	19.47		0.860	0.530	0.695	
14.000	28.1	9.898	0.33	19.06	19.41		0.940	0.590	0.765	
15.000	30.1	10.605	0.42	19.02	19.38		0.980	0.620	0.800	

	$\Delta \sigma$	$\Delta s$	AS	Ad
0.7 $a_1$	0.25	0.64562	0.3225	0.2
0.3 $a_1$	0.15	0.32312		
0.7 $a_2$	0.25	0.77278	0.19778	0.2
0.3 $a_2$	0.15	0.375		
$\Delta \sigma_{max}$	300			
$\Delta s_1$	185.51			
$\Delta s_2$	227.83			
$\Delta s_{avg}$ (AS)	0.07961			

Excel File : [PLT.xls](#)

Excel File : [PLT2.xls](#)

Excel File : [PLT3.xls](#)

Excel File : [PLT4.xls](#)

Excel File : [PLT5.xls](#)

Excel File : [PLT6.xls](#)

Excel File : [PLT7.xls](#)

Excel File : [PLT8.xls](#)

Excel File : [PLT9.xls](#)

Excel File : [PLT10.xls](#)

Excel File : [PLT11.xls](#)

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Excel File : [PLT28.xls](#)

Excel File : [PLT29.xls](#)

Excel File : [PLT30.xls](#)

For this calculation  $\Delta \sigma$  and  $\Delta s$  are usually taken from the load span between 0.5  $a_{max}$  and 0.7  $a_{max}$ .

MN/M2

Sett.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	510+500		To	510+700
Taste Date	09/10/2023		Station	510+558
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Leading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	6,767	0,01	19,93	19,92		0,070	0,080	0,075	
2,000	17,1	5,652	0,08	19,85	19,89		0,150	0,110	0,130	
3,000	34,2	11,304	0,16	19,74	19,81		0,260	0,190	0,228	
4,000	53,3	17,663	0,25	19,58	19,74		0,420	0,260	0,340	
5,000	70,5	23,315	0,33	19,42	19,70		0,580	0,300	0,440	
6,000	89,8	29,673	0,42	19,28	19,65		0,720	0,350	0,535	
7,000	106,8	35,325	0,50	19,20	19,57		0,800	0,430	0,615	
8,000	53,4	17,663	0,25	19,25	19,66		0,750	0,340	0,545	
9,000	26,7	8,831	0,12	19,27	19,71		0,730	0,290	0,510	
9,000	2,1	6,767	0,01	19,34	19,81		0,660	0,190	0,425	
10,000	2,1	6,767	0,01	19,34	19,81		0,660	0,190	0,425	
11,000	17,1	5,652	0,08	19,33	19,78		0,670	0,220	0,445	
12,000	34,2	11,304	0,16	19,28	19,75		0,720	0,250	0,485	
13,000	53,3	17,663	0,25	19,25	19,71		0,750	0,290	0,520	
14,000	70,5	23,315	0,33	19,21	19,69		0,790	0,310	0,550	
15,000	89,8	29,673	0,42	19,18	19,64		0,820	0,360	0,590	

For this calculation  $\delta\sigma$  and  $\delta v$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

MN/M2

Sett.

	*	AS	Av
0.7 $\sigma_1$	0,35	0,465	0,25187
0,5 $\sigma_1$	0,15	0,21313	
0,7 $\sigma_2$	0,35	0,55889	0,09389
0,3 $\sigma_2$	0,15	0,465	0,2
D (mm)	300		
$E_v_1$	178,66		
$E_v_2$	479,30		
Area (Sqm)	0,07985		

$E_v = 0,71 \cdot D \cdot \Delta\sigma / \Delta v$

$E_v$  = deformation modulus

$\Delta\sigma$  = load increment

$\Delta v$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m

Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Name : AHMED HALEEM

Name : 9/10/2023

Sign :

Sign :

Sign :



العمل الوثيقي رقم:



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	510+500	To	510+700	
Test Date	09/10/2023			
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Leading	Load	Lead	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000	0.000	0.000
1.000	2.1	0.707	0.01	19.90	19.94		0.100	0.060	0.080	
2.000	17.1	5.652	0.08	19.72	19.85		0.280	0.150	0.215	
0.080	34.2	11.364	0.16	19.56	19.75		0.440	0.250	0.345	
4.000	53.3	17.663	0.25	19.41	19.65		0.590	0.350	0.470	
5.000	70.5	23.315	0.33	19.29	19.57		0.710	0.430	0.570	
6.000	89.8	29.673	0.42	19.18	19.51		0.820	0.490	0.655	
7.000	106.8	35.325	0.50	19.10	19.47		0.900	0.530	0.715	
8.000	53.4	17.663	0.25	19.14	19.50		0.860	0.500	0.680	
9.000	26.7	8.831	0.12	19.22	19.56		0.780	0.440	0.610	
9.000	2.1	0.707	0.01	19.41	19.70		0.590	0.300	0.445	
10.000	2.1	0.707	0.01	19.41	19.70		0.590	0.300	0.445	
11.000	17.1	5.652	0.08	19.37	19.66		0.630	0.340	0.485	
12.000	34.2	11.364	0.16	19.30	19.62		0.700	0.380	0.540	
13.000	53.3	17.663	0.25	19.21	19.59		0.790	0.410	0.600	
14.000	70.5	23.315	0.33	19.16	19.56		0.840	0.440	0.640	
15.000	89.8	29.673	0.42	19.09	19.53		0.910	0.470	0.690	

	s	AS	Ar
0.7 $\sigma_1$	0.35	0.6025	0.27375
0.3 $\sigma_1$	0.15	0.32875	
0.7 $\sigma_1$	0.35	0.45311	0.12611
0.3 $\sigma_1$	0.15	0.515	
D (mm)	300		
$E_v$	164.38		
$E_u$	356.84		
Area (5gau)	0.07885		

Ev2/Ev1 = 2.17

$$E_v = 0.75 \cdot D \cdot \Delta \sigma \cdot A_s$$

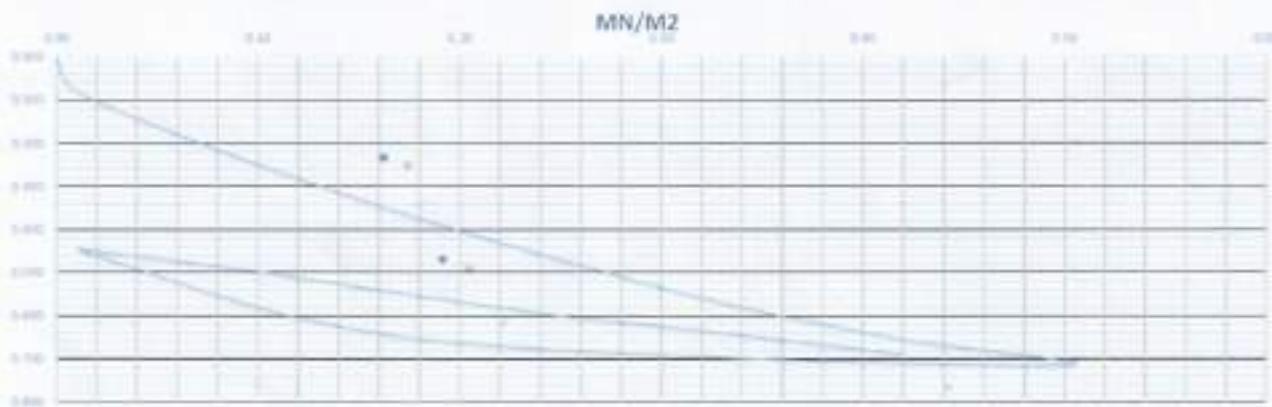
$E_v$  = deformation modulus

$\Delta \sigma$  = load increment

$\Delta s$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m

For this calculation  $\Delta \sigma$  and  $\Delta s$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

AHMED HALEEM

Sign :

Consultant Engineer

Name :

10/10/2023

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	<b>AL HAYAH</b>			
Location	510+700	To	510+900	
Test Date	09/10/2023			
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Leading	Load	Load	Strain	Dist.1	Dist.2	Dist.3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/m²	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	0.707	0.01	19.80	19.87		0.200	0.130		0.165
2.000	17.1	5.652	0.08	19.61	19.70		0.390	0.300		0.345
0.080	34.2	11.304	0.16	19.39	19.45		0.610	0.550		0.580
4.000	53.3	17.663	0.25	19.21	19.27		0.790	0.730		0.760
5.000	70.5	23.315	0.33	19.12	19.08		0.880	0.920		0.900
6.000	89.8	29.673	0.42	19.02	18.94		0.980	1.060		1.020
7.000	106.8	35.325	0.50	18.91	18.84		1.090	1.160		1.125
8.000	53.4	17.663	0.25	18.95	18.90		1.050	1.100		1.075
9.000	26.7	8.831	0.12	19.02	18.97		0.980	1.030		1.005
9.000	2.1	0.707	0.01	19.17	19.12		0.830	0.880		0.855
10.000	2.1	0.707	0.01	19.17	19.12		0.830	0.880		0.855
11.000	17.1	5.652	0.08	19.12	19.09		0.880	0.910		0.895
12.000	34.2	11.304	0.16	19.07	19.04		0.930	0.960		0.945
13.000	53.3	17.663	0.25	19.02	19.00		0.980	1.000		0.990
14.000	70.5	23.315	0.33	18.97	18.97		1.030	1.030		1.030
15.000	89.8	29.673	0.42	18.92	18.85		1.080	1.150		1.115

For this calculation  $\Delta\sigma$  and  $\Delta s$  are usually taken from the load span between  $0.2 \sigma_{max}$  and  $0.7 \sigma_{max}$ .

	$s$	$\Delta S$	$\Delta e$
0.7 $\sigma_1$	0.35	0.92812	0.3775
0.3 $\sigma_1$	0.15	0.55063	
0.7 $\sigma_1$	0.35	1.04889	
0.3 $\sigma_1$	0.15	0.035	0.11388
D (mm)	300		
$E_p$	119.21		
$E_p$	395.14		
Area (Square)	0.07065		

$E_s/E_1$	1.0		

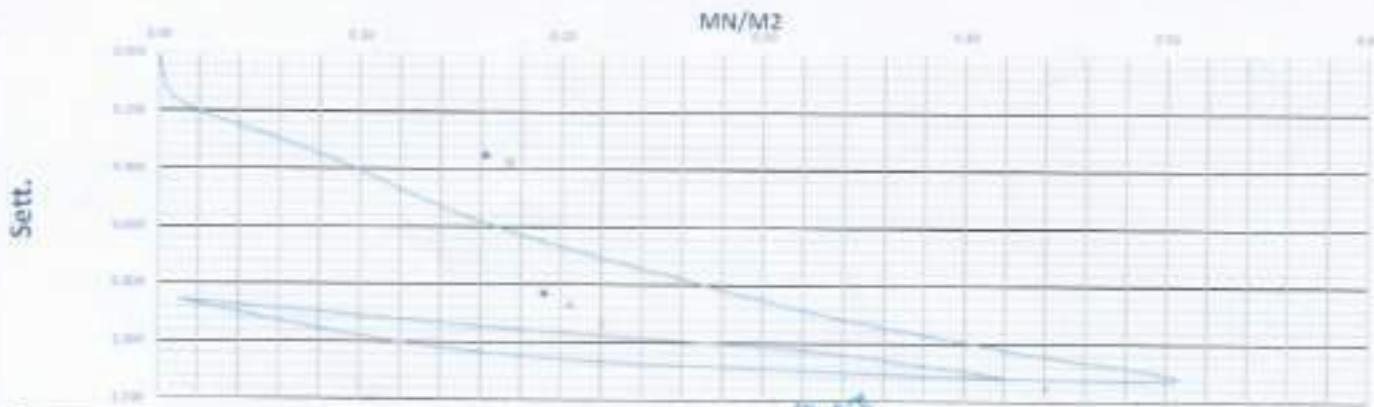
$E_s = 0.75 - D - A\sigma / A_s$
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$E_s$  = deformation modulus

$\Delta\sigma$  = load increment

$\Delta s$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Lab Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	CONTRACTOR	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	510+700	To	510+900	
Test Date	09/10/2023			
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0.000	0.0	0.000	0.00	20.00	20.00		0.000	0.000		0.000
1.000	2.1	6.707	0.01	19.90	19.91		0.100	0.090		0.095
2.000	17.1	5.652	0.08	19.81	19.87		0.190	0.130		0.160
0.080	34.2	11.304	0.16	19.70	19.82		0.300	0.180		0.240
4.000	53.3	17.663	0.25	19.56	19.76		0.440	0.240		0.340
5.000	70.5	23.315	0.33	19.45	19.72		0.550	0.280		0.415
6.000	89.8	29.673	0.42	19.35	19.70		0.650	0.300		0.475
7.000	106.8	35.325	0.50	19.24	19.65		0.760	0.350		0.555
8.000	53.4	17.663	0.25	19.27	19.67		0.730	0.330		0.530
9.000	26.7	8.831	0.12	19.31	19.74		0.690	0.260		0.475
9.000	2.1	6.707	0.01	19.38	19.79		0.620	0.210		0.415
10.000	2.1	6.707	0.01	19.38	19.79		0.620	0.210		0.415
11.000	17.1	5.652	0.08	19.35	19.78		0.650	0.220		0.435
12.000	34.2	11.304	0.16	19.33	19.73		0.670	0.270		0.470
13.000	53.3	17.663	0.25	19.29	19.70		0.710	0.300		0.505
14.000	70.5	23.315	0.33	19.23	19.68		0.770	0.320		0.545
15.000	89.8	29.673	0.42	19.19	19.65		0.810	0.350		0.580

For this calculation  $\alpha_1$  and  $\alpha_2$  are usually taken from the load span between  $0.3 \sigma_{max}$  and  $0.7 \sigma_{max}$ .

	$\alpha$	AS	$\Delta s$
0.7 $\sigma_1$	0.35	0.405	4.175
0.3 $\sigma_1$	0.15	0.23	
0.7 $\sigma_2$	0.35	0.55278	9.09778
0.3 $\sigma_2$	0.15	0.455	0.2
D (mm)	300		
$E_V_1$	257.14		
$E_V_2$	460.24		
Area 1 (mm²)	0.07065		

Ex2/E1	1.76		
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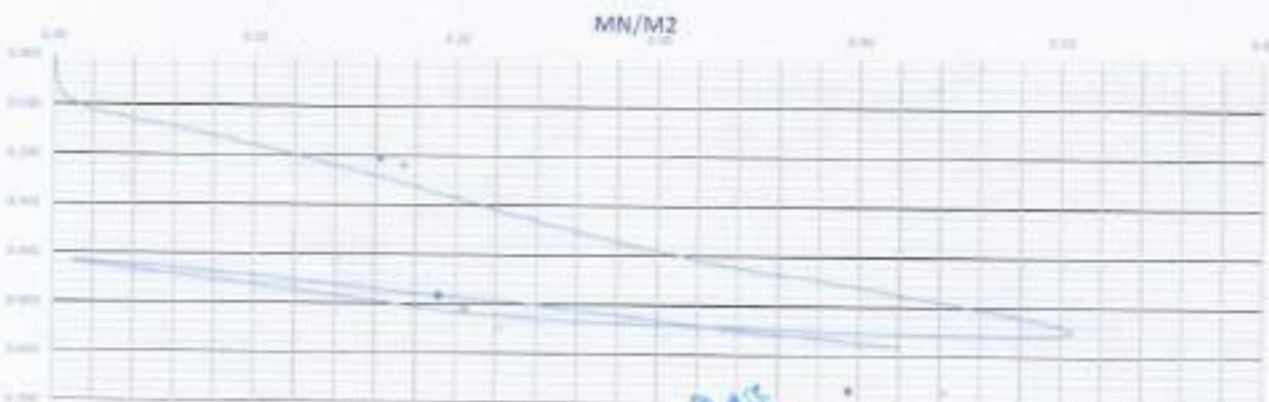
$$E_V = 0.75 - D \cdot \frac{d\sigma}{ds}$$

$E_V$  = deformation modulus

$D_s$  = load increment

$d\sigma$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name :

Sign :



Consultant Engineer

Name :

Sign :

2023



Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
	<b>Plate Load Test Results</b>			
Company Name	AL HAYAH			
Location	510+900	To	511+100	
Taste Date	09/10/2023			
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,98	19,98		0,020	0,020	0,020	0,020
2,000	17,1	5,652	0,08	19,96	19,96		0,040	0,040	0,040	0,040
0,080	34,2	11,304	0,16	19,90	19,94		0,100	0,060	0,080	0,080
4,000	53,3	17,663	0,25	19,85	19,90		0,150	0,100	0,125	0,125
5,000	70,5	23,315	0,33	19,78	19,88		0,220	0,120	0,170	0,170
6,000	89,8	29,673	0,42	19,72	19,85		0,280	0,150	0,215	0,215
7,000	106,8	35,325	0,50	19,69	19,80		0,310	0,200	0,255	0,255
8,000	53,4	17,663	0,25	19,70	19,82		0,300	0,180	0,240	0,240
9,000	26,7	8,831	0,12	19,73	19,85		0,270	0,150	0,210	0,210
9,000	2,1	0,707	0,01	19,80	19,89		0,200	0,110	0,155	0,155
10,000	2,1	0,707	0,01	19,80	19,89		0,200	0,110	0,155	0,155
11,000	17,1	5,652	0,08	19,79	19,88		0,210	0,120	0,165	0,165
12,000	34,2	11,304	0,16	19,76	19,87		0,240	0,130	0,185	0,185
13,000	53,3	17,663	0,25	19,72	19,86		0,280	0,140	0,210	0,210
14,000	70,5	23,315	0,33	19,71	19,82		0,290	0,180	0,235	0,235
15,000	89,8	29,673	0,42	19,69	19,79		0,310	0,210	0,260	0,260

For this calculation  $\Delta e$  and  $\Delta s$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

	$e$	AS	Ar
0.7 $\sigma_1$	0.35	0.18	0.105
0.3 $\sigma_1$	0.15	0.075	0.2
0.7 $\sigma_2$	0.35	0.24056	0.06555
0.3 $\sigma_2$	0.15	0.175	0.2
D (mm)	300		
$E_v1$	428.57		
$E_v2$	688.45		
Area (Sq.m)	0.07068		

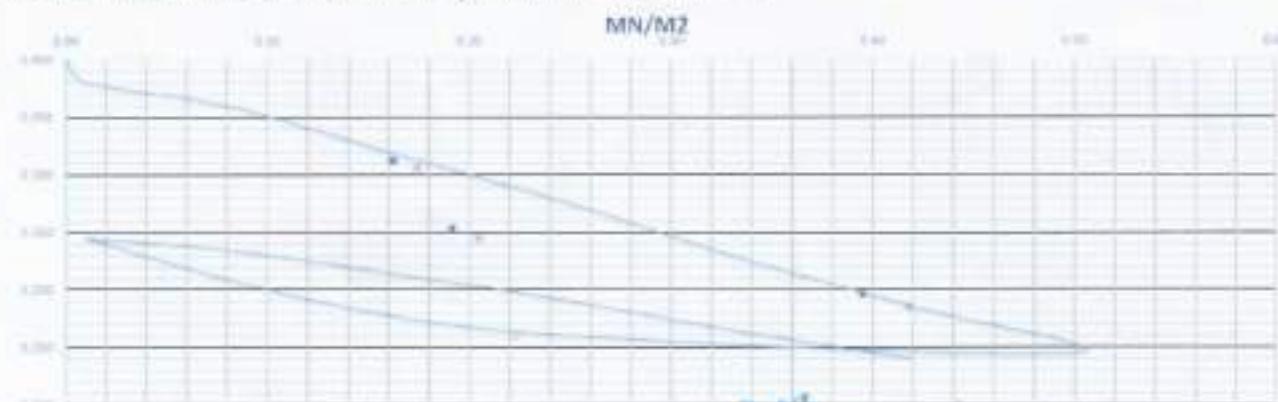
$$E_v = \frac{1}{3} \cdot D \cdot \frac{\Delta e}{\Delta s}$$

$E_v$  = deformation modulus

$\Delta e$  = load increment

$\Delta s$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB			Contractor	Owner
		<b>Plate Load Test Results</b>				
Company Name	AL HAYAH					
Location	510+900	To	511+100			
Taste Date	09/10/2023					
Layer level	BED EXCAVATION					

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Lod	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bur.	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,95	19,88		0,050	0,120	0,085	
2,000	17,1	5,652	0,08	19,80	19,55		0,200	0,450	0,325	
3,000	34,2	11,304	0,16	19,50	19,10		0,500	0,900	0,700	
4,000	53,3	17,663	0,25	19,48	18,93		0,520	1,070	0,795	
5,000	70,5	23,315	0,33	19,25	18,65		0,750	1,350	1,050	
6,000	89,8	29,673	0,42	19,05	18,35		0,950	1,650	1,300	
7,000	106,8	35,325	0,50	18,80	18,00		1,200	2,000	1,600	
8,000	53,4	17,663	0,25	18,90	18,12		1,100	1,880	1,490	
9,000	26,7	8,831	0,12	19,00	18,29		1,000	1,710	1,355	
9,000	2,1	0,707	0,01	19,20	18,55		0,800	1,450	1,125	
10,000	2,1	0,707	0,01	19,20	18,55		0,800	1,450	1,125	
11,000	17,1	5,652	0,08	19,17	18,52		0,830	1,480	1,155	
12,000	34,2	11,304	0,16	19,12	18,42		0,880	1,580	1,230	
13,000	53,3	17,663	0,25	19,05	18,30		0,950	1,700	1,325	
14,000	70,5	23,315	0,33	18,97	18,18		1,030	1,820	1,425	
15,000	89,8	29,673	0,42	18,91	18,12		1,090	1,880	1,485	

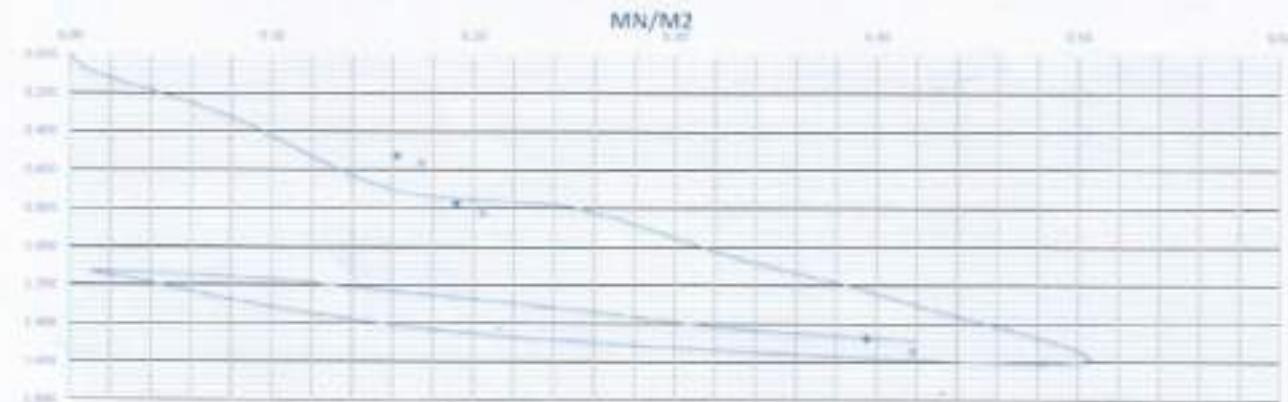
For this calculation  $\alpha_1$  and  $\alpha_2$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

	s	AS	Am
0.7 $\sigma_1$	0.35	1.0375	
0.3 $\sigma_1$	0.15	0.65312	0.38437
0.7 $\sigma_2$	0.35	1.43835	0.25333
0.3 $\sigma_2$	0.15	1.185	0.2
D (mm)	300		
Ev <sub>1</sub>	117,87		
Ev <sub>2</sub>	177,63		
Area / Sq.m	0.9566		

Ev <sub>2</sub> /Ev <sub>1</sub>	1.52		
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$E_s = 0.75 \cdot D \cdot \alpha / \Delta s$   
 $E_s$  = deformation modulus  
 $\Delta s$  = load increment  
 $\Delta s$  = settlement increment  
 $D$  = diameter of the plate, generally 0.30 m

Sett.



Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : ٩٠٢٣

Sign :



الحمل المترافق ونحوه



Owner Consultant	Contractor Consultant	CENTRAL LAB			Contractor	Owner
		Plate Load Test Results				
Company Name	AL HAYAH					
Location	511+100		To	511+300		
Taste Date	09/10/2023					
Layer level	BED EXCAVATION					

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Load	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,91	19,92		0,090	0,080	0,085	
2,000	17,1	5,652	0,08	19,75	19,90		0,250	0,160	0,175	
0,080	34,2	11,304	0,16	19,63	19,90		0,370	0,180	0,235	
4,000	53,3	17,663	0,25	19,45	19,88		0,550	0,120	0,335	
5,000	70,5	23,315	0,33	19,34	19,87		0,660	0,130	0,395	
6,000	89,8	29,673	0,42	19,20	19,85		0,800	0,150	0,475	
7,000	106,8	35,325	0,50	19,05	19,80		0,950	0,200	0,575	
8,000	53,4	17,663	0,25	19,10	19,73		0,900	0,270	0,585	
9,000	26,7	8,831	0,12	19,15	19,76		0,850	0,240	0,545	
9,000	2,1	0,707	0,01	19,22	19,83		0,780	0,170	0,475	
10,000	2,1	0,707	0,01	19,22	19,83		0,780	0,170	0,475	
11,000	17,1	5,652	0,08	19,21	19,82		0,790	0,180	0,485	
12,000	34,2	11,304	0,16	19,18	19,80		0,820	0,200	0,510	
13,000	53,3	17,663	0,25	19,12	19,76		0,880	0,240	0,560	
14,000	70,5	23,315	0,33	19,08	19,73		0,920	0,270	0,595	
15,000	89,8	29,673	0,42	19,04	19,70		0,960	0,360	0,630	

For this calculation  $\alpha_1$  and  $\alpha_2$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

	*	AS	AR
0.7 $\alpha_1$	0.35	0.3875	0.16
0.3 $\alpha_1$	0.15	0.2275	0.2
0.7 $\alpha_2$	0.35	0.60278	0.10778
0.3 $\alpha_2$	0.15	0.495	0.2
D (mm)	300		
$E_v1$	281.25		
$E_v2$	417.53		
Area (Sqm m)	0.07068		

$$E_v = 0.75 \cdot D \cdot 2\pi \cdot \Delta$$

$E_v$  = deformation modulus

$\Delta$  = load increment

$\Delta_s$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m



Lab. Specialist:

Name :

Sign :

Lab. Engineer:

Name : AHMED HALEEM

Sign :

Consultant Engineer:

Name : 10

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	AL HAYAH			
Location	511+100	To	511+300	
Taste Date	09/10/2023			
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,97	19,98		0,030	0,020	0,025	0,025
2,000	17,1	5,652	0,08	19,80	19,89		0,200	0,110	0,155	0,155
3,000	34,2	11,304	0,16	19,65	19,72		0,350	0,280	0,315	0,315
4,000	53,3	17,663	0,25	19,50	19,57		0,500	0,430	0,465	0,465
5,000	70,5	23,315	0,33	19,35	19,45		0,650	0,550	0,600	0,600
6,000	89,8	29,673	0,42	19,24	19,33		0,760	0,670	0,715	0,715
7,000	106,8	35,325	0,50	19,15	19,22		0,850	0,780	0,815	0,815
8,000	134,4	41,977	0,25	19,18	19,28		0,820	0,720	0,770	0,770
9,000	26,7	8,831	0,12	19,25	19,38		0,750	0,620	0,685	0,685
9,000	2,1	0,707	0,01	19,40	19,52		0,600	0,480	0,540	0,540
10,000	2,1	0,707	0,01	19,40	19,52		0,600	0,480	0,540	0,540
11,000	17,1	5,652	0,08	19,38	19,48		0,650	0,520	0,585	0,585
12,000	34,2	11,304	0,16	19,28	19,42		0,720	0,580	0,650	0,650
13,000	53,3	17,663	0,25	19,22	19,35		0,780	0,650	0,735	0,735
14,000	70,5	23,315	0,33	19,17	19,30		0,830	0,700	0,765	0,765
15,000	89,8	29,673	0,42	19,16	19,24		0,840	0,760	0,800	0,800

For this calculation  $\alpha_1$  and  $\alpha_2$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

MN/M2



Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

Sign :

Name : AHMED HALEEM

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Name :

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB	Contractor	Owner
<b>Plate Load Test Results</b>				
Company Name	<b>AL HAYAH</b>			
Location	511+300	To	511+500	Station
Taste Date	09/10/2023			
Layer level	BED EXCAVATION			

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

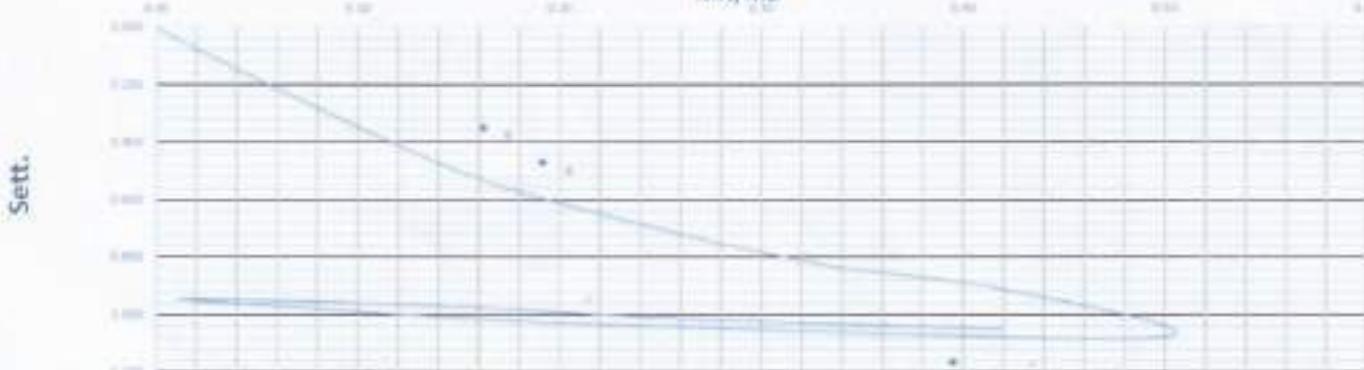
The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Load	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Bar	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,95	19,97		0,050	0,030	0,040	
2,000	17,1	5,652	0,08	19,70	19,74		0,300	0,260	0,280	
3,000	34,2	11,304	0,16	19,45	19,50		0,550	0,500	0,525	
4,000	53,3	17,663	0,25	19,30	19,30		0,700	0,700	0,700	
5,000	70,5	23,315	0,33	19,20	19,15		0,800	0,850	0,825	
6,000	89,8	29,673	0,42	19,10	19,08		0,900	0,920	0,910	
7,000	106,8	35,325	0,50	18,95	18,90		1,050	1,100	1,075	
8,000	124,7	41,971	0,58	18,90	18,92		1,000	1,080	1,040	
9,000	142,7	48,611	0,66	18,85	18,95		0,950	1,050	1,000	
10,000	171,1	5,652	0,08	18,99	19,00		0,900	0,990	0,945	
11,000	171,1	5,652	0,08	19,09	19,00		0,910	1,000	0,955	
12,000	34,2	11,304	0,16	19,07	18,98		0,930	1,020	0,975	
13,000	53,3	17,663	0,25	19,03	18,95		0,970	1,050	1,010	
14,000	70,5	23,315	0,33	19,00	18,94		1,000	1,060	1,030	
15,000	89,8	29,673	0,42	18,98	18,92		1,020	1,080	1,050	

For this calculation  $\sigma_{av}$  and  $\sigma_{v, min}$  usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

MN/M2



	s	AS	AS
0.7 $\sigma_1$	0.35	0.76562	0.27125
0.3 $\sigma_1$	0.15	0.49438	0.2
0.7 $\sigma_2$	0.35	1.03444	0.36944
0.3 $\sigma_2$	0.15	0.965	0.2
D (mm)	300		
$E_v$	165.90		
$E_v$	648.81		
Area (Square)	0.07045		

$E_v = 0.71 \cdot D \cdot d\sigma / ds$

$E_v$  = deformation modulus.

$d\sigma$  = load increment

$ds$  = settlement increment

$D$  = diameter of the plate, generally 0.30 m

Lab. Specialist

Name :

Sign :

Lab. Engineer

Name : AHMED HALEEM

Sign :

Consultant Engineer

Name : 9

Sign :





Owner Consultant	Contractor Consultant	CENTRAL LAB		Contractor	Owner
		<b>Plate Load Test Results</b>			
Company Name	<b>AL HAYAH</b>				
Location	511+300	To	511+500		
Taste Date	09/10/2023			Sation	511+450
Layer level	<b>BED EXCAVATION</b>				

### EQUIPMENT AND TEST PROCEDURE :-

The diameter  $D$  of the plate is generally 0.30 m. For very coarse grained material also plates with diameter  $D = 0.60$  m and  $D = 0.762$  m are used.

The load is applied in 6 load increments of equal size. Under each load step the settlement must come to a noticeable end ( $< 0.02$  mm/minute). After the maximum load is reached the unloading procedure can begin. After that, the plate is reloaded in 5 steps. A loaded truck, an excavator or a roller usually serve as counterweight for the hydraulic jack.

Diameter = 300mm

Loading	Load	Lead	Stress	Dial 1	Dial 2	Dial 3	Sett. 1	Sett. 2	Sett. 3	Avg. Sett.
Stage No.	Rat	kN	MN/M2	mm	mm	mm	mm	mm	mm	mm
0,000	0,0	0,000	0,00	20,00	20,00		0,000	0,000	0,000	0,000
1,000	2,1	0,707	0,01	19,95	19,99		0,050	0,010	0,030	0,030
2,000	17,1	5,652	0,08	19,89	19,90		0,110	0,100	0,105	0,105
0,080	34,2	11,304	0,16	19,81	19,79		0,190	0,210	0,200	0,200
4,000	53,3	17,663	0,25	19,72	19,64		0,280	0,360	0,320	0,320
5,000	70,5	23,315	0,33	19,70	19,55		0,300	0,450	0,375	0,375
6,000	89,8	29,673	0,42	19,64	19,45		0,360	0,550	0,455	0,455
7,000	106,8	35,325	0,50	19,59	19,30		0,410	0,700	0,555	0,555
8,000	53,4	17,663	0,25	19,62	19,40		0,380	0,600	0,490	0,490
9,000	26,7	8,831	0,12	19,68	19,50		0,320	0,500	0,410	0,410
9,000	2,1	0,707	0,01	19,78	19,69		0,220	0,310	0,265	0,265
10,000	2,1	0,707	0,01	19,78	19,69		0,220	0,310	0,265	0,265
11,000	17,1	5,652	0,08	19,73	19,65		0,270	0,350	0,310	0,310
12,000	34,2	11,304	0,16	19,70	19,56		0,300	0,440	0,370	0,370
13,000	53,3	17,663	0,25	19,68	19,50		0,350	0,500	0,425	0,425
14,000	70,5	23,315	0,33	19,62	19,44		0,380	0,590	0,485	0,485
15,000	89,8	29,673	0,42	19,59	19,33		0,410	0,670	0,540	0,540

For this calculation,  $\delta_e$  and  $\delta_s$  are usually taken from the load span between 0.3  $\sigma_{max}$  and 0.7  $\sigma_{max}$ .

	$\delta$	AS	$\lambda_e$
0.3 $\sigma_1$	0,55	0,3675	
0.3 $\sigma_1$	0,15	0,18813	0,17937
0.7 $\sigma_2$	0,35	0,49722	
0.3 $\sigma_2$	0,15	0,355	0,34222
D (mm)	300		
$E_v$	250,87		
$E_v$	316,42		
$\lambda_{AS} (5g.m)$	0,07665		

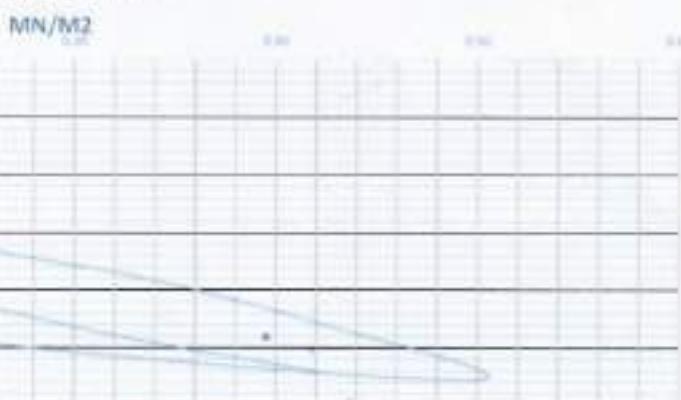
$E_v = \delta / \gamma = D \cdot d\sigma / \Delta \gamma$

$E_v$  = deformation modulus

$D$  = load increment

$d\sigma$  = settlement increment

$\Delta \gamma$  = diameter of the plate, generally 0.30 m



Lab. Specialist

Lab. Engineer

Consultant Engineer

Name :

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Name :

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AHMED HALEEM

Name : 9102423

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