وزارة النقل
الهيئة العامة للطرق والكباري والنقل البري

الهيئة العامة لمشروعات الكبارى والنقل البرى
المنطقة الاولى المركزية
قسم المخطوطات الفنية
رقم الصادر / ٢٤٥٢
عدد المرفقات / مقاصة
التاريخ ٢٧/٥/٢٠٢٤
التوقيع

السيد المهندس / رئيس قطاع التنفيذ والمناطق

تحية طيبة .... و بعد

ايماءا الي مشروع تنفيذ الجسر الترابي و الاعمال الصناعية بمشروع قطار ٦ اكتوبر / بني سلامة بطول ٦٧ كم

المسافة من تقاطعه مع خط سكة حديد بشتيل / الاتحاد عند قرية بني سلامة حتي تقاطعه مع خط سكة حديد

الواحات البحرية عند الميناء الجاف المسافة من الكم ٠.٠٠ الي الكم ٦.٠٠ بطول ٦ كم

(استكمال الطبقة السفلية من NGL الي -٢ مرحلة اولي) بالامر المباشر .

تنفيذ مكتب / علي نصار حسن منصور للمقاولات العامة

نتشرف بان نرفق لسيادتكم طيه مقايسة معدلة رقم (١) بقيمة (١٩٩٩٩٣٤٤)

(تسعة عشر مليون و تسعمائة و تسعة و تسعين و ثلاثمائة و اربعة واربعين جنيه)

برجاء التفضل بالاحاطة و التوجيه باللازم .

وتفضلوا بقبول فائق الاحترام و التقدير ،،،،،

يعتمد ،،،،

رئيس الادارة المركزية

مهندس /

نصر محمد نصر طبيخ

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بنى سلامه بطول ٦٧ كم فى المسافة من كم ٠٠٠+٠٠وحتى ٠٠٠+٦ بطول ٦ كم

(اعمال استكمال الطبقة السفلية مرحلة اولي) (من NGL الي -٢)

تنفيذ: شركة علي نصار للمقاولات العامة

مقايسة معدلة رقم (١)

م	البنـــــــد	الوحدة	الفئه	الكمية	الاجمالى
١	**اعمال الازاله والتطهير**				
١_١	بالمتر المكعب اعمال تكسير و ازالة المباني الخرسانة عادية او مسلحة او ارصفة او دبش مع نقل ناتج التكسير خارج الموقع للمقالب العمومية طبقاً لاصول الصناعة و كراسة الشروط ومواصفات الخاصة بسكة حديد مصر ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. و الفئة شاملة مما جميعة بالمتر المكعب لمسافة نقل حتي ٣٠ كم و يتم احتساب علاوة ١ جنية للكم في حالة الزيادة والنقصان .	م٣	٨٢,٠٠	٠,٠٠	٠,٠٠
٢_١	بالمتر المكعب اعمال ازالة المخلفات بجميع انواعها البناء والرتش والمواد العضوية و....، و تسليم موقع خالي ونظيف طبقا لتعليمات المهندس المشرف والفئة شاملة اعمال نقل المخلفات خارج الموقع على مسئولية المقاول وكل ما يلزم لنهو العمل طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. وذلك لمسافة ٥٠٠ م . وفي حالة زيادة مسافة النقل عن ٥٠٠ م يتم احتساب علاوه ١,٠٥ جنيه عن كل ١ كم زياده يتم احتساب علاوه ٢ جنيه /م٣ لكل ٥ متر عمق وذلك يشمل انشاء مدقات ومطالع ومنازل.	م٣	١٧,٠٠	٠,٠٠	٠,٠٠
٣_١	بالمتر المسطح ازالة وقطع المزروعات المتعارضه مع المسار والتي تستلزم لها التنفيذ بالمعدات الميكانيكيه بسمك ١٥سم والبند يشمل التطهير وازالة الجذور وملئ الحفر والتسويه مع نقل المخلفات للمقالب العموميه وكل ما يلزم طبقاً لاصول الصناعة و كراسة الشروط ومواصفات الخاصة بسكة حديد مصر و مواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . وذلك لمسافة نقل ١ كم مع احتساب علاوة ٠,٥٢٥ جنيه لكل ١ كم في حالة الزياده والنقصان	م٢	٦,١٠	٠,٠٠	٠,٠٠
٤_١	بالعدد ازالة اشجار من مسار الطريق والتخلص منها على ان لا يقل قطر الاشجار عن ٣٠ سم شامل النخيل بارتفاع لا يقل عن ٤ متر طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.	العدد	٠,٠٠	٠,٠٠	٠,٠٠
١_٤_١	اشجار لا تقل قطرها عن ٣٠ سم		٨٠,٠٠	٠,٠٠	٠,٠٠
١_٤_ب	نخيل بارتفاع لا يقل عن ٤ متر		٣٠٠,٠٠	٠,٠٠	٠,٠٠
٥_١	القيام باختبار (plate load test) طبقا لتعليمات الاستشارى العام للمشروع. وطبقا لملحق ١ الخصائص الفنية لجسر السكة ومادة التزليط في كراسة الشروط الخاصة والمواصفات الفنية الخاصة سكة حديد مصر	العدد	٢,٧٥٠,٠٠	٠,٠٠	٠,٠٠
٢	**اعمال الحفر**				
١_٢	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية لجميع انواع التربة عدا التربة الصخرية بالعمق المطلوب للوصول للمنسوب الصالح للتاسيس اسفل المنسوب التصميمي للسكه الحديد طبقا لما ورد بتقرير التربه وحسب الابعاد والمقاسات والمناسيب الموضحه بالرسومات التنفيذيه مع نقل ناتج الحفر الغير صالح او نقل التربه الصالحه الزائدة الي المشاون التي تحددها الهيئة لاعادة تشغيلها وذلك لمسافة ٥٠٠ م مع التسويه والارنكه لجوانب الحفر وتشغيل قاع الحفر طبقا للقطاعات التصميميه العرضيه النوذجيه والقطاع الطولي والرسومات التفصيليه المعتمده والقياس طبقا لابعاد الرسومات وكل ما يلزم لنهو العمل كاملا طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر و مواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . وفي حالة زيادة مسافة النقل عن ٥٠٠ م يتم احتساب علاوه ١,٠٥ جنيه عن كل ١ كم زياده يتم احتساب علاوه ٢ جنيه /م٣ لكل ٥ متر عمق وذلك يشمل انشاء مدقات ومطالع ومنازل.	م٣	٢٣,٦٠	٠,٠٠	٠,٠٠
٢_٢	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية فى التربة المتماسكة عدا التربة الصخرية (باستخدام البلدوزر) بالعمق المطلوب للوصول للمنسوب الصالح للتاسيس اسفل المنسوب التصميمي للسكه الحديد طبقا لما ورد بتقرير التربه وحسب الابعاد والمقاسات والمناسيب الموضحه بالرسومات التنفيذيه مع نقل ناتج الحفر الغير صالح او نقل التربه الصالحه الزائدة الي المشاون التي تحددها الهيئة لاعادة تشغيلها وذلك لمسافة ٥٠٠ م مع التسويه والارنكه لجوانب الحفر وتشغيل قاع الحفر طبقا للقطاعات التصميميه العرضيه النوذجيه والقطاع الطولي والرسومات التفصيليه المعتمده والقياس طبقا لابعاد الرسومات وكل ما يلزم لنهو العمل كاملا طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر و مواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . وفي حالة زيادة مسافة النقل عن ٥٠٠ م يتم احتساب علاوه ١,٠٥ جنيه عن كل ١ كم زياده. يتم احتساب علاوه ٢ جنيه /م٣ لكل ٥ متر عمق وذلك يشمل انشاء مدقات ومطالع ومنازل.	م٣	٢٦,٧٠	٠,٠٠	٠,٠٠

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بني سلامه بطول ٦٧ كم في المسافة من كم ٠٠٠+٠وحتى ٠٠٠+٦ بطول ٦ كم

(اعمال استكمال الطبقة السفلية مرحلة اولي) (من NGL الي -٢)

تنفيذ: شركة علي نصار للمقاولات العامة

مقايسة معدلة رقم (١)

م	البنـــــــد	الوحدة	الفئه	الكمية	الاجمالى
٣-٢	بالمتر المكعب اعمال حفر بالمعدات الميكانيكية فى تربة صخرية ومحمل على البند الاتى ١- تحميل ونقل ناتج الحفر لمسافة لا تقل عن ٥٠٠ متر . ٢- ارنكة الميول الجانبية باستخدام المعدات الميكانيكية . ٣- توريد اتربة مطابقة للمواصفات وتشغيلها باستخدام الات التسوية بسمك لا يزيد عن ٢٥ سم لاستكمال المنسوب التصميمى لتشكيل الجسر والاكتاف (نسبة تحمل كاليفورنيا لا تقل عن ١٠%) ورشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة (٩٥% من الكثافة الجافة القصوى) . ويتم التنفيذ طبقاً للمناسيب التصميمية والقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر و مواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . و فى حالة زيادة مسافة نقل ناتج الحفر عن ٥٠٠ متر من محور الطريق يتم حساب ١,٠٥ جنية للكيلومتر زيادة	م٣			
	ا- ذات اجهاد (١٠٠ - ٢٠٠) كجم /سم ٢		٦١.٧٠	٠,٠٠	٠,٠٠
	ب- ذات اجهاد (٢٠٠ - ٣٠٠) كجم /سم ٢		٧١.٩٠	٠,٠٠	٠,٠٠
	ج- ذات اجهاد (٣٠٠ - ٤٠٠) كجم /سم ٢		٨٤.٣٠	٠,٠٠	٠,٠٠
	د- ذات اجهاد اعلي من ٤٠٠ كجم /سم ٢		٩٨.٩٠	٠,٠٠	٠,٠٠
٤-٢	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية ف اتربة (A3)شديدة النعومة و تسوية السطح بالات التسوية والرش بالمياة الاصولية للوصول الي نسبة الرطوبة و الدمك الجيد بالهراسات للوصول الي اقصى كثافة جافة (%٩٥من الكثافة الجافة القصوى) و الفئة تشمل توريد اتربة مناسبة لفرشها اعلي الاتربة الرملية لامكانية تحريك المعدات دون الغرز . و محمل علي البند تحميل و نقل الاتربة الزائدة لمسافة ٥٠٠م من محور الطريق مع التسويه والارنكه لجوانب الحفر وتشغيل قاع الحفر للوصول الي اقصى كثافة جافة (%٩٥من الكثافة الجافة القصوى)طبقا للقطاعات التصميميه العرضيه النوذجيه والقطاع الطولي والرسومات التفصيليه المعتمده والقياس طبقا لابعاد الرسومات وكل ما يلزم لنهو العمل كاملا طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر و مواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . وفي حالة زيادة مسافة النقل عن ٥٠٠ م يتم احتساب علاوه ١,٠٥ جنيه عن كل ١ كم زياده. يتم احتساب علاوه ٢ جنيه /م٣ لكل ٥ متر عمق وذلك يشمل انشاء مدقات ومطالع ومنازل.		٢٨.٥٠	٠,٠٠	٠,٠٠
٥-٢	بالمتر المكعب اعمال حفر باستخدام المعدات الميكانيكية ف التربة شديدة التماسك (طفلة متحجرة او ....) عدا التربة الصخرية (باستخدام البلدوزر) بالعمق المطلوب للوصول للمنسوب الصالح للتاسيس اسفل المنسوب التصميمي للسكه الحديد طبقا لما ورد بتقرير التربة وحسب الابعاد والمقاسات والمناسيب الموضحه بالرسومات التنفيذيه مع نقل ناتج الحفر الغير صالح او نقل التربة الصالحه الزائدة الي المشاون التي تحددها الهيئة لاعادة تشغيلها وذلك لمسافة ٥٠٠م مع التسويه والارنكه لجوانب الحفر وتشغيل قاع الحفر طبقا للقطاعات التصميميه العرضيه النوذجيه والقطاع الطولي والرسومات التفصيليه المعتمده والقياس طبقا لابعاد الرسومات وكل ما يلزم لنهو العمل كاملا طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر و مواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . وفي حالة زيادة مسافة النقل عن ٥٠٠ م يتم احتساب علاوه ١,٠٥ جنيه عن كل ١ كم زياده. يتم احتساب علاوه ٢ جنيه /م٣ لكل ٥ متر عمق وذلك يشمل انشاء مدقات ومطالع ومنازل.		٣١.٥٠	٠,٠٠	٠,٠٠

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بني سلامه بطول ٦٧ كم في المسافة من كم ٠٠٠+٠ وحتى ٠٠٠+٦ بطول ٦ كم

(اعمال استكمال الطبقة السفلية مرحلة اولي) (من NGL الي -٢)

تنفيذ: شركة علي نصار للمقاولات العامة

مقايسة معدلة رقم (١)

م	البنـــــــد	الوحدة	الفئه	الكمية	الاجمالى
٣	اعمال الردم				
١_٣	بالمتر المكعب اعمال استخدام ناتج الحفر في اعمال الردم والمطابقه للمواصفات وتشغيلها باستخدام الات التسويه لاستكمال المنسوب التصميمي لتشكيل الجسر الترابي والاكتاف (علي ان تكون نسبة تحمل كاليفورنيا طبقا للهيئة القومية لسكة احديد مصر) ورشها بالمياه الاصوليه للوصول الي نسبة الرطوبه المطلوبه والدمك الجيد بالهراسات للوصول اقصى كثافه جافه لا تقل عن ٩٥ % من الكثافه الجافه القصوى ويتم التنفيذ طبقا للمناسيب التصميميه والقطاعات العرضيه النموذجيه والرسومات التفصيليه المعتمده والبند بجميع مشتملاته طبقا لاصول الصناعه و كراسة الشروط ومواصفات الخاصة بسكة حديد مصر وتعليمات المهندس المشرف. السعر لا يشمل قيمة المادة المحجرية ، علي ان يتم سداد القيمة للشركة المصرية للتعدين وادارة واستغلال الحاجر والملاحات بمعرفة الهيئة القومية لسكة احديد مصر. - مسافة النقل حتى ٢ كم.	م٣	٣٤	٠,٠٠	٠,٠٠
	يتم احتساب علاوه ١,٤٥ جنية لكل ١ كم زيادة.				
	في حالة وجود مدقات في مسافات النقل يتم اضافة ٣ جنية علي مسافة ١٢ كم في المدق وعند التغير في طول المدق يتم احتسابها نسبة وتناسب				
	في حالة طلب جهاز الاشراف زيادة نسبة الدمك عن ٩٥% يحسب زيادة ١ جنية علي كل ١ %				
٢_٣	بالمترالمكعب اعمال تحميل وتوريد ونقل اتربه مطابقه للمواصفات وتشغيلها باستخدام الات التسويه لاستكمال المنسوب التصميمي لتشكيل الجسر الترابي والاكتاف ورشها بالمياه الاصوليه للوصول الي نسبة الرطوبه المطلوبه والدمك الجيد بالهراسات للوصول اقصى كثافه جافه لا تقل عن ٩٥ % من الكثافه الجافه القصوى ويتم التنفيذ طبقا للمناسيب التصميميه والقطاعات العرضيه النموذجيه والرسومات التفصيليه المعتمده والبند بجميع مشتملاته طبقا لاصول الصناعه والشروط وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر وتعليمات المهندس المشرف. - السعرلا يشمل قيمة المادة المحجرية مع قيام الشركة المنفذه بتقديم ما يثبت من الجهات الرسمية المعتمدة المشرفة عن المحاجر . - مسافة النقل حتى ٢ كم - يتم تشغيل الفرمة - اعلي طبقة الردم العلوية بسماكة لا تقل عن ٥٠ سم - باستخدام الات التسويه بسمك لا يزيد عن ٢٥ سم - يتم تشغيل الجزء العلوي - جزء من الجسر بارتفاع لا يقل عن ١,٥٠ متر من قاع الفرمة - باستخدام الات التسويه بسمك لا يزيد عن ٢٥ سم ، - يتم تشغيل الجزء السفلي - باقي الارتفاع - علي طبقات باستخدام الات التسويه بسمك لا يزيد عن ٥٠ سم	م٣	٠,٠٠	٠,٠٠	٠,٠٠
	(علي الا تقل نسبة تحمل كاليفورنيا عن ٢٥ %) للجزاء الفرمة		٤٤.٦٠	٦٠,٠٠٠	٢,٦٧٦,٠٠٠,٠٠
	(علي الا تقل نسبة تحمل كاليفورنيا عن ٢٠ %) للجزء العلوي		٤٢.٤٠	١٩١,٠٠٠	٧,٩٠٧,٤٠٠
	(علي الا تقل نسبة تحمل كاليفورنيا عن ١٠ %) للجزء السفلي		٣٥.٠٠	٢٦٩,٠٢٧	٩,٤١٥,٩٤٤
	يتم احتساب علاوه ١,٤٥ جنية لكل ١ كم زيادة و ذلك حتى مسافة نقل ١٠٠ كم و ١,٢٥ جنية لكل ١ كم زيادة عن مسافة نقل ١٠٠ كم .		٠,٠٠	٠,٠٠	٠,٠٠
	في حالة وجود مدقات في مسافات النقل يتم اضافة ٣ جنية علي مسافة ١٢ كم في المدق وعند التغير في طول المدق يتم احتسابها نسبة وتناسب		٠,٠٠	٠,٠٠	٠,٠٠
	يتم زيادة مبلغ ٥ جنية في حالة استخدام بلدوزر في التحجير للارض المتماسكة و ذلك طبقا لتحليل التربة .		٠,٠٠	٠,٠٠	٠,٠٠
	في حالة طلب جهاز الاشراف زيادة نسبة الدمك عن ٩٥% يحسب زيادة ١ جنية علي كل ١ %		٠,٠٠	٠,٠٠	٠,٠٠
٣_٣	بالمتر المسطح اعمال تشغيل الارض الطبيعية بسمك ٣٠ سم - في حالة سمك الردم او الحفر لا يزيد عن ٢٠سم - عندما لايوجد اختلاف في منسوب التصميم والارض الطبيعية والاعمال تشمل تشغيل التربة مع الدمك الجيد للوصول الي اقصي كثافة جافة لا تقل عن ٩٥% من الكثافة الجافة القصوي والقيام باختبار (plate load test) طبقا لتعليمات الاستشارى العام للمشروع. كل ٥٠ متر .طولي لتحديد معاير المرونة بعد التشغيل وكل ما يلزم لنهو العمل كاملا طبقاً لاصول الصناعة و كراسة الشروط ومواصفات الخاصة بسكة حديد مصر ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.	م٢	١٥.٠٠	٠,٠٠	
٤_٣	بالطن اعمال توريد واضافة اسمنت مطابق للشروط والمواصفات ويضاف بالنسبة المقررة والخلطة التصميمية والبند شامل كل مايلزم نهو العمل طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.	بالطن	٢,٣٠٠.٠٠	٠,٠٠	

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بنى سلامه بطول ٦٧ كم فى المسافة من كم ٠٠٠+٠٠٠وحتى ٠٠٠+٦ بطول ٦ كم

(اعمال استكمال الطبقة السفلية مرحلة اولي) (من NGL الي -٢)

تنفيذ: شركة علي نصار للمقاولات العامة

مقايسة معدلة رقم (١)

م	البنـــــــد	الوحدة	الفئه	الكمية	الاجمالى
٤	اعمال الخرسانات والعدايات و الحماية من اخطار السيول				
١_٤	بالمتر المسطح اعمال توريد وصب خرسانة عادية سمك ١٥سم لارتفاع ١٠ متر راسي لحماية الاكتاف والميول الجانبية تتكون من ٠,٨م٠م٣ سن دولوميت متدرج +٠,٤م٣ رمل حرش والاضافات طبقا لتعليمات الاستشارى (فيبر + سيكا) علي ان يكون السن نظيف ومغسول والرمل خالى من الشوائب والطفله والاملاح والمواد الغريبه مع موضع فوم (بالفاصل) بسمك ٢ سم (طبقا لتعليمات الاستشارى) والبند يشمل تجهيز ودمك وتلبيت واستعدال مناسيب التربة الطبيعية اسفل البلاطه للوصول الى المناسيب التصميميه على ان تحقق الخرسانه اجهاد لايقل عن ٢٥٠كجم/سم٢ وتشطيب السطح وملء الفواصل بالبيتومين المرمل والتنفيذ طبقا لاصول الصناعه والرسومات التفصيليه المعتمده والبند بجميع مشتملاته طبقاً لمواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف. يتم اضافة علاوة قدره ٥ جنيه بعد اول ١٠ متر راسي على ان تضاف لكل مسطاح (لايقل عن ٥ متر راسي).	م٢	٤٢٠	٠,٠٠	٠,٠٠
٢_٤	بالمتر المكعب اعمال توريد وصب خرسانة عادية لتنفيذ قدمة سفلية وعلوية للاكتاف والميول الجانبية تتكون من ٠,٨م٠م٣ سن دولوميت متدرج +٠,٤م٣ رمل حرش +٢٨٠ كجم اسمنت بورتلاندى عادى والاضافات طبقا لتعليمات الاستشارى (فيبر + سيكا) علي ان يكون السن نظيف ومغسول والرمل خالى من الشوائب والطفله والاملاح والمواد الغريبه والبند يشمل تجهيز واستعدال مناسيب التربة الطبيعية اسفل البلاطه للوصول الى المناسيب التصميميه على ان تحقق الخرسانه اجهاد لايقل عن ٢٥٠كجم/سم٢ وتشطيب السطح والتنفيذ طبقاً لاصول الصناعة والرسومات التفصيلية والبند بجميع مشتملاته وتعليمات المهندس المشرف	م٣	٢,٣٠٠	٠,٠٠	٠,٠٠
٣_٤	بالمتر المكعب توريد خرسانه عاديه اسفل القواعد المسلحه للاساسات تتكون من ٠,٨ م٠ م٣ سن دولميت متدرج + ٠,٤ م٣ رمل حرش +٢٥٠ كجم اسمنت بروتولاندى عادى على ان يكون السن والرمل نظيف وخال من الطفله والاملاح والمواد الغريبه بمختلف الارتفاعات وفي اي مكان وتحت اي ظروف في منطقة العمل والبند يشمل تجهيز واستعدال السطح مع الرش والدمك اسفل البلاطه للوصول الى المناسيب التصميميه طبقا للرسومات المعتمده على ان تحقق الخرسانه اجهاد لا يقل عن ٢٠٠ كجم /سم٢ والتنفيذ مما جميعه طبقا للوحات المعتمدة وكل ما يلزم لنهو العمل كاملا طبقا لاصول الصناعة والشروط والمواصفات وطبقا لكراسة الشروط والمواصفات الخاصة بسكة حديد مصر (الفصل الخامس) وتعليمات المهندس المشرف	م٣	١,٥٥٠	٠,٠٠	٠,٠٠
٤_٤	بالمتر المكعب اعمال تنفيذ خرسانة مسلحة حوائط سائدة مع استخدام اسمنت بورتلاندى عادى ومحتوى اسمنت لا يقل عن ٣٥٠ كجم/م٣ واجهاد لا يقل عن ٣٠٠ كجم/سم٢السعر لا يشمل حديد التسليح وكل ما يلزم لنهو العمل كاملا طبقا لاصول الصناعة والشروط والمواصفات وطبقا لكراسة الشروط والمواصفات الخاصة بسكة حديد مصر (الفصل الخامس) وتعليمات المهندس المشرف	م٣	٢,٨٩٠	٠,٠٠	٠,٠٠
٥_٤	بالمتر الطولى توريد وتركيب برابخ مواسير سابقة التجهيز قطر داخلى كالاتي (رتبه ١٤) تسليح مذدوج من انتاج شركة سيجورت او ما يمثلها من الخرسانه المسلحه باجهاد ٣٠٠ كجم / سم ٢ بنسبة خلط (٣٥٠ كجم اسمنت مقاوم للكبريتات + ٠,٨ م٣ زلط +٠,٤ م٣ رمل) مع تدعيم نهايات الماسوره بخوص الحديد مع عزل الوصلات بالخيش المقطرن مع انزال المواسير لموقع تركيبها بحيث لا يحدث شروخ لها او كسور وسيتم رفع او استبعاد اي مسورة يحدث لها شروخ او كسور مع تقديم نوتة حسابية و ملحق مواصفتها و والفئه شاملة اعمال الحفر حتي منسوب التصميمي ونزح المياه وعمل السدود والفئة غير شاملة الردم بالرمال حول واعلي المواسير ويتم التنفيذ طبقا لتعليمات المنطقة المختصة و الرسوات المعتمدة المرفقة والبند لا يشمل الجلب والتنفيذ مما جميعه طبقا للوحات المعتمدة وكل ما يلزم لنهو العمل كاملا طبقاً لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر.	م.ط	٠,٠٠	٠,٠٠	٠,٠٠
	ا. قطر ١ متر		٥,٠١٩.٣٠	٠,٠٠	٠,٠٠
	ب. قطر ١,٥ متر		٩,٩٣٤.٢٠	٠,٠٠	٠,٠٠
	ج. قطر ٢ متر		١٥,١٠٩.٦٠	٠,٠٠	٠,٠٠
	د. قطر ٢,٥ متر		٢٠,٥٤٥.٥٠	٠,٠٠	٠,٠٠
٦_٤	بالطن توريد حديد تسليح (٦٠/٤٠) لزوم جميع العناصر الانشائيه والسعر يشمل التقطيع والتشكيل والنقل والتركيب وعمل الوصلات التى لم ترد فى الرسومات والتنفيذ مما جميعه طبقا للوحات المعتمدة وكل ما يلزم لنهو العمل كاملا طبقا لاصول الصناعة والشروط والمواصفات وطبقا لكراسة الشروط والمواصفات الخاصة بسكة حديد مصر (الفصل الخامس) وتعليمات المهندس المشرف	الطن	٤٥,٠٠٠.٠٠	٠,٠٠	٠,٠٠

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بني سلامه بطول ٦٧ كم في المسافة من كم ٠٠٠+٠٠وحتى ٠٠٠+٦ بطول ٦ كم

(اعمال استكمال الطبقة السفلية مرحلة اولي) (من NGL الي -٢)

تنفيذ: شركة علي نصار للمقاولات العامة

مقايسة معدلة رقم (١)

م	البنـــــــد	الوحدة	الفئه	الكمية	الاجمالى
٤_٧	بالمتر الطولى توريد وتركيب مواسير U.P.V.C تتحمل ضغط ٦ بار والفئة تشمل توريد جميع الاكسسوارات لتجميع المواسير وضبط الميول والمواد اللاصقه ودفع الكارتات وكل مايلزم لنهو العمل كاملا طبقاً لاصول الصناعة وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف.	م.ط		٠,٠٠	٠,٠٠
	٤ بوصة		٣٢٥,٠٠	٠,٠٠	٠,٠٠
	٦ بوصة		٤٢٥,٠٠	٠,٠٠	٠,٠٠
٥	اعمال طبقات الاساس للسكة الحديد				
٥_١	بالمتر المكعب اعمال توريد وفرش وتشغيل طبقة اساس سكة (Subballast) من الاحجار الصلبه المتدرجه من ناتج تكسير الكسارات مطابقة لمواصفات الهيئه القوميه للسكه الحديد و اقصي حجم للحبيبات ما بين ٣١,٥ مم الي ٥٠ مم و الا يزيد نسبة المار من منخل ٢٠٠ عن ٥ % و التدرج الوارد بالاشتراطات الخاصة بالمشروع بنسبة تحميل كاليفورنيا لاتقل عن ٨٠% ولا يقل معامل المرونة (ev2) من تجربة لوح التحميل عن ١٢٠ ميجابسكال ولا يزيد نسبة الفاقد بجهاز لوس انجلوس عن ٣٠% ولا يزيد الامتصاص عن ١٠% والفئة تشمل اعمال الفرد الخلط الجيد واضافة المياه المطلوبه للوصول الى الخلطة المتجانسة ذات التدرج الذى يحقق المواصفات والدمك على طبقات حتى الوصول للمناسيب التصميميه والانحدارات والقطاعات الطوليه والعرضيه باستخدام المعدات بمختلف انواعها للوصول الي اقصي كثافة جافة لا تقل عن ٩٨ % من الكثافة الجافة القصوي وكل ما يلزم لنهو العمل كاملا طبقا لاصول الصناعة والشروط والمواصفات وطبقا لكراسة الشروط والمواصفات الخاصة بسكة حديد مصر (الفصل الرابع) وتعليمات المهندس المشرف. -مسافة النقل ٢٠ كم -السعر يشمل قيمة المادة المحجرية و على الشركة المنفذه تقديم ما يثبت من الجهات الرسمية المشرفة عن المحاجر -القيام باختبار (plate load test) طبقا لتعليمات الاستشارى العام للمشروع لكل ٥٠ متر طولي	م٣	٢٨٠	٠,٠٠	٠,٠٠
	يتم احتساب علاوه ١,٢٥ جنية لكل ١ كم زيادة او النقصان وذلك حتى مسافة نقل ١٠٠ كم و ١,٠٥ جنية لكل ١ كم زيادة عن مسافة نقل ١٠٠ كم .				
٦	اعمال الطرق				
٦_١	بالمتر المكعب اعمال توريد وفرش طبقة اساس من الاحجار الصلبة المتدرجة ناتج تكسير الكسارات والمطابقة للمواصفات والتدرج الوارد بالاشتراطات العامة والخاصة بالمشروع لا تقل نسبة تحمل كاليفورنيا عن ٨٠% ولا يزيد نسبة الفاقد بجهاز لوس انجلوس عن ٤٠ % والا يزيد الامتصاص عن ١٠ % وفردها على طبقتين باستخدام الات التسوية الحديثة على ان لا يزيد سمك الطبقة بعد تمام الدمك عن ٢٠سم ورشها بالمياه الاصولية للوصول الى نسبة الرطوبة المطلوبة والدمك الجيد بالهراسات للوصول الى اقصى كثافة جافة قصوى (لا تقل عن ٩٥%) من الكثافة المعملية والفئة تشمل اجراء التجارب المعملية والحقلية ويتم التنفيذ طبقاً لاصول الصناعة والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لمواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف . -مسافة النقل ٢٠ كم . - يتم احتساب علاوه ١,٢٥ جنية لكل ١ كم زيادة او النقصان وذلك حتى مسافة نقل ١٠٠ كم و ١,٠٥ جنية لكل ١ كم زيادة عن مسافة نقل ١٠٠ كم . -السعر يشمل قيمة المادة المحجرية و على الشركة المنفذه تقديم ما يثبت من الجهات الرسمية المشرفة عن المحاجر.	م٣	٢١٤,٠٠	٠,٠٠	٠,٠٠
٦_٢	بالمتر المسطح اعمال توريد ورش طبقة تشريب من البيتومين السائل متوسط التطاير MC30 بمعدل ١,٥ كجم/م٢ ترش فوق طبقة الاساس بعد تمام دمكها وتنظيفها جيداً ويتم التنفيذ طبقاً للقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف .	م٢	٣,٠٩٠	٠,٠٠	٠,٠٠
٦_٣	بالمتر المسطح اعمال توريد وفرش طبقة رابطة من الخرسانة الاسفلتية بسمك ٦سم بعد الدمك باستخدام احجار صلبة ناتج تكسير الكسارات والبيتومين الصلب ٦٠/٧٠ واردة شركة النصر بالسويس او ما يماثلها والفئة تشمل اجراء التجارب المعملية والحقلية على المخلوط وعلى المواد المستخدمة ويتم التنفيذ طبقاً للقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف	م٢	١٦٤,٠٠	٠,٠٠	٠,٠٠

وزارة النقل
المنطقة الاولى المركزية
الهيئة العامة للطرق والكبارى

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بنى سلامه بطول ٦٧ كم فى المسافة من كم ٠٠٠+٠وحتى ٠٠٠+٦ بطول ٦ كم

(اعمال استكمال الطبقة السفلية مرحلة اولي) (من NGL الي -٢)

تنفيذ: شركة علي نصار للمقاولات العامة

مقايسة معدلة رقم (١)

م	البنـــــــد	الوحدة	الفئه	الكمية	الاجمالى
٦_٤	بالمتر المسطح اعمال توريد ورش طبقة لاصقة من البيتومين السائل سريع التطاير RC3000 بمعدل ٠,٥ كجم/م٢ ترش فوق الطبقة الاسفلتية بعد تمام دمكها وتنظيفها جيداً ويتم التنفيذ طبقاً للقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف .	م٢	١٠.٦٠	٠,٠٠	٠,٠٠
٦_٥	بالمتر المسطح اعمال توريد وفرش طبقة سطحية من الخرسانة الاسفلتية بسمك ٥سم بعد الدمك باستخدام احجار صلبة ناتج تكسير الكسارات والبيتومين الصلب ٦٠/٧٠ واردة شركة النصر بالسويس او ما يماثلها والفئة تشمل اجراء التجارب المعملية والحقلية على المخلوط وعلى المواد المستخدمة ويتم التنفيذ طبقاً للقطاعات العرضية النموذجية والرسومات التفصيلية المعتمدة والبند بجميع مشتملاته طبقاً لاصول الصناعة ومواصفات الهيئة العامة للطرق والكبارى وتعليمات المهندس المشرف .	م٢	١٥٩.٠٠	٠,٠٠	٠,٠٠
	اجمالى قيمة الاعمال (بالجنيه)				١٩,٩٩٩,٣٤٤

* بنود سيتم تنفيذها طبقا لقايمة يناير ٢٠٢٣ و زياده البتومين (٢٠٢٣/٣/٦) وزياده السولار(٢٠٢٣/٥/٤)
* تم وضع الاسعار على بنود سيتم تنفيذها طبقا لقايمة يناير ٢٠٢٣ وومذكرة العرض زيادة السولار (٢٥/٥/٢٠٢٣) والسوق وقت المفاوضه
* فى حالة المرور على محطات تحصيل الشركة الوطنية لانشاء وتنمية وادارة الطرق يضاف للاسعار قيمة تحصيل رسوم الكارتات والموازين طبقا للائحه الشركة الوطنية وطبقا للقائمة الموحدة فى حالة تقديم الشركة الايصالات الدالة على ذلك .
* مسافات النقل بالمحاجر طبقا لافادة المنطقة المشرفة على التنفيذ.
* فى حالة زيادة او خفض اسعار المواد (البيتومين ومشتقاته - الحديد -الاسمنت - سولار) يتم اضافة او خفض قيمة الزيادة او النقصان طبقا لمعاملات تاثير المادة على البند .
* بنود طبقا لاخر تغير فى السولار يعتبر الاساس شهر مايو ٢٠٢٣
* تكون مدة التنفيذ ٨ اشهر

الشركة المنفذة
مهندس/
التوقيع /

استشاري المشروع
مهندس /
التوقيع /

مدير المشروع الهيئة
مهندس /
التوقيع /

مدير عام المشروعات
مهندسه / جهـاد
التوقيع /

يعتمد ،،،،،
رئيس الادارة المركزية
مهندس/نصر محمد نصر طبيخ
التوقيع/

وزارة النقل
الهيئة العامة للطرق والكبارى (GARB)
المنطقة الاولى المركزية

محضر إفادة قيمة مادة محجرية(أتربة)

مشروع أعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد 6 أكتوبر / بني سلامه بطول 67 كم
في المسافة من كم 000+0 وحتى كم000+6 بطول 6 كم .
تنفيذ:- شركة علي نصار للمقاولات العامة و التوريدات .

أنه في يوم الاربعاء الموافق 24/ 04 /2024 إجتمعت اللجنة بحضور كلا من :-

1- م/ اسماء علي - مدير المشروع (الهيئة العامة للطرق والكبارى) .
2- م/ أحمد لطفى بكرى - عن مكتب شاكر جروب(الاستشارى العام للسكة الحديد) .
3- م/ خالد بدر - عن مكتب د.حسن مهدى(إستشارى الهيئة) .
4- م/ مختار أحمد عبد العال - عن مكتب الدولية (إستشارى المساحه) .
5- م/ احمد الرخاوي - مدير المشروع (الشركة المنفذه) .

وبعد زيارة و معاينة محجر القوات الجوية الكم (14)" طريق الواحات " والذي يقع بجوار الدائري الاقليمي اتجاه الواحات داخل ارض القوات الجوية مشروع مستقبل مصر باحداثيات
(E: 574977.019 & N: 802612.237) و الذي تم اعتماده للتوريد بالمشروع.

وقد افادت اللجنه بالاتي:-

- قيمة رسوم المواد المحجرية لمواد الردم 36 جنيه (فقط سته وثلاثون جنيها لاغير)
- قيمة نسبة الدمك 25% من قيمة الرسوم المحجرية = 36*0.25 = 9 (فقط تسعه جنيهات لاغير) .
- قيمة الاستقطاعات 12 % = (36+9) * 0.12 = 5.4 (فقط خمسة جنيهات واربعون قرشا لاغير)
- في حالة سداد رسوم الكارتات والموازين طبقا للقائمة الموحدة 2023 = 13 جنيه (فقط وقدره ثلاثة عشر جنيهات) .

وأقفل المحضر على ذلك ،،،،،،،،،

- الحضور:-	- التوقيع :-
5- م/ احمد الرخاوي	-
4- م/ مختار أحمد عبد العال	-
3- م/ خالد بدر	-
2- م/ أحمد لطفى بكرى	-
1- م/ اسماء علي	-

يعتمد ،،،،،،،

مدير عام مشروعات
م / جهاد محمد سعد
التوقيع /

رئيس الادارة المركزية
م / نصر محمد طبيخ
التوقيع /

وزارة النقل
المنطقة الأولى المركزية
الهيئة العامة للطرق والكبارى

جدول (٣): التدرج وحدود السيولة واللدونة والتصنيف – عينة "٥"

مشروع	إنشاء جسر ترابي لخط سكة حديد ٦ أكتوبر / بني سلامة بطول ٦٨ كم، من الكم ٠+٠٠٠ حتى الكم ٦+٠٠٠
المالك	الهيئة العامة للطرق والكباري – وزارة النقل
الاستشاريون	شاكر جروب الشركة الدولية مكتب أ.د/ حسن مهدي
تنفيذ	شركة علي نصار للمقاولات العامة والتوريدات

الاختبار	عينة ٥
التحليل المنخلي للمواد الغليظة والمواد الرفيعة	
(نسبة المار %):	
"١,٥	
"١	١٠٠
"٤/٣	٩٩
"٢/١	٩٧
"٨/٣	٩٥
رقم ٤	٨٥
رقم ١٠	٦٠
رقم ٤٠	٣٠
رقم ٢٠٠	١٠,٦
تحديد حد السيولة:	
– حد السيولة (%)	٢٤
حد اللدونة ومجال اللدونة:	
– حد اللدونة (%)	١٩
– مجال اللدونة (%)	٥
تصنيف التربة طبقاً للأشتو	A-1-b

إشراف

مراجعة

المشرف على المعمل
أ.د/ حسن مهدي

تاريخ: ٢٠٢٣/٧/٢٦
٥ / ٤

جدول (٤): بروكتور المعدل ونسبة تحمل كاليفورنيا – عينة "٥"

مشروع	إنشاء جسر ترابي لخط سكة حديد ٦ أكتوبر / بني سلامة بطول ٦٨ كم، من الكم ٠+٠٠٠ حتى الكم ٦+٠٠٠
المالك	الهيئة العامة للطرق والكباري – وزارة النقل
الاستشاريون	شاكر جروب الشركة الدولية مكتب أ.د/ حسن مهدي
تنفيذ	شركة علي نصار للمقاولات العامة والتوريدات

الاختبار	عينة ٥
إختبار بروكتور المعدل:	
– أقصى كثافة جافة (طن/م^3)	٢,٠٧١
– نسبة الرطوبة المثلى (%)	٦,٣
نسبة تحمل كاليفورنيا (CBR):	
– نسبة تحمل كاليفورنيا (%)	٥٤
– الانتفاخ (%)	٠,٢

إشراف

مراجعة

إعتماد
المشرف على المعمل
د. حسن تحسين

تاريخ: ٢٠٢٣/٧/٢٩
٥/٥

Cairo University - Faculty of Engineering
Highways Airports and Traffic Lab, Giza - Egypt
Tel: 35678423 - Fax: 35723486 Zip code: 12316

جامعة القاهرة - كلية الهندسة
معمل الطرق والمطارات والمرور - الجيزة - الرقم البريدي ١٢٣١٦
تليفون: ٣٥٦٧٨٤٢٣ فاكس: ٣٥٧٢٣٤٨٦

محضر تحجير للارض المتماسكة

مشروع اعمال الجسر الترابي و الاعمال الصناعية لخط سكة حديد 6 اكتوبر / بنى سلامة بطول 67 كم
في المسافة من الكم (0+000) إلى الكم (6+000) بطول 6 كم
تنفيذ: شركة على نصار للمقاولات العامة و التوريدات

أنه في يوم الاربعاء الموافق : 2024/04/24 م اجتمعت اللجنة بحضور كلا من :

1- م/ اسماء علي (مدير المشروع) (الهيئة العامة للطرق والكباري)
2- م/ احمد لطفي بكري عن مكتب شاكر جروب (الإستشاري عام للسكة الحديد)
3- م / خالد مصطفي بدر عن مكتب د. حسن مهدي (استشاري الهيئة)
4- م/ مختار احمد عبد العال عن مكتب الدولية للمساحة و الخرائط (استشاري المساحة)
5- م/ احمد الرخاوي (مهندس الشركة المنفذة)

وبعد زيارة و معاينة محجر القوات الجوية الكم (14)" طريق الواحات " والذي يقع بجوار الدائري الاقليمي اتجاه الواحات داخل ارض القوات الجوية مشروع مستقبل مصر باحداثيات (E: 574977.019 & N: 802612.237) و الذي تم اعتماده للتوريد بالمشروع طبقا للاختبارات التي تمت بجامعة القاهرة علي العينات الماخوذة من المحجرعاليه و جاءت مطابقة لمواصفات المشروع " مرفق اختبارات اعتماد تربة المحجر " وجدت التربة متماسكة و تحتاج بلدوزر لتفكيكها وحجرها .

اقفل المحضر علي ذلك ،،،،،،،

اللجنة :-	التوقيع :-
1- م/ أسماء علي أحمد	-
2- م/ احمد لطفي	-
3- م/ خالد بدر	-
4- م/ مختار احمد	-
5- م/ احمد ماضي الرخاوي	-

يعتمد ،،،،،،،

مدير عام مشروعات
م / جهاد محمد سعد
التوقيع /

رئيس الادارة المركزية
م / نصر محمد طبيخ
التوقيع /

وزارة النقل
الهيئة العامة للطرق والكباري
المنطقة الأولى المركزية

جدول (٣): التدرج وحدود السيولة واللدونة والتصنيف – عينة "٥"

مشروع	إنشاء جسر ترابي لخط سكة حديد ٦ أكتوبر / بني سلامة بطول ٦٨ كم، من الكم ٠+٠٠٠ حتى الكم ٦+٠٠٠
المالك	الهيئة العامة للطرق والكباري – وزارة النقل
الاستشاريون	شاكر جروب الشركة الدولية مكتب أ.د/ حسن مهدي
تنفيذ	شركة علي نصار للمقاولات العامة والتوريدات

الاختبار	عينة ٥
التحليل المنخلي للمواد الغليظة والمواد الرفيعة	
(نسبة المار %):	
"١,٥	
"١	١٠٠
"٤/٣	٩٩
"٢/١	٩٧
"٨/٣	٩٥
رقم ٤	٨٥
رقم ١٠	٦٠
رقم ٤٠	٣٠
رقم ٢٠٠	١٠,٦
تحديد حد السيولة:	
– حد السيولة (%)	٢٤
حد اللدونة ومجال اللدونة:	
– حد اللدونة (%)	١٩
– مجال اللدونة (%)	٥
تصنيف التربة طبقاً للأشتو	A-1-b

إشراف

مراجعة

المشرف على المعمل
أ.د/ حسن محمد مهدي

تاريخ: ٢٠٢٣/٧/٢٦

٤ / ٥

جدول (٤): بروكتور المعدل ونسبة تحمل كاليفورنيا – عينة "٥"

مشروع	إنشاء جسر ترابي لخط سكة حديد ٦ أكتوبر / بني سلامة بطول ٦٨ كم، من الكم ٠+٠٠٠ حتى الكم ٦+٠٠٠
المالك	الهيئة العامة للطرق والكباري – وزارة النقل
الاستشاريون	شاكر جروب الشركة الدولية مكتب أ.د/ حسن مهدي
تنفيذ	شركة علي نصار للمقاولات العامة والتوريدات

الاختبار	عينة ٥
إختبار بروكتور المعدل:	
– أقصى كثافة جافة (طن/م^3)	٢,٠٧١
– نسبة الرطوبة المثلى (%)	٦,٣
نسبة تحمل كاليفورنيا (CBR):	
– نسبة تحمل كاليفورنيا (%)	٥٤
– الانتفاخ (%)	٠,٢

إشراف

مراجعة

إعتماد
المشرف على المعمل
أ.د. حسن تحسين

تاريخ: ٢٠٢٣/٧/٢٩
٥/٥

محضر معاينة وقياس مسافة من محجراتربة

مشروع اعمال الجسر الترابي و الاعمال الصناعية لخط سكة حديد 6 اكتوبر / بني سلامة بطول 67 كم
في المسافة من الكم (000+0) إلى الكم (000+6) بطول 6 كم
تنفيذ: شركة علي نصار للمقاولات العامة و التوريدات

أنه في يوم الاربعاء الموافق : 2024/04/24 م اجتمعت اللجنة بحضور كلا من :

1- م/ اسماء علي (مدير المشروع) (الهيئة العامة للطرق والكباري)

2- م/ احمد لطفي بكري عن مكتب شاكر جروب (الإستشاري عام للسكة الحديد)

3- م / خالد مصطفي بدر عن مكتب د. حسن مهدي (استشاري الهيئة)

4- م/ مختار احمد عبد العال عن مكتب الدولية للمساحة و الخرائط (استشاري المساحة)

5- م/ احمد الرخاوي (مهندس الشركة المنفذة)

وبعد زيارة و معاينة محجر القوات الجوية الكم (14)" طريق الواحات " والذي يقع بجوار الدائري الاقليمي اتجاه الواحات داخل ارض القوات الجوية مشروع مستقبل مصر باحداثيات (E: 574977.019 & N: 802612.237) و الذي تم اعتماده للتوريد بالمشروع طبقا للاختبارات التي تمت بجامعة القاهرة علي العينات الماخوذة من المحجرعاليه و جاءت مطابقة لمواصفات المشروع " مرفق اختبارات اعتماد تربة المحجر "

تم الاتفاق علي توريد المادة المحجرية للعقد (1445 / 2023 / 2024) بتاريخ 2024/04/23 من نفس المحجر السابق اعتماده للعقود السابقة و بنفس قيمة المادة المحجرية السابقة (36) جنيه

وبقياس المسافة بين المحجر عاليه و منتصف القطاع هي (42) كم طبقا للمسار (مدق من المحجر حتي الاقليمي – الدائري الاقليمي – طريق الواحات - مدق داخلي حتي منتصف القطاع بطول 4 كم) .

وعليه لا مانع من التوريد من المحجر عاليه و اقفل المحضر علي ذلك و تم الاعتماد و التوقيع

اللجنة :- التوقيع :-

1- م/ أسماء علي أحمد

2- م/ احمد لطفي

3- م/ خالد بدر

4- م/ مختار احمد

5- م/ احمد ماضي الرخاوي

جدول (٣): التدرج وحدود السيولة واللدونة والتصنيف – عينة "٥"

مشروع	إنشاء جسر ترابي لخط سكة حديد ٦ أكتوبر / بني سلامة بطول ٦٨ كم، من الكم ٠+٠٠٠ حتى الكم ٦+٠٠٠
المالك	الهيئة العامة للطرق والكباري – وزارة النقل
الاستشاريون	شاكر جروب الشركة الدولية مكتب أ.د/ حسن مهدي
تنفيذ	شركة علي نصار للمقاولات العامة والتوريدات

الاختبار	عينة ٥
التحليل المنخلي للمواد الفليظة والمواد الرفيعة	
(نسبة المار %):	
"١,٥	
"١	١٠٠
"٤/٣	٩٩
"٢/١	٩٧
"٨/٣	٩٥
رقم ٤	٨٥
رقم ١٠	٦٠
رقم ٤٠	٣٠
رقم ٢٠٠	١٠,٦
تحديد حد السيولة:	
– حد السيولة (%)	٢٤
حد اللدونة ومجال اللدونة:	
– حد اللدونة (%)	١٩
– مجال اللدونة (%)	٥
تصنيف التربة طبقاً للأشتو	A-1-b

إشراف

مراجعة

المشرف على المعمل
أ.د/ حسن مهدي

تاريخ: ٢٠٢٣/٧/٢٦

٥ / ٤

جدول (٤): بروكتور المعدل ونسبة تحمل كاليفورنيا – عينة "٥"

مشروع	إنشاء جسر ترابي لخط سكة حديد ٦ أكتوبر / بني سلامة بطول ٦٨ كم، من الكم ٠+٠٠٠ حتى الكم ٦+٠٠٠
المالك	الهيئة العامة للطرق والكباري – وزارة النقل
الاستشاريون	شاكر جروب الشركة الدولية مكتب أ.د/ حسن مهدي
تنفيذ	شركة علي نصار للمقاولات العامة والتوريدات

الاختبار	عينة ٥
إختبار بروكتور المعدل:	
– أقصى كثافة جافة (طن/م^3)	٢,٠٧١
– نسبة الرطوبة المثلى (%)	٦,٣
نسبة تحمل كاليفورنيا (CBR):	
– نسبة تحمل كاليفورنيا (%)	٥٤
– الانتفاخ (%)	٠,٢

إشراف

مراجعة

إعتماد
المشرف على المعمل
د. حسن تحسين

كلية الهندسة – جامعة القاهرة
معمل أبحاث هندسة الطرق والمطارات والمرور

تاريخ: ٢٠٢٣/٧/٢٦
٥/٥

621-2023

جامعة القاهرة - كلية الهندسة
معمل الطرق والمطارات والمرور - الجيزة - الرقم البريدى ١٢٣١٦
تليفون: ٣٥٦٧٨٤٢٣ فاكس: ٣٥٧٢٣٤٨٦
Cairo University - Faculty of Engineering
Highways Airports and Traffic Lab, Giza - Egypt
Tel: 35678423 - Fax: 35723486 Zip code: 12316

وزارة النقل
الهيئة العامة للطرق والكباري
والنقل البري

محضر استلام موقع

تحية طيبة وبعد ،،،

بالإشارة الى العقد المبرم بين الهيئة العامة للطرق والكبارى ومكتب علي نصار حسن منصور للمقاولات العامة رقم (١٤٤٥ / ٢٠٢٣ / ٢٠٢٤) بتاريخ ٢٣ / ٠٤ / ٢٠٢٤ بشأن تنفيذ أعمال الجسر الترابى لخط سكة حديد (٦ اكتوبر - بني سلامة) بطول ٦٧ كم في المسافة من تقاطعه مع خط سكة حديد بشتيل / الاتحاد عند قرية بني سلامة حتي تقاطعه مع خط سكة حديد الواحات البحرية عند الميناء الجاف المسافة من الكم ٠+٠٠٠ الي الكم ٦+٠٠٠ بطول ٦ كم (استكمال الطبقة السفلية من NGL الي -٢ مرحلة اولي) بالامر المباشر لتنفيذ المشروع عاليه.

فقد اجتمعت اللجنة يوم الاربعاء الموافق ٢٤ / ٠٤ /٢٠٢٤ بحضور كلاً من :

١- م / اسماء علي — مدير المشروع (الهيئة العامة للطرق و الكباري)
٢- م / احمد لطفي — عن مكتب شاكر جروب (الإستشاري العام للسكة الحديد)
٣- م/ مختار احمد عبدالعال — عن مكتب الدولية (استشاري المساحة)
٤- م/ خالد بدر — عن مكتب د. حسن مهدي (استشاري الهيئة)
٥- م/ احمد شحاتة — مهندس الشركة المنفذة

وقامت اللجنة بالمرور على موقع المشروع عاليه ووجدت اللجنة انه لايوجد عوائق ظاهرية تعوق البدء في التنفيذ (الموقع خالي من العوائق) وعليه يكون تاريخ ٢٤ / ٠٤ /٢٠٢٤ هو تاريخ استلام الموقع للمشروع عاليه واقفل المحضر على ذلك .

التوقيعات :

٥ - م/ احمد شحاتة
٤ - م/ خالد بدر
٣ - م/ مختار احمد عبدالعال
٢ - م/ احمد لطفي
١ - م/اسماء علي

يعتمد ،،،،،،،

مدير عام مشروعات		رئيس الادارة المركزية
م / جهاد محمد		م / نصر محمد طبيخ
التوقيع /		التوقيع /

مشروع اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد ٦ اكتوبر / بنى سلامه بطول ٦٧ كم

تنفيذ: شركة علي نصار للمقاولات العامة في المسافة من كم ٠٠٠+٠ وحتى ٠٠٠+٦ بطول ٦ كم

بيان باجمالي الاعمال التي تمت من بداية الاعمال حتي تاريخه

ـه في يوم الاثنين الموافق : ١٣/ ٠٥ / ٢٠٢٤ اجتمعت اللجنة بحضور كلا من :

- م/ اسماء علي — مدير المشروع (الهيئة العامة للطرق والكباري)

- م/ احمد لطفي — عن شاكر جروب (الإستشاري العام للسكة الحديد)

- م/ مختار احمد عبدالعال — عن مكتب الدولية (استشاري المساحة)

- م/ خالد بدر — عن مكتب د. حسن مهدي (استشاري الهيئة)

- م/ احمد شحاتة — مهندس الشركة المنفذة

م	البنـــــــــــــــــــد	عقد (٧٤٥ - ٢٠٢٣ - ٢٠٢٤) جاري ١	عقد (١٤٤٥ - ٢٠٢٣ - ٢٠٢٤) جاري ١	الاجمالي
٢_٣	بالمتر المكعب اعمال تحميل وتوريد ونقل التربه مطابقه للمواصفات وتشغيلها باستخدام الات التسويه لاستكمال المنسوب التصميمي لتشكيل الجسر الترابي والاكتاف وريها بالمياه الاصوليه للوصول الي نسبة الرطوبه المطلوبه والدمك الجيد بالهراسات للوصول اقصى كثافه جافه لا تقل عن ٩٥ % من الكثافه الجافه القصوى ويتم التنفيذ طبقا للمناسيب التصميميه والقطاعات العرضيه النموذجيه والرسومات التفصيليه المعتمده والبند بجميع مشتملاته طبقا لاصول الصناعه والشروط وكراسة الشروط ومواصفات الخاصة بسكة حديد مصر وتعليمات المهندس المشرف. - السعر لا يشمل قيمة المادة المحجرية مع قيام الشركة المنفذه بتقديم ما يثبت من الجهات الرسمية المعتمدة المشرفة عن المحاجر . - مسافة النقل حتى ٢ كم - يتم تشغيل القرمة - اعلي طبقة الردم العلوية بسماكة لا تقل عن ٥٠ سم - باستخدام الات التسويه بسمك لا يزيد عن ٢٥ سم - يتم تشغيل الجزء العلوي - جزء من الجسر بارتفاع لا يقل عن ١,٥٠ متر من قاع القرمة - باستخدام الات التسويه بسمك لا يزيد عن ٢٥ سم ، - يتم تشغيل الجزء السفلي - باقي الارتفاع - علي طبقات باستخدام الات التسويه بسمك لا يزيد عن ٥٠ سم - مسافة نقل ٤٢ كم وتشمل هذة المسافة مدق ترابي بطول ٤ كم			
	(علي الا تقل نسبة تحمل كاليفورنيا عن ٢٥ %) للجزاء القرمة	٢٥,٥٧٦.٩٧	١٦,٧٣٤.١٦	٤٢,٣١١.١٣
	(علي الا تقل نسبة تحمل كاليفورنيا عن ٢٠ %) للجزء العلوي	٧٧,٢١٢.١٥	٥٠,٦٧٦.٢٦	١٢٧,٨٨٨.٤١
	(علي الا تقل نسبة تحمل كاليفورنيا عن ١٠ %) للجزء السفلي	٢٥,٨٠٠	٦٣,٠٠٠	٨٨,٨٠٠.٠٠

للجنة :

التوقيع :

٤- م/ احمد شحاتة

٣- م/ خالد بدر

٢- م/ مختار احمد عبدالعال

١- م/ احمد لطفي

١- م/ اسماء علي

مكتب علي نصار وشركاه
شركة المقاولات العامة
ب.ص ٢١٠١ - ٨١٤ - ٣٩٠ س.ت ٦٢٢٦٠
٦ أكتوبر - زمامة - شمال سيناء

د. مهندس حسن نعيم نصر حسن مهدي
قيد ١٧ / ١٥٣٣
سجل: ٩١٩١٢٤٨٨٤

وزارة النقل
الهيئة العامة للطرق والكباري والنقل البري

علي نصار حسن للمقاولات العامة
ali nassar hassan for general contracting

محضر اعتماد حصر كميات

التاريخ : 13 - 05 – 2024

اسم المشروع : اعمال الجسر الترابي والاعمال الصناعية لخط سكة حديد 6 اكتوبر / بنى سلامه بطول 67 كم

اعتماد الكميات المنفذة الخاصة بشركة : **علي نصار للمقاولات العامة في المسافة من (0+000) الي (6+000)**

م	من المحطة رقم	الي المحطة رقم	التصنيف	الكمية بالمتر المكعب	ملاحظات
1	0+000	6+000	اعمال الردم	42311.13	من منسوب Ferma الي منسوب 0.50-
2			اعمال الردم	140090.12	من منسوب 0.50- الي منسوب 2.00-
3			اعمال الردم	197656.93	من منسوب 2.00- الي منسوب NGL
4			قطع احلال	8557.04	قطع طفلة

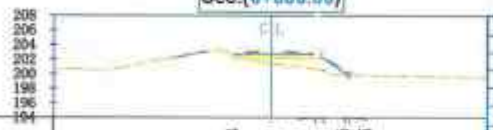
ملاحظات :-

كمية اجمالية من بداية الاعمال حتي تاريخه عقد رقم 1445/ 2023 / 2024

مهندس الشركة المنفذة | استشارى المساحة | استشارى المشروع | مهندس الهيئة

As built only

ALMANASHY
Sec.(0+000.00)



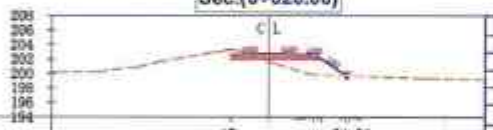
OFFSET	-6.24	0.00	6.21	7.44	10.45	10.95
SubBallast Level	202.58	202.78	202.38	202.01	200.00	199.52
EMBANKME T	[illegible]	[illegible]	201.85	201.83	199.82	[illegible]
NGL	202.03	201.42	200.67	200.37	199.82	199.81
Cut / Fill	0.81	0.56	1.18	1.46	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Forms to level -0.0)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Forms to level -0.0)	0.00	0.00	0.00
Fill – Replacement (Level -0.0 to -3.00)	0.00	0.00	0.00
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+020.00)



OFFSET	-5.25	0.00	6.21	7.44	10.62	11.12
SubBallast Level	202.67	202.78	202.51	202.01	199.89	199.71
EMBANKMENT	201.87	201.98	201.85	201.83	199.71	199.21
NGL	203.27	201.70	199.87	199.83	199.71	199.70
Cut / Fill	1.40	0.28	1.99	2.01	0.00	0.48

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Forms to level -0.0)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Forms to level -0.0)	0.00	0.00	0.00
Fill – Replacement (Level -0.0 to -3.00)	0.00	0.00	0.00
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	Finish Design Level
	Embankment level
	Natural Ground Preparation
	Fill Hatch
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	(Cut / Fill)Replacement Soil Hatch
	Slope Protection Hatch

	ISSUED BY		APPROVED BY
	DATE	ISSUE/REVISE	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections
FROM ST 0+000 TO ST 0+020
El-manashy - 4 October Railway Project

DWG SCALE: 1:250	DESIGNED BY:	PROJECT
PHASE	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 1	

ALMANASHY
Sec.(0+040.00)

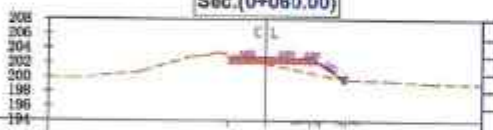
OFFSET	-5.20	0.00	6.21	7.44	10.58	11.68
SubBallast Level	202.66	202.78	202.51	202.01	199.92	199.74
ANKMENT	[illegible]			[illegible]	199.74	199.24
NGL	203.43	202.04	200.59	200.31	199.74	199.70
Cut / Fill	[illegible]	[illegible]	1.26	1.52	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+060.00)



OFFSET	-5.21	0.00	6.21	7.44	10.61	11.11
SubBallast Level	202.66	202.78	202.36	202.01	199.90	199.72
EMBANKMENT	201.85	201.98	201.86	201.83	199.72	199.22
NGL	203.11	201.86	200.51	200.36	199.72	199.63
Cut / Fill	1.23	0.12	1.25	1.47	0.00	0.41

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- (Cut / Fill)Replacement Fill Hatch
- Slope Protection Hatch

REV.	DESIGNED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

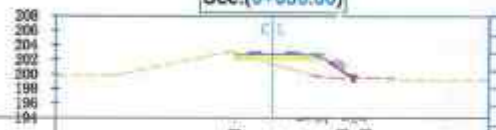
CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
preliminary design-cross sections
FROM ST 0+040 TO ST 0+060
Hamamdy - 6 October Railway Project

DWG SCALE 1:100	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 2	

AL MANASHY
Sec.(0+080.00)



OFFSET	-5.23	0.00	6.21	7.44	10.98	11.48
SubBallast Level	202.68	202.78	202.36	202.01	199.65	199.47
E MENT			201.86	[illegible]	199.47	198.97
NGL	202.89	201.39	199.71	199.59	199.47	199.47
Cut / Fill	0.12	0.59	2.15	2.24	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

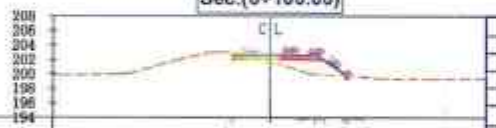
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

AL MANASHY
Sec.(0+100.00)



OFFSET	-5.27	0.00	6.21	7.44	10.45	10.95
SubBallast Level	202.67	202.78	202.51	202.01	200.00	199.82
EMBANKMENT	201.87	201.98	201.06	201.83	199.82	199.32
NGL	202.97	201.73	199.97	199.92	199.82	199.79
Cut / Fill	1.10	0.25	1.89	1.91	0.00	0.47

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment Level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

REV	CHECKED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

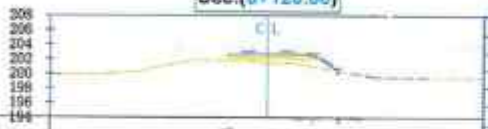
CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design cross sections
FROM ST 0+080 TO ST 0+100
El-manshy - 6 October Railway Project

DWG SCALE: 1:100	DESIGNED BY	PROJECT
DRAWN	CHECKED BY	APPROVED BY
DWG SIZE: A3	SHEET NUMBER: 3	

ALMAGHASHY
Sec.(0+120.00)



OFFSET	-5.43	0.00	6.21	7.44	9.49	9.99
SubBallast Level	202.67	202.78	202.51	202.01	200.64	200.46
E[illegible]NT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NGL	201.65	201.43	201.02	200.81	200.46	200.38
Cut / Fill	0.02	0.55	0.84	1.02	0.00	0.42

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

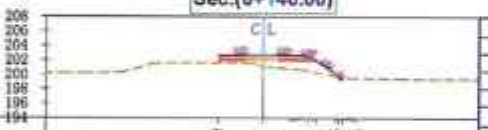
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMAGHASHY
Sec.(0+140.00)



OFFSET	-6.19	0.00	6.21	7.44	10.53	11.03
SubBallast Level	202.66	202.78	202.36	202.01	199.95	199.77
EMBANKMENT	201.86	201.98	201.69	201.83	199.77	199.27
NGL	201.55	201.10	200.50	200.29	199.77	199.66
Cut / Fill	0.30	0.88	1.38	1.54	0.00	0.42

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

No.	REVISED BY / DATE	ISSUED FOR	APPROVED BY / DATE
1			
2			

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

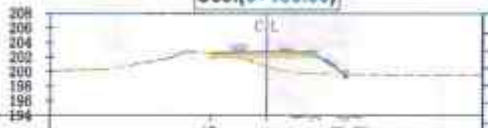
preliminary design-cross sections

FROM ST 0+120 TO ST 0+140

D-mainly - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 4	

ALMANASHY
Sec.(0+160.00)



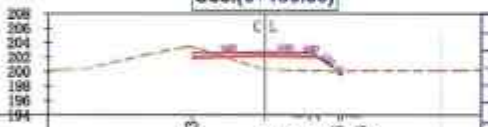
OFFSET	-7.75	0.00	6.21	7.44	10.71	11.21
SubBallast Level	202.62	202.78	202.51	202.01	199.83	199.85
EMBANKMENT	201.82	201.98	201.86	201.83	199.65	199.15
NGL	202.84	200.75	199.76	199.73	199.65	199.64
Cut / Fill	0.82	1.23	2.09	2.10	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+180.00)



OFFSET	-10.13	0.00	6.21	7.44	10.16	10.66
SubBallast Level	202.58	202.78	202.51	202.01	200.20	200.02
EMBANKMENT	201.78	201.98	201.86	201.83	200.02	199.52
NGL	203.34	200.39	200.09	200.05	200.02	200.02
Cut / Fill	1.56	1.59	1.76	1.77	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design cross sections
FROM ST 0+160 TO ST 0+180
El-manashy - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY	PROJECT
PHASE	CHECKED BY	APPROVED BY
DWG SIZE: A3	SHEET NUMBER: 5	

ALMANASHY
Sec.(0+200.00)

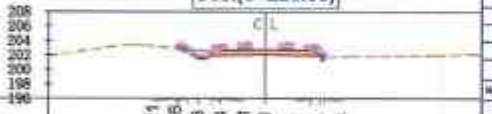
OFFSET	-13.37	0.00	6.21	7.44	8.74	9.24
SubBallast Level	202.51	202.78	202.51	202.01	201.15	200.97
EMBANKMENT				201.83	200.47	200.46
NGL	203.36	201.16	201.02	200.99	200.97	200.95
Cut / Fill	1.66	0.82	0.83	0.84	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -1.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -1.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -1.00)	0.00	0.00	0.00
Fill – Replacement (Level -1.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+220.00)



OFFSET	-12.21	-10.75	-9.26	-7.44	-6.21	0.00	6.21	7.44	8.13
SubBallast Level	202.84	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.70
EMBANKMENT	202.69	202.35	201.35	201.83	201.86	201.98	201.86	201.83	201.20
NGL	202.89	202.76	202.62	202.52	202.46	202.15	201.79	201.71	201.67
Cut / Fill	0.20	0.41	1.27	0.69	0.60	0.17	0.07	0.12	0.47

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -1.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -1.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -1.00)	0.00	0.00	0.00
Fill – Replacement (Level -1.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	Finish Design Level
	Embankment level
	Natural Ground Preparation
	Fill Hatch
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	(Cut / Fill)Replacement Soil Hatch
	Slope Protection Hatch

REV	ISSUED BY / DATE	REVISION	APPROVED BY / DATE
00			
01			

OWNER:

MAIN CONTRACTOR

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

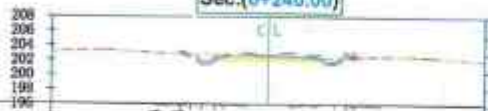
preliminary design-cross sections

FROM ST 0+200 TO ST 0+220

El-manshy - 6 October Railway (Aqua)

DWG SCALE: 1:500	DESIGNED BY:	PROJECT
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 6	

ALMANASHY
Sec.(0+240.00)



OFFSET	-12.19	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.80	15.12
SubBallast Level	202.81	202.50	201.53	202.01	202.51	202.78	202.36	202.01	201.53	202.50	202.46	202.52
E.I	202.66	202.35	201.35	201.83	201.86							
NGL	202.84	202.77	202.82	202.86	202.80	202.50	202.36	202.39	202.42	202.45	202.47	202.53
Cut / Fill	0.17	0.42	1.48	1.03	0.94	[illegible]	0.[illegible]	0.56	1.[illegible]	0.10	0.16	0.18

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -1.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -1.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -1.00)	0.00	0.00	0.00
Fill - Replacement (Level -1.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+260.00)

OFFSET	-12.75	-12.29	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	12.05	15.02
SubBallast Level	203.21	203.21	202.50	201.53	202.01	202.51	202.78	202.36	202.01	201.53	202.50	202.74	202.81
EMBANKMENT	203.05	203.00	202.35	201.35	201.83	201.86	201.98	201.86	201.83	201.35	202.35	202.59	202.48
NGL	203.21	203.21	203.19	203.17	203.15	203.14	203.03	202.97	202.92	202.94	202.77	202.72	202.69
Cut / Fill	0.16	0.15	0.84	1.82	1.32	1.29	1.05	1.11	1.09	1.49	0.43	0.13	0.13

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -1.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -1.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -1.00)	0.00	0.00	0.00
Fill - Replacement (Level -1.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

NO.			
REV.	DRAWED BY		APPROVED BY
	DATE	IMAGED PLAN	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections
FROM ST 0+240 TO ST 0+260
El manashy - 6 October Railway Project

DWG SCALE: 1:200	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 7	

ALMANASHY
Sec.(0+280.00)

OFFSET	-12.67	-12.21	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.88						
SubBallast Level	203.15	203.15	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.40						
EMBANKMENT	—	—	202.35	201.35	201.83	201.86	201.98	201.86	201.83	201.35	202.35	202.25						
NGL	203.16	203.15	203.14	203.12	203.06	203.01	202.74	202.53	202.49	202.45	202.42	202.39						
Cut / Fill	0.15	0.15	0.79	1.78	1.23	1.15	0.76	0.67	0.65	1.10	0.07	0.14						

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferms to level -0.0)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferms to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.0 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+300.00)

OFFSET	-12.07	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.87	12.41						
SubBallast Level	202.75	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.08	202.05						
EMBANKMENT	202.60	202.35	201.35	201.83	201.86	201.98	201.86	201.83	201.35	202.35	201.90	201.90						
NGL	202.78	202.71	202.65	202.60	202.57	202.41	202.26	202.21	202.15	202.09	202.05	202.03						
Cut / Fill	0.18	0.36	1.30	0.77	0.71	0.43	0.40	0.38	0.80	0.25	0.15	0.13						

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferms to level -0.0)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferms to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.0 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

NO		
REV	DESIGNED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

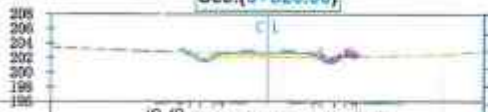
CONTRACTOR CONSULTANT: El dawlia

SHEET NAME:

preliminary design-cross sections
FROM ST 0+280 TO ST 0+300
Hamadia - Ghardaia Railway Project

DWG SCALE: 1:200	DESIGNED BY:	PROJECT:
FRAME:	CHECKED BY	APPROVED BY
DWG SIZE: A3	SHEET NUMBER: 8	

ALMANASHY
Sec.(0+320.00)



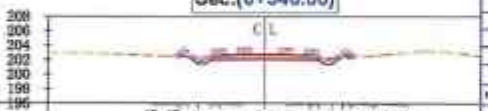
OFFSET	-12.06	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.75
SubBallast Level	202.74	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.15
EMBANKMENT	202.59	202.35	201.35	201.83	-	-	201.86	-	-	202.35	201.97
NGL	202.76	202.71	202.65	202.56	202.53	202.29	202.04	202.00	202.05	202.09	202.12
Cut / Fill	0.17	0.36	1.31	0.75	0.68	0....	0.18	0.17	0.71	0.25	0.15

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+340.00)



OFFSET	-11.86	-10.76	-9.26	-7.44	-6.21	0.00	5.21	7.44	9.26	10.76	14.88	15.08
SubBallast Level	202.42	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.35	202.55
EMBANKMENT	202.27	202.35	201.35	201.83	201.86	202.51	201.86	201.83	201.35	202.35	202.20	202.40
NGL	202.44	202.40	202.38	202.37	202.32	202.11	202.18	202.20	202.23	202.31	202.38	202.58
Cut / Fill	0.17	0.05	1.03	0.54	0.47	0.13	0.32	0.37	0.88	0.04	0.18	0.18

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

REV	DRAWN BY / DATE	DESIGN FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections

FROM ST 0+320 TO ST 0+340

Elmanashy – 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 9	

Sec.(0+360.00)

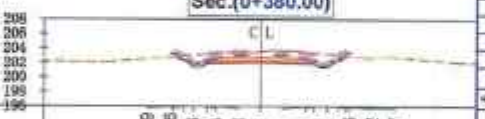
OFFSET	-12.13	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	12.58	13.03
SubBallast Level	202.24	202.50	201.53	202.01	202.51	202.78	202.36	202.01	201.53	202.50	203.40	203.40
EMBANKMENT					201.86	201.86				203.25	203.25	203.25
NGL	202.24	202.24	202.23	202.17	202.14	202.18	202.84	203.05	203.32	203.49	203.39	203.34
Cut / Fill	0.15	0.11	0.89	0.34	0.28	0.20	0.99	1.22	1.97	1.14	0.15	0.10

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -1.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -1.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -1.00)	0.00	0.00	0.00
Fill – Replacement (Level -1.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+380.00)



OFFSET	-12.19	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.82	12.37
SubBallast Level	202.83	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.95	202.95
EMBANKMENT	202.68	202.35	201.35	201.83	201.85	201.98	201.85	201.83	201.35	202.35	202.80	202.80
NGL	202.79	202.90	203.02	203.17	203.27	203.51	203.52	203.40	203.21	203.07	202.95	202.91
Cut / Fill	0.11	0.56	1.68	1.34	1.41	1.53	1.66	1.56	1.87	0.72	0.15	0.10

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -1.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -1.00 to NGL)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -1.00)	0.00	0.00	0.00
Fill – Replacement (Level -1.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -1.00	0.00	0.00	0.00
Level -1.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

REVISED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections

FROM ST 0+360 TO ST 0+380

El-sawaky - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 10	

ALMANASHY
Sec.(0+400.00)

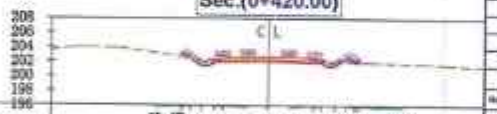
OFFSET	-13.64	-13.18	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.85	12.40
SubBallast Level	203.80	203.80	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.09	202.06
EMBANKMENT	203.65	203.65	202.35	201.35	201.83	201.86	201.98	201.86	201.83	201.35	202.35	201.91	201.91
NGL	203.72	203.80	203.86	203.59	203.29	203.09	202.09	202.08	201.98	202.01	202.04	202.06	202.07
Cut / Fill	0.07	0.15	1.51	2.24	1.46	1.24	0.11	0.22	0.15	0.66	0.31	0.15	0.16

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
FB - Replacement (Forms to level -0.5)	0.00	0.00	0.00
FB - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
FB - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+420.00)



OFFSET	-11.94	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	11.98	12.53
SubBallast Level	202.67	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	202.01	201.97
EMBANKMENT	202.52	202.35	201.35	201.83	201.86	201.98	201.86	201.83	201.35	202.35	201.82	201.82
NGL	202.73	202.58	202.38	202.14	202.05	201.93	202.10	202.07	202.04	202.00	201.98	201.96
Cut / Fill	0.22	0.23	1.04	0.31	0.19	0.05	0.25	0.24	0.69	0.34	0.15	0.14

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
FB - Replacement (Forms to level -0.5)	0.00	0.00	0.00
FB - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
FB - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections

FROM ST 0+400 TO ST 0+420

Elevated - Double Railway Project

DWG SCALE: 1:500	DESIGNED BY:	PROJECT:
DRAWN:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 11	

Sec.(0+440.00)

OFFSET	-12.25	-10.76	-9.26	-7.44	-6.21	0.00	6.21	7.44	9.26	10.76	12.38
SubBallast Level	202.10	202.50	201.53	202.01	202.51	202.78	202.51	202.01	201.53	202.50	201.74
EMBANKMENT			201.35				201.90	201.83		202.35	201.56
NGL	202.17	202.15	202.13	202.11	202.09	202.01	201.90	201.87	201.82	201.77	201.71
Cut / Fill		0.20	0.78			0.03		0.04	0.47	0.58	0.15

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+460.00)

OFFSET	-7.37	-7.37	-6.21	0.00	6.21	7.44	8.40
SubBallast Level	201.88	202.06	202.51	202.78	202.38	202.01	201.52
EMBANKMENT	201.38	201.83	201.88	201.96	201.88	201.83	201.02
NGL	201.89	201.88	201.85	201.71	201.56	201.54	201.51
Cut / Fill	0.51	0.04	0.01	0.27	0.29	0.30	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	3.27	32.01	32.01
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

NO	DRAWN BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections
FROM ST 0+440 TO ST 0+460
El-mansha - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY	PROJECT
PHASE	CHECKED BY	APPROVED BY
DWG SIZE A3	SHEET NUMBER 12	

ALMANASHY
Sec.(0+480.00)

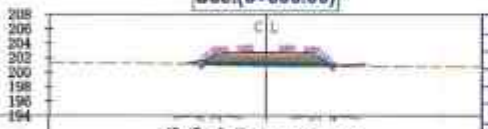
OFFSET	-8.25	-7.44	-6.21	0.00	6.21	7.44	8.88
SubBallast Level	201.62	202.01	202.51	202.78	202.36	202.01	201.20
EMBANKMENT	[illegible]	201.83	201.86	201.98	201.86	201.83	200.70
NGL	201.63	201.62	201.62	201.43	201.25	201.22	201.19
Cut / Fill	0.50	0.21	0.24	0.55	0.60	0.61	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	7.16	153.86	136.41
Level -0.5 to Level -2.00	0.69	9.78	6.75
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+500.00)



OFFSET	-9.13	-8.63	-7.44	-6.21	0.00	6.21	7.44	9.01	9.51
SubBallast Level	201.04	201.22	202.01	202.51	202.78	202.51	202.01	200.99	200.78
EMBANKMENT	200.54	201.04	201.83	201.86	201.98	201.86	201.83	200.78	200.28
NGL	201.05	201.04	201.01	200.99	200.88	200.78	200.78	200.78	200.79
Cut / Fill	0.51	0.00	0.82	0.87	1.10	1.07	1.05	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	7.97	181.94	287.46
Level -0.5 to Level -2.00	9.47	104.52	113.88
Level -2.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

ISSUED BY / DATE	PROJECT MANAGER	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections

FROM ST 0+480 TO ST 0+500

Hassanieh - 6 October Railway Project

DWG SCALE: 1:100	DESIGNED BY:	PROJECT
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 13	

ALMANASHY
Sec.(0+520.00)

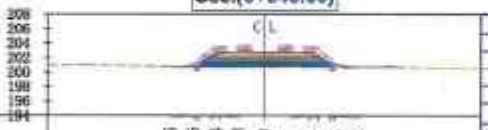
OFFSET	-9.35	-8.65	-7.44	-6.21	0.00	6.21	7.44	8.92	9.42
SubBallast Level	200.89	201.07	202.01	202.51	202.78	202.51	202.01	201.02	200.84
E I N E				201.86	201.99	201.86	201.83	200.84	
NGL	200.90	200.89	200.86	200.86	200.84	200.84	200.84	200.84	200.84
Cut / Fill	0.51			0.99	1.14	1.01	0.99		

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	7.88	159.44	446.80
Level -0.5 to Level -3.00	9.80	193.97	307.94
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.47	4.81	4.81
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+540.00)



OFFSET	-9.65	-9.15	-7.44	-6.21	0.00	6.21	7.44	9.13	9.63
SubBallast Level	200.69	200.87	202.01	202.51	202.78	202.51	202.01	200.88	200.70
EMBANKMENT	200.19	200.69	201.83	201.86	201.99	201.86	201.83	200.70	200.20
NGL	200.70	200.69	200.68	200.67	200.66	200.70	200.70	200.70	200.70
Cut / Fill	0.50	0.00	1.15	1.18	1.32	1.16	1.13	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	8.00	158.79	606.68
Level -0.5 to Level -3.00	13.24	271.82	878.47
Level -3.00 to NGL	0.00	0.00	0.00
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.34	7.00	15.84
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	Finish Design Level
	Embankment level
	Natural Ground Preparation
	Fill Hatch
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	(Cut / Fill)Replacement Soil Hatch
	Slope Protection Hatch

Rev			
	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSTRUCTION CONSULTANT:

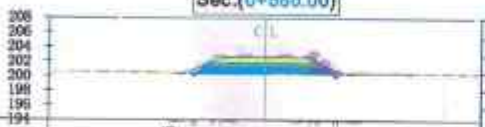
CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design cross sections
FROM ST 0+320 TO ST 0+340
El-manashy - A Double Railway Project

DWG SCALE: 1:200	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 14	

ALMANASHY
Sec.(0+560.00)



OFFSET	-10.05	-9.55	-7.44	-6.21	0.00	6.21	7.44	9.57	10.07
SubBallast Level	200.42	200.61	202.01	202.51	202.78	202.51	202.01	200.59	200.41
EMBAN ME IT	199.92	200.42	[illegible]	[illegible]	[illegible]	201.86	201.83	200.41	199.91
NGL	200.43	200.42	200.41	200.40	200.36	200.39	200.40	200.41	200.42
Cut / Fill	0.50	0.00	1.42	1.46	1.62	1.46	1.43	0.00	0.56

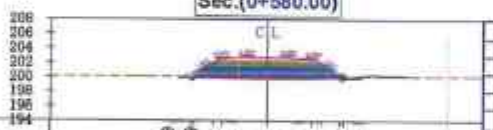
Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.84	11.73	24.38
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	7.80	156.87	785.02
Level -0.5 to Level -2.00	18.79	300.17	883.04
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

ALMANASHY
Sec.(0+580.00)



OFFSET	-10.59	-10.09	-7.44	-6.21	0.00	6.21	7.44	10.08	10.58
SubBallast Level	200.06	200.24	202.01	202.51	202.78	202.51	202.03	200.25	200.07
EMBANKMENT	199.56	200.06	201.83	201.88	201.98	201.85	201.83	200.07	199.57
NGL	200.06	200.06	200.06	200.06	200.06	200.06	200.07	200.07	200.08
Cut / Fill	0.50	0.00	1.77	1.79	1.92	1.79	1.77	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	1.74	26.81	50.07
Natural Ground Preparation (Level -2.00 to NGL)	4.07	46.70	46.70

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	7.91	157.55	943.09
Level -0.5 to Level -2.00	25.00	437.58	1397.62
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

NO	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

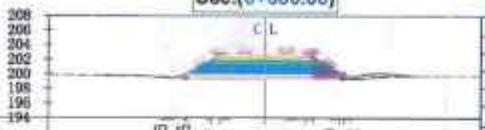
preliminary design-cross sections

FROM ST 0+560 TO ST 0+580

El-manashy - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY:	PROJECT
PHASE	CHECKED BY:	APPROVED BY:
DWG SIZE A3	SHEET NUMBER: 15	

ALMANASHY
Sec.(0+600.00)

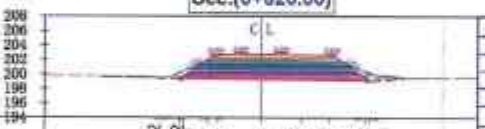


OFFSET	-11.06	-10.55	-7.44	-6.21	0.00	5.50	6.74	10.30	11.02
SubBallast Level	199.75	199.94	202.01	202.51	202.78	202.67	202.47	199.97	199.78
EMBANKME T	199.25	199.75	201.83	201.86	201.98	201.87	202.15	199.78	199.28
NGL	199.75	199.75	199.76	199.77	199.78	199.78	199.78	199.78	199.78
Cut / Fill	0.50	0.00	2.07	2.09	2.20	2.09	2.36	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+620.00)



OFFSET	-11.32	-10.82	-7.44	-6.21	0.00	5.50	9.50	14.37	14.87
SubBallast Level	199.58	199.76	202.01	202.51	202.76	202.67	202.59	199.67	199.49
EMBANKMENT	199.08	199.58	201.83	201.86	201.98	201.87	202.09	199.49	198.99
NGL	199.58	199.58	199.56	199.58	199.53	199.51	199.49	199.49	199.49
Cut / Fill	0.50	0.00	2.27	2.30	2.45	2.38	2.60	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- Finish Design Level
- Embankment level
- Natural Ground Preparation
- Fill Hatch
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- (Cut / Fill)Replacement Soil Hatch
- Slope Protection Hatch

NO			
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

preliminary design-cross sections

FROM ST 0+600 TO ST 0+620

Hwassaly - 6 October Railway Project

DWG SCALE: 1:200	DESIGNED BY:	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY:
DWG SIZE: A3	SHEET NUMBER: 16	

ALMANASHY
Sec.(0+640.00)

OFFSET	-11.38	-10.88	-7.44	-6.21	0.00	5.50	9.50	14.63	15.13
SubBallast Level	199.54	199.72	202.01	202.51	202.78	202.67	202.59	199.49	199.31
EMBANKMENT	199.04	[illegible]	201.83	201.86	201.98	201.67	202.09	199.31	198.81
NGL	199.54	199.54	199.51	199.50	199.45	199.39	199.35	199.31	199.31
Cut / Fill	0.50	0.00	2.32	2.35	2.53	2.48	2.74	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.23	180.99	1445.93
Level -0.5 to Level -2.00	20.40	606.13	[illegible]
Level -2.00 to NGL	15.63	246.57	445.43
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	7.08	187.42	387.67
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+660.00)

OFFSET	-11.62	-11.12	-7.44	-6.21	0.00	5.50	9.50	14.76	15.26
SubBallast Level	199.38	199.56	202.01	202.51	202.78	202.67	202.59	199.41	199.23
EMBANKMENT	198.88	199.38	201.83	201.86	201.98	201.87	202.09	199.23	198.73
NGL	199.38	199.38	199.37	199.36	199.33	199.30	199.27	199.23	199.22
Cut / Fill	0.50	0.00	2.47	2.49	2.55	2.57	2.82	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	8.42	189.64	1524.87
Level -0.5 to Level -2.00	20.49	608.13	2090.16
Level -2.00 to NGL	15.47	299.04	744.98
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	7.13	148.38	534.05
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to N.G.L)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

[illegible]	APPROVAL	DR.Mohamed Elaeid	
REV.	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

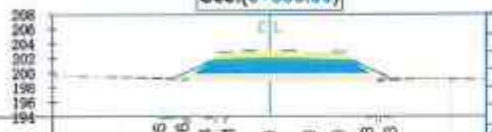
Cross Sections

FROM ST 0+640 TO ST 0+660

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Elaeid	PROJECT
FILE:	CHECKED BY:	APPROVED BY: DR.Mohamed Elaeid
DWG SIZE: A3	SHEET NUMBER: 17	

ALMANASHY
Sec.(0+680.00)



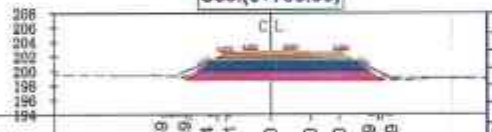
OFFSET	-11.65	-11.16	-7.44	-6.21	0.00	5.50	9.50	14.83	15.33
SubBallast Level	199.34	199.52	202.01	202.50	202.77	202.65	202.58	199.35	199.17
EMBANKMENT	[illegible]	199.34	201.82	201.85	[illegible]	-	-	-	[illegible]
NGL	199.35	199.34	199.31	199.31	199.27	199.24	199.21	199.17	199.17
Cut / Fill	0.50	0.00	2.51	2.54	2.70	2.63	2.87	0.03	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.43	197.84	1823.02
Level -0.5 to Level -2.00	35.49	626.13	4833.31
Level -2.00 to NGL	17.80	341.23	1980.38
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	6.94	158.33	814.27
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+700.00)



OFFSET	-11.59	-11.09	-7.44	-6.21	0.00	5.50	9.50	14.89	15.39
SubBallast Level	199.36	199.55	201.98	202.47	202.75	202.64	202.56	199.29	199.11
EMBANKMENT	199.85	199.35	201.80	201.82	201.95	201.84	202.06	199.11	198.61
NGL	199.37	199.35	199.34	199.32	199.24	199.17	199.14	199.11	199.11
Cut / Fill	0.50	0.00	2.46	2.50	2.71	2.67	2.91	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.44	189.13	1810.83
Level -0.5 to Level -2.00	35.49	626.13	4625.44
Level -2.00 to NGL	16.03	308.24	1948.66
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	11.68	227.70	1041.97
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

Consultant Name		APPROVAL	DR. Mohamed Gharib
REV	REVISED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUBMITTAL CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Gawda

SHEET NAME:

Cross Sections

FROM ST 0+680 TO ST 0+700

East Suhaina - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 18	

ALMANASHY
Sec.(0+760.00)

OFFSET	-10.82	-10.32	-7.44	-6.21	0.00	5.50	9.50	14.12	14.82
SubBallast Level	199.68	199.86	201.76	202.27	202.55	202.44	202.36	199.60	199.42
EMBANKMENT	199.18	[illegible]	[illegible]	201.62	201.75	201.64	201.86	199.42	198.92
NGL	199.69	199.68	199.64	199.53	199.50	199.59	199.50	199.42	199.41
Cut / Fill	0.51	0.00	1.96	2.00	2.15	2.05	2.36	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.48	199.48	[illegible]
Level -0.5 to Level -2.00	30.46	608.13	[illegible]
Level -2.00 to NGL	4.33	145.75	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	97.48
Natural Ground Preparation (Level -2.00 to NGL)	3.58	86.27	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

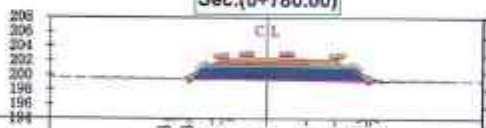
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+780.00)



OFFSET	-10.88	-10.38	-7.44	-6.21	0.00	5.50	9.50	13.88	14.38
SubBallast Level	199.53	199.71	201.67	202.17	202.44	202.35	202.25	199.65	199.47
EMBANKMENT	199.03	199.53	201.49	201.52	201.64	201.53	201.75	199.47	198.97
NGL	199.54	199.53	199.52	199.51	199.51	199.51	199.50	199.47	199.47
Cut / Fill	0.50	0.00	1.97	2.00	2.14	2.03	2.25	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	4.51	189.03	[illegible]
Level -0.5 to Level -2.00	26.49	606.13	[illegible]
Level -2.00 to NGL	3.25	74.34	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	97.48
Natural Ground Preparation (Level -2.00 to NGL)	1.88	43.00	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballas Hatch
- Slope Protection Hatch
- Foot Hatch

[illegible]	APPROVAL	DR.Mohamed Gharib	
REVISED BY		APPROVED BY	
DATE	DESIGNER	Date	

OWNER:

MAIN CONTRACTOR | GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUPERVISION CONSULTANT | CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 0+700 TO ST 0+780

Port Sudan - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY DR.Mohamed Gharib	PROJECT
Date	CHECKED BY	APPROVED BY DR.Ahmed Khalid
DWG SIZE A3	SHEET NUMBER 20	

ALMANASHY
Sec.(0+800.00)

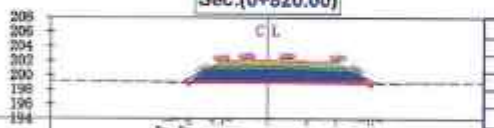
OFFSET	-10.93	-10.43	-7.44	-6.21	0.00	5.50	9.50	13.98	14.45
SubBallast Level	199.37	199.55	201.55	202.04	202.32	202.21	202.13	199.47	199.29
EMBANKMENT	198.07	198.37	201.37	201.39	201.52	201.41	201.63	199.29	198.7[illegible]
NGL	199.38	199.37	199.35	199.34	199.30	199.29	199.29	199.29	199.29
Cut / Fill	0.50	0.00	2.02	2.05	2.22	2.11	2.34	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	5.20	193.04	2858.19
Level -0.5 to Level -2.00	20.40	805.13	7839.16
Level -2.00 to NGL	4.07	81.00	8248.85
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	1.62	31.83	1555.03
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+820.00)



OFFSET	-11.07	-10.57	-7.44	-6.21	0.00	5.50	9.50	14.11	14.61
SubBallast Level	199.14	199.32	201.40	201.90	202.17	202.06	201.98	199.23	199.05
EMBANKMENT	198.64	198.14	201.22	201.25	201.37	201.26	201.48	199.05	198.55
NGL	199.14	199.14	199.11	199.10	199.04	199.04	199.05	199.05	199.05
Cut / Fill	0.50	0.00	2.11	2.15	2.33	2.22	2.44	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	6.59	160.49	2149.08
Level -0.5 to Level -2.00	20.40	869.13	8140.23
Level -2.00 to NGL	7.32	124.39	8472.16
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	1.37	23.73	1555.41
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fermo to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

02	Issued Revised	APPROVAL	DR.Mohamed Ghazlh
REV.	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

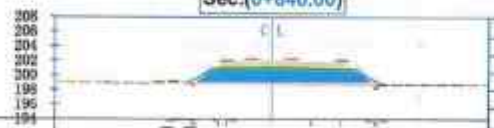
Cross Sections

FROM ST 0+800 TO ST 0+820

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazlh	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 21	

ALMANASHY
Sec.(0+840.00)



OFFSET	-11.11	-10.61	-7.44	-6.21	0.00	5.50	9.50	14.20	14.70
SubBallast Level	198.94	199.12	201.24	201.73	202.01	201.90	201.82	199.00	198.82
EMBANKMENT	198.44	198.94	201.06	201.06	201.21	201.10	201.32	198.82	198.32
NGL	198.95	198.94	198.91	198.90	198.84	198.82	198.82	198.82	198.82
Cut / Fill	0.50	0.00	2.15	2.18	2.37	2.27	2.49	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	160.00	[illegible]
Level -0.5 to Level -2.00	33.40	835.17	[illegible]
Level -2.00 to NGL	6.13	163.72	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	67.48
Natural Ground Preparation (Level -2.00 to NGL)	0.13	35.20	1922.81
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+860.00)

OFFSET	-11.14	-10.64	-7.44	-6.21	0.00	5.50	9.50	14.31	14.81
SubBallast Level	198.75	198.93	201.07	201.56	201.83	201.72	201.54	198.76	198.56
EMBANKMENT	198.25	198.75	200.88	200.91	201.03	200.92	201.14	198.56	198.06
NGL	198.76	198.75	198.73	198.72	198.67	198.61	198.59	198.56	198.56
Cut / Fill	0.51	0.00	2.15	2.19	2.36	2.31	2.55	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	5.57	165.80	[illegible]
Level -0.5 to Level -2.00	39.40	998.13	[illegible]
Level -2.00 to NGL	9.31	177.93	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	67.48
Natural Ground Preparation (Level -2.00 to NGL)	0.13	42.00	1936.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Ahmed Hafez	APPROVAL	DR. Mohamed Ghazili
	DESIGNED BY		APPROVED BY
	DATE	REVISED BY	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

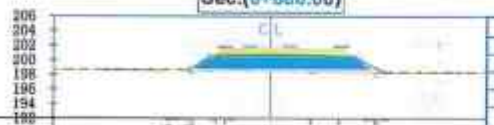
Cross Sections

FROM ST 0+840 TO ST 0+880

Ibar Satama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Ghazili	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 22	

ALMANASHY
Sec.(0+880.00)



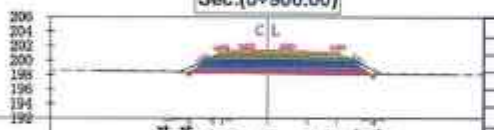
OFFSET	-11.13	-10.63	-7.44	-6.21	0.00	5.50	9.50	14.38
SubBallast Level	199.59	198.77	200.89	201.39	201.86	201.55	201.47	198.36
EMBANKMENT	199.09	199.59	200.71	200.74	200.86	200.75	200.97	198.36
NGL	198.59	198.59	198.55	198.54	198.46	198.41	198.39	198.36
Cut / Fill	0.51	0.00	2.16	2.20	2.40	2.34	2.58	0.00
	198.36	197.86	198.36	198.36	198.36	198.36	198.36	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.43	186.35	3716.68
Level -0.5 to Level -2.00	30.40	638.39	10353.76
Level -2.00 to NGL	8.88	186.29	3921.81
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.46
Natural Ground Preparation (Level -2.00 to NGL)	2.15	45.11	1877.91
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+900.00)



OFFSET	-11.04	-10.54	-7.44	-6.21	0.00	5.50	9.50	14.37
SubBallast Level	198.47	198.66	200.72	201.21	201.49	201.38	201.30	198.38
EMBANKMENT	197.97	198.47	200.04	200.56	200.69	200.58	200.80	198.20
NGL	198.48	198.47	198.44	198.43	198.36	198.30	198.25	198.20
Cut / Fill	0.51	0.00	2.10	2.14	2.33	2.28	2.55	0.00
	198.19	197.70	198.19	198.20	198.19	198.19	198.19	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.62	190.07	7869.87
Level -0.5 to Level -2.00	30.40	668.89	10853.74
Level -2.00 to NGL	8.87	184.21	3986.02
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.46
Natural Ground Preparation (Level -2.00 to NGL)	2.50	49.52	1926.43
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Peat Hatch

No.	Revised Sections	APPROVAL	DR.Mohamed Ghazlo
REV.	ISSUED BY: DATE	ISSUED FOR	APPROVED BY: DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

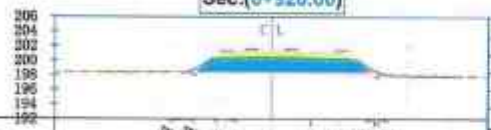
Cross Sections

FROM ST 0+880 TO ST 0+900

Bus Station + 6 Oktobar Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazlo	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Hamed Khalil
DWG SIZE: A3	SHEET NUMBER: 23	

ALMANASHY
Sec.(0+920.00)



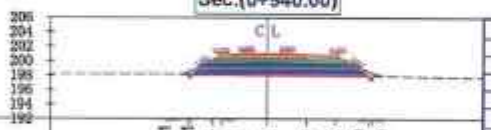
OFFSET	-10.97	-10.47	-7.44	-6.21	0.00	5.50	9.50	14.32	14.82
SubBallast Level	198.35	198.53	200.55	201.04	201.32	201.21	201.13	198.23	198.05
EMBANKMENT	197.85	[illegible]	200.37	200.39	200.52	200.41	200.63	198.05	197.55
NGL	198.36	198.35	198.32	198.30	198.24	198.17	198.12	198.05	198.05
Cut / Fill	0.51	0.00	2.05	2.09	2.28	2.24	2.51	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.08	192.72	4120.69
Level -0.5 to Level -2.00	22.40	968.08	11474.82
Level -2.00 to NGL	1.48	160.24	2346.28
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	1.19	37.08	1780.41
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+940.00)



OFFSET	-10.91	-10.41	-7.44	-6.21	0.00	5.50	9.50	14.19	14.69
SubBallast Level	198.22	198.40	200.38	200.87	201.15	201.04	200.86	198.15	197.97
EMBANKMENT	197.72	198.22	200.20	200.22	200.35	200.24	200.46	197.97	197.47
NGL	198.22	198.22	198.22	198.21	198.12	198.05	198.02	197.97	197.97
Cut / Fill	0.50	0.00	1.98	2.01	2.22	2.18	2.44	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.61	102.53	4208.22
Level -0.5 to Level -2.00	20.40	868.08	12068.90
Level -2.00 to NGL	2.80	133.53	3479.77
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	87.48
Natural Ground Preparation (Level -2.00 to NGL)	1.45	35.11	1799.52
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

Sheet Status	APPROVAL	DR.Mohamed Ghaith	
ISSUED BY		APPROVED BY	
DATE	ISSUED FOR	DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

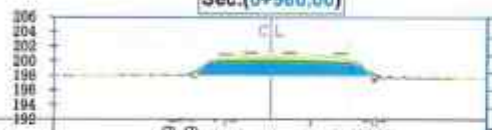
Cross Sections

FROM ST 0+920 TO ST 0+940

East Isdama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghaith	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 24	

ALMANASHY
Sec.(0+960.00)



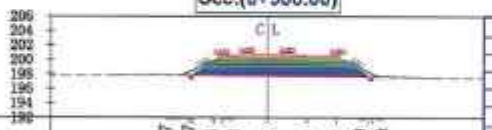
OFFSET	-10.89	-10.39	-7.44	-6.21	0.00	5.50	9.50	14.16	14.66
SubBallast Level	198.06	198.24	200.21	200.70	200.97	200.89	200.78	198.00	197.82
EMBANKMENT								197.82	197.32
NGL	198.06	198.06	198.05	198.05	197.95	197.89	197.86	197.82	197.82
Cut / Fill	0.00	0.00	1.97	2.00	2.22	2.17	2.42	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	9.52	191.23	[illegible]
Level -0.5 to Level -2.00	30.40	608.00	[illegible]
Level -2.00 to NGL	5.46	112.58	[illegible]
Natural Ground Preparation (Ferms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	67.46
Natural Ground Preparation (Level -2.00 to NGL)	0.67	31.16	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(0+980.00)



OFFSET	-10.87	-10.37	-7.44	-6.21	0.00	5.50	9.50	14.09	14.59
SubBallast Level	197.90	198.08	200.03	200.53	200.80	200.89	200.61	197.88	197.69
EMBANKMENT	197.40	197.90	199.85	199.88	200.00	199.89	200.11	197.69	197.19
NGL	197.90	197.90	197.89	197.89	197.85	197.79	197.74	197.69	197.69
Cut / Fill	0.50	0.00	1.96	1.99	2.15	2.10	2.37	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	9.19	183.81	[illegible]
Level -0.5 to Level -2.00	30.40	608.00	[illegible]
Level -2.00 to NGL	4.58	85.36	[illegible]
Natural Ground Preparation (Ferms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	67.46
Natural Ground Preparation (Level -2.00 to NGL)	0.70	13.64	1021.32
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

NO	Ahmed Shalaby	APPROVAL	DR.Mohamed Ghanim
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

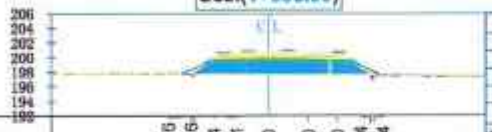
Cross Sections

FROM ST 0+960 TO ST 0+980

Bani Suleim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghanim	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 25	

ALMANASHY
Sec.(1+000.00)



OFFSET	-10.76	-10.26	-7.44	-5.21	0.00	5.50	9.50	14.04	14.54
SubBallast Level	197.80	197.98	199.55	200.35	200.53	200.52	200.44	197.73	197.55
MBANKMEN	-	-	-	-	-	199.72	199.94	197.55	[illegible]
NGL	197.80	197.80	197.77	197.76	197.71	197.65	197.60	197.55	197.55
Cut / Fill	-	0.00	1.81	1.95	2.12	2.07	2.34	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fernc to level -0.5	6.31	182.99	4671.91
Level -0.5 to Level -2.00	20.40	408.08	13911.14
Level -2.00 to NGL	3.83	76.66	3768.78
Natural Ground Preparation (Fernc to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	67.48
Natural Ground Preparation (Level -2.00 to NGL)	0.81	15.04	1529.37
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fernc to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

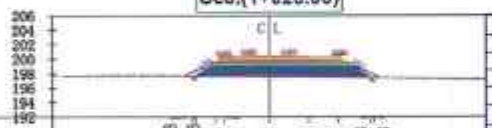
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fernc to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fernc to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+020.00)



OFFSET	-10.66	-10.16	-7.44	-5.21	0.00	5.50	9.50	13.96	14.46
SubBallast Level	197.70	197.88	199.69	200.18	200.46	200.35	200.27	197.61	197.42
EMBANKMENT	197.20	197.70	199.51	199.53	199.69	199.55	199.77	197.42	196.92
NGL	197.70	197.70	197.69	197.69	197.70	197.59	197.51	197.42	197.41
Cut / Fill	0.50	0.00	1.81	1.84	1.96	1.96	2.26	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fernc to level -0.5	6.53	163.03	4066.84
Level -0.5 to Level -2.00	20.09	403.00	14014.14
Level -2.00 to NGL	1.39	46.77	3917.53
Natural Ground Preparation (Fernc to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.48	4.80	72.08
Natural Ground Preparation (Level -2.00 to NGL)	0.91	17.16	1553.57
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fernc to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fernc to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fernc to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PrepcredSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fernc to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Ahmed Mahmoud	APPROVAL	DR.Mahmoud Gharib
	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dowlia

SHEET NAME:

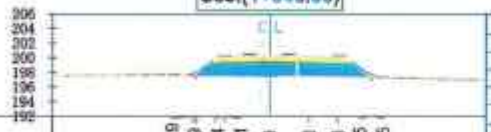
Cross Sections

FROM ST 1+000 TO ST 1+020

Nile Station - 0 Qenfed Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mahmoud Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 26	

ALMANASHY
Sec.(1+040.00)



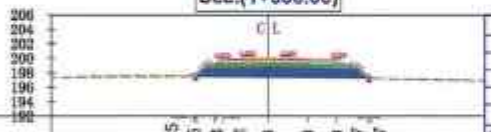
OFFSET	-10.49	-9.99	-7.44	-6.21	0.00	5.50	9.50	13.85	14.35
SubBallast Level	197.54	197.82	199.52	200.01	200.28	200.17	200.09	197.52	197.34
EMBANKMENT	197.14	[illegible]	[illegible]	[illegible]	198.48	199.37	[illegible]	197.34	[illegible]
NGL	197.64	197.64	197.63	197.63	197.57	197.48	197.41	197.34	197.33
Cut / Fill	0.50	[illegible]	1.70	1.73	1.92	1.90	2.18	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.0	9.62	191.72	5254.26
Level -0.0 to Level -0.00	36.49	667.49	19101.84
Level -0.00 to NGL	0.62	16.64	20317.17
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -0.00)	0.62	10.79	82.97
Natural Ground Preparation (Level -0.00 to NGL)	0.58	11.68	1665.50
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.0 to -0.00)	0.00	0.00	0.00
Fill - Replacement (Level -0.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -0.00	0.00	0.00	0.00
Level -0.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -0.00	0.00	0.00	0.00
Level -0.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+060.00)



OFFSET	-10.35	-9.85	-7.44	-6.21	0.00	5.50	9.50	13.67	14.17
SubBallast Level	197.56	197.74	199.34	199.84	200.11	200.00	199.92	197.47	197.29
EMBANKMENT	197.06	197.56	199.15	199.19	199.31	199.20	199.42	197.39	197.79
NGL	197.56	197.56	197.55	197.55	197.51	197.43	197.36	197.29	197.27
Cut / Fill	0.50	0.00	1.60	1.63	1.80	1.78	2.06	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.0	0.07	191.87	5446.13
Level -0.0 to Level -0.00	39.70	595.12	19697.71
Level -0.00 to NGL	0.61	6.20	20403.47
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -0.00)	0.06	10.80	93.07
Natural Ground Preparation (Level -0.00 to NGL)	0.06	2.07	1665.40
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.0 to -0.00)	0.00	0.00	0.00
Fill - Replacement (Level -0.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -0.00	0.00	0.00	0.00
Level -0.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -0.00	0.00	0.00	0.00
Level -0.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Post Hatch

REV	Issued Status	APPROVAL	DR.Mohamed Gharib
NO.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

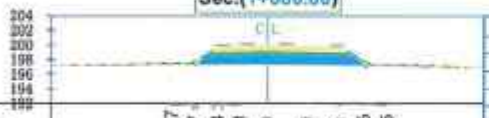
Cross Sections

FROM ST 1+040 TO ST 1+060

Port Sudan - Crusher Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 27	

ALMANASTIY
Sec.(1+080.00)



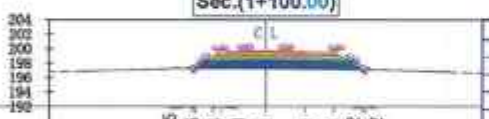
OFFSET	-10.17	-9.87	-7.44	-6.21	0.00	5.50	9.50	13.35	13.65
SubBallast Level	197.51	197.69	199.17	199.67	199.94	199.83	199.75	197.51	197.33
EMBANKMENT	[illegible]	197.51	198.59	199.02	199.14				196.63
NGL	197.51	197.51	197.52	197.52	197.50	197.44	197.40	197.33	197.32
Cut / Fill	0.00	0.00	1.48	1.50	1.64	1.59	1.85	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	6.59	191.53	3832.94
Level -0.5 to Level -2.00	22.84	466.02	10193.71
Level -2.00 to NGL	0.00	0.13	3843.61
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.87	16.20	113.22
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.33	1868.46
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASTIY
Sec.(1+100.00)



OFFSET	-10.25	-9.75	-7.44	-6.21	0.00	5.50	9.50	13.42	13.92
SubBallast Level	197.28	197.46	199.00	199.49	199.77	199.66	199.58	197.29	197.11
EMBANKMENT	196.76	197.26	198.82	198.84	198.97	198.86	199.06	197.11	196.81
NGL	197.28	197.28	197.28	197.29	197.32	197.26	197.20	197.11	197.00
Cut / Fill	0.50	0.00	1.54	1.55	1.65	1.59	1.86	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.04	191.20	3828.03
Level -0.5 to Level -2.00	23.08	463.63	10017.84
Level -2.00 to NGL	0.00	0.00	3843.61
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.28	12.81	124.94
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	1868.46
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferro to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to N.G.L)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

REV.	ISSUED BY / DATE	ISSUED FOR	APPROVAL: Dr. Mohamed Gheith	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Gawly

SHEET NAME:

Cross Sections

FROM ST 1+080 TO ST 1+100

Red Sea – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: Dr. Mohamed Gheith	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: Dr. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 28	

ALMANASHY
Sec.(1+120.00)

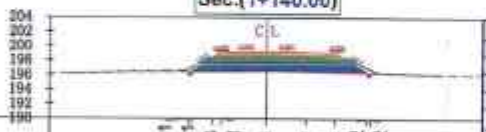
OFFSET	-10.41	-9.91	-7.44	-5.21	0.00	5.50	9.50	13.66	14.16
SubBallast Level	197.00	197.18	198.93	199.32	199.60	199.49	199.41	198.96	196.78
EMBANKMENT				198.87				196.78	
NGL	197.00	197.00	197.00	197.00	197.00	196.94	196.86	196.78	196.76
Cut / Fill	0.50	0.04	1.65	1.67	1.80	1.75	2.05	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.03	195.83	6000.55
Level -0.5 to Level -2.00	59.94	503.42	17131.98
Level -2.00 to NGL	0.01	0.10	3942.70
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.08	6.38	138.81
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	1664.46
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+140.00)



OFFSET	-10.81	-10.31	-7.44	-5.21	0.00	5.50	9.50	13.92	14.42
SubBallast Level	196.56	196.74	198.66	199.15	199.42	199.31	199.23	196.61	196.43
EMBANKMENT	196.00	196.55	198.48	198.50	198.62	198.51	198.73	196.43	196.93
NGL	196.56	196.58	196.59	196.60	196.65	196.60	196.52	196.43	196.42
Cut / Fill	0.50	0.00	1.89	1.90	1.97	1.91	2.21	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.60	192.64	6013.80
Level -0.5 to Level -2.00	30.23	370.58	17660.12
Level -2.00 to NGL	1.18	11.07	3934.78
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.03	3.94	132.05
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	1664.47
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

NO.	Issued Details	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUBMITTAL FOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

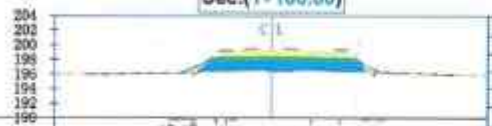
Cross Sections

FROM ST 1+120 TO ST 1+140

East Sohag – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY:	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 29	

ALMANASHY
Sec.(1+160.00)

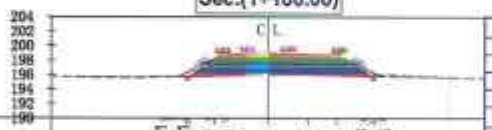


OFFSET	-10.95	-10.45	-7.44	-6.21	0.00	5.50	9.50	13.91	14.41
SubBallast Level	196.30	196.46	198.46	198.96	199.25	199.14	199.06	196.44	196.28
EMBANKMENT							198.56	196.25	195.75
NGL	196.29	196.30	196.35	196.37	196.49	196.47	196.38	196.26	196.25
Cut / Fill	0.00	0.00	1.95	1.95	1.97	1.88	2.20	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

ALMANASHY
Sec.(1+180.00)



OFFSET	-11.41	-10.91	-7.44	-6.21	0.00	5.50	9.50	14.26	14.76
SubBallast Level	195.62	196.00	198.31	198.81	199.08	198.97	198.89	196.04	195.86
EMBANKMENT	195.32	195.82	198.13	198.16	198.28	198.17	198.39	195.60	195.36
NGL	195.81	195.82	195.87	195.89	195.99	196.02	195.95	195.86	195.85
Cut / Fill	0.49	0.00	2.26	2.27	2.29	2.15	2.44	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

		APPROVAL	DR.Mohamed Ghanim
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

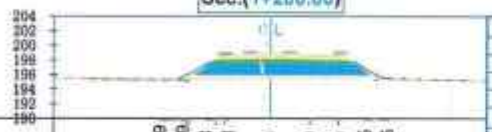
Cross Sections

FROM ST 1+160 TO ST 1+180

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghanim	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 30	

ALMANASHY
Sec.(1+200.00)



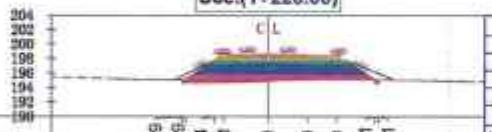
OFFSET	-11.69	-11.19	-7.44	-6.21	0.00	5.50	9.50	14.45
SubBallast Level	195.46	195.64	198.14	196.63	196.91	198.00	198.72	195.74	195.56
EMBANKMENT	—	195.46	197.96	—	198.11	198.00	198.22	—	—
NGL	195.46	195.46	195.49	195.49	195.55	195.60	195.60	195.56	195.56
Cut / Fill	0.50	0.00	2.47	2.49	2.56	2.40	2.62	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.63	193.23	5193.23
Level -0.5 to Level -2.00	30.42	608.60	19538.04
Level -2.00 to NGL	15.77	315.53	9588.53
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	1.49	16.39	1853.84
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+220.00)



OFFSET	-11.89	-11.39	-7.44	-6.21	0.00	5.50	9.50	14.81	15.31
SubBallast Level	195.15	195.33	197.97	198.46	198.74	198.63	198.55	195.15	195.15
EMBANKMENT	194.65	195.15	197.79	197.81	197.94	197.83	198.05	195.15	194.65
NGL	195.15	195.15	195.13	195.12	195.19	195.26	195.25	195.15	195.14
Cut / Fill	0.50	0.00	2.66	2.69	2.75	2.57	2.79	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	163.80	5356.03
Level -0.5 to Level -2.00	39.42	656.08	20219.12
Level -2.00 to NGL	18.60	234.09	9822.62
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	4.77	62.05	1915.38
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

REV	DATE	ISSUED BY	ISSUED FOR	APPROVAL	DR.Mohamed Gharib
					APPROVED BY
					DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

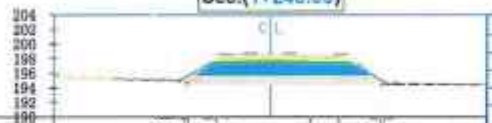
SHEET NAME:

Cross Sections

FROM ST 1+200 TO ST 1+220

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 31	

ALMANASHY
Sec.(1+240.00)



OFFSET	-11.83	-11.33	-7.44	-6.21	0.00	5.50	9.50	15.18	15.68
SubBallast Level	195.02	195.20	197.80	198.29	198.56	198.45	198.37	194.91	194.73
EMENT	194.52	195.02	197.61	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NGL	195.03	196.02	194.96	194.94	194.87	194.80	194.79	194.73	194.72
Cut / Fill	0.51	0.00	2.86	2.70	2.89	2.85	3.08	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.58	193.07	7170.09
Level -0.5 to Level -2.00	30.40	609.89	23774.20
Level -2.00 to NGL	22.74	454.28	4694.20
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	6.10	126.28	2085.66
Cut – Replacement	0.00	0.00	0.00
FB – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
FB – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
FB – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

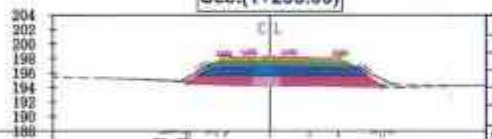
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+260.00)



OFFSET	-11.61	-11.11	-7.44	-6.21	0.00	5.50	9.50	15.35	15.85
SubBallast Level	195.00	195.18	197.62	198.12	198.39	198.28	198.20	194.63	194.45
EMBANKMENT	194.50	195.00	197.44	197.47	197.59	197.48	197.70	194.45	193.95
NGL	196.01	195.00	194.90	194.87	194.71	194.58	194.53	194.45	194.44
Cut / Fill	0.51	0.00	2.54	2.60	2.88	2.90	3.17	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.58	192.29	7370.48
Level -0.5 to Level -2.00	30.40	608.09	21232.30
Level -2.00 to NGL	22.74	455.24	5089.58
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	6.80	140.58	2225.32
Cut – Replacement	0.00	0.00	0.00
FB – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
FB – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
FB – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

[illegible]	APPROVAL	DR.Mohamed Gharib	
REV	PREPARED BY	APPROVED BY	
	DATE	DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: [illegible]

CONTRACTOR CONSULTANT: ESM El Dawlia

SHEET NAME:

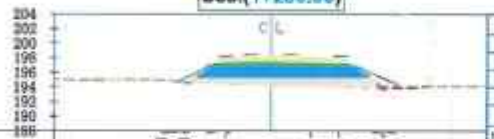
Cross Sections

FROM ST 1+240 TO ST 1+260

Blue Sahara - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 32	

Sec.(1+280.00)



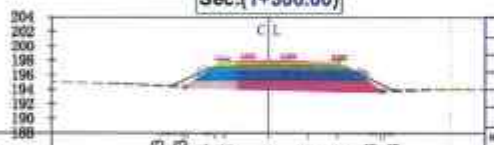
OFFSET	-11.58	-11.08	-7.44	-6.21	0.00	5.50	9.50	15.41	15.91
SubBallast Level	194.84	195.02	197.45	197.95	198.22	198.11	198.03	194.42	194.23
ANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	197.42	[illegible]	[illegible]	[illegible]	193.73
NGL	194.85	194.84	194.77	194.73	194.57	194.45	194.34	194.23	194.23
Cut / Fill	0.51	0.00	2.50	2.57	2.84	2.86	3.18	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.59	191.69	7663.10
Level -0.5 to Level -2.00	20.40	608.08	23945.36
Level -2.00 to NGL	22.05	491.14	30462.73
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -2.00 to NGL)	8.80	188.82	2435.04
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Sec.(1+300.00)



OFFSET	-11.73	-11.23	-7.44	-6.21	0.00	5.50	9.50	15.38	15.88
SubBallast Level	194.57	194.75	197.28	197.77	198.05	197.94	197.86	194.28	194.08
EMBANKMENT	194.07	194.57	197.10	197.12	197.25	197.14	197.35	194.08	193.58
NGL	194.58	194.57	194.51	194.50	194.38	194.25	194.17	194.08	194.08
Cut / Fill	0.51	0.00	2.58	2.63	2.87	2.89	3.19	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.59	191.83	7753.35
Level -0.5 to Level -2.00	20.40	606.08	23945.44
Level -2.00 to NGL	23.14	493.00	30955.78
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -2.00 to NGL)	8.80	188.00	2623.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

— — —	Natural Ground Level
———	SubBallast Level
———	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Ahmed Hamed	APPROVED	DR.Mohamed Ebeid
REV	ISSUED BY	PROJECT MANAGER	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM el dawlia

SHEET NAME:

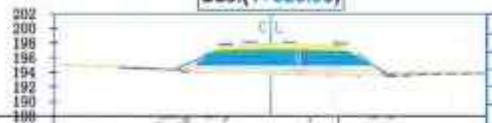
Cross Sections

FROM ST 1+280 TO ST 1+300

Rest Sidetrack – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ebeid	PROJECT
DRAWN:	CHECKED BY:	APPROVED BY: DR.Ahmed Kamel
DWG SIZE: A3	SHEET NUMBER: 33	

AL MANASHY
Sec.(1+320.00)



OFFSET	-11.69	-11.19	-7.44	-5.21	0.00	5.50	9.50	15.33	15.83
SubBallast Level	194.43	194.61	197.11	197.60	197.88	197.77	197.69	194.13	193.94
EMBANKMENT	193.93	[illegible]	[illegible]	[illegible]	[illegible]	196.97	197.19	[illegible]	[illegible]
NGL	194.44	194.43	194.35	194.33	194.18	194.04	193.99	193.94	193.94
Cut / Fill	0.51	0.00	2.57	2.62	2.89	2.93	3.20	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	9.50	190.29	7945.74
Fill - Replacement (Level -0.5 to Level -2.00)	30.40	608.00	33100.44
Fill - Replacement (Level -2.00 to NGL)	22.33	404.39	57103.18
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	135.74
Natural Ground Preparation (Level -2.00 to NGL)	10.88	197.00	2760.04
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

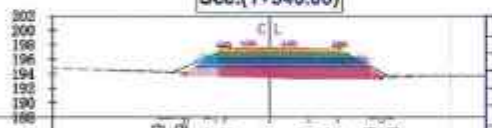
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

AL MANASHY
Sec.(1+340.00)



OFFSET	-11.69	-11.19	-7.44	-5.21	0.00	5.50	9.50	15.28	15.78
SubBallast Level	194.26	194.44	196.94	197.43	197.70	197.59	197.51	193.98	193.80
EMBANKMENT	193.76	194.26	196.75	196.78	196.80	196.79	197.01	193.80	193.30
NGL	194.27	194.26	194.17	194.14	193.99	193.85	193.82	193.80	193.80
Cut / Fill	0.51	0.00	2.59	2.64	2.92	2.94	3.19	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	8.00	160.00	8134.55
Fill - Replacement (Level -0.5 to Level -2.00)	30.40	608.00	33709.44
Fill - Replacement (Level -2.00 to NGL)	23.01	466.13	7224.33
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	135.74
Natural Ground Preparation (Level -2.00 to NGL)	10.00	213.00	2973.01
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Formation -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Revised Notes	APPROVAL	DR.Mohamed Ebeid
	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dewify & Sons

SHEET NAME:

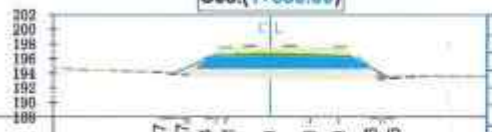
Cross Sections

FROM ST 1+320 TO ST 1+340

Bani Suef - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ebeid	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Elkadi
DWG SIZE: A3	SHEET NUMBER: 34	

ALMANASHY
Sec.(1+360.00)



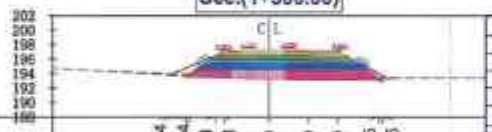
OFFSET	-11.67	-11.17	-7.44	-6.21	0.00	5.50	9.50	15.26	15.76
SubBallast Level	194.09	194.27	196.76	197.26	197.53	197.42	197.34	193.82	193.54
J MENT	- - - -	- - - -	- - - -	- - - -	- - - -	195.62	- - - -	- - - -	193.14
NGL	194.11	194.09	193.99	193.96	193.80	193.67	193.64	193.64	193.65
C / Fill	0.51	0.00	2.59	2.64	2.93	2.95	3.20	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.34	161.18	8325.74
Level -0.5 to Level -2.00	30.40	859.98	24375.32
Level -2.00 to NGL	23.70	472.11	7705.46
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	11.98	238.60	3220.01
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+380.00)



OFFSET	-11.54	-11.04	-7.44	-6.21	0.00	5.50	9.50	15.25	15.75
SubBallast Level	194.01	194.19	196.59	197.08	197.36	197.25	197.17	193.66	193.48
EMBANKMENT	193.51	194.01	196.41	196.43	196.49	196.45	196.87	193.48	193.48
NGL	194.03	194.01	193.90	193.87	193.68	193.51	193.48	193.48	193.47
Cut / Fill	0.52	0.00	2.51	2.57	2.88	2.94	3.19	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.88	180.07	8318.07
Level -0.5 to Level -2.00	30.40	835.09	24000.92
Level -2.00 to NGL	20.09	402.61	6918.05
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	8.08	161.59	3401.60
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Ahmed Kamel	APPROVAL	DR.Mohamed Gharib
	ISSUED BY		APPROVED BY
DATE		ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 1+360 TO ST 1+380

East Solaria - 4 Oasites Railway Project

DWG SCALE 1:500	DESIGNED BY DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY DR.Ahmed Kamel
DWG SIZE A3	SHEET NUMBER 35	

ALMANASHY
Sec.(1+400.00)

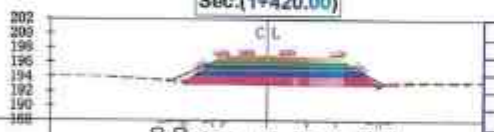
OFFSET	-11.19	-10.69	-7.44	-6.21	0.00	5.50	9.50	15.17	15.67
SubBallast Level	194.07	194.25	196.42	196.91	197.19	197.08	197.00	193.54	193.38
I T	193.57		196.24	196.26	196.39				
NGL	194.06	194.07	193.98	193.96	193.94	193.50	193.39	193.36	193.37
Cut / Fill	0.48	0.00	2.26	2.30	2.54	2.78	3.10	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.71	162.89	[illegible]
Level -0.5 to Level -2.00	30.40	608.09	[illegible]
Level -2.00 to NGL	17.44	400.59	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	4.04	100.62	[illegible]
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+420.00)



OFFSET	-11.60	-11.10	-7.44	-6.21	0.00	5.50	9.50	15.16	15.66
SubBallast Level	193.83	193.81	196.25	196.74	197.01	196.90	196.82	193.37	193.19
EMBANKMENT	193.13	193.53	196.07	196.06	196.21	196.10	196.32	193.19	192.69
NGL	193.65	193.63	193.52	193.48	193.31	193.24	193.19	193.19	193.24
Cut / Fill	0.52	0.00	2.55	2.61	2.91	2.87	3.14	0.00	0.54

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	3.58	163.64	[illegible]
Level -0.5 to Level -2.00	30.43	608.59	[illegible]
Level -2.00 to NGL	23.39	397.71	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	4.46	111.26	[illegible]
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

Ahmed Hamdy	APPROVAL	DR.Mohamed Gaafar	
DRAWN BY	DESIGNED BY	DRAWING NO.	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

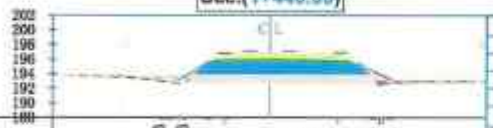
Cross Sections

FROM ST 1+400 TO ST 1+420

East Sohag - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gaafar	PROJECT
PHASE:	CHECKED BY	APPROVED BY: DR.Ahmed Gaafar
DWG SIZE: A3	SHEET NUMBER: 36	

Sec.(1+440.00)



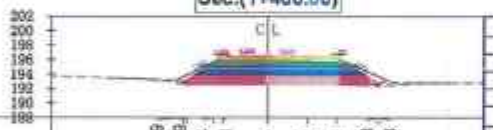
OFFSET	-11.63	-11.13	-7.44	-6.21	0.00	5.50	9.50	15.14	15.64
SubBallast Level	193.43	193.61	196.07	196.57	196.84	196.73	196.65	193.22	193.04
EMBANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	196.15	193.04	192.94
NGL	193.44	193.43	193.33	193.30	193.15	193.06	193.05	193.04	193.04
Cut / Fill	0.51	[illegible]	2.56	2.62	2.90	2.88	3.10	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	8.50	191.54	9984.50
Level -0.5 to Level -2.00	30.40	608.00	26804.84
Level -2.00 to NGL	22.16	444.84	8465.00
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -2.00 to NGL)	10.76	174.29	3023.94
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Sec.(1+460.00)



OFFSET	-11.69	-11.19	-7.44	-6.21	0.00	5.50	9.50	15.08	15.58
SubBallast Level	193.22	193.40	195.90	196.40	196.67	196.56	196.48	193.09	192.91
EMBANKMENT	192.72	193.22	195.72	196.76	195.87	195.76	195.98	192.91	192.41
NGL	193.23	193.22	193.14	193.11	192.97	192.90	192.90	192.91	192.91
Cut / Fill	0.51	0.00	2.56	2.54	2.90	2.86	3.08	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	8.50	190.00	9984.50
Level -0.5 to Level -2.00	30.40	608.00	27412.84
Level -2.00 to NGL	22.16	443.29	8846.00
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -2.00 to NGL)	10.07	168.31	3192.25
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Forms to level -0.0)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

No.	Revised Sections	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM Elsewedy

SHEET NAME:

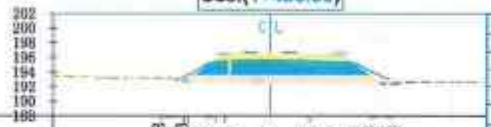
Cross Sections

FROM ST 1+440 TO ST 1+460

Bani Suhaila – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 37	

ALMANASHY
Sec.(1+480.00)



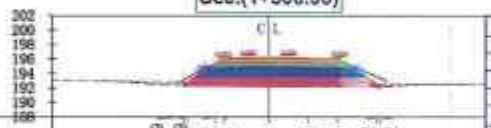
OFFSET	-11.73	-11.23	-7.44	-6.21	0.00	5.50	9.50	15.08	15.58
SubBallast Level	193.02	193.20	196.73	196.22	196.50	196.39	196.31	192.91	192.73
E [illegible] MENT	[illegible]			195.57	195.70	195.59	[illegible]		
NGL	193.04	193.02	192.93	192.91	192.81	192.76	192.75	192.73	192.73
Cut / Fill	[illegible]	0.00	2.62	2.66	2.89	2.83	3.06	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.66	100.63	9475.59
Level -0.5 to Level -3.00	30.40	609.89	28315.69
Level -3.00 to NGL	32.66	442.87	19387.63
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -3.00 to NGL)	9.75	148.51	4243.79
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+500.00)



OFFSET	-11.79	-11.29	-7.44	-6.21	0.00	5.50	9.50	15.02	15.52
SubBallast Level	192.81	192.99	195.56	196.05	196.33	196.22	196.14	192.78	192.60
EMBANKMENT	192.31	192.81	195.36	195.40	195.53	195.42	195.64	192.50	192.10
NGL	192.82	192.81	192.77	192.75	192.65	192.62	192.61	192.60	192.60
Cut / Fill	0.51	0.00	2.61	2.66	2.88	2.80	3.03	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.61	191.83	9969.41
Level -0.5 to Level -3.00	30.40	609.08	28924.77
Level -3.00 to NGL	35.82	437.15	19825.76
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -3.00 to NGL)	13.43	232.14	4442.93
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -3.00)
	Fill Hatch (-3.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Feet Hatch

NO	Ahmed Shaker	APPROVAL	DR.Mohamed Gaafar
REV	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Sewedy Sustainable & More

SHEET NAME:

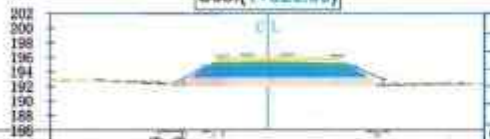
Cross Sections

FROM ST 1+480 TO ST 1+580

Suez Sokhna - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gaafar	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Shaker
DWG SIZE: A3	SHEET NUMBER: 38	

Sec.(1+520.00)



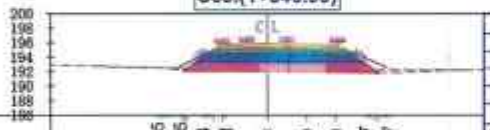
OFFSET	-11.79	-11.29	-7.44	-6.21	0.00	5.50	9.50	15.01	15.51
SubBallast Level	192.84	192.82	195.39	195.88	196.15	196.04	195.96	192.62	192.43
EMBANKMENT	[illegible]	192.84	195.21	195.23	[illegible]	[illegible]	[illegible]	192.43	[illegible]
NGL	192.64	192.64	192.60	192.59	192.51	192.49	192.48	192.43	192.43
Cut / Fill	0.51	0.00	2.61	2.64	2.85	2.76	3.00	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill Material	[illegible]	[illegible]	[illegible]
Fill Material (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Fill Material (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut - Replacement	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Fill - Replacement (Level -0.5 to -2.00)	[illegible]	[illegible]	[illegible]
Fill - Replacement (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material	[illegible]	[illegible]	[illegible]
Fill Material (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Fill Material (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material	[illegible]	[illegible]	[illegible]
Fill Material (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Fill Material (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

ALMANASHY
Sec.(1+540.00)



OFFSET	-11.65	-11.15	-7.44	-6.21	0.00	5.50	9.50	14.97	15.47
SubBallast Level	192.56	192.74	195.21	195.71	195.98	195.87	195.79	192.47	192.29
EMBANKMENT	192.08	192.58	195.03	195.05	195.18	195.07	195.29	192.29	191.79
NGL	192.57	192.56	192.49	192.47	192.39	192.36	192.32	192.29	192.29
Cut / Fill	0.51	0.00	2.54	2.59	2.79	2.72	2.97	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill Material	[illegible]	[illegible]	[illegible]
Fill Material (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Fill Material (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut - Replacement	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Fill - Replacement (Level -0.5 to -2.00)	[illegible]	[illegible]	[illegible]
Fill - Replacement (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material	[illegible]	[illegible]	[illegible]
Fill Material (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Fill Material (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material	[illegible]	[illegible]	[illegible]
Fill Material (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Fill Material (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Feet Hatch

No.	Issued Notes	APPROVAL	DR.Mohamed Gharib
	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Sawalhy

SHEET NAME:

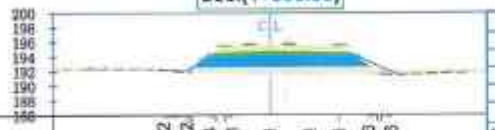
Cross Sections

FROM ST 1+520 TO ST 1+540

Sian Salama – El Qantara Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 39	

ALMANASHY
Sec.(1+600.00)



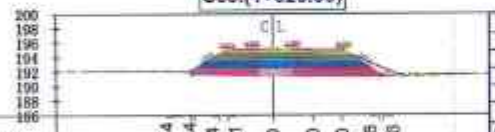
OFFSET	-11.32	-10.82	-7.44	-6.21	0.00	5.50	9.50	14.86	15.36
SubBallast Level	192.26	192.44	194.70	195.19	195.47	195.35	195.28	192.02	191.84
EMT	191.70	192.26	194.52	194.54			194.70		
NGL	192.27	192.26	192.21	192.19	192.08	192.01	191.94	191.84	191.84
Cut / Fill	0.51	0.00	2.31	2.35	2.58	2.54	2.83	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.57	168.54	168.54
Level -0.5 to Level -2.00	25.40	530.08	698.62
Level -2.00 to NGL	14.88	312.81	1011.43
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	126.74
Natural Ground Preparation (Level -2.00 to NGL)	16.95	211.20	337.94
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+620.00)



OFFSET	-11.34	-10.84	-7.44	-6.21	0.00	5.50	9.50	14.76	15.26
SubBallast Level	192.08	192.26	194.53	195.02	195.29	195.18	195.10	191.92	191.74
EMBANKMENT	191.58	192.08	194.35	194.37	194.49	194.38	194.50	191.74	191.24
NGL	192.09	192.08	192.04	192.03	191.98	191.90	191.85	191.74	191.73
Cut / Fill	0.51	0.00	2.31	2.34	2.53	2.48	2.75	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.63	155.89	10822.13
Level -0.5 to Level -2.00	35.49	638.08	20377.35
Level -2.00 to NGL	13.08	237.83	19003.71
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	126.74
Natural Ground Preparation (Level -2.00 to NGL)	11.41	220.60	558.54
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Name/Signature	APPROVAL	DR.Mohamed Gharib
	DESIGNED BY / DATE	REVIEWED BY	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

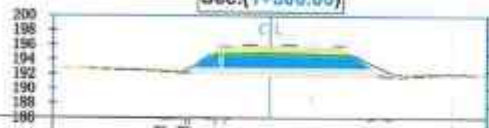
Cross Sections

FROM ST 1+600 TO ST 1+620

Red Sea Railway - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 41	

ALMANASHY
Sec.(1+560.00)



OFFSET	-11.51	-11.01	-7.44	-6.21	0.00	5.50	9.50	14.98	15.49
SubBallast Level	192.48	192.66	195.04	195.54	195.61	195.70	195.62	192.29	192.10
E T	191.98	192.46	194.86	194.89	195.01	[illegible]	[illegible]	[illegible]	[illegible]
NGL	192.49	192.48	192.40	192.38	192.24	192.18	192.15	192.10	192.10
Cut / Fill	0.51	0.00	2.46	2.51	2.77	2.72	2.97	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+580.00)

OFFSET	-11.38	-10.88	-7.44	-6.21	0.00	5.50	9.50	14.84	15.34
SubBallast Level	192.39	192.57	194.87	195.36	195.64	195.53	195.45	192.21	192.03
EMBANKMENT	191.89	192.39	194.09	194.71	194.84	194.73	194.05	192.03	191.53
NGL	192.40	192.39	192.33	192.31	192.17	192.12	192.09	192.03	192.03
Cut / Fill	0.51	0.00	2.36	2.41	2.67	2.61	2.86	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferro to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

Prepared Name	APPROVAL	DR Mohamed Gharib
REV. ISSUED BY		APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUBCONTRACTOR:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

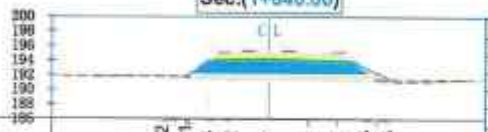
Cross Sections

FROM ST 1+560 TO ST 1+580

Hail Sahara - Al Faisaliah Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 40	

ALMAHASHY
Sec.(1+640.00)



OFFSET	-11.32	-10.81	-7.44	-6.21	0.00	5.50	9.50	14.63	15.13
SubBallast Level	191.92	192.10	194.35	194.85	195.12	195.01	194.93	191.84	191.66
E /KME IT	191.42	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	191.16
NGL	191.93	191.92	191.88	191.87	191.80	191.74	191.70	191.66	191.65
Cut / Fill	0.51	0.00	2.29	2.33	2.53	2.47	2.73	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.63	193.31	19014.44
Level -0.5 to Level -2.00	20.40	405.08	20865.63
Level -2.00 to NGL	13.34	271.33	13175.04
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -2.00 to NGL)	11.41	225.39	6886.70
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

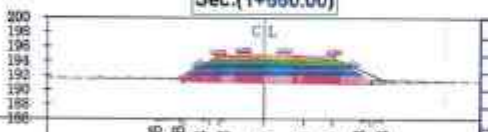
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMAHASHY
Sec.(1+660.00)



OFFSET	-11.46	-10.98	-7.44	-6.21	0.00	5.50	9.50	14.63	15.13
SubBallast Level	191.64	191.82	194.18	194.68	194.95	194.84	194.76	191.67	191.49
EMBANKMENT	191.14	191.64	194.00	194.63	194.15	194.04	194.26	191.49	190.98
NGL	191.64	191.64	191.63	191.63	191.61	191.57	191.53	191.49	191.48
Cut / Fill	0.50	0.00	2.37	2.39	2.54	2.47	2.73	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.04	193.13	11358.89
Level -0.5 to Level -2.00	30.45	628.00	23463.71
Level -2.00 to NGL	13.89	272.00	13448.20
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	138.74
Natural Ground Preparation (Level -2.00 to NGL)	10.34	238.47	6125.17
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Field Hatch

Revised Notes		APPROVAL	DR.Mohamed Obaida
REV.	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR (TRANSLATE)

CONTRACTOR (CONSULTANT): ESM

SHEET NAME:

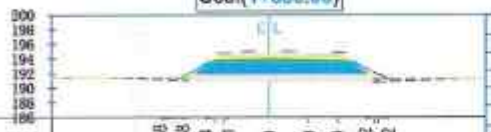
Cross Sections

FROM ST 1+640 TO ST 1+660

East Sidetrack - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Obaida	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 42	

ALMANASHY
Sec.(1+680.00)



OFFSET	-11.58	-11.08	-7.44	-6.21	0.00	5.50	9.50	14.62	15.12
SubBallast Level	191.40	191.58	194.01	194.50	194.78	194.67	194.59	191.31	191.31
EMBANKMENT						193.87	194.09	191.31	190.81
NGL	191.40	191.40	191.38	191.38	191.35	191.34	191.32	191.31	191.32
Cut / Fill	0.00	0.00	2.44	2.46	2.52	2.52	2.77	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	101.43	11588.38
Level -0.5 to Level -2.00	22.40	828.68	24931.79
Level -2.00 to NGL	15.33	354.89	13742.69
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	10.47	208.63	8358.30
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+700.00)

OFFSET	-11.59	-11.09	-7.44	-6.21	0.00	5.50	9.50	14.68	15.18
SubBallast Level	191.22	191.41	193.84	194.33	194.61	194.50	194.42	191.29	191.11
EMBANKMENT	190.72	191.22	193.66	193.66	193.81	193.70	193.92	191.11	190.61
NGL	191.23	191.22	191.19	191.18	191.16	191.11	191.09	191.11	191.11
Cut / Fill	0.51	0.00	2.45	2.50	2.64	2.58	2.82	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.63	193.03	11390.31
Level -0.5 to Level -2.00	30.40	828.68	24759.87
Level -2.00 to NGL	15.37	355.08	14097.68
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	1.63	162.07	8520.37
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Pier Hatch

Revised Before		APPROVAL	Dr. Mohamed Gamil
REV.	ISSUED BY		APPROVED BY
	DATE	REVISION NO.	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El dawlia

SHEET NAME:

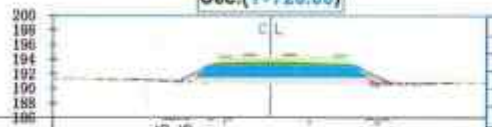
Cross Sections

FROM ST 1+680 TO ST 1+700

Rosetta Suburbs - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: Dr. Mohamed Gamil	PROJECT
PHASE	CHECKED BY	APPROVED BY: Dr. Hamed Elzaft
DWG SIZE: A3	SHEET NUMBER: 43	

ALMANASHY
Sec.(1+720.00)



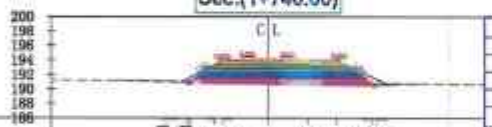
OFFSET	-11.35	-10.85	-7.44	-6.21	0.00	5.50	9.50	14.66	15.16
SubBallast Level	191.21	191.39	193.07	194.16	194.43	194.32	194.24	191.13	190.95
EMBANKMENT				193.51			193.74	190.85	190.45
NGL	191.22	191.21	191.18	191.17	191.00	191.02	190.98	190.95	190.95
Cut / Fill	0.00		2.30	2.34	2.57	2.51	2.76	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.61	192.27	11792.47
Level -0.5 to Level -3.00	28.40	608.09	20277.85
Level -3.00 to NGL	14.05	564.19	14566.05
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -3.00 to NGL)	0.00	167.48	6707.00
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+740.00)



OFFSET	-11.18	-10.68	-7.44	-6.21	0.00	5.50	9.50	14.53	15.03
SubBallast Level	191.15	191.33	193.49	193.99	194.26	194.15	194.07	191.04	190.86
EMBANKMENT	190.65	191.15	193.31	193.34	193.46	193.35	193.57	190.86	190.36
NGL	191.16	191.15	191.13	191.11	191.00	190.93	190.90	190.86	190.86
Cut / Fill	0.50	0.00	2.18	2.23	2.46	2.42	2.67	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.57	181.80	11974.27
Level -0.5 to Level -3.00	23.40	668.09	20945.33
Level -3.00 to NGL	11.91	253.59	14831.80
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -3.00 to NGL)	7.47	163.90	6870.90
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

Client Name	APPROVAL	DR.Mohamed Gharib	
REV.	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Sawalha & Mansour

SHEET NAME:

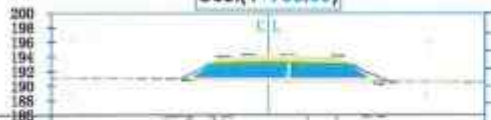
Cross Sections

FROM ST 1+720 TO ST 1+740

Bani Suef – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 44	

ALMANASHY
Sec.(1+760.00)



OFFSET	-11.09	-10.50	-7.44	-6.21	0.00	5.50	9.50	14.44	14.94
SubBallast Level	191.04	191.22	193.32	193.81	194.09	193.98	193.90	190.93	190.75
EMBANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	193.29	193.18	193.40	[illegible]	190.25
NGL	191.04	191.04	191.02	191.01	190.93	190.85	190.80	190.75	190.74
Cut / Fill	0.50	[illegible]	2.12	2.16	2.35	2.33	2.60	0.00	[illegible]

[illegible] في شريط [illegible]

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	9.84	193.13	12185.49
Level -0.5 to Level -3.00	30.46	608.08	26334.71
Level -3.00 to NGL	5.41	339.34	14831.15
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.03	0.02	128.74
Natural Ground Preparation (Level -3.00 to NGL)	0.82	163.06	7034.41
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

[illegible] في شريط [illegible]

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

[illegible] في شريط [illegible]

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+780.00)

OFFSET	-11.12	-10.62	-7.44	-6.21	0.00	5.50	9.50	14.34	14.84
SubBallast Level	190.85	191.03	193.15	193.64	193.92	193.81	193.73	190.82	190.64
EMBANKMENT	190.39	190.85	192.97	192.99	193.12	193.01	193.23	190.64	190.14
NGL	190.85	190.85	190.84	190.83	190.78	190.73	190.70	190.64	190.63
Cut / Fill	0.50	0.00	2.13	2.16	2.34	2.28	2.53	0.00	0.49

[illegible] في شريط [illegible]

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	9.02	180.63	12396.03
Level -0.5 to Level -3.00	28.42	568.08	27143.16
Level -3.00 to NGL	8.71	181.80	15812.75
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	128.74
Natural Ground Preparation (Level -3.00 to NGL)	0.54	164.83	7219.01
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

[illegible] في شريط [illegible]

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

[illegible] في شريط [illegible]

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fermo to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

[illegible]		APPROVAL	DR.Mohamed Gharib
NO.	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: [illegible]

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

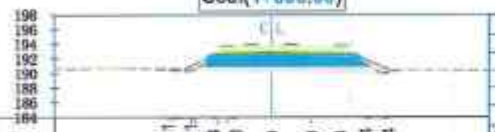
Cross Sections

FROM ST 1+760 TO ST 1+780

Hail Salem - Al Qunfudah Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PDARD	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 45	

ALMANASHY
Sec.(1+800.00)



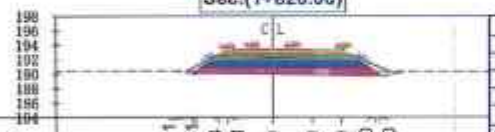
OFFSET	-11.11	-10.61	-7.44	-6.21	0.00	5.50	9.50	14.24	14.74
SubBallast Level	190.58	190.63	192.58	193.47	193.74	193.63	193.55	190.72	190.53
ME IT	190.18	190.08	192.80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NGL	190.69	190.68	190.67	190.66	190.53	190.59	190.56	190.53	190.53
Cut / Fill	0.50	0.00	2.13	2.16	2.32	2.25	2.50	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	6.71	143.33	18888.30
Level -0.5 to Level -2.00	30.40	828.69	27759.27
Level -2.00 to NGL	6.19	158.10	10150.83
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	10.04	223.81	7403.50
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+820.00)



OFFSET	-11.11	-10.61	-7.44	-6.21	0.00	5.50	9.50	14.20	14.70
SubBallast Level	190.51	190.69	192.81	193.30	193.57	193.46	193.38	190.57	190.39
EMBANKMENT	190.01	190.51	192.52	192.95	192.77	192.86	192.88	190.39	189.89
NGL	190.51	190.51	190.49	190.48	190.44	190.45	190.41	190.39	190.39
Cut / Fill	0.50	0.00	2.14	2.17	2.33	2.23	2.47	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	6.67	143.77	18746.12
Level -0.5 to Level -2.00	30.40	828.69	28888.96
Level -2.00 to NGL	6.03	157.20	10341.68
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	11.43	223.68	7646.50
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Fact Hatch

REV	Issued Revision	APPROVAL	DR.Mohamed Gherib
DATE	ISSUED BY / DATE	REVIEWED BY	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSULTANT CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

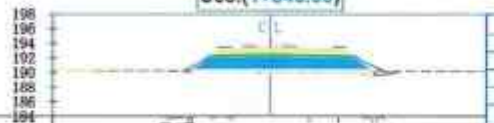
Cross Sections

FROM ST 1+600 TO ST 1+820

Bani Suleima - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gherib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 46	

Sec.(1+840.00)



OFFSET	-11.10	-10.00	-7.44	-6.21	0.00	5.50	9.50	14.18	14.68
SubBallast Level	190.34	190.52	192.63	193.13	193.40	193.29	193.21	190.41	190.23
ET	189.84	190.34	[illegible]	[illegible]	[illegible]	192.49	[illegible]	[illegible]	[illegible]
NGL	190.35	190.34	190.32	190.32	190.29	190.27	190.29	190.23	190.23
Cut / Fill	0.51	0.00	2.13	2.16	2.31	2.22	2.45	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -2.00	20.40	[illegible]	[illegible]
Level -2.00 to NGL	7.68	[illegible]	[illegible]
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	128.74
Natural Ground Preparation (Level -2.00 to NGL)	6.06	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

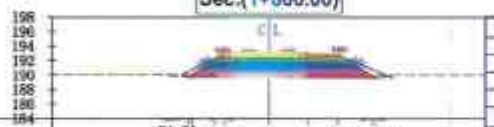
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Sec.(1+860.00)



OFFSET	-11.12	-10.62	-7.44	-6.21	0.00	5.50	9.50	14.18	14.68
SubBallast Level	190.16	190.34	192.45	192.95	193.23	193.12	193.04	190.24	190.06
EMBANKMENT	189.66	190.16	192.28	192.30	192.43	192.32	192.54	190.09	189.56
NGL	190.16	190.16	190.14	190.13	190.12	190.10	190.09	190.06	190.06
Cut / Fill	0.50	0.00	2.14	2.17	2.31	2.22	2.45	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.63	180.26	13139.00
Level -0.5 to Level -2.00	20.40	[illegible]	[illegible]
Level -2.00 to NGL	7.68	[illegible]	[illegible]
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	128.74
Natural Ground Preparation (Level -2.00 to NGL)	6.77	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

[illegible]	APPROVAL	DR.Mohamed Ghazli	
ISSUED BY	ISSUED FOR	APPROVED BY	
DATE		DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

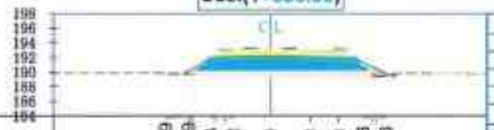
Cross Sections

FROM ST. 1+840 TO ST. 1+860

Bani Suhaila - Al Qadisia Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazli	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 47	

ALMANASHY
Sec.(1+880.00)



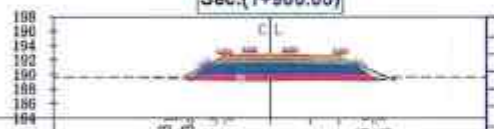
OFFSET	-11.19	-10.69	-7.44	-6.21	0.00	5.50	9.50	14.18	14.68
SubBallast Level	189.94	190.12	192.29	192.78	193.06	192.95	192.87	190.09	189.90
EMBANKMENT				192.13		192.10	192.37		189.40
NGL	189.94	189.94	189.94	189.94	189.95	189.95	189.93	189.90	189.90
Cut / Fill	0.50	0.00	2.16	2.19	2.30	2.19	2.43	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	6.67	163.01	13334.01
Level -0.5 to Level -2.00	20.40	608.06	40665.24
Level -2.00 to NGL	7.86	153.85	15805.40
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	11.38	231.61	8233.65
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+900.00)



OFFSET	-11.23	-10.73	-7.44	-6.21	0.00	5.50	9.50	14.13	14.63
SubBallast Level	189.74	189.92	192.12	192.61	192.88	192.77	192.69	189.93	189.75
EMBANKMENT	189.24	189.74	191.94	191.96	192.08	191.97	192.19	189.75	189.25
NGL	189.74	189.74	189.75	189.75	189.77	189.77	189.76	189.75	189.75
Cut / Fill	0.50	0.00	2.19	2.21	2.31	2.21	2.43	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	6.67	163.01	13334.01
Level -0.5 to Level -2.00	20.40	608.06	40793.97
Level -2.00 to NGL	7.86	154.67	15959.10
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	11.04	224.34	8457.99
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubballasT Hatch
- Slope Protection Hatch
- Fore Hatch

REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE
00	Ahmed Hamed	APPROVAL	DR Mohamed Gharib

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

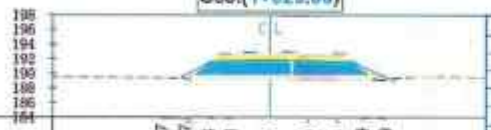
Cross Sections

FROM ST 1+880 TO ST 1+920

Ring Scheme - 6 October Railway Project

ORIG SCALE	DESIGNED BY	PROJECT
1:500	DR Mohamed Gharib	
DRAWN	CHECKED BY	APPROVED BY
		DR Ahmed Gharib
ORIG SIZE: A3	SHEET NUMBER: 48	

Sec.(1+920.00)



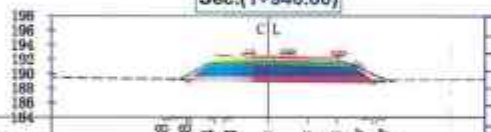
OFFSET	-11.37	-10.87	-7.44	-6.21	0.00	5.50	9.50	14.19	14.69
SubBallast Level	189.47	189.65	191.94	192.44	192.71	192.60	192.52	189.72	189.54
E AN NT	188.97				191.91	191.80	192.02	189.54	
NGL	189.47	189.47	189.49	189.50	189.53	189.54	189.54	189.54	189.54
Cut / Fill	0.50	0.00	2.27	2.29	2.38	2.27	2.48	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	9.69	191.29	13708.00
Level -0.5 to Level -2.00	20.40	408.08	41308.76
Level -2.00 to NGL	8.31	173.69	16133.79
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	139.74
Natural Ground Preparation (Level -2.00 to NGL)	0.00	208.43	8883.43
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Sec.(1+940.00)



OFFSET	-11.28	-10.78	-7.44	-6.21	0.00	5.50	9.50	14.37	14.87
SubBallast Level	189.37	189.55	191.77	192.27	192.54	192.43	192.35	189.43	189.25
EMBANKMENT	188.87	189.37	191.59	191.62	191.74	191.63	191.85	189.25	188.75
NGL	189.37	189.37	189.33	189.32	189.25	189.24	189.24	189.25	189.25
Cut / Fill	0.51	0.00	2.26	2.30	2.49	2.39	2.61	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	9.69	192.76	13900.38
Level -0.5 to Level -2.00	20.40	408.08	41608.83
Level -2.00 to NGL	11.40	212.00	16345.79
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	139.74
Natural Ground Preparation (Level -2.00 to NGL)	0.00	186.79	8886.22
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fill to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

00	Issued Before	APPROVAL	DR.Mohamed Gaafar
REV	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

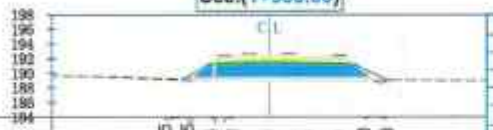
Cross Sections

FROM ST 1+920 TO ST 1+940

Red Sahara - Al Gouna Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gaafar	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 49	

ALMANASHY
Sec.(1+960.00)



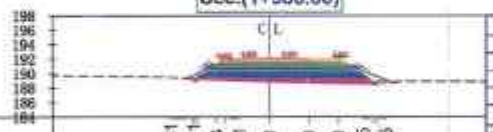
OFFSET	-11.15	-10.85	-7.44	-6.21	0.00	5.50	9.50	14.30	14.80
SubBallast Level	189.26	189.46	191.60	192.09	192.37	192.26	192.18	189.30	189.12
E I T	188.78	189.26	191.42	191.44					
NGL	189.28	189.28	189.24	189.23	189.16	189.15	189.14	189.12	189.12
Cut / Fill	0.51	0.00	2.18	2.21	2.39	2.31	2.54	0.00	

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.53	153.14	14284.30
Level -0.5 to Level -2.00	22.40	808.06	42614.91
Level -2.00 to NGL	9.37	239.89	16853.20
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	136.74
Natural Ground Preparation (Level -2.00 to NGL)	7.08	136.58	2987.00
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(1+980.00)



OFFSET	-10.61	-10.11	-7.44	-6.21	0.00	5.50	9.50	14.25	14.75
SubBallast Level	189.47	189.65	191.43	191.92	192.20	192.09	192.01	189.16	188.98
EMBANKMENT	188.97	189.47	191.25	191.27	191.40	191.28	191.51	188.98	188.48
NGL	189.48	189.47	189.39	189.38	189.21	189.14	189.03	188.98	188.98
Cut / Fill	0.51	0.00	1.85	1.91	2.19	2.15	2.48	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.58	191.93	14288.13
Level -0.5 to Level -2.00	20.28	807.13	43223.04
Level -2.00 to NGL	8.84	144.65	16997.43
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.09	0.81	136.88
Natural Ground Preparation (Level -2.00 to NGL)	7.38	144.73	3029.54
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

		APPROVAL	DR.Mohamed Gharib
	ISSUED BY / DATE	PROJECT DIR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

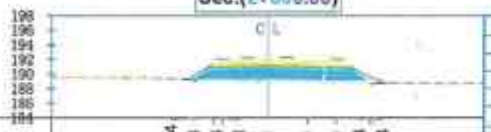
Cross Sections

FROM ST 1+950 TO ST 1+980

Red Sea - Al Qunfudhah Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Amjad Khalil
DWG SIZE: A3	SHEET NUMBER: 50	

Sec.(2+000.00)



OFFSET	-10.44	-9.94	-7.44	-6.21	0.00	5.50	8.50	14.04	14.54
SubBallast Level	189.41	189.99	191.26	191.75	192.02	191.91	191.83	189.13	188.65
EMBANKMENT	188.91	[illegible]	191.06	191.10	191.22	191.11	191.33	188.95	[illegible]
NGL	189.42	189.41	189.36	189.35	189.28	189.14	189.06	188.95	188.93
Cut / Fill	0.51	[illegible]	1.71	1.75	1.94	1.98	2.28	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill Material Properties (Fill Material Properties) - Sec. (2+000.00)			

ALMANASHY
Sec.(2+040.00)

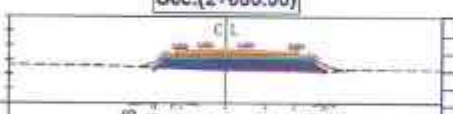
OFFSET	-10.28	-9.76	-7.44	-6.21	0.00	5.50	9.50	13.51	14.01
SubBallast Level	189.17	189.35	190.91	191.41	191.68	191.57	191.49	189.14	188.98
EMBANKMENT	188.67	189.17	190.73	[illegible]	190.68	[illegible]	[illegible]	[illegible]	188.46
NGL	189.18	189.17	189.14	189.13	189.09	189.04	189.01	188.96	188.95
Cut / Fill	0.51	0.00	1.50	1.63	1.79	1.79	1.98	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.24	160.86	14931.10
Level -0.5 to Level -2.00	25.00	520.07	44908.45
Level -2.00 to NGL	0.00	0.00	15778.05
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.58	67.35	257.61
Natural Ground Preparation (Level -2.00 to NGL)	1.48	38.75	8321.38
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+060.00)



OFFSET	-10.16	-9.66	-7.44	-6.21	0.00	5.50	9.50	13.46	13.96
SubBallast Level	189.08	189.26	190.74	191.23	191.51	191.40	191.32	189.00	188.82
EMBANKMENT	188.58	189.06	190.56	190.55	190.71	190.50	190.52	188.82	188.32
NGL	189.09	189.06	189.04	189.02	188.91	188.86	188.83	188.82	188.82
Cut / Fill	0.51	0.00	1.52	1.56	1.80	1.73	1.98	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.00	165.21	15000.41
Level -0.5 to Level -2.00	23.53	514.59	45423.02
Level -2.00 to NGL	0.00	0.00	16719.60
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.08	81.52	336.20
Natural Ground Preparation (Level -2.00 to NGL)	3.08	85.44	8886.82
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

		APPROVAL	Dr. Mohamed Ghazli
	DESIGNED BY		APPROVED BY
	DATE	DRAWN BY	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

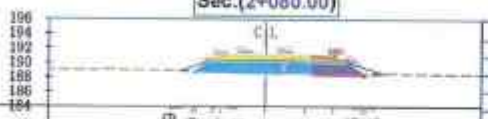
Cross Sections

FROM ST 2+040 TO ST 2+060

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: Dr.Mohamed Ghazli	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: Dr.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 52	

ALMANASHY
Sec.(2+080.00)



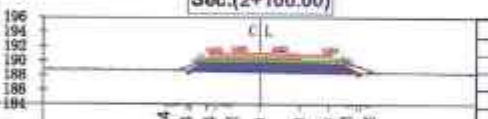
OFFSET	-10.09	-9.59	-7.44	-6.21	0.00	5.50	9.50	13.46	13.86
SubBallast Level	186.95	189.13	190.57	191.06	191.34	191.23	191.15	188.83	188.65
EMBANKMENT	188.45	188.95	190.39	190.41	190.54	190.43	190.85	188.65	188.15
NGL	188.96	188.95	188.93	188.91	188.81	188.75	188.70	188.65	188.64
Cut / Fill	0.51	0.00	1.46	1.50	1.72	1.66	1.94	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	8.74	173.34	19173.75
Fill – Replacement (Level -0.5 to Level -2.00)	24.25	497.74	45601.37
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	16770.00
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.42	84.84	424.18
Natural Ground Preparation (Level -2.00 to NGL)	1.11	31.07	6336.49
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+100.00)



OFFSET	-10.14	-9.64	-7.44	-6.21	0.00	5.50	9.50	13.41	13.91
SubBallast Level	188.75	188.93	190.40	190.89	191.16	191.05	190.97	188.69	188.51
EMBANKMENT	188.25	188.75	190.21	190.24	190.38	190.25	190.47	188.51	188.01
NGL	188.75	188.75	188.73	188.72	188.68	188.60	188.55	188.51	188.50
Cut / Fill	0.50	0.00	1.48	1.52	1.68	1.65	1.92	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	8.59	172.00	18346.86
Level -0.5 to Level -2.00	23.60	487.02	45405.38
Level -2.00 to NGL	0.00	0.00	16774.00
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.11	82.46	398.60
Natural Ground Preparation (Level -2.00 to NGL)	0.10	12.01	6401.48
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Formsup -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

NO	Sheet Status	APPROVAL	DR.Mohamed Gaafr
DATE	ISSUED BY	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Sewedy

SHEET NAME:

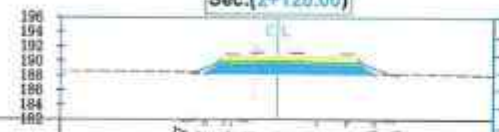
Cross Sections

FROM ST 2+080 TO ST 2+100

Dara Sohag - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gaafr	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 53	

ALMANASHY
Sec.(2+120.00)



OFFSET	-10.17	-9.67	-7.44	-6.21	0.00	5.50	9.50	13.28	13.78
SubBallast Level	188.55	188.73	190.22	190.72	190.99	190.88	190.80	188.60	188.42
[illegible]	188.05	[illegible]	[illegible]	[illegible]	190.19	[illegible]	189.30	188.42	187.92
NGL	188.55	188.55	188.55	188.55	188.53	188.50	188.46	188.42	188.41
Cut / Fill	0.50	0.00	1.49	1.52	1.66	1.58	1.84	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	8.48	170.39	15517.91
Level -0.5 to Level -2.00	22.89	498.03	46870.20
Level -2.00 to NGL	0.00	0.00	10778.65
Natural Ground Preparation (Ferms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.13	82.44	882.04
Natural Ground Preparation (Level -2.00 to NGL)	0.00	1.77	9403.17
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

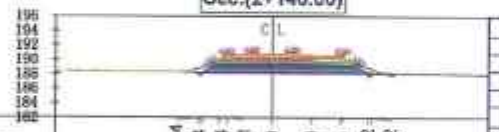
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+140.00)



OFFSET	-10.24	-9.74	-7.44	-6.21	0.00	5.50	9.50	13.22	13.72
SubBallast Level	188.34	188.52	190.05	190.54	190.82	190.71	190.53	188.47	188.29
EMBANKMENT	187.84	188.34	189.67	189.69	190.02	189.91	190.13	188.29	187.79
NGL	188.34	188.34	188.33	188.33	188.33	188.32	188.30	188.29	188.28
Cut / Fill	0.50	0.00	1.54	1.56	1.69	1.59	1.83	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	8.58	170.68	15687.87
Level -0.5 to Level -2.00	23.20	463.91	47333.30
Level -2.00 to NGL	0.00	0.00	10778.65
Natural Ground Preparation (Ferms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	3.98	81.07	873.11
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	9403.17
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

NO	Revised Version	APPROVAL	DR.Mohamed Ghazli
REV	DRAWN BY	DESIGN BY	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

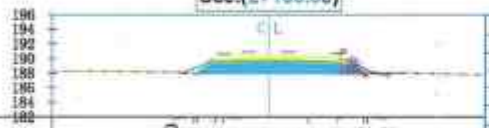
Cross Sections

FROM ST 2+120 TO ST 2+140

Bani Suleiman - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazli	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 54	

Sec.(2+160.00)



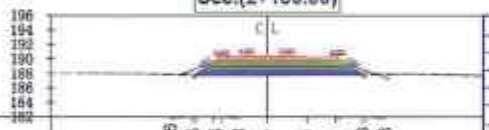
OFFSET	-10.29	-9.79	-7.44	-6.21	0.00	5.50	9.50	13.22	13.72
SubBallast Level	188.13	188.31	189.88	190.37	190.65	190.54	190.46	188.30	188.12
E ⁄KMENT	[illegible]	188.13	189.70	[illegible]	190.85	-	189.89	188.12	187.82
NGL	188.13	188.13	188.12	188.12	188.15	188.18	188.17	188.12	188.11
Cut / Fill	0.50	0.00	1.58	1.80	1.70	1.56	1.79	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	6.00	174.00	15863.47
Level -0.5 to Level -2.00	23.30	484.99	47600.28
Level -2.00 to NGL	0.00	0.00	16779.85
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.73	88.94	788.05
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	9403.11
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+180.00)



OFFSET	-10.36	-9.86	-7.44	-6.21	0.00	5.50	9.50	13.18	13.68
SubBallast Level	187.91	188.09	189.71	190.20	190.46	190.37	190.29	188.15	187.97
EMBANKMENT	187.41	187.91	189.53	189.55	189.69	189.57	189.79	187.97	187.47
NGL	187.91	187.91	187.92	187.93	187.97	187.97	187.97	187.97	187.98
Cut / Fill	0.50	0.00	1.80	1.82	1.71	1.59	1.81	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	9.05	175.95	15043.49
Level -0.5 to Level -2.00	23.79	471.37	46271.66
Level -2.00 to NGL	0.00	0.00	16779.85
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	5.13	88.47	698.32
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	9403.11
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferro to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fence Hatch

DR	[illegible]	APPROVAL	DR.Mohamed Gharib
DRAWN BY	CHECKED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT:

SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT:

ESM

SHEET NAME:

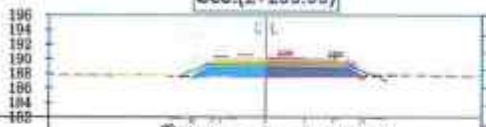
Cross Sections

FROM ST 2+140 TO ST 2+140

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 55	

ALMANASHY
Sec.(2+200.00)



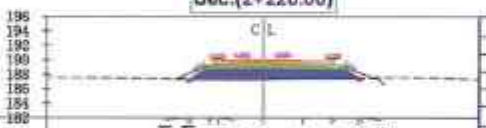
OFFSET	-10.43	-9.93	-7.44	-6.21	0.00	5.50	9.50	13.19	13.70
SubBallast Level	187.69	187.67	189.54	190.03	190.30	190.19	190.11	187.97	187.79
EMBANKMENT	187.19	187.69	189.35	189.36	189.50	189.39	189.61	187.79	187.29
NGL	187.69	187.69	187.70	187.71	187.73	187.76	187.78	187.79	187.79
Cut / Fill	0.50	0.00	1.65	1.67	1.77	1.63	1.83	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	8.88	180.76	18323.10
Level -0.5 to Level -2.00	34.74	460.23	46756.89
Level -2.00 to NGL	0.83	0.00	10779.83
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.24	84.71	953.22
Natural Ground Preparation (Level -2.00 to NGL)	0.02	0.17	8403.34
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+220.00)



OFFSET	-10.51	-10.01	-7.44	-6.21	0.00	5.50	9.50	13.18	13.68
SubBallast Level	187.47	187.55	189.36	189.86	190.13	190.02	189.94	187.81	187.53
EMBANKMENT	186.97	187.47	189.18	189.21	189.33	189.22	189.44	187.63	187.13
NGL	187.47	187.47	187.47	187.47	187.52	187.56	187.61	187.63	187.64
Cut / Fill	0.50	0.00	1.71	1.73	1.81	1.54	1.83	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	8.04	160.16	18403.32
Level -0.5 to Level -2.00	28.43	351.79	46558.93
Level -2.00 to NGL	0.00	0.00	10779.83
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	3.60	80.01	1033.14
Natural Ground Preparation (Level -2.00 to NGL)	0.01	0.09	8403.43
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fermo to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fore Hatch

	Ahmed Gharib	APPROVAL	DR.Mohamed Gharib
	DESIGNED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

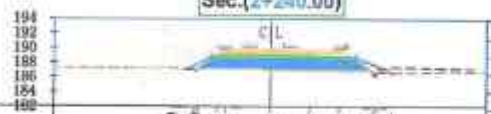
Cross Sections

FROM ST 2+200 TO ST 2+220

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 56	

ALMANASHY
Sec.(2+240.00)



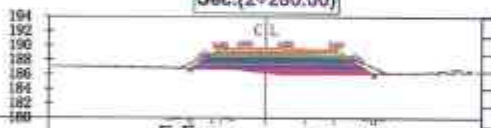
OFFSET	-10.59	-10.09	-7.44	-6.21	0.00	5.50	9.50	14.23	14.73
SubBallast Level	187.25	187.43	189.19	189.68	189.96	189.65	189.77	186.94	186.76
EMBANKMENT	188.75	187.25	190.01	189.03	189.16	189.05	189.27	188.76	186.26
NGL	187.24	187.25	187.25	187.25	186.99	186.83	186.79	185.76	186.76
Cut / Fill	0.50	0.00	1.76	1.78	2.17	2.22	2.48	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -2.00	[illegible]	[illegible]	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+260.00)



OFFSET	-10.71	-10.21	-7.44	-6.21	0.00	5.50	9.50	14.73	15.23
SubBallast Level	186.99	187.17	189.02	189.51	189.79	189.56	189.60	186.43	186.25
EMBANKMENT	186.49	186.99	188.84	188.90	188.99	188.88	189.10	185.25	185.75
NGL	186.99	186.99	187.00	187.01	186.38	186.18	186.22	186.25	186.28
Cut / Fill	0.50	0.00	1.83	1.85	2.61	2.69	2.88	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.40	183.09	[illegible]
Level -0.5 to Level -2.00	[illegible]	[illegible]	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	7.03	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	0.00	14.56	[illegible]
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment Level
- Fill Hatch (Fermo to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

01	Sheet Status	APPROVAL	DR.Mohamed Ghanb
REV	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

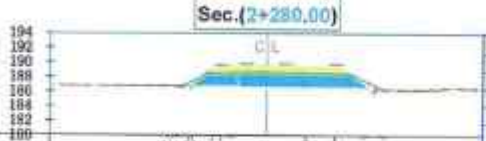
Cross Sections

FROM ST 2+240 TO ST 2+260

Bani Salama - L Oruba Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghanb	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Mohamed Ghanb
DWG SIZE: A3	SHEET NUMBER: 57	

ALMANASHY
Sec.(2+280.00)



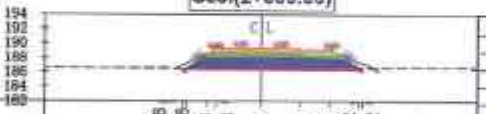
OFFSET	-10.72	-10.22	-7.44	-6.21	0.00	5.50	9.50	14.58	15.08
SubBallast Level	186.81	186.99	188.85	189.34	189.61	189.50	189.42	186.36	186.18
EMBAN NT	186.31	186.81	188.67	188.59	188.81	189.70	[illegible]	[illegible]	[illegible]
NGL	186.81	186.81	186.81	186.81	185.41	186.27	186.25	186.18	186.19
Cut / Fill	0.50	0.00	1.86	1.88	2.41	2.44	2.67	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	9.81	192.28	16853.00
Level -0.5 to Level -3.00	31.39	807.29	51217.58
Level -3.00 to NGL	8.77	314.63	17317.82
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.07	3.79	1061.05
Natural Ground Preparation (Level -3.00 to NGL)	1.53	23.67	9893.39
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+300.00)



OFFSET	-10.88	-10.36	-7.44	-6.21	0.00	5.50	9.50	13.52	14.02
SubBallast Level	186.54	186.72	188.67	189.17	189.44	189.33	189.25	186.90	186.71
EMBANKMENT	186.04	186.54	188.49	188.52	188.64	188.53	188.75	186.71	186.21
NGL	186.53	186.54	186.56	186.57	186.62	186.64	186.66	186.71	186.72
Cut / Fill	0.50	0.00	1.93	1.95	2.03	1.89	2.09	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	8.84	160.88	17125.00
Level -0.5 to Level -3.00	30.00	840.00	55833.47
Level -3.00 to NGL	0.74	85.03	17312.84
Natural Ground Preparation (Fermo to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.20	2.14	1065.19
Natural Ground Preparation (Level -3.00 to NGL)	0.16	18.80	9914.67
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fermo to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fermo to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fermo to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

DR. Ahmed Khalid	APPROVAL	DR.Mohamed Gharib	
DESIGNED BY	ISSUED FOR	APPROVED BY	
DATE		DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUPERVISION CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

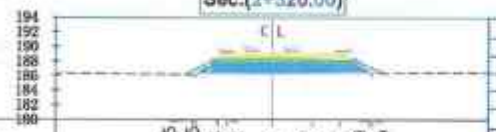
Cross Sections

FROM ST 2+280 TO ST 2+300

Baiat Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalid
DWG SIZE: A3	SHEET NUMBER: 58	

ALMANASHY
Sec.(2+320.00)



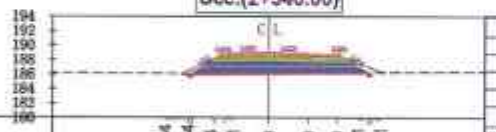
OFFSET	-10.95	-10.45	-7.44	-6.21	0.00	5.50	9.50	13.59	14.09
SubBallast Level	186.31	186.50	188.50	189.00	189.27	189.16	189.08	188.98	188.50
EMBANKMENT	185.81	186.31	188.32	188.35	188.47	188.36	188.58	188.50	188.00
NGL	186.31	186.31	186.32	186.33	186.34	186.38	186.44	186.49	186.50
Cut / Fill	0.50	0.00	2.00	2.02	2.13	1.98	2.14	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.03	161.77	17317.37
Level -0.5 to Level -3.00	[illegible]	[illegible]	[illegible]
Level -3.00 to NGL	0.38	41.02	17743.87
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.03	3.24	1985.40
Natural Ground Preparation (Level -3.00 to NGL)	3.12	83.84	9832.91
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+340.00)



OFFSET	-11.04	-10.54	-7.44	-6.21	0.00	5.50	9.50	13.71	14.21
SubBallast Level	186.08	186.26	188.33	188.82	189.10	188.99	188.91	188.42	188.24
EMBANKMENT	185.58	186.08	188.15	188.17	188.30	188.19	188.41	188.24	185.74
NGL	186.08	186.08	186.06	186.05	186.13	186.17	186.20	186.24	186.25
Cut / Fill	0.50	0.00	2.09	2.13	2.17	2.01	2.21	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.34	184.87	17500.59
Level -0.5 to Level -3.00	[illegible]	[illegible]	[illegible]
Level -3.00 to NGL	2.09	82.33	17469.42
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.09	8.29	1985.70
Natural Ground Preparation (Level -3.00 to NGL)	1.87	49.09	9832.49
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farma to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Ahmed Shehata	APPROVAL	DR.Mohamed Gharib
REV.	REQUEST BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 2+320 TO ST 2+340

Ban Salama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 59	

ALMANASHY
Sec.(2+360.00)

OFFSET	-11.03	-10.53	-7.44	-6.21	0.00	5.50	9.50	13.79	14.29
SubBallast Level	185.92	186.10	186.16	186.65	186.93	186.82	186.74	186.20	186.02
EMBANKMENT	185.92	[illegible]	187.98	188.00	188.13	188.02	188.[illegible]	189.02	185.52
NGL	185.92	185.92	185.90	185.90	185.87	185.93	185.97	186.02	186.02
Cut / Fill	0.50	0.00	2.07	2.10	2.25	2.09	2.26	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.07	197.49	17969.40
Level -0.5 to Level -2.00	32.42	836.06	53445.13
Level -2.00 to NGL	4.91	85.01	11984.41
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1595.73
Natural Ground Preparation (Level -2.00 to NGL)	1.78	39.60	[illegible]
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

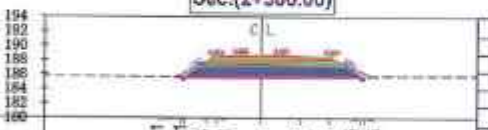
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+380.00)



OFFSET	-11.11	-10.61	-7.44	-6.21	0.00	5.50	9.50	13.85	14.35
SubBallast Level	185.69	185.87	187.99	188.48	188.75	188.64	188.56	185.99	185.81
EMBANKMENT	185.19	185.69	187.81	187.83	187.95	187.84	188.06	185.81	185.31
NGL	185.69	185.69	185.69	185.69	185.71	185.71	185.75	185.81	185.81
Cut / Fill	0.50	0.00	2.12	2.14	2.25	2.13	2.31	0.00	0.51

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.23	141.40	17986.87
Level -0.5 to Level -2.00	20.40	496.08	54053.21
Level -2.00 to NGL	0.68	169.09	17820.40
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1595.73
Natural Ground Preparation (Level -2.00 to NGL)	0.26	60.42	[illegible]
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

DR	Ahmed Fathy	APPROVAL	DR.Mohamed Shaalb
REV	CHECKED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM Elsewedy

SHEET NAME:

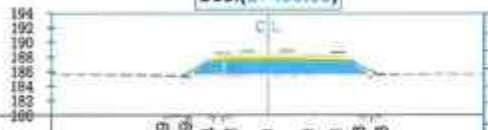
Cross Sections

FROM ST 2+360 TO ST 2+380

Rail Valley - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Shaalb	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 60	

ALMANASIRIYA
Sec.(2+400.00)



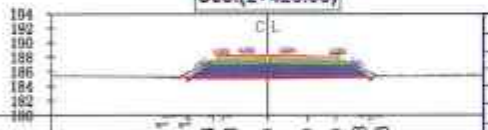
OFFSET	-11.19	-10.69	-7.44	-6.21	0.00	5.50	9.50	13.93	14.43
SubBallast Level	185.46	185.65	187.81	188.31	188.58	188.47	188.39	185.76	185.56
E IAN	- - -	- - -	187.53	187.68	187.78	- - -	187.89	- - -	- - -
NGL	185.47	185.46	185.47	185.47	185.49	185.49	185.53	185.58	185.59
Cut / Fill	0.51	0.00	2.17	2.19	2.29	2.18	2.36	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASIRIYA
Sec.(2+420.00)



OFFSET	-11.21	-10.71	-7.44	-6.21	0.00	5.50	9.50	14.03	14.53
SubBallast Level	185.28	185.48	187.64	188.14	188.41	188.30	188.22	185.52	185.34
EMBANKMENT	184.78	185.28	187.46	187.49	187.81	187.50	187.72	185.34	184.84
NGL	185.29	185.28	185.26	185.25	185.23	185.24	185.28	185.34	185.35
Cut / Fill	0.50	0.00	2.20	2.24	2.38	2.26	2.44	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00
Cut - Replacement	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

Sheet Status	APPROVAL	DR.Mohamed Ghanim	
ISSUED BY		APPROVED BY	
DATE	ISSUED FOR	DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM Alsawalha

SHEET NAME:

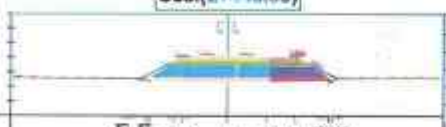
Cross Sections

FROM ST 2+400 TO ST 3+120

Baiji Bulkana - Al Qosiyah Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghanim	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 61	

ALMANASHY
Sec.(2+440.00)



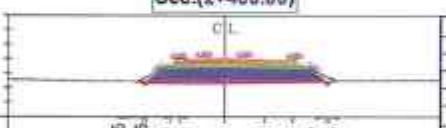
OFFSET	-11.21	-10.71	-7.44	-6.21	0.00	5.50	9.50	14.08	14.58
SubBallast Level	185.11	185.29	187.47	187.96	188.24	188.13	188.05	185.32	185.14
EMBANKMENT	184.61	185.11	187.29	187.31	187.44	187.33	187.55	185.14	184.64
NGL	185.11	185.11	185.09	185.09	185.07	185.05	185.08	185.14	185.15
Cut / Fill	0.50	0.00	2.20	2.23	2.37	2.28	2.48	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	6.27	188.72	19494.20
Level -0.5 to Level -2.00	20.40	530.08	53477.40
Level -2.00 to NGL	6.79	173.39	19004.28
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1995.72
Natural Ground Preparation (Level -2.00 to NGL)	4.62	73.78	9907.84
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+460.00)



OFFSET	-11.25	-10.75	-7.44	-6.21	0.00	5.50	9.50	14.07	14.57
SubBallast Level	184.91	185.09	187.30	187.79	188.07	187.95	187.88	185.15	184.97
EMBANKMENT	184.41	184.91	187.12	187.14	187.27	187.16	187.38	184.97	184.47
NGL	184.91	184.91	184.89	184.89	184.88	184.87	184.90	184.97	184.98
Cut / Fill	0.50	0.00	2.22	2.25	2.39	2.29	2.48	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	6.28	187.00	19511.74
Level -0.5 to Level -2.00	20.40	530.04	53995.52
Level -2.00 to NGL	9.13	175.13	19033.48
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1995.72
Natural Ground Preparation (Level -2.00 to NGL)	4.48	85.71	9907.76
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Ahmed Hamed	APPROVAL	DR.Mohamed Gharib
	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 2+440 TO ST 2+460

East Suhaim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 62	

ALMANASHY
Sec.(2+480.00)

OFFSET	-11.31	-10.81	-7.44	-6.21	0.00	5.50	9.50	14.07	14.57
SubBallast Level	184.70	184.00	187.13	187.62	187.89	187.78	187.70	184.98	184.80
EMBANKMENT	184.20	184.70	186.94	186.97	187.09	186.58	187.[illegible]	184.93	184.30
NGL	184.70	184.70	184.67	184.66	184.68	184.69	184.72	184.80	184.81
Cut / Fill	0.50	0.00	2.27	2.31	2.42	2.29	2.48	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.22	199.81	19822.78
Level -0.5 to Level -2.00	33.84	6186.08	57083.61
Level -2.00 to NGL	5.70	1068.26	59431.74
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1595.70
Natural Ground Preparation (Level -2.00 to NGL)	4.20	88.89	10087.45
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+500.00)

OFFSET	-11.35	-10.85	-7.44	-6.21	0.00	5.50	9.50	14.04	14.54
SubBallast Level	184.50	184.68	186.95	187.45	187.72	187.81	187.53	184.83	184.65
EMBANKMENT	184.00	184.50	186.77	186.80	186.92	186.81	187.03	184.65	184.15
NGL	184.50	184.50	184.49	184.50	184.52	184.55	184.59	184.65	184.65
Cut / Fill	0.50	0.00	2.28	2.30	2.40	2.26	2.44	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.32	188.48	18912.15
Level -0.5 to Level -2.00	28.40	5000.08	57705.09
Level -2.00 to NGL	6.20	1098.83	59611.87
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1595.70
Natural Ground Preparation (Level -2.00 to NGL)	4.15	88.89	10174.10
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Field Hatch

NO.	Sheet Status	APPROVAL	DR.Mohamed Ghazi
REVISED BY			APPROVED BY
DATE		DRAWING	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

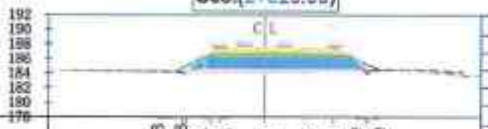
Cross Sections

FROM ST 2+480 TO ST 2+500

Bus Station - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazi	PROJECT
PHASE:	CHECKED BY	APPROVED BY: DR.Mohamed Ghazi
DWG SIZE: A3	SHEET NUMBER: 63	

ALMANASHY
Sec.(2+520.00)



OFFSET	-11.38	-10.88	-7.44	-6.21	0.00	5.50	9.50	13.99	14.49
SubBallast Level	184.31	184.49	185.78	187.28	187.55	187.44	187.30	184.69	184.51
EMBANKMENT	183.61	184.31	186.60	186.63	186.75	186.[illegible]	186.[illegible]	184.51	184.01
NGL	184.31	184.31	184.32	184.33	184.37	184.43	184.47	184.51	184.51
Cut / Fill	0.50	0.00	2.28	2.30	2.38	2.21	2.39	0.00	0.51

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.88	188.07	19832.93
Level -0.5 to Level -2.00	30.40	838.08	86005.77
Level -2.00 to NGL	8.89	176.73	19191.30
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1985.70
Natural Ground Preparation (Level -2.00 to NGL)	5.26	83.89	13986.06
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

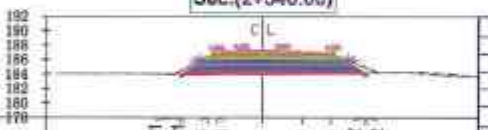
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+540.00)



OFFSET	-11.41	-10.91	-7.44	-6.21	0.00	5.50	9.50	14.02	14.52
SubBallast Level	184.11	184.29	186.61	187.10	187.38	187.27	187.19	184.50	184.32
EMBANKMENT	183.61	184.11	186.43	186.45	186.58	186.47	186.69	184.32	183.82
NGL	184.11	184.11	184.17	184.19	184.27	184.29	184.30	184.32	184.32
Cut / Fill	0.49	0.00	2.26	2.26	2.30	2.18	2.39	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	123.21	19386.13
Level -0.5 to Level -2.00	30.40	838.08	86843.85
Level -2.00 to NGL	7.87	155.84	19346.69
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1985.70
Natural Ground Preparation (Level -2.00 to NGL)	4.48	66.74	13986.83
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fast Hatch

00	Issued Revised	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

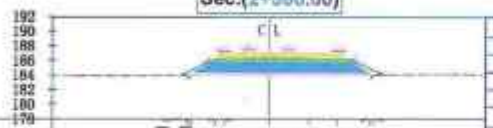
Cross Sections

FROM ST 2+520 TO ST 2+540

Dara Sabana - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 64	

ALMANASHY
Sec.(2+560.00)



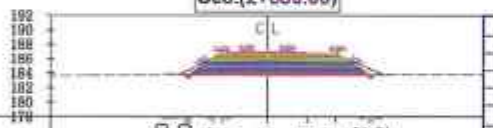
OFFSET	-11.31	-10.61	-7.44	-6.21	0.00	5.50	9.50	14.06	14.56
SubBallast Level	184.01	184.19	186.44	186.93	187.21	187.10	187.02	184.30	184.12
EMBANKMENT	183.51	184.01	186.26	186.26	186.41	186.30	186.52	184.12	183.62
NGL	184.00	184.01	184.06	184.08	184.12	184.11	184.11	184.12	184.12
Cut / Fill	0.49	0.00	2.20	2.20	2.28	2.19	2.41	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.58	163.59	19589.52
Level -0.5 to Level -3.00	30.40	608.08	60635.03
Level -3.00 to NGL	7.46	153.57	10115.81
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1065.72
Natural Ground Preparation (Level -3.00 to NGL)	3.96	83.04	10448.87
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+580.00)



OFFSET	-11.20	-10.70	-7.44	-6.21	0.00	5.50	9.50	14.12	14.62
SubBallast Level	183.91	184.09	186.27	186.76	187.03	186.92	186.84	184.09	183.91
EMBANKMENT	183.41	183.91	186.06	186.11	186.23	186.12	186.34	183.91	183.41
NGL	183.91	183.91	183.95	183.96	183.97	183.94	183.93	183.91	183.91
Cut / Fill	0.49	0.00	2.14	2.15	2.26	2.18	2.42	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.58	162.46	19701.69
Level -0.5 to Level -3.00	30.40	606.08	61234.91
Level -3.00 to NGL	8.69	143.09	10258.90
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1065.72
Natural Ground Preparation (Level -3.00 to NGL)	4.73	88.81	10537.68
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

	Ahmed Nabeel	APPROVAL	Dr.Mohamed Gharib
	PREPARED BY		APPROVED BY
	DATE	PREPARED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

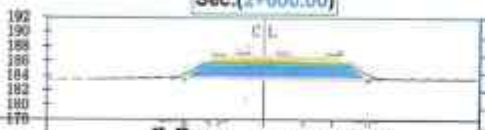
Cross Sections

FROM ST 2+560 TO ST 2+580

Basit Sidons – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: Dr.Mohamed Gharib	PROJECT
PREPARED	CHECKED BY:	APPROVED BY: Dr.Ahmed Nabil
DWG SIZE: A3	SHEET NUMBER: 65	

ALMANASHY
Sec.(2+600.00)



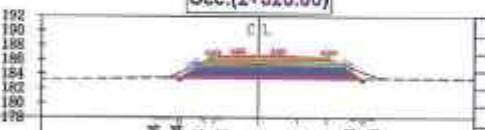
OFFSET	-11.14	-10.04	-7.44	-6.21	0.00	5.50	9.50	14.15	14.65
SubBallast Level	183.78	183.96	186.09	186.59	186.86	186.75	186.67	183.90	183.71
EMBANKMENT	183.26	183.78	185.91	185.94	186.06	185.95	186.17	183.71	183.21
NGL	183.77	183.78	183.81	183.82	183.82	183.79	183.75	183.71	183.71
Cut / Fill	0.49	0.00	2.10	2.12	2.24	2.15	2.43	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	9.44	188.77	19811.20
Level -0.5 to Level -2.00	30.40	608.08	63742.99
Level -2.00 to NGL	8.62	172.31	18084.61
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1285.72
Natural Ground Preparation (Level -2.00 to NGL)	5.31	106.18	10035.49
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+620.00)



OFFSET	-11.14	-10.64	-7.44	-6.21	0.00	5.50	9.50	14.18	14.68
SubBallast Level	183.60	183.79	185.92	186.41	186.69	186.58	186.50	183.70	183.52
EMBANKMENT	183.10	183.60	185.74	185.78	185.85	185.78	186.00	183.52	183.02
NGL	183.60	183.60	183.63	183.63	183.68	183.62	183.57	183.52	183.51
Cut / Fill	0.50	0.00	2.11	2.13	2.21	2.16	2.43	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	5.44	165.77	20810.20
Level -0.5 to Level -2.00	30.40	608.08	64350.17
Level -2.00 to NGL	6.57	131.40	18621.01
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1285.72
Natural Ground Preparation (Level -2.00 to NGL)	4.53	90.58	10125.61
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Forms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared Subballast Hatch
	Slope Protection Hatch
	Foot Hatch

	Issued Notes	APPROVAL	DR.Mohamed Ghazli
REV.	DESIGNED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUBCONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

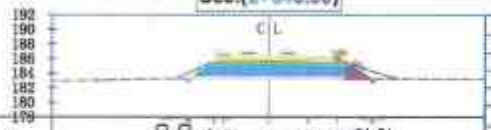
Cross Sections

FROM ST 2+600 TO ST 2+620

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazli	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 66	

ALMANASHY
Sec.(2+640.00)



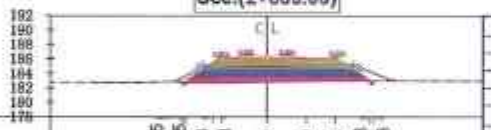
OFFSET	-11.30	-10.80	-7.44	-6.21	0.00	5.50	9.50	14.22	14.72
SubBallast Level	183.33	183.51	185.75	186.24	186.52	186.41	186.33	183.50	183.32
EMBANKMENT	182.83	183.33	185.57	185.59	185.72	185.61	185.83	183.32	182.82
NGL	183.32	183.33	183.35	183.36	183.41	183.42	183.37	183.32	183.31
Cut / Fill	0.50	0.00	2.21	2.23	2.30	2.19	2.45	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.08	193.14	20331.82
Level -0.5 to Level -2.00	20.41	669.08	61058.23
Level -2.00 to NGL	6.11	147.04	16669.95
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1995.75
Natural Ground Preparation (Level -2.00 to NGL)	4.10	87.22	10820.84
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+660.00)



OFFSET	-11.65	-11.15	-7.44	-6.21	0.00	5.50	9.50	14.33	14.83
SubBallast Level	182.52	183.10	185.58	186.07	186.34	186.23	186.15	183.26	183.08
EMBANKMENT	182.42	182.92	185.40	185.42	185.54	185.43	185.65	183.08	182.58
NGL	182.91	182.92	182.98	183.00	183.07	183.13	183.12	183.08	183.07
Cut / Fill	0.49	0.00	2.41	2.42	2.47	2.31	2.53	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.01	181.44	22543.24
Level -0.5 to Level -2.00	20.40	606.38	62058.23
Level -2.00 to NGL	11.07	195.27	16857.91
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1995.75
Natural Ground Preparation (Level -2.00 to NGL)	6.81	85.84	10910.68
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

Ahmed Hakem	APPROVAL	DR.Mohamed Gharib	
ISSUED BY		APPROVED BY	
DATE	ISSUED FOR	DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

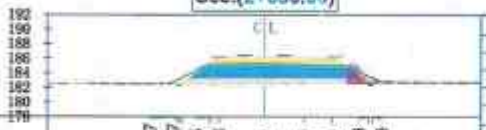
Cross Sections

FROM ST 2+640 TO ST 2+660

Rail Sidings + 6 Cranes Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
DRAWN	CHECKED BY	APPROVED BY: DR.Ahmed Hakem
DWG SIZE: A3	SHEET NUMBER: 67	

ALMANASHY
Sec.(2+680.00)



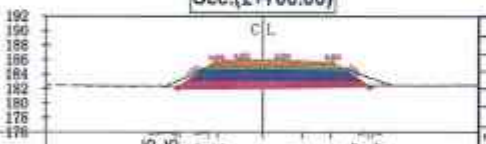
OFFSET	-11.97	-11.47	-7.44	-6.21	0.00	5.50	9.50	14.49	14.99
SubBallast Level	182.53	182.72	185.40	185.50	185.17	185.06	185.98	182.59	182.80
EMBANKMENT			182.53	185.22	185.25	185.37	185.26	185.48	182.80	182.30
NGL	182.53	182.53	182.60	182.61	182.71	182.79	182.82	182.80	182.80
Cut / Fill	0.50	0.00	2.63	2.63	2.66	2.48	2.66	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	5.55	181.50	33734.53
Level -0.5 to Level -2.00	39.40	808.08	62114.41
Level -2.00 to NGL	16.37	590.71	80165.82
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1065.72
Natural Ground Preparation (Level -2.00 to NGL)	5.48	103.47	11313.83
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+700.00)



OFFSET	-11.95	-11.45	-7.44	-6.21	0.00	5.50	9.50	14.67	15.17
SubBallast Level	182.38	182.56	185.23	185.73	185.00	185.89	185.81	182.69	182.51
EMBANKMENT	181.88	182.38	186.05	185.08	185.20	185.09	185.31	182.51	182.01
NGL	182.38	182.38	182.37	182.36	182.38	182.48	182.51	182.51	182.51
Cut / Fill	0.50	0.00	2.69	2.71	2.82	2.61	2.80	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.03	181.50	33930.44
Level -0.5 to Level -2.00	39.40	808.08	62762.49
Level -2.00 to NGL	16.39	590.88	80924.20
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1065.72
Natural Ground Preparation (Level -2.00 to NGL)	5.48	104.36	11417.81
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubballastHatch
	Slope Protection Hatch
	Foot Hatch

Ahmed Hashem	APPROVAL	DR.Mohamed Gharib
CHECKED BY		APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

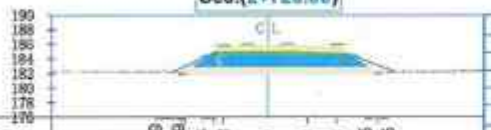
Cross Sections

FROM ST 2+680 TO ST 2+700

Bani Suhaila – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PAPER	CHECKED BY	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 68	

ALMANASHY
Sec.(2+720.00)



OFFSET	-11.89	-11.39	-7.44	-6.21	0.00	5.50	9.50	14.85	15.35
SubBallast Level	182.24	182.43	185.06	185.55	185.83	185.72	185.64	182.40	182.22
EM ME IT	[illegible]	[illegible]	184.88	184.90	185.03	184.94	[illegible]	[illegible]	[illegible]
NGL	182.25	182.24	182.23	182.23	182.20	182.20	182.20	182.22	182.22
C / Fill	0.50	0.00	2.65	2.68	2.83	2.72	2.93	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1089.72
Natural Ground Preparation (Level -2.00 to NGL)	15.41	173.85	11211.32
Natural Ground Preparation (Fill to level -4.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

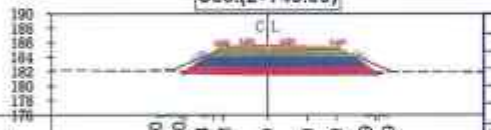
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+740.00)



OFFSET	-11.80	-11.30	-7.44	-6.21	0.00	5.50	9.50	14.89	15.39
SubBallast Level	182.13	182.31	184.89	185.38	185.66	185.55	185.47	182.20	182.01
EMBANKMENT	181.63	182.13	184.71	184.73	184.85	184.75	184.97	182.01	181.51
NGL	182.13	182.13	182.11	182.10	182.05	182.03	182.02	182.01	182.01
Cut / Fill	0.50	0.00	2.60	2.63	2.79	2.72	2.94	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1089.72
Natural Ground Preparation (Level -2.00 to NGL)	11.30	317.04	11528.36
Natural Ground Preparation (Fill to level -4.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fill to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Feet Hatch

Checked Before	APPROVAL	DR. Mohamed Gharib
ISSUED BY	ISSUED FOR	APPROVED BY
DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT: El-Gawlia

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

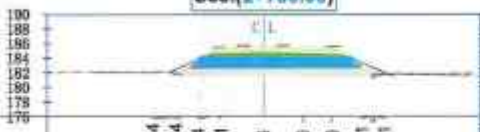
Cross Sections

FROM ST 2+720 TO ST 2+740

Bani Suef – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 69	

ALMANASHY
Sec.(2+760.00)



OFFSET	-11.74	-11.24	-7.44	-5.21	0.00	5.50	9.50	14.91	15.41
SubBallast Level	182.00	182.18	184.72	185.21	185.46	185.37	185.29	182.01	181.83
IT	181.50						184.79	181.83	181.33
NGL	182.00	182.00	181.98	181.97	181.92	181.88	181.85	181.83	181.83
Cut / Fill	0.50	0.00	2.56	2.59	2.76	2.68	2.94	0.00	0.50

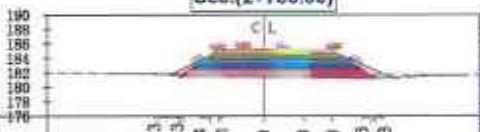
Material Name	Area	Volume	Cumulative Volume
Fill Hatch (Farms to -0.5)			
Fill Hatch (-0.5 to -2.00)			
Fill Hatch (-2.00 to NGL)			
Cut Hatch			
Prepared Subgrade Hatch			
Prepared Subballast Hatch			
Slope Protection Hatch			
Foot Hatch			

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.61	191.71	21466.20
Level -0.5 to Level -2.00	39.40	968.08	67895.73
Level -2.00 to NGL	14.31	393.92	21998.43
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1085.73
Natural Ground Preparation (Level -2.00 to NGL)	6.21	200.13	11133.13
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+780.00)



OFFSET	-11.63	-11.13	-7.44	-5.21	0.00	5.50	9.50	14.88	15.38
SubBallast Level	181.90	182.08	184.54	185.04	185.31	185.20	185.12	181.86	181.68
EMBANKMENT	181.40	181.90	184.36	184.36	184.51	184.40	184.32	181.68	181.18
NGL	181.91	181.90	181.87	181.85	181.79	181.74	181.70	181.68	181.68
Cut / Fill	0.50	0.00	2.49	2.53	2.72	2.66	2.62	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill Hatch (Farms to -0.5)			
Fill Hatch (-0.5 to -2.00)			
Fill Hatch (-2.00 to NGL)			
Cut Hatch			
Prepared Subgrade Hatch			
Prepared Subballast Hatch			
Slope Protection Hatch			
Foot Hatch			

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.61	193.42	21998.43
Level -0.5 to Level -2.00	39.40	968.08	68863.81
Level -2.00 to NGL	18.29	376.84	22374.27
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1085.73
Natural Ground Preparation (Level -2.00 to NGL)	10.03	193.42	11326.16
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

— — —	Natural Ground Level
———	SubBallast Level
———	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared Subballast Hatch
	Slope Protection Hatch
	Foot Hatch

REV	Issued Status	APPROVAL	DR.Mohamed Gharib
	PREPARED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

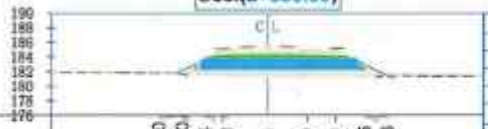
Cross Sections

FROM ST 2+760 TO ST 2+780

Sur Salama - 6 October Railway Project

DWG SCALE	DESIGNED BY	PROJECT
1:500	DR.Mohamed Gharib	
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE A3	SHEET NUMBER 70	

ALMANASHY
Sec.(2+800.00)



OFFSET	-11.50	-11.00	-7.44	-6.21	0.00	5.50	9.50	14.85	15.36
SubBallast Level	181.82	182.00	184.37	184.87	185.14	185.03	184.95	181.70	181.52
IKMENT	181.32	181.82	[illegible]	184.22	184.34	184.23	[illegible]	[illegible]	181.02
NGL	181.82	181.82	181.77	181.75	181.67	181.61	181.57	181.52	181.52
Cut / Fill	0.51	0.00	2.42	2.46	2.67	2.62	2.88	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	6.73	187.69	21602.27
Level -0.5 to Level -3.00	91.40	408.38	68823.86
Level -3.00 to NGL	15.94	352.33	83407.02
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1066.72
Natural Ground Preparation (Level -3.00 to NGL)	8.40	184.31	12110.47
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

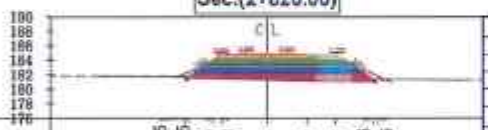
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+820.00)



OFFSET	-11.35	-10.85	-7.44	-6.21	0.00	5.50	9.50	14.75	15.26
SubBallast Level	181.74	181.92	184.20	184.69	184.97	184.86	184.78	181.50	181.41
EMBANKMENT	181.24	181.74	184.02	184.04	184.17	184.06	184.28	181.41	180.91
NGL	181.75	181.74	181.71	181.70	181.62	181.54	181.48	181.41	181.41
Cut / Fill	0.51	0.00	2.31	2.34	2.55	2.51	2.80	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	9.74	194.83	23616.69
Level -0.5 to Level -3.00	30.40	626.08	87430.88
Level -3.00 to NGL	14.39	812.46	93798.49
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1066.72
Natural Ground Preparation (Level -3.00 to NGL)	7.80	183.03	12273.48
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferro to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Prepared Checked	APPROVAL	DR.Mohamed Gheith
REV.	ISSUED BY	APPROVED BY	
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: Al Dawlia

SHEET NAME:

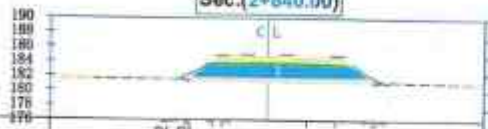
Cross Sections

FROM ST 2+800 TO ST 2+820

Red Sea Railway - El Gouna Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gheith	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Mamdi Kheil
DWG SIZE: A3	SHEET NUMBER: 71	

ALMANASHY
Sec.(2+840.00)



OFFSET	-11.22	-10.72	-7.44	-6.21	0.00	5.50	9.60	14.55	15.05
SubBallast Level	181.66	181.84	184.03	184.52	184.80	184.69	184.61	181.56	181.38
EM[illegible]T	181.16	[illegible]	183.85	[illegible]	[illegible]	183.89	184.11	181.38	[illegible]
NGL	181.66	181.60	181.65	181.64	181.59	181.56	181.48	181.38	181.37
Cut / Fill	0.50	0.00	2.20	2.23	2.40	2.32	2.62	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to Level -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

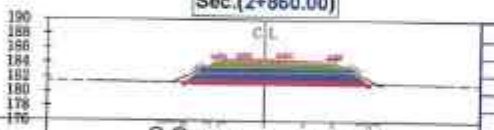
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+860.00)



OFFSET	-11.30	-10.80	-7.44	-6.21	0.00	5.50	9.50	14.24	14.74
SubBallast Level	181.43	181.51	183.86	184.35	184.62	184.51	184.43	181.60	181.42
EMBANKMENT	180.93	181.43	183.68	183.70	183.82	183.71	183.93	181.42	180.92
NGL	181.43	181.43	181.44	181.44	181.47	181.49	181.50	181.42	181.41
Cut / Fill	0.50	0.00	2.23	2.26	2.36	2.23	2.43	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1006.70
Natural Ground Preparation (Level -2.00 to NGL)	0.00	183.87	13841.57
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared Subballast Hatch
	Slope Protection Hatch
	Foot Hatch

[illegible]	APPROVAL	DR.Mohamed Gharib
ISSUED BY		APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

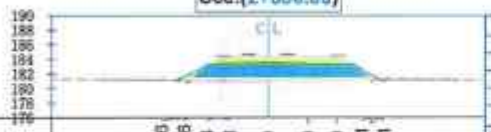
Cross Sections

FROM ST 2+840 TO ST 2+860

Bani Suhela - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 72	

ALMANASHY
Sec.(2+880.00)



OFFSET	-11.36	-10.86	-7.44	-6.21	0.00	5.50	9.50	14.21	14.71
SubBallast Level	181.22	181.40	183.68	184.16	184.45	184.34	184.26	181.45	181.27
EMBANKMENT	180.72	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	183.76	[illegible]	180.77
NGL	181.22	181.22	181.19	181.20	181.24	181.26	181.27	181.27	181.27
Cut / Fill	0.50	0.00	2.31	2.33	2.42	2.28	2.49	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.31	189.87	02691.75
Level -0.5 to Level -2.00	36.40	1658.06	95285.40
Level -2.00 to NGL	76.00	188.36	05170.00
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1095.73
Natural Ground Preparation (Level -2.00 to NGL)	1.45	109.64	12704.21
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

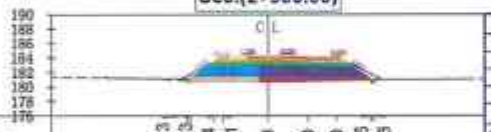
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+900.00)



OFFSET	-11.23	-10.73	-7.44	-6.21	0.00	5.50	9.50	14.26	14.76
SubBallast Level	181.13	181.32	183.51	184.01	184.28	184.17	184.09	181.24	181.06
EMBANKMENT	180.63	181.13	183.33	183.36	183.48	183.37	183.59	181.06	180.58
NGL	181.14	181.13	181.10	181.09	181.08	181.07	181.07	181.06	181.06
Cut / Fill	0.50	0.00	2.23	2.26	2.40	2.30	2.52	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.52	190.26	02842.01
Level -0.5 to Level -2.00	36.40	859.00	03663.35
Level -2.00 to NGL	6.73	107.97	03966.05
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1095.73
Natural Ground Preparation (Level -2.00 to NGL)	7.88	148.02	12852.23
Cut – Replacement	0.00	0.00	0.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

[illegible]	APPROVAL	DR.Mohamed Gharib
DATE	DESIGNED BY	APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT:

CONTACTOR CONSULTANT: ESM

SHEET NAME:

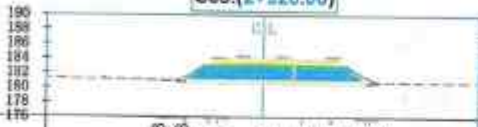
Cross Sections

FROM ST 2+880 TO ST 2+900

Bani Suef – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
FRAME	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 73	

ALMANASHY
Sec.(2+920.00)



OFFSET	-11.08	-10.56	-7.44	-6.21	0.00	5.50	9.50	14.25	14.75
SubBallast Level	181.07	181.25	183.34	183.83	184.11	184.00	183.92	181.07	180.89
EMBA NT	- - - -	[illegible]	[illegible]	183.18	183.31	183.20	183.42	[illegible]	180.39
NGL	181.07	181.07	181.03	181.02	180.95	180.93	180.91	180.89	180.89
Cut / Fill	[illegible]	0.00	2.13	2.16	2.35	2.27	2.51	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	8.61	101.50	23833.77
Level -0.5 to Level -2.00	30.40	608.09	10471.26
Level -2.00 to NGL	6.31	165.43	23750.49
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1666.72
Natural Ground Preparation (Level -2.00 to NGL)	0.00	119.42	13075.16
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

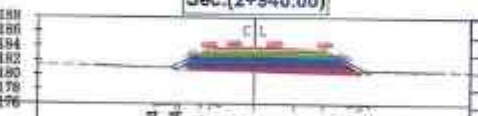
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(2+940.00)



OFFSET	-10.84	-10.34	-7.44	-6.21	0.00	5.50	9.50	14.23	14.73
SubBallast Level	181.05	181.23	183.17	183.66	183.94	183.83	183.75	180.91	180.73
EMBANKMENT	180.55	181.05	182.99	183.01	183.14	183.03	183.25	180.73	180.23
NGL	181.06	181.05	181.00	180.99	180.90	180.83	180.79	180.73	180.73
Cut / Fill	0.51	0.00	1.98	2.02	2.24	2.20	2.45	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	8.43	152.70	23236.39
Level -0.5 to Level -2.00	30.40	608.08	70076.44
Level -2.00 to NGL	6.12	146.28	23695.78
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1666.72
Natural Ground Preparation (Level -2.00 to NGL)	6.40	161.43	13237.58
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

[illegible]		APPROVAL	DR.Mohamed Gaafi
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

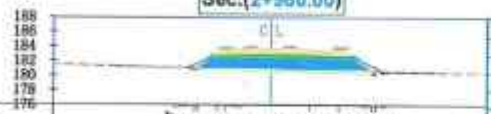
Cross Sections

FROM ST 2+920 TO ST 2+940

Ras Sidma - 6 October Railway Project

DWG SCALE: 1:500	DRAWN BY: DR.Mohamed Gaafi	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 74	

ALMANASHY
Sec.(2+960.00)



OFFSET	-10.47	-9.97	-7.44	-6.21	0.00	5.50	9.50	14.04	14.54
SubBallast Level	181.13	181.31	183.00	183.49	183.70	183.65	183.57	180.87	180.69
E 1 ANKME	180.63	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	183.07	[illegible]	[illegible]
NGL	181.14	181.13	181.08	181.05	180.93	180.83	180.76	180.89	180.58
Cut / Fill	0.51	0.00	1.74	1.79	2.03	2.02	2.31	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material (Fill Material to level -0.5)	0.00	0.00	0.00
Fill Material (Fill Material to level -0.5 to -2.00)	0.00	0.00	0.00
Fill Material (Fill Material to level -2.00 to NGL)	0.00	0.00	0.00

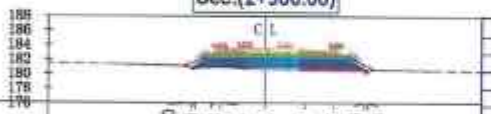
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material (Fill Material to level -0.5)	0.00	0.00	0.00
Fill Material (Fill Material to level -0.5 to -2.00)	0.00	0.00	0.00
Fill Material (Fill Material to level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material (Fill Material to level -0.5)	0.00	0.00	0.00
Fill Material (Fill Material to level -0.5 to -2.00)	0.00	0.00	0.00
Fill Material (Fill Material to level -2.00 to NGL)	0.00	0.00	0.00

ALMANASHY
Sec.(2+980.00)



OFFSET	-10.20	-9.70	-7.44	-6.21	0.00	5.50	9.50	13.73	14.23
SubBallast Level	181.13	181.31	182.82	183.32	183.59	183.48	183.40	180.90	180.72
EMBANKMENT	180.63	181.13	182.64	182.57	182.79	182.88	182.90	180.72	180.22
NGL	181.14	181.13	181.09	181.06	180.95	180.86	180.79	180.72	180.71
Cut / Fill	0.51	0.00	1.55	1.60	1.84	1.82	2.11	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material (Fill Material to level -0.5)	0.00	0.00	0.00
Fill Material (Fill Material to level -0.5 to -2.00)	0.00	0.00	0.00
Fill Material (Fill Material to level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material (Fill Material to level -0.5)	0.00	0.00	0.00
Fill Material (Fill Material to level -0.5 to -2.00)	0.00	0.00	0.00
Fill Material (Fill Material to level -2.00 to NGL)	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Formatio -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

Consultant Name	APPROVAL	DR Mohamed Gharib
DRAWN BY	CHECKED BY	APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

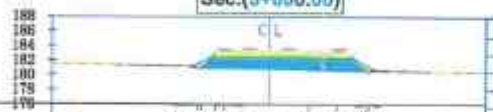
Cross Sections

FROM ST 2+960 TO ST 2+980

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
NAME	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 75	

ALMANASHY
Sec.(3+000.00)



OFFSET	-9.84	-9.34	-7.44	-6.21	0.00	5.50	9.50	13.38	13.88
SubBallast Level	181.20	181.38	182.85	183.14	183.42	183.31	183.23	180.97	180.79
EMBANKMENT	180.70	[illegible]	182.47	182.49		182.51	[illegible]	180.79	[illegible]
NGL	181.21	181.20	181.17	181.14	181.03	180.93	180.86	180.79	180.77
Cut / Fill	0.51	0.00	1.30	1.35	1.59	1.58	1.57	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	6.14	104.44	23805.94
Level -0.5 to Level -2.00	21.88	487.36	11726.09
Level -2.00 to NGL	0.00	1.42	24004.24
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.59	87.79	1303.74
Natural Ground Preparation (Level -2.00 to NGL)	0.00	33.24	13507.88
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

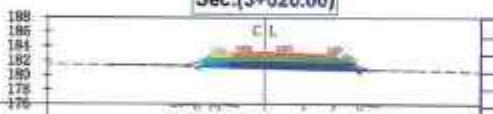
[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+020.00)



OFFSET	-9.43	-8.93	-7.44	-6.21	0.00	5.50	9.50	12.94	13.44
SubBallast Level	181.31	181.49	182.48	182.97	183.25	183.14	183.06	181.08	180.90
EMBANKMENT	180.81	181.31	182.30	182.32	182.45	182.34	182.56	180.90	180.40
NGL	181.32	181.31	181.28	181.26	181.15	181.05	180.97	180.90	180.89
Cut / Fill	0.51	0.00	1.02	1.07	1.30	1.29	1.58	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	8.72	154.89	24009.60
Level -0.5 to Level -2.00	15.23	308.14	12124.22
Level -2.00 to NGL	0.00	0.00	24004.24
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	3.82	76.00	1302.82
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13507.88
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment Level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Ahmed Hakim	APPROVAL	DR.Mohamed Ghazlo
REV.	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

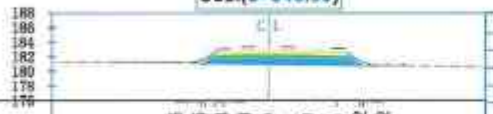
Cross Sections

FROM ST 3+000 TO ST 3+020

East Suburs - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazlo	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 76	

ALMANASHY
Sec.(3+040.00)



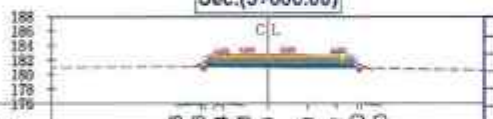
OFFSET	-9.25	-8.75	-7.44	-6.21	0.00	5.50	9.50	12.62
SubBallast Level	181.25	181.43	182.31	182.80	183.07	182.96	182.88	181.13
ENT	180.75			182.27				160.44
NGL	181.26	181.25	181.24	181.13	181.04	181.00	180.94	180.93
Cut / Fill	0.50	0.00	0.88	0.92	1.15	1.13	1.38	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	9.88	184.37	24194.88
Level -0.5 to Level -3.00	11.67	289.02	73073.04
Level -3.00 to NGL	0.00	0.00	24804.24
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	2.82	98.40	1349.27
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	13007.88
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+060.00)



OFFSET	-9.15	-8.66	-7.44	-6.21	0.00	5.50	9.50	12.40
SubBallast Level	181.14	181.32	182.14	182.63	182.90	182.79	182.71	181.10
EMBANKMENT	180.64	181.14	181.95	181.98	182.10	181.09	182.21	180.92
NGL	181.14	181.14	181.14	181.14	181.02	180.94	180.93	180.92
Cut / Fill	0.50	0.00	0.81	0.84	1.09	1.05	1.28	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	183.92	24308.33
Level -0.5 to Level -3.00	0.00	210.37	73283.81
Level -3.00 to NGL	0.00	0.00	24804.24
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	98.34	1377.01
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	13007.88
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	0.00
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.00	0.00	0.00
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubballasT Hatch
- Slope Protection Hatch
- Foot Hatch

Ahmed Gharib	APPROVAL	DR.Mohamed Gharib
ISSUED BY		APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

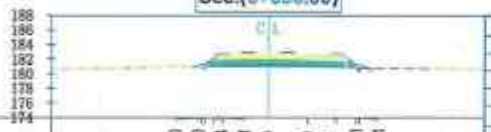
Cross Sections

FROM ST 3+040 TO ST 3+000

Bani Suleiman - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY DR.Mohamed Gharib	PROJECT
PAGE	CHECKED BY	APPROVED BY DR.Ahmed Gharib
DWG SIZE A3	SHEET NUMBER 77	

ALMANASHY
Sec.(3+080.00)

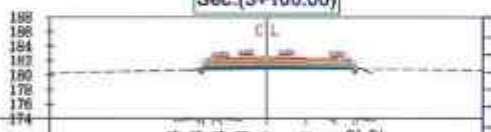


OFFSET	-9.10	-8.60	-7.44	-6.21	0.00	5.50	9.50	12.21	12.71
SubBallast Level	181.01	181.19	181.98	182.46	182.73	182.62	182.54	181.06	180.88
EMBANKMENT						181.82	182.04	180.88	180.38
NGL	181.00	181.01	181.01	181.01	180.99	180.96	180.91	180.88	180.87
Cut / Fill	0.49	0.00	0.77	0.80	0.94	0.86	1.13	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

ALMANASHY
Sec.(3+100.00)



OFFSET	-9.24	-8.74	-7.44	-6.21	0.00	5.50	9.50	12.02	12.52
SubBallast Level	180.74	180.92	181.79	182.26	182.56	182.45	182.37	181.01	180.83
EMBANKMENT	180.24	180.74	181.51	181.93	181.76	181.95	181.87	180.83	180.33
NGL	180.74	180.76	180.77	180.87	180.87	180.96	180.84	180.83	180.83
Cut / Fill	0.49	0.00	0.85	0.88	0.89	0.79	1.03	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fill to level -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Part Hatch

Prepared by	APPROVAL	DR.Mohamed Gharib
CHECKED BY		APPROVED BY
DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El dowlia

SHEET NAME:

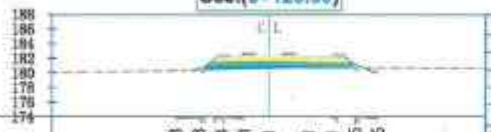
Cross Sections

FROM ST 3+080 TO ST 3+100

Port Sudan - Al Gondar Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 78	

ALMANASHY
Sec.(3+120.00)



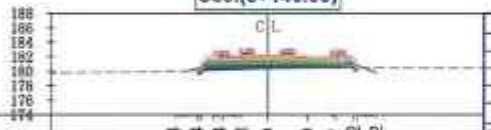
OFFSET	-9.38	-8.88	-7.44	-6.21	0.00	5.50	9.50	11.95	12.45
SubBallast Level	180.48	180.56	181.02	182.11	182.39	182.26	182.20	180.89	180.71
EMBANKMENT	179.98	180.48	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	180.21
NGL	180.47	180.48	180.50	180.52	180.85	180.71	180.71	180.71	180.71
Cut / Fill	0.49	0.00	0.94	0.94	0.94	0.77	0.99	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	6.59	165.32	24808.88
Level -0.5 to Level -2.00	8.49	191.01	74103.42
Level -2.00 to NGL	6.00	0.00	94804.24
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1277.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13967.98
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+140.00)



OFFSET	-9.64	-9.14	-7.44	-6.21	0.00	5.50	9.50	11.92	12.42
SubBallast Level	180.13	180.32	181.45	181.94	182.21	182.10	182.02	180.73	180.55
EMBANKMENT	179.03	180.13	181.27	181.29	181.41	181.30	181.52	180.55	180.05
NGL	180.12	180.13	180.18	180.21	180.35	180.45	180.51	180.55	180.58
Cut / Fill	0.49	0.00	1.09	1.08	1.06	0.66	1.01	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	6.77	165.26	23102.31
Level -0.5 to Level -2.00	8.04	159.30	74160.88
Level -2.00 to NGL	0.00	0.00	94804.24
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1277.00
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13967.98
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Fine Hatch

Issued Purpose	APPROVAL	DR Mohamed Gharib
PREPARED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM El dewlla

SHEET NAME:

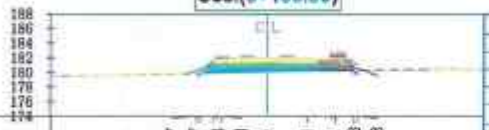
Cross Sections

FROM ST 3+120 TO ST 3+140

Bab Sesame - 6 October Bakrap Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Mohamed Gharib
DWG SIZE: A3	SHEET NUMBER: 79	

ALMANASHY
Sec.(3+160.00)



OFFSET	-9.77	-9.27	-7.44	-6.21	0.00	5.50	9.50	11.98	12.48
SubBallast Level	179.87	180.05	181.27	181.77	182.04	181.93	181.85	180.52	180.34
BANKMENT	[illegible]	[illegible]	[illegible]	181.12	[illegible]	[illegible]	181.35	180.34	[illegible]
NGL	179.86	179.87	179.91	179.94	180.08	180.22	180.29	180.34	180.35
Cut / Fill	[illegible]	[illegible]	1.18	1.18	1.16	0.92	1.06	0.00	0.51

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	9.69	194.58	25334.76
Level -0.5 to Level -2.00	15.74	141.84	74980.98
Level -2.00 to NGL	0.00	0.00	34604.24
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.91
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	12867.69
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

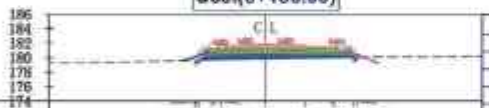
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+180.00)



OFFSET	-9.83	-9.33	-7.44	-6.21	0.00	5.50	9.50	12.11	12.61
SubBallast Level	179.66	179.84	181.11	181.60	181.86	181.77	181.59	180.27	180.06
EMBANKMENT	179.16	179.65	180.93	180.95	181.08	180.97	181.19	180.09	179.59
NGL	179.65	179.65	179.71	179.73	179.85	179.96	180.04	180.09	180.09
Cut / Fill	0.49	0.00	1.22	1.22	1.22	1.01	1.15	0.00	0.51

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	9.69	196.40	25344.76
Level -0.5 to Level -2.00	12.13	228.60	74809.08
Level -2.00 to NGL	0.00	0.00	34604.24
Natural Ground Preparation (Ferro to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.91
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	12867.69
Cut - Replacement	0.00	0.00	0.00
Fill - Replacement (Ferro to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferro to level -0.5	0.49	4.93	4.93
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferro to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

Revision Notes		APPROVAL	DR.Mohamad Ghanb
NO.	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

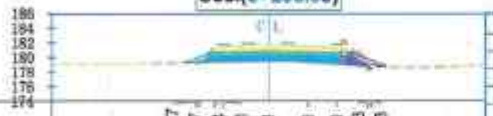
Cross Sections

FROM ST 3+160 TO ST 3+180

Dam Solution - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamad Ghanb	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 80	

ALMANASHY
Sec.(3+200.00)



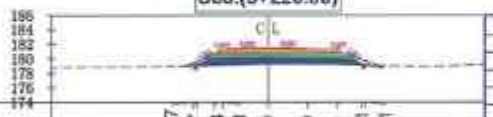
OFFSET	-10.07	-9.57	-7.44	-6.21	0.00	5.50	9.50	13.73	14.23
SubBallast Level	179.34	179.52	180.95	181.44	181.71	181.80	181.52	179.03	178.85
EMBANKMENT		179.34	180.77				181.40		178.55
NGL	179.34	179.34	179.37	179.39	179.45	179.34	179.10	178.85	178.82
Cut / Fill	0.48	0.00	1.39	1.40	1.46	1.47	1.93	0.00	0.47

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Natural Ground Preparation (Natural Ground Preparation)	0.00	0.00	0.00
Natural Ground Preparation (Natural Ground Preparation)	0.00	0.00	0.00
Natural Ground Preparation (Natural Ground Preparation)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00

ALMANASHY
Sec.(3+220.00)



OFFSET	-10.27	-9.77	-7.44	-6.21	0.00	5.50	9.50	13.01	13.51
SubBallast Level	179.05	179.24	180.79	181.29	181.56	181.45	181.37	179.35	179.17
EMBANKMENT	178.55	179.05	180.61	180.64	180.76	180.65	180.67	179.17	178.67
NGL	179.04	179.05	179.11	179.14	179.29	179.28	179.26	179.17	179.16
Cut / Fill	0.49	0.00	1.50	1.49	1.47	1.37	1.61	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	0.00
Natural Ground Preparation (Natural Ground Preparation)	0.00	0.00	0.00
Natural Ground Preparation (Natural Ground Preparation)	0.00	0.00	0.00
Natural Ground Preparation (Natural Ground Preparation)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00
Fill – Replacement (Fill – Replacement)	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment Level
- Fill Patch (Forms to -0.5)
- Fill Patch (-0.5 to -2.00)
- Fill Patch (-2.00 to NGL)
- Cut Patch
- Prepared Subgrade Patch
- Prepared SubBallast Patch
- Slope Protection Patch
- Foot Patch

NO.	Issued Revision	APPROVAL	DR.Mohamed Gharib
	REVISED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

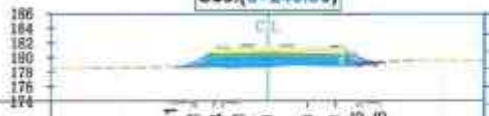
Cross Sections

FROM ST 3+200 TO ST 3+220

Ras Sabaan - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 81	

ALMANASHY
Sec.(3+240.00)



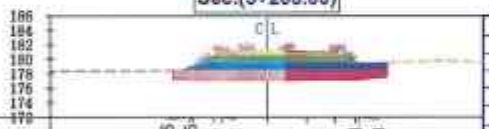
OFFSET	-10.41	-9.91	-7.44	-6.21	0.00	5.50	9.50	12.45	12.96
SubBallast Level	178.81	178.99	180.54	181.14	181.41	181.30	181.22	179.57	179.39
IBAN[illegible]T	178.31	178.81	[illegible]	[illegible]	[illegible]	180.04	180.72	179.39	178.89
NGL	178.80	178.81	178.90	178.94	179.09	179.23	179.32	179.39	179.40
Cut / Fill	0.49	0.00	1.56	1.55	1.52	1.28	1.40	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Forma to level -0.5	0.00	0.00	28038.71
Level -0.5 to Level -2.00	8.18	165.45	75934.34
Level -2.00 to NGL	0.00	0.00	24004.65
Natural Ground Preparation (Forma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1777.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13997.69
Cut - Replacement	0.49	98.83	98.83
Fill - Replacement (Forma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	88.47	88.47
Fill - Replacement (Level -2.00 to NGL)	0.04	8.37	8.37

Material Name	Area	Volume	Cumulative Volume
Forma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forma to level -0.5	0.00	788.13	884.00
Level -0.5 to Level -2.00	16.37	314.19	339.80
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+260.00)



OFFSET	-10.85	-10.15	-7.44	-6.21	0.00	5.50	9.50	12.28	12.78
SubBallast Level	178.51	178.70	180.50	181.00	181.27	181.16	181.08	179.55	179.37
EMBANKMENT	178.01	178.51	180.32	180.35	180.47	180.35	180.58	179.37	178.87
NGL	178.51	178.51	178.52	178.67	178.91	179.11	179.26	179.37	179.39
Cut / Fill	0.49	0.00	1.71	1.67	1.56	1.25	1.32	0.00	0.52

Material Name	Area	Volume	Cumulative Volume
Forma to level -0.5	0.00	0.00	28038.71
Level -0.5 to Level -2.00	8.47	176.31	76330.65
Level -2.00 to NGL	0.00	0.00	24004.65
Natural Ground Preparation (Forma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1777.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13997.69
Cut - Replacement	0.49	828.09	927.11
Fill - Replacement (Forma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	11.15	238.88	328.13
Fill - Replacement (Level -2.00 to NGL)	37.43	396.84	394.88

Material Name	Area	Volume	Cumulative Volume
Forma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Forma to level -0.5	0.00	190.40	874.42
Level -0.5 to Level -2.00	0.00	195.88	739.88
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Peat Hatch

Ahmed Mahmoud	APPROVAL	DR.Mohamed Ghanim
PREPARED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

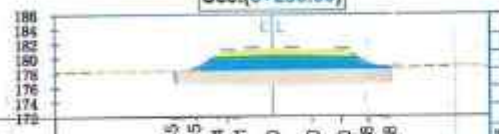
Cross Sections

FROM ST 3+240 TO ST 3+260

Ras Sabana - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghanim	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 82	

ALMANASHY
Sec.(3+280.00)



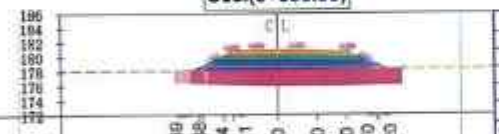
OFFSET	-10.85	-10.35	-7.44	-6.21	0.00	5.50	8.50	12.98	13.48
SubBallast Level	178.25	178.43	180.37	180.86	181.13	181.02	180.94	178.95	178.77
EMBANKMENT	[illegible]	[illegible]	[illegible]	180.21	180.33	[illegible]	[illegible]	178.77	178.27
NGL	178.25	178.25	178.26	178.27	178.36	178.50	178.64	178.77	178.79
Cut / Fill	0.50	0.00	1.93	1.94	1.97	1.72	1.80	0.00	0.52

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	16.88	[illegible]	[illegible]
Level -2.00 to NGL	0.34	[illegible]	[illegible]
Natural Ground Preparation (Fames to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	[illegible]
Cut – Replacement	[illegible]	1133.19	[illegible]
Fill – Replacement (Fames to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	4.32	194.41	[illegible]
Fill – Replacement (Level -2.00 to NGL)	[illegible]	[illegible]	1333.74

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	6.20	102.97	[illegible]
Level -0.5 to Level -2.00	15.93	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+300.00)



OFFSET	-10.89	-10.38	-7.44	-6.21	0.00	5.50	9.50	13.70	14.20
SubBallast Level	178.09	178.27	180.24	180.73	181.01	180.90	180.82	178.34	178.16
EMBANKMENT	177.59	178.09	180.06	180.08	180.21	180.10	180.32	178.16	177.66
NGL	178.09	178.09	178.07	178.06	178.02	178.06	178.11	178.16	178.19
Cut / Fill	0.50	0.00	1.99	2.02	2.19	2.04	2.21	0.00	0.53

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	13.83	[illegible]	[illegible]
Level -2.00 to NGL	3.42	[illegible]	[illegible]
Natural Ground Preparation (Fames to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	[illegible]
Cut – Replacement	[illegible]	[illegible]	[illegible]
Fill – Replacement (Fames to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.18	[illegible]	[illegible]
Fill – Replacement (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	0.00
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	6.46	195.15	[illegible]
Level -0.5 to Level -2.00	10.42	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	EmBankment level
	Fill Hatch (Formation -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Face Hatch

00	Issued Before	APPROVAL	DR.Mohamed Gharib
REV	CHECKED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM El Sewedy

SHEET NAME:

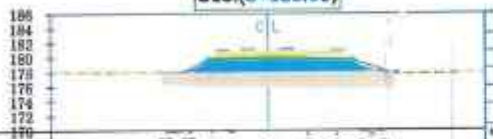
Cross Sections

FROM ST 3+280 TO ST 3+300

Basra Salamta - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 83	

ALMANASHY
Sec.(3+320.00)



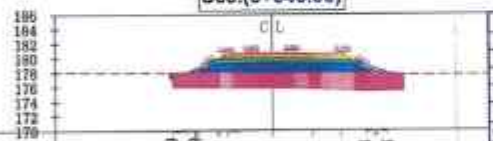
OFFSET	-10.91	-10.41	-7.44	-6.21	0.00	5.50	9.50	14.60
SubBallast Level	177.96	178.14	180.12	180.61	180.68	180.77	180.69	177.77
EMBANKMENT	177.46	[illegible]	[illegible]	[illegible]	180.06	179.97	177.77	177.27
NGL	177.96	177.96	177.94	177.92	177.87	177.84	177.80	177.77
Cut / Fill	0.50	0.00	2.00	2.03	2.21	2.14	2.39	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	208.36.71
Level -0.5 to Level -2.00	18.89	208.69	19411.80
Level -2.00 to NGL	6.39	67.68	24127.77
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13067.99
Cut – Replacement	80.04	1160.02	4231.64
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	1.02	888.93
Fill – Replacement (Level -2.00 to NGL)	50.34	1170.00	3992.83

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	7.67	76.73	76.73
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	9.38	188.47	1244.01
Level -0.5 to Level -2.00	2.00	133.78	1385.99
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+340.00)



OFFSET	-10.79	-10.29	-7.44	-6.21	0.00	5.50	9.50	14.06	14.56
SubBallast Level	177.92	178.10	180.00	180.42	180.77	180.66	180.58	177.86	177.68
EMBANKMENT	177.42	177.92	179.52	179.84	179.97	179.86	180.08	177.68	177.18
NGL	177.92	177.92	177.89	177.88	177.81	177.75	177.71	177.68	177.67
Cut / Fill	0.51	0.00	1.93	1.97	2.16	2.11	2.37	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	208.36.71
Level -0.5 to Level -2.00	16.09	241.36	19652.47
Level -2.00 to NGL	4.23	95.97	24223.73
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13067.99
Cut – Replacement	84.70	1232.98	5464.62
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	888.93
Fill – Replacement (Level -2.00 to NGL)	84.70	1232.98	4889.18

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.71	163.38	240.07
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	9.43	188.59	1432.59
Level -0.5 to Level -2.00	2.41	82.69	1515.98
Level -2.00 to NGL	0.06	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Face Hatch

01	Ahmed Shaker	APPROVAL	DR.Mohamed Gharib
REV	REVISED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

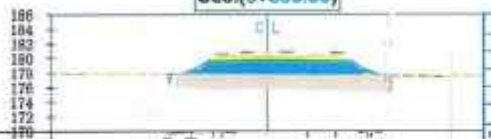
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 3+320 TO ST 3+340
Basc Salama - Al Qantara Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
DRAWN	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 84	

Sec.(3+360.00)



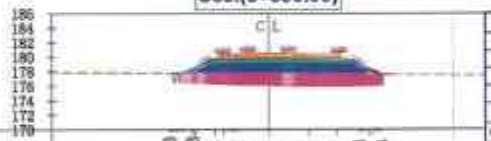
OFFSET	-10.70	-10.20	-7.44	-6.21	0.00	5.50	9.50	14.47
SubBallast Level	177.87	178.05	179.89	180.38	180.66	180.55	180.47	177.61	177.63
EMBANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	179.86	[illegible]	179.97	177.63	177.13
NGL	177.87	177.87	177.86	177.85	177.77	177.71	177.66	177.63	177.63
Cut / Fill	0.50	0.00	1.85	1.89	2.08	2.04	2.30	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	33636.71
Level -0.5 to Level -2.00	16.46	367.32	77160.79
Level -2.00 to NGL	0.39	67.70	34201.48
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	12067.89
Cut – Replacement	38.46	1327.13	8995.40
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.01	606.61
Fill – Replacement (Level -2.00 to NGL)	38.28	1327.12	8195.31

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.98	173.68	414.20
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	1927.39
Level -0.5 to Level -2.00	0.00	40.91	1368.98
Level -2.00 to NGL	0.00	0.00	0.00

ALMANAGHY
Sec.(3+380.00)



OFFSET	-10.63	-10.13	-7.44	-6.21	0.00	5.50	9.50	13.83	14.33
SubBallast Level	177.81	177.99	179.78	180.28	180.55	180.44	180.36	177.80	177.62
EMBANKMENT	177.31	177.81	179.60	179.63	179.75	179.64	179.56	177.62	177.12
NGL	177.61	177.81	177.79	177.79	177.76	177.69	177.66	177.62	177.61
Cut / Fill	0.50	0.00	1.81	1.84	1.99	1.95	2.20	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	33636.71
Level -0.5 to Level -2.00	16.47	369.29	77560.08
Level -2.00 to NGL	0.09	34.30	34235.78
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	12067.89
Cut – Replacement	44.01	1326.67	7719.00
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.03	0.00	606.57
Fill – Replacement (Level -2.00 to NGL)	43.98	1320.75	7143.03

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.29	169.47	583.73
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	185.08	1927.01
Level -0.5 to Level -2.00	2.34	45.31	1410.80
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

00	Issued Stamp	APPROVAL	DR. Mohamed Gharib
REV	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

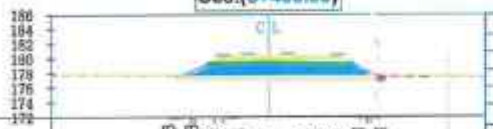
Cross Sections

FROM ST 3+360 TO ST 3+380

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 85	

ALMANASHY
Sec.(3+400.00)



OFFSET	-10.88	-10.18	-7.44	-6.21	0.00	5.50	9.50	13.71	14.21
SubBallast Level	177.67	177.65	179.67	180.17	180.44	180.33	180.25	177.77	177.59
EMBANKMENT	177.17	[illegible]	[illegible]	179.52	179.64	[illegible]	179.75	177.59	[illegible]
NGL	177.67	177.67	177.67	177.67	177.67	177.65	177.62	177.59	177.59
Cut / Fill	[illegible]	0.00	1.82	1.85	1.97	1.88	2.13	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	25436.71
Level -0.5 to Level -3.00	16.94	384.31	77984.58
Level -3.00 to NGL	0.10	10.73	24249.49
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1377.91
Natural Ground Preparation (Level -3.00 to NGL)	0.00	0.00	12987.96
Cut - Replacement	16.82	640.28	6299.97
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.04	15.75	396.20
Fill - Replacement (Level -3.00 to NGL)	19.28	428.63	7172.98

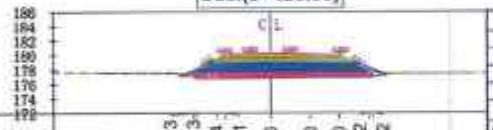
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.69	164.79	793.53
Level -3.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.37	160.88	1991.40
Level -0.5 to Level -3.00	0.30	46.40	1471.20
Level -3.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+420.00)



OFFSET	-10.73	-10.23	-7.44	-6.21	0.00	5.50	9.50	13.72	14.22
SubBallast Level	177.52	177.71	179.57	180.06	180.33	180.22	180.14	177.65	177.47
EMBANKMENT	177.02	177.52	179.38	179.41	179.53	179.42	179.54	177.47	176.97
NGL	177.53	177.52	177.50	177.50	177.50	177.50	177.50	177.47	177.47
Cut / Fill	0.50	0.00	1.88	1.91	2.03	1.92	2.14	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	25436.71
Level -0.5 to Level -3.00	15.71	366.70	78351.28
Level -3.00 to NGL	0.77	9.49	24259.97
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1377.91
Natural Ground Preparation (Level -3.00 to NGL)	13.08	160.08	13179.57
Cut - Replacement	0.82	160.10	6337.07
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	3.40	391.72
Fill - Replacement (Level -3.00 to NGL)	0.00	160.16	7333.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.38	115.72	924.24
Level -3.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.37	159.30	2151.69
Level -0.5 to Level -3.00	0.31	46.03	1517.23
Level -3.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -3.00)
	Fill Hatch (-3.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Face Hatch

20	Issued for Review	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY DATE	DESIGNER	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El dawlia

SHEET NAME:

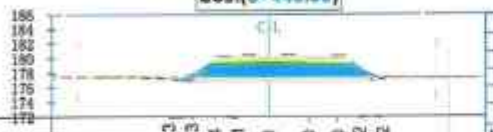
Cross Sections

FROM ST 3+400 TO ST 3+420

Red Sea(ms) - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY DR.Ahmed Khalil
DWG SIZE A3	SHEET NUMBER 86	

ALMANASHY
Sec.(3+440.00)



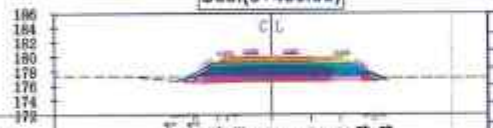
OFFSET	-10.73	-10.23	-7.44	-6.21	0.00	5.50	9.50	13.82	14.32
SubBallast Level	177.42	177.50	179.40	179.95	180.23	180.12	180.04	177.45	177.30
EMBANKMENT			179.28	179.40					
NGL	177.42	177.42	177.38	177.37	177.33	177.32	177.32	177.30	177.30
Cut / Fill	0.50	0.00	1.89	1.94	2.10	2.00	2.22	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	16.48	291.80	[illegible]
Level -2.00 to NGL	3.17	35.23	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.31
Natural Ground Preparation (Level -2.00 to NGL)	14.73	260.17	14017.04
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.88	189.42	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.43	180.05	5370.67
Level -0.5 to Level -2.00	2.37	46.77	5584.02
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+460.00)



OFFSET	-10.81	-10.31	-7.44	-6.21	0.00	5.50	9.50	13.94	14.44
SubBallast Level	177.25	177.44	179.35	179.84	180.12	180.01	179.93	177.29	177.11
EMBANKMENT	175.75	177.25	179.17	179.19	179.32	179.21	179.43	177.11	176.61
NGL	177.26	177.25	177.24	177.23	177.20	177.15	177.12	177.11	177.11
Cut / Fill	0.50	0.00	1.93	1.96	2.11	2.05	2.31	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	16.98	301.09	[illegible]
Level -2.00 to NGL	3.27	34.32	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.31
Natural Ground Preparation (Level -2.00 to NGL)	14.04	247.69	14264.73
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.34	155.84	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.20	186.63	[illegible]
Level -0.5 to Level -2.00	2.30	47.37	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Issued Purpose	APPROVAL	DR.Mohamed Obaidi
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

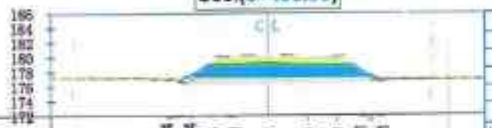
CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 3+440 TO ST 3+460
Hail Sahara - Al Qassim Railway Project

DWG SCALE: 1:500	DRAWN BY: DR.Mohamed Obaidi	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Alzalfi
DWG SIZE: A3	SHEET NUMBER: 87	

ALMANASHY
Sec.(3+480.00)



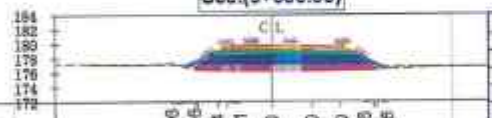
OFFSET		-10.84	-10.34	-7.44	-6.21	0.00	5.50	9.50	14.01	14.51
SubBallast Level		177.13	177.31	179.24	179.73	180.01	179.90	179.52	177.14	176.96
EMBAN E T									176.96	176.43
NGL	177.13	177.13	177.11	177.11	177.09		177.02	176.88	176.96	176.96
Cut / Fill	0.50		1.95	1.98	2.15	2.06	2.34	0.00	0.50	

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -1.00	16.93	390.10	78020.67
Level -2.00 to NGL	5.63	72.09	34411.87
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	16.28	393.27	14697.07
Cut - Replacement	0.00	0.00	8037.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	391.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7995.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	9.96	163.38	1403.88
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	4.00	68.03	1995.53
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+500.00)



OFFSET		-10.76	-10.26	-7.44	-6.21	0.00	5.50	9.50	14.06	14.56
SubBallast Level		177.07	177.25	179.13	179.53	179.90	179.79	179.71	176.99	176.81
EMBANKMENT		176.57	177.07	178.95	178.98	179.10	178.99	179.21	176.81	176.31
NGL	177.08	177.07	177.03	177.01	176.94	176.89	176.85	176.81	176.81
Cut / Fill	0.51	0.00	1.92	1.97	2.16	2.10	2.37	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -1.00	16.97	390.01	78007.68
Level -2.00 to NGL	4.23	61.58	34363.28
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1377.01
Natural Ground Preparation (Level -2.00 to NGL)	15.75	353.48	14658.45
Cut - Replacement	0.00	0.00	8037.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.14	131.37	1961.16
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	9.26	158.73	2403.84
Level -2.00 to NGL	2.00	68.07	7748.93
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

01	Issued for Review	APPROVAL	DR.Mohamed Gharib
REV	REVISED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

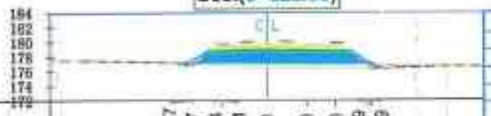
Cross Sections

FROM ST 3+480 TO ST 3+500

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DRAWN BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 88	

ALMANASHY
Sec.(3+520.00)



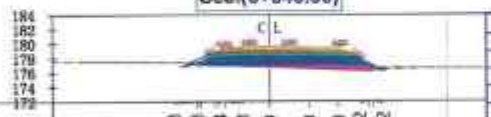
OFFSET	-10.47	-9.97	-7.44	-6.21	0.00	5.50	9.50	13.99	14.49
SubBallast Level	177.16	177.34	179.03	179.52	179.79	179.68	179.60	176.93	176.75
EMBANKMENT	[illegible]	[illegible]	[illegible]	178.87	[illegible]	[illegible]	[illegible]	176.75	176.25
NGL	177.17	177.16	177.10	177.06	176.96	176.87	176.80	176.75	176.75
Cut / Fill	0.51	[illegible]	1.75	1.80	2.03	2.01	2.31	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	29924.71
Level -0.5 to Level -2.00	15.90	357.84	60316.27
Level -2.00 to NGL	5.21	62.40	24655.68
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	5.34	1383.17
Natural Ground Preparation (Level -2.00 to NGL)	15.13	216.84	15037.29
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	801.75
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.28	104.23	1721.28
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.17	181.05	3025.50
Level -0.5 to Level -2.00	2.88	24.94	1809.44
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+540.00)



OFFSET	-9.98	-9.48	-7.44	-6.21	0.00	5.50	9.50	13.82	14.32
SubBallast Level	177.37	177.55	178.92	179.41	179.59	179.58	179.50	176.94	176.76
EMBANKMENT	176.87	177.37	178.74	178.76	178.99	178.78	179.00	176.75	176.25
NGL	177.38	177.37	177.33	177.29	177.10	176.96	176.87	176.76	176.74
Cut / Fill	0.51	0.00	1.41	1.47	1.79	1.82	2.13	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	29924.71
Level -0.5 to Level -2.00	14.91	331.16	60648.47
Level -2.00 to NGL	0.21	22.10	24678.80
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	3.43	39.80	1423.10
Natural Ground Preparation (Level -2.00 to NGL)	4.08	166.79	15377.09
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.83	108.91	1830.28
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.37	181.40	3206.90
Level -0.5 to Level -2.00	2.03	23.78	1834.22
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

02	[illegible]	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

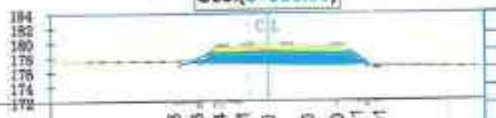
Cross Sections

FROM ST 3+520 TO ST 3+540

Bani Salama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 89	

ALMANASHY
Sec.(3+560.00)



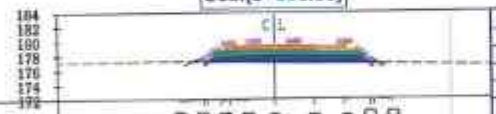
OFFSET	-9.73	-9.23	-7.44	-6.21	0.00	5.50	9.50	13.51	14.01
SubBallast Level	177.44	177.52	178.81	179.36	179.58	179.47	179.39	177.04	176.86
EMBANKMENT	- - - -	177.44	178.63	- - - -	- - - -	- - - -	178.86	176.86	176.36
NGL	177.44	177.44	177.42	177.41	177.25	177.06	176.96	176.86	176.85
Cut / Fill	0.50	0.00	1.21	1.24	1.53	1.59	1.92	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	208.36.71
Level -0.5 to Level -2.00	10.17	201.80	80904.21
Level -2.00 to NGL	0.00	3.11	24891.97
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.81	74.37	1481.49
Natural Ground Preparation (Level -2.00 to NGL)	0.00	46.03	13485.10
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	394.75
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7966.33

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.49	134.07	3200.57
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.55	189.17	2903.77
Level -0.5 to Level -2.00	4.04	70.22	1824.64
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+580.00)



OFFSET	-9.80	-9.30	-7.44	-6.21	0.00	5.50	9.50	13.20	13.70
SubBallast Level	177.28	177.46	178.70	179.19	179.47	179.35	179.26	177.14	176.96
EMBANKMENT	176.78	177.28	178.52	178.54	178.67	178.58	178.78	176.96	176.46
NGL	177.28	177.28	177.27	177.26	177.17	177.10	177.05	176.96	176.94
Cut / Fill	0.50	0.00	1.25	1.28	1.50	1.48	1.73	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	22025.71
Level -0.5 to Level -2.00	8.65	140.86	81595.19
Level -2.00 to NGL	0.00	0.00	24891.97
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.71	8.13	1504.64
Natural Ground Preparation (Level -2.00 to NGL)	0.03	0.48	13486.60
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	2.00
Level -0.5 to Level -2.00	7.76	146.78	3203.06
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.31	165.50	3604.30
Level -0.5 to Level -2.00	3.84	73.26	1898.29
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

REV	Sheet Status	APPROVAL	DR.Mohamed Gharib
			APPROVED BY
REF	ISSUED BY DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 3+560 TO ST 3+580

Suez Tahrir - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 90	

ALMANASHY
Sec.(3+600.00)

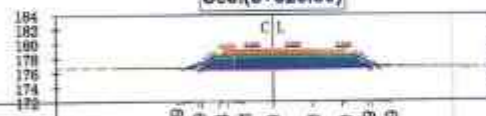
OFFSET	-10.00	-9.50	-7.44	-6.21	0.00	5.50	9.50	13.04	13.54
SubBallast Level	177.04	177.22	178.59	179.09	179.36	179.25	179.17	177.13	176.95
BANKM T	176.[illegible]	177.[illegible]	178.41	178.44	178.56	178.45	178.67	176.[illegible]	176.45
NGL	177.04	177.04	177.04	177.04	177.03	177.01	176.98	176.95	176.95
Cut / Fill	0.50	0.00	1.38	1.40	1.53	1.44	1.69	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23636.71
Level -0.5 to Level -2.00	3.71	163.33	23800.48
Level -2.00 to NGL	0.00	0.00	24691.57
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	4.31	70.11	1934.76
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	13425.00
Cut – Replacement	0.00	0.00	8557.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7965.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	157.89	3339.94
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.39	167.00	2661.35
Level -0.5 to Level -2.00	0.19	50.22	2248.47
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+620.00)



OFFSET	-10.29	-9.79	-7.44	-6.21	0.00	5.50	9.50	13.19	13.69
SubBallast Level	176.74	176.92	178.49	178.98	179.25	179.14	179.06	176.92	176.74
EMBANKMENT	176.24	176.74	178.30	178.33	178.45	178.34	178.56	176.74	176.24
NGL	176.74	176.74	176.73	176.73	176.73	176.73	176.74	176.74	176.74
Cut / Fill	0.50	0.00	1.57	1.60	1.73	1.61	1.82	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23636.71
Level -0.5 to Level -2.00	13.30	233.77	23871.25
Level -2.00 to NGL	0.00	0.00	24691.57
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.81	101.28	1735.65
Natural Ground Preparation (Level -2.00 to NGL)	0.01	0.10	13425.10
Cut – Replacement	0.00	0.00	8557.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7965.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.41	104.19	2324.13
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.74	191.80	4073.84
Level -0.5 to Level -2.00	0.05	48.40	2383.87
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

DR	Ahmed Shakir	APPROVAL	DR.Mohamed Gharib
REV	DESIGNED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSTRUCTION CONSULTANT:

CONSTRUCTION CONSULTANT: ESM

SHEET NAME:

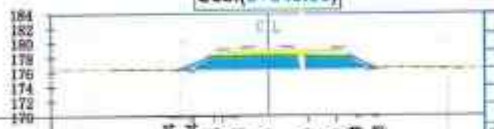
Cross Sections

FROM ST 3+600 TO ST 3+620

Basrah Salmana - Al Faw Grand Port Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 91	

ALMANASHY
Sec.(3+640.00)



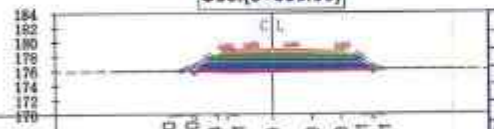
OFFSET			-10.64	-10.14	-7.44	-6.21	0.00	5.50	9.50	13.41	13.91
SubBallast Level			176.39	176.58	178.38	178.87	179.14	179.03	178.95	176.87	176.49
EMBANKME			[illegible]	[illegible]	[illegible]	[illegible]	178.34	[illegible]	178.45	176.48	[illegible]
NGL			176.39	176.39	176.39	176.40	176.43	176.44	176.46	176.49	176.49
Cut / Fill			0.50	0.00	1.80	1.82	1.92	1.79	1.99	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23038.71
Level -0.5 to Level -2.00	11.39	224.34	23263.04
Level -2.00 to NGL	0.00	0.00	23263.07
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level - 2.00)	0.00	18.30	1814.31
Natural Ground Preparation (Level -2.00 to NGL)	3.45	29.57	18471.37
Cut - Replacement	0.00	0.00	8957.09
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	895.70
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.38

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.89	170.00	2894.13
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.46	191.97	4284.62
Level -0.5 to Level -2.00	2.17	42.27	5133.14
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+660.00)



OFFSET			-11.00	-10.50	-7.44	-6.21	0.00	5.50	9.50	13.71	14.21
SubBallast Level			176.04	176.23	178.27	178.76	179.04	178.93	178.85	176.36	176.18
EMBANKMENT			175.04	176.04	176.09	178.11	178.24	178.13	178.35	176.18	175.68
NGL			176.04	176.04	176.05	176.06	176.09	176.12	176.15	176.18	176.19
Cut / Fill			0.50	0.00	2.03	2.05	2.15	2.00	2.19	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25436.71
Level -0.5 to Level -2.00	10.00	374.03	25810.77
Level -2.00 to NGL	0.00	0.00	25810.81
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	20.21	1934.53
Natural Ground Preparation (Level -2.00 to NGL)	4.00	32.80	19203.19
Cut - Replacement	0.00	0.00	8957.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.88	166.76	2862.21
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	8.40	180.78	4493.40
Level -0.5 to Level -2.00	2.01	43.87	5177.01
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Face Hatch

IN	[illegible]	APPROVAL	DR. Mohamed Gharib
REV	CHECKED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

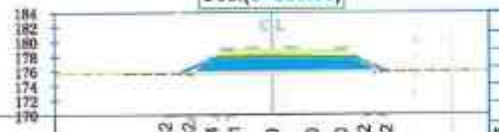
Cross Sections

FROM ST 3+640 TO ST 3+680

Ras Salama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 92	

ALMANASHY
Sec.(3+680.00)



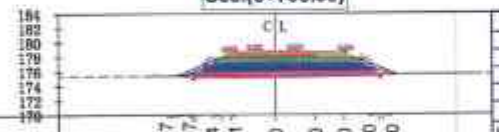
OFFSET	-11.32	-10.82	-7.44	-6.21	0.00	5.50	9.50	14.02	14.52
SubBallast Level	175.73	175.91	176.16	176.05	176.93	176.82	176.74	176.05	175.87
EMBANKMENT	175.23	175.73	177.98	178.00	178.13	178.02	178.14	175.87	175.37
NGL	175.73	175.73	175.74	175.74	175.76	175.80	175.83	175.87	175.87
Cut / Fill	0.50	0.00	2.24	2.26	2.36	2.22	2.41	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fenno to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	13.93	395.32	82994.09
Level -2.00 to NGL	8.44	715.43	24832.44
Natural Ground Preparation (Fenno to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	0.00	109.20	13464.29
Cut - Replacement	0.00	0.00	6007.04
Fill - Replacement (Fenno to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.75
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.33

Material Name	Area	Volume	Cumulative Volume
Fenno to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.89	145.57	2928.48
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fenno to level -0.5	0.54	188.99	4040.99
Level -0.5 to Level -2.00	2.27	44.19	2321.20
Level -2.00 to NGL	0.00	0.00	0.00

ALMANASHY
Sec.(3+700.00)



OFFSET	-11.57	-11.07	-7.44	-6.21	0.00	5.50	9.50	14.30	14.80
SubBallast Level	175.45	175.64	178.05	178.55	178.62	178.71	178.63	175.75	175.57
EMBANKMENT	174.95	175.45	177.87	177.90	178.02	177.91	178.13	175.57	175.07
NGL	175.48	175.45	175.45	175.45	175.46	175.48	175.52	175.57	175.58
Cut / Fill	0.50	0.00	2.42	2.45	2.56	2.43	2.61	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fenno to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	23.06	394.60	82943.84
Level -2.00 to NGL	13.80	217.31	25047.74
Natural Ground Preparation (Fenno to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	0.49	114.68	13579.09
Cut - Replacement	0.00	0.00	6007.04
Fill - Replacement (Fenno to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.75
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.33

Material Name	Area	Volume	Cumulative Volume
Fenno to level -0.5	0.90	0.00	0.00
Level -0.5 to Level -2.00	4.75	150.14	3175.63
Level -2.00 to NGL	0.90	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fenno to level -0.5	0.57	181.19	4404.14
Level -0.5 to Level -2.00	4.89	71.88	2393.14
Level -2.00 to NGL	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fenno to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

00	Issued for Review	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

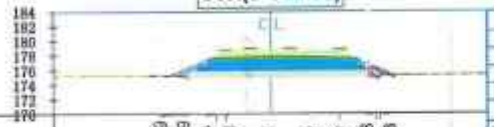
Cross Sections

FROM ST 3+680 TO ST 3+700

Bani Suleim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 93	

ALMANASIIY
Sec.(3+720.00)



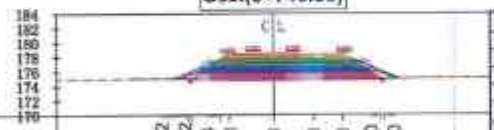
OFFSET	-11.89	-11.19	-7.44	-6.21	0.00	5.50	9.50	14.58	15.08
SubBallast Level	175.26	175.45	177.95	178.44	178.71	178.60	178.52	175.48	175.28
EMBANKMENT					177.91			175.28	174.78
NGL	175.26	175.26	175.26	175.25	175.23	175.21	175.24	175.26	175.29
Cut / Fill	0.00	0.00	2.51	2.54	2.68	2.59	2.78	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	15.88	[illegible]	[illegible]
Level -2.00 to NGL	15.88	[illegible]	[illegible]
Natural Ground Preparation (Ferrous to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	8.84	[illegible]	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Ferrous to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.23	148.75	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.01	120.01	[illegible]
Level -0.5 to Level -2.00	0.00	75.88	[illegible]
Level -2.00 to NGL	0.00	0.00	0.17

ALMANASIIY
Sec.(3+740.00)



OFFSET	-11.82	-11.32	-7.44	-6.21	0.00	5.50	9.50	14.80	15.30
SubBallast Level	175.07	175.25	177.84	178.33	178.60	178.49	178.41	175.21	175.03
EMBANKMENT	174.57	175.07	177.65	177.88	177.80	177.69	177.91	175.03	174.53
NGL	175.07	175.07	175.07	175.06	175.01	175.01	175.02	175.03	175.03
Cut / Fill	0.50	0.00	2.59	2.62	2.79	2.68	2.89	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	19.82	[illegible]	[illegible]
Level -2.00 to NGL	16.31	[illegible]	[illegible]
Natural Ground Preparation (Ferrous to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	4.83	[illegible]	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Ferrous to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.28	164.80	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.02	181.28	[illegible]
Level -0.5 to Level -2.00	0.35	46.47	[illegible]
Level -2.00 to NGL	0.00	0.00	0.17

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferrous to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

00	Issued Notice	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

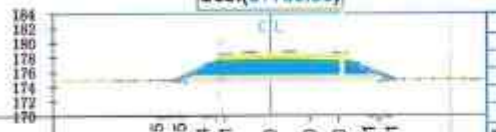
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 3+720 TO ST 3+740
Sian Zaitoon - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 94	

ALMANASHY
Sec.(3+760.00)



OFFSET	-11.95	-11.45	-7.44	-6.21	0.00	5.50	9.50	14.91	15.41
SubBallast Level	174.87	175.05	177.73	178.22	178.50	178.39	178.31	175.02	174.84
EMBANKMENT		174.87	[illegible]	[illegible]	177.70	177.50	177.61	174.84	174.34
NGL	174.88	174.87	174.87	174.87	174.89	174.86	174.84	174.84	174.84
Cut / Fill	0.50	0.00	2.86	2.70	2.61	2.73	2.96	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23635.71
Level -0.5 to Level -2.00	15.04	204.62	84104.00
Level -2.00 to NGL	25.87	401.83	28139.20
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1934.02
Natural Ground Preparation (Level -2.00 to NGL)	0.00	106.00	16099.33
Cut – Replacement	0.00	0.00	8557.34
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	391.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7665.32

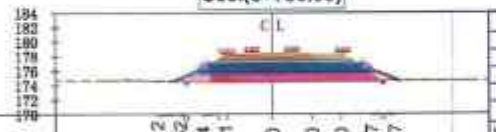
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.46	107.13	2824.32
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.46	100.87	5477.20
Level -2.0 to Level -2.00	2.31	46.07	2459.47
Level -2.00 to NGL	0.00	0.00	0.17

ALMANASHY
Sec.(3+780.00)



OFFSET	-12.12	-11.62	-7.44	-6.21	0.00	5.50	9.50	15.07	15.57
SubBallast Level	174.65	174.84	177.62	178.11	178.39	178.28	178.20	174.81	174.63
EMBANKMENT	174.15	174.65	177.44	177.46	177.59	177.48	177.70	174.63	174.13
NGL	174.66	174.65	174.62	174.61	174.63	174.64	174.64	174.63	174.63
Cut / Fill	0.50	0.00	2.82	2.85	2.96	2.84	3.06	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23635.71
Level -0.5 to Level -2.00	14.80	204.89	84279.58
Level -2.00 to NGL	24.10	400.19	28559.39
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1934.02
Natural Ground Preparation (Level -2.00 to NGL)	4.30	102.94	16201.83
Cut – Replacement	0.00	0.00	8557.34
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.26	107.36	3927.67
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	100.54	5577.73
Level -0.5 to Level -2.00	2.22	45.41	2505.44
Level -2.00 to NGL	0.00	0.00	0.17

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

[illegible]		APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM El Dawlia

SHEET NAME:

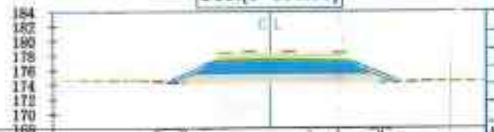
Cross Sections

FROM ST 3+760 TO ST 3+780

Main Scheme - A Double Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 95	

ALMANASHY
Sec.(3+800.00)



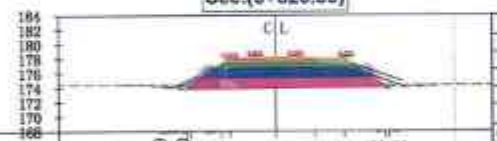
OFFSET	-12.11	-11.61	-7.44	-8.21	0.00	5.50	9.50	15.11	15.61
SubBallast Level	174.55	174.74	177.51	178.01	178.28	178.17	178.06	174.68	174.50
EMBANKMENT	174.06	174.55	177.33	[illegible]	[illegible]	177.37	177.59	174.50	174.00
NGL	174.56	174.55	174.53	174.52	174.49	174.49	174.49	174.50	174.50
Cut / Fill	0.50	0.00	2.80	2.83	2.99	2.88	3.10	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23026.71
Level -0.5 to Level -2.00	16.66	206.07	24879.23
Level -2.00 to WL	24.08	408.23	27247.69
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.50
Natural Ground Preparation (Level -2.00 to WL)	7.75	160.91	19332.36
Cut - Replacement	0.00	0.00	8567.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	801.72
Fill - Replacement (Level -2.00 to WL)	0.00	0.00	7965.35

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.33	165.08	3665.73
Level -2.00 to WL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	8706.90
Level -0.5 to Level -3.00	2.30	46.00	8968.25
Level -2.00 to WL	0.00	0.00	0.17

ALMANASHY
Sec.(3+820.00)



OFFSET	-12.20	-11.70	-7.44	-8.21	0.00	5.50	9.50	15.22	15.72
SubBallast Level	174.39	174.57	177.40	177.90	178.17	178.06	177.98	174.49	174.31
EMBANKMENT	173.89	174.39	177.22	177.25	177.37	177.26	177.48	174.31	173.81
NGL	174.39	174.39	174.35	174.34	174.30	174.30	174.30	174.31	174.31
Cut / Fill	0.50	0.00	2.87	2.90	3.07	2.97	3.18	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23026.71
Level -0.5 to Level -2.00	19.91	224.65	25370.89
Level -2.00 to WL	29.89	514.65	27703.43
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.50
Natural Ground Preparation (Level -2.00 to WL)	8.72	164.81	19497.18
Cut - Replacement	0.00	0.00	8567.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	801.72
Fill - Replacement (Level -2.00 to WL)	0.00	0.00	7965.35

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.36	160.88	4139.83
Level -2.00 to WL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	101.33	9976.58
Level -0.5 to Level -3.00	2.49	49.13	10031.14
Level -2.00 to WL	0.00	0.00	0.17

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubballastHatch
- Slope Protection Hatch
- Fox Hatch

00	Issued for Approval	APPROVAL	DR Mohamed Elsaeh
REV	DESIGNED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

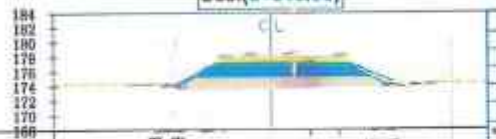
CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El dawlia

SHEET NAME:
Cross Sections
FROM ST 3+800 TO ST 3+820
Red Sea(Sea - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY DR Mohamed Elsaeh	PROJECT
PHASE	CHECKED BY	APPROVED BY DR.Ahmed Elsaeh
DWG SIZE A3	SHEET NUMBER 96	

AL MANASHY
Sec.(3+840.00)



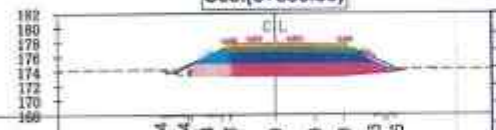
OFFSET		-12.18	-11.68	-7.44	-6.21	0.00	5.50	9.50	15.25	15.75
SubBallast Level		174.29	174.47	177.30	177.79	178.06	177.95	177.87	174.36	174.18
EMBANKMENT	173.79	173.79	[illegible]	[illegible]	[illegible]	177.26	177.15	177.37	[illegible]	[illegible]
NGL	174.29	174.29	174.29	174.28	174.25	174.20	174.18	174.18	174.18	174.19
Cut / Fill		0.50	0.00	2.86	2.89	3.06	2.97	3.19	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	19.67	[illegible]	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.88	164.43	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -2.00	2.37	50.00	[illegible]
Level -2.00 to NGL	0.00	0.00	0.17

AL MANASHY
Sec.(3+860.00)



OFFSET		-12.04	-11.54	-7.44	-6.21	0.00	5.50	9.50	14.95	15.45
SubBallast Level		174.28	174.45	177.19	177.68	177.96	177.85	177.77	174.45	174.27
EMBANKMENT	173.78	173.78	174.28	177.01	177.03	177.10	177.05	177.27	174.27	173.77
NGL	174.28	174.28	174.28	174.27	174.27	174.26	174.26	174.26	174.27	174.28
Cut / Fill		0.50	0.00	2.74	2.76	2.86	2.79	3.01	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	18.69	[illegible]	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	7.97	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	[illegible]	[illegible]
Level -0.5 to Level -2.00	2.48	50.40	[illegible]
Level -2.00 to NGL	0.00	0.00	0.17

Notes:
SubBallast Depth = 30 cm
PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

[illegible]		APPROVAL	DR. Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

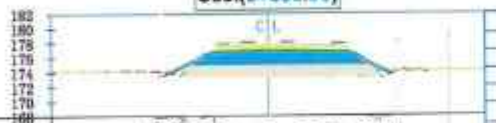
CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 3+840 TO ST 3+880
Ben Suleim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 97	

ALMANASHY
Sec.(3+880.00)



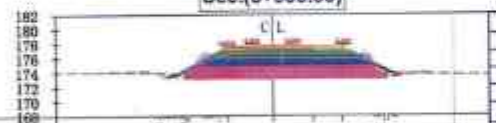
OFFSET	-11.98	-11.48	-7.44	-6.21	0.00	5.50	9.50	14.94	15.44
SubBallast Level	174.21	174.39	177.08	177.57	177.85	177.74	177.66	174.35	174.17
BAN E	173.71	174.21	176.90	176.92	[illegible]	[illegible]	177.16	174.17	173.67
NGL	174.21	174.21	174.20	174.21	174.21	174.21	174.20	174.17	174.17
Cut / Fill	0.50	0.00	2.69	2.72	2.84	2.73	2.86	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	13.62	280.26	86640.34
Level -2.00 to NGL	21.33	428.87	109226.23
Natural Ground Preparation (Fames to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1534.22
Natural Ground Preparation (Level -2.00 to NGL)	24.26	452.19	17026.88
Cut - Replacement	0.00	0.00	8067.04
Fill - Replacement (Fames to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	691.70
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7865.58

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.41	183.76	4697.05
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.39	191.23	9309.18
Level -0.5 to Level -2.00	2.42	98.69	2755.04
Level -2.00 to NGL	0.00	0.00	0.17

ALMANASHY
Sec.(3+900.00)



OFFSET	-12.18	-11.68	-7.44	-6.21	0.00	5.50	9.50	15.34	15.84
SubBallast Level	173.96	174.15	176.97	177.47	177.74	177.83	177.55	173.98	173.80
EMBANKMENT	173.46	173.96	176.79	176.82	176.94	176.83	177.05	173.80	173.30
NGL	173.97	173.95	173.95	173.95	173.93	173.89	173.85	173.80	173.80
Cut / Fill	0.50	0.00	2.84	2.87	3.01	2.94	3.20	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.06	0.30	25836.71
Level -0.5 to Level -2.00	20.07	398.40	86997.34
Level -2.00 to NGL	24.26	475.08	109603.33
Natural Ground Preparation (Fames to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1534.22
Natural Ground Preparation (Level -2.00 to NGL)	16.22	434.13	17460.88
Cut - Replacement	0.00	0.00	8067.04
Fill - Replacement (Fames to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.65	163.52	4859.97
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fames to level -0.5	0.65	182.04	9491.22
Level -0.5 to Level -2.00	2.53	99.41	2854.85
Level -2.00 to NGL	0.00	0.00	0.17

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fames to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (>2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Free Hatch

		APPROVAL	DR Mohamed Gharib
	DRAWN BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSTRUCTION CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

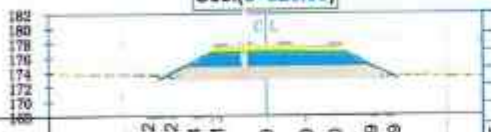
Cross Sections

FROM ST 3+880 TO ST 3+900

Ras Sidrah - 4 Coastal Railway Project

DWG SCALE: 1:500	DRAWN BY: DR Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 98	

ALMANASHY
Sec.(3+920.00)



OFFSET	-12.42	-11.92	-7.44	-6.21	0.00	5.50	9.50	15.79	16.29
SubBallast Level	173.70	173.88	176.86	177.36	177.63	177.52	177.44	173.57	173.39
EMBANKME T	173.20	173.7	176.68	176.71	176.83	176.72	[illegible]	[illegible]	[illegible]
NGL	173.70	173.70	173.65	173.63	173.55	173.50	173.46	173.39	173.39
Cut / Fill	0.50	0.00	3.03	3.07	3.28	3.23	3.49	0.00	0.40

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23036.71
Level -0.5 to Level -2.00	16.42	266.67	27304.20
Level -2.00 to NGL	23.28	506.28	28309.91
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.33
Natural Ground Preparation (Level -2.00 to NGL)	15.09	246.18	18286.67
Cut – Replacement	0.00	0.00	8997.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	891.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7995.32

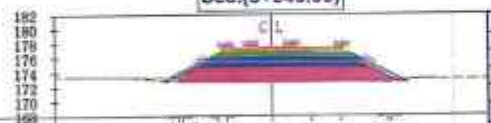
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.31	181.87	4017.44
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.73	16.73	6325.95
Level -0.5 to Level -2.00	0.91	33.41	3548.87
Level -2.00 to NGL	0.00	0.00	0.07

ALMANASHY
Sec.(3+940.00)



OFFSET	-12.83	-12.33	-7.44	-6.21	0.00	5.50	9.50	16.07	16.57
SubBallast Level	173.32	173.50	176.76	177.25	177.52	177.41	177.33	173.27	173.09
EMBANKMENT	172.82	173.32	176.58	176.60	176.72	176.61	176.53	173.09	172.59
NGL	173.32	173.32	173.27	173.26	173.21	173.17	173.14	173.09	173.09
Cut / Fill	0.50	0.00	3.30	3.34	3.51	3.44	3.39	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	25635.71
Level -0.5 to Level -2.00	24.41	440.35	27764.85
Level -2.00 to NGL	26.84	731.34	29630.05
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.33
Natural Ground Preparation (Level -2.00 to NGL)	13.45	260.48	18379.35
Cut – Replacement	0.00	0.00	8997.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	891.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7995.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.55	115.69	5005.10
Level -2.00 to NGL	0.00	0.00	0.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	163.31	7139.78
Level -0.5 to Level -2.00	3.19	65.22	3970.19
Level -2.00 to NGL	0.00	0.07	0.74

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Batch (Fence to -0.5)
- Fill Batch (-0.5 to -2.00)
- Fill Batch (-2.00 to NGL)
- Cut Batch
- Prepared Subgrade Batch
- Prepared SubBallast Batch
- Slope Protection Batch
- Foot Batch

NO	Issued Revision	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

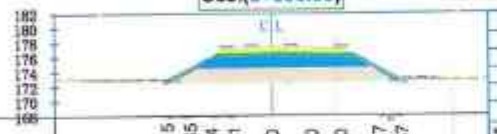
Cross Sections

FROM ST 3+920 TO ST 3+940

Ain Sokhna - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 99	

ALMANASHY
Sec.(3+960.00)



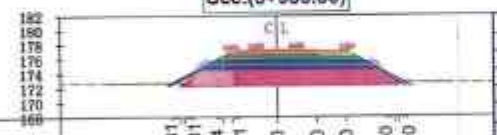
OFFSET	-13.15	-12.65	-7.44	-6.21	0.00	5.50	9.50	16.17	16.67
SubBallast Level	173.00	173.18	176.65	177.14	177.42	177.31	177.23	173.10	172.92
MBANKM : T	172.50	[illegible]	[illegible]	[illegible]	176.62	176.51	[illegible]	172.92	172.42
NGL	173.00	173.00	172.97	172.96	172.96	172.96	172.96	172.92	172.92
Cut / Fill	0.50	0.00	3.50	3.53	3.66	3.55	3.77	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	204.86.71
Level -0.5 to Level -2.00	24.78	486.00	86002.83
Level -2.00 to NGL	43.00	834.86	21855.81
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	11.13	243.44	10023.01
Cut – Replacement	0.00	0.00	8057.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	895.70
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	1663.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	3.69	73.43	9102.02
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	192.69	7551.75
Level -0.5 to Level -2.00	0.96	36.70	2584.82
Level -2.00 to NGL	0.03	0.07	1.81

ALMANASHY
Sec.(3+980.00)



OFFSET	-13.31	-12.81	-7.44	-6.21	0.00	5.50	9.50	16.30	16.60
SubBallast Level	172.78	172.96	176.54	177.03	177.31	177.20	177.12	172.91	172.73
EMBANKMENT	172.28	172.76	176.36	176.38	176.51	176.40	176.62	172.73	172.23
NGL	172.78	172.78	172.77	172.77	172.76	172.75	172.75	172.73	172.72
Cut / Fill	0.50	0.00	3.59	3.62	3.75	3.65	3.87	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23030.71
Level -0.5 to Level -2.00	24.39	487.79	86779.59
Level -2.00 to NGL	46.28	809.27	22664.99
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	12.84	228.55	10294.40
Cut – Replacement	0.00	0.00	8057.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	901.70
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	1665.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	2.72	74.18	10136.70
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.04	192.09	7554.84
Level -0.5 to Level -2.00	1.79	37.45	2633.34
Level -2.00 to NGL	0.03	0.01	2.23

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

DR	Name/Sign	APPROVAL	DR.Mohamed Gharib
REV	DESIGNED BY / DATE	DESIGNED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUBCONSULTANT:

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

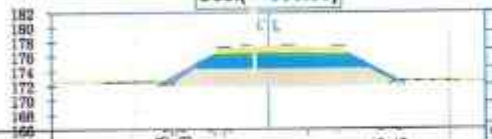
Cross Sections

FROM ST 3+960 TO ST 3+980

Bani Suleiman - A Corridor Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 100	

ALMANASHY
Sec.(4+000.00)

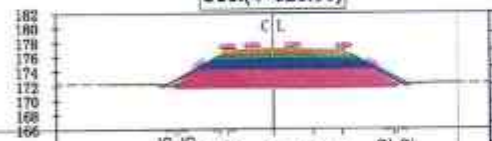


OFFSET	-13.43	-12.93	-7.44	-6.21	0.00	5.50	9.50	16.45	16.95
SubBallast Level	172.59	172.77	176.43	176.93	177.20	177.09	177.01	172.70	172.52
EMBAN	[illegible]	172.59	176.25	176.28	176.40	176.29	[illegible]	172.52	172.02
NGL	172.59	172.59	172.59	172.59	172.57	172.55	172.54	172.52	172.52
Cut / Fill	0.50	0.00	3.66	3.69	3.83	3.74	3.97	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill - Replacement)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill - Replacement)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

ALMANASHY
Sec.(4+020.00)



OFFSET	-13.65	-13.15	-7.44	-6.21	0.00	5.50	9.50	16.52	17.12
SubBallast Level	172.33	172.52	176.32	176.82	177.09	176.98	176.90	172.48	172.30
EMBANKMENT	171.83	172.33	176.14	176.17	176.29	176.18	176.40	172.30	171.80
NGL	172.33	172.33	172.33	172.32	172.31	172.30	172.30	172.30	172.30
Cut / Fill	0.50	0.00	3.81	3.84	3.98	3.88	4.10	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill - Replacement)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill - Replacement)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

DR.	Ahmed Shaker	APPROVAL	DR. Mohamed Gharib
PM	DRAWN BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

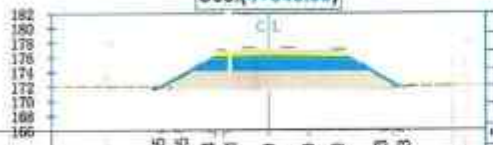
Cross Sections

FROM ST 4+000 TO ST 4+020

Sue Zahran - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 101	

ALMANASHY
Sec.(4+040.00)



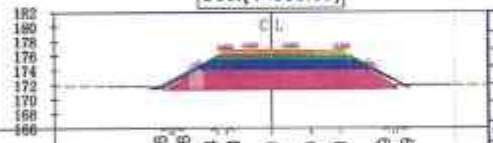
OFFSET			-13.85	-13.35	-7.44	-6.21	0.00	5.50	9.50	16.83	17.33
SubBallast Level			172.09	172.28	176.22	176.71	176.96	176.67	176.79	172.23	172.05
EMBANI			[illegible]	172.09	176.04	176.06	176.16	[illegible]	[illegible]	172.05	171.55
NGL			172.09	172.09	172.10	172.11	172.11	172.08	172.05	172.05	172.05
Cut / Fill			0.50	0.00	3.93	3.95	4.07	3.99	4.23	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	[illegible]	[illegible]	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	2.82	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	[illegible]	[illegible]
Level -0.5 to Level -2.00	2.40	77.07	[illegible]
Level -2.00 to NGL	0.01	0.01	0.01

ALMANASHY
Sec.(4+060.00)



OFFSET			-13.96	-13.46	-7.44	-6.21	0.00	5.50	9.50	16.89	17.39
SubBallast Level			171.91	172.09	176.11	176.60	176.88	176.77	176.69	172.05	171.90
EMBANKMENT			171.41	171.91	175.93	175.95	176.08	175.97	176.19	171.90	171.40
NGL			171.91	171.91	171.92	171.92	171.93	171.93	171.92	171.90	171.90
Cut / Fill			0.50	0.00	4.01	4.03	4.15	4.04	4.27	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	[illegible]	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Farma to level -0.5)	0.00	0.00	[illegible]
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	3.09	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -2.00	2.87	57.88	[illegible]
Level -2.00 to NGL	0.02	0.02	0.02

Notes:

SubBallast Depth = 30 cm

PreparedSubgrodeDepth=50cm

Legend:

	Natural Overall Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fact Hatch

Ahmed Bahaa	APPROVAL	DR.Mohamed Gharib	
REVISED BY:	ISSUED FOR	APPROVED BY	
DATE		DATE	

OWNER:

MAIN CONTRACTOR:

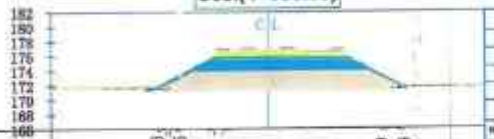
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 4+040 TO ST 4+060
Red Sahara - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 102	

Sec.(4+080.00)



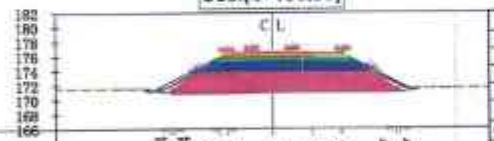
OFFSET	-14.06	-13.55	-7.44	-6.21	0.00	5.50	9.50	16.99	17.49
SubBallast Level	171.74	171.92	176.00	176.49	176.77	176.56	176.56	171.91	171.73
BANKMENT	171.[illegible]	171.74	175.82	175.64	175.97	175.85	176.[illegible]	171.[illegible]	171.23
NGL	171.74	171.74	171.74	171.74	171.74	171.73	171.73	171.73	171.73
Cut / Fill	0.50	0.00	4.08	4.10	4.23	4.13	4.35	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	29614.71
Level -0.5 to Level -2.00	23.32	480.37	61187.89
Level -2.00 to NGL	65.79	1161.87	27878.79
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1534.53
Natural Ground Preparation (Level -2.00 to NGL)	14.79	246.04	20828.15
Cut - Replacement	0.00	0.00	6557.04
FB - Replacement (Fence to level -0.5)	0.00	0.00	0.00
FB - Replacement (Level -0.5 to -2.00)	0.00	0.00	841.78
FB - Replacement (Level -2.00 to NGL)	0.00	0.00	7665.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	7.85	165.40	5603.94
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	184.71	9468.59
Level -0.5 to Level -2.00	5.78	88.44	2939.81
Level -2.00 to NGL	0.00	0.33	3.80

ALMANASHY
Sec.(4+100.00)



OFFSET	-14.14	-13.64	-7.44	-6.21	0.00	5.50	9.50	17.07	17.57
SubBallast Level	171.58	171.76	175.89	176.39	176.68	176.55	176.47	171.75	171.57
EMBANKMENT	171.08	171.58	176.71	175.74	175.96	175.75	175.87	171.57	171.07
NGL	171.58	171.58	171.57	171.58	171.58	171.57	171.57	171.57	171.57
Cut / Fill	0.50	0.00	4.14	4.16	4.26	4.18	4.40	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	33236.71
Level -0.5 to Level -2.00	19.01	386.26	61996.04
Level -2.00 to NGL	63.38	1231.23	28210.05
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1534.53
Natural Ground Preparation (Level -2.00 to NGL)	15.88	257.68	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
FB - Replacement (Fence to level -0.5)	0.00	0.00	0.00
FB - Replacement (Level -0.5 to -2.00)	0.00	0.00	841.78
FB - Replacement (Level -2.00 to NGL)	0.00	0.00	7665.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.92	159.92	5763.86
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.45	189.34	9657.94
Level -0.5 to Level -2.00	3.77	54.79	2994.60
Level -2.00 to NGL	0.00	0.00	3.80

Notes:

SubBallast Depth = 30 cm

PreparedSubgrodeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

No	Issued Purpose	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

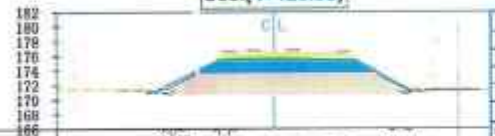
Cross Sections

FROM ST 4+080 TO ST 4+100

East Delta - 4 Border Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 103	

Sec.(4+120.00)



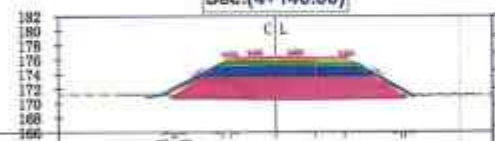
OFFSET	-14.23	-13.73	-7.44	-6.21	0.00	5.50	9.50	17.22	17.72
SubBallast Level	171.41	171.59	175.78	176.28	176.55	176.44	176.36	171.54	171.36
VENT	170.91	171.41	175.60	175.63	175.75	175.94	175.80	171.36	170.86
NGL	171.41	171.41	171.40	171.41	171.43	171.38	171.37	171.36	171.36
Cut / Fill	0.50	0.00	4.20	4.22	4.32	4.26	4.49	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	16.70	[illegible]	[illegible]
Level -2.00 to NGL	64.60	[illegible]	[illegible]
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	18.64	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.22	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -2.00	2.74	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	3.80

ALMANASHY
Sec.(4+140.00)



OFFSET	-14.33	-13.83	-7.44	-6.21	0.00	5.50	9.50	17.41	17.91
SubBallast Level	171.23	171.41	175.68	176.17	176.44	176.33	176.25	171.30	171.12
EMBANKMENT	170.73	171.23	175.50	175.52	175.64	175.53	175.75	171.12	170.62
NGL	171.24	171.23	171.20	171.20	171.22	171.20	171.15	171.12	171.12
Cut / Fill	0.50	0.00	4.30	4.32	4.42	4.33	4.60	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	29636.71
Level -0.5 to Level -2.00	19.90	[illegible]	[illegible]
Level -2.00 to NGL	67.97	[illegible]	[illegible]
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	18.73	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	7.82	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	[illegible]	[illegible]
Level -0.5 to Level -2.00	3.18	[illegible]	[illegible]
Level -2.00 to NGL	0.00	0.00	4.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

01	Ahmed Elsaher	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY DATE	CHECKED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

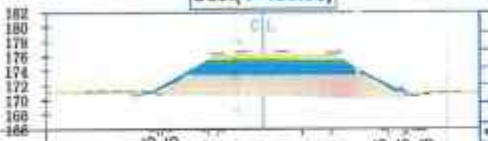
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 4+120 TO ST 4+140
Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Elsaher
DWG SIZE: A3	SHEET NUMBER: 104	

ALMANASHY
Sec.(4+160.00)



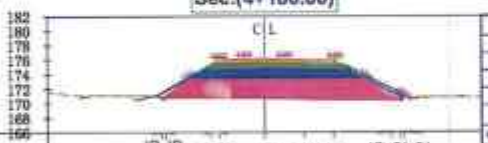
OFFSET	-14.45	-13.95	-7.44	-6.21	0.00	5.50	9.50	17.45	18.45	19.98
SubBallast Level	171.05	171.23	175.57	176.06	176.34	176.23	176.15	171.17	171.06	170.89
EMBANKMENT	170.55	171.05	175.39	175.41	175.54	175.43	175.65	170.99	170.91	170.39
NGL	171.05	171.05	171.00	170.99	171.00	170.99	170.94	170.90	170.89	170.88
Cut / Fill	0.50	0.00	4.39	4.43	4.54	4.44	4.70	0.09	0.02	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -0.00)	0.00	0.00	521.74
Fill - Replacement (Level -0.00 to NGL)	0.00	0.00	7945.32

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -0.00	7.32	103.37	6259.88
Level -0.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.64	10.03	9331.20
Level -0.5 to Level -0.00	3.13	50.07	8949.82
Level -0.00 to NGL	0.94	1.24	5.90

ALMANASHY
Sec.(4+180.00)



OFFSET	-14.25	-13.75	-7.44	-6.21	0.00	5.50	9.50	17.45	18.62	19.12
SubBallast Level	171.07	171.25	175.46	175.95	176.23	176.12	176.04	171.06	170.98	170.83
EMBANKMENT	170.57	171.07	175.28	175.30	175.43	175.32	175.54	170.88	170.83	170.33
NGL	171.08	171.07	171.01	171.01	170.99	170.90	170.85	170.83	170.83	170.83
Cut / Fill	0.51	0.00	4.27	4.28	4.44	4.42	4.69	0.05	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -0.00	8.00	100.20	6455.19
Level -0.00 to NGL	0.50	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Level -0.5 to Level -0.00	3.04	50.80	8803.17
Level -0.00 to NGL	0.01	0.02	5.44

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fill to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

BY	Ahmed Shehab	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

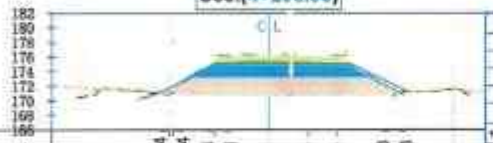
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 4+160 TO ST 4+180
Ras Sidoma - A October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 105	

ALMANASHY
Sec.(4+200.00)



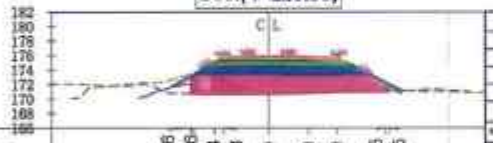
OFFSET	-13.64	-13.14	-7.44	-6.21	0.00	5.50	9.50	17.18	17.68
SubBallast Level	171.37	171.55	175.35	175.85	176.12	176.01	175.93	171.13	170.95
EMBANKMENT	170.87	171.37	175.17	[illegible]	175.32	175.21	175.43	170.95	[illegible]
NGL	171.39	171.37	171.12	171.10	171.06	171.00	170.91	170.95	170.99
Cut / Fill	0.52	0.00	4.06	4.10	4.26	4.21	4.52	0.00	0.54

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -3.00	19.07	292.78	93772.32
Level -3.00 to NGL	62.32	1509.74	49993.03
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -3.00 to NGL)	1.87	170.96	32490.27
Cut - Replacement	0.00	0.00	9957.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	591.72
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	7985.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	6.08	108.77	6073.90
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9921.48
Level -0.5 to Level -3.00	0.87	50.11	2402.33
Level -3.00 to NGL	0.00	0.10	0.00

ALMANASHY
Sec.(4+220.00)



OFFSET	-10.76	-10.26	-7.44	-6.21	0.00	5.50	9.50	16.25	16.75
SubBallast Level	173.18	173.36	175.24	175.74	176.01	175.90	175.82	171.64	171.46
EMBANKMENT	172.88	173.18	176.06	176.09	175.21	175.10	175.32	171.46	170.98
NGL	173.31	173.18	172.70	172.57	172.06	171.87	171.53	171.46	171.54
Cut / Fill	0.63	0.00	2.36	2.51	3.13	3.23	3.79	0.00	0.58

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -3.00	16.59	291.19	93063.52
Level -3.00 to NGL	21.05	653.70	49003.80
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1624.53
Natural Ground Preparation (Level -3.00 to NGL)	21.82	397.91	32857.18
Cut - Replacement	0.00	0.00	9957.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -3.00)	0.00	0.00	591.72
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	7985.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	0.87	60.44	9989.40
Level -3.00 to NGL	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.73	107.01	9818.47
Level -0.5 to Level -3.00	24.08	270.45	2632.71
Level -3.00 to NGL	0.00	0.00	75.79

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Good/Bad	APPROVAL	DR. Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El Sherif Co.

SHEET NAME:

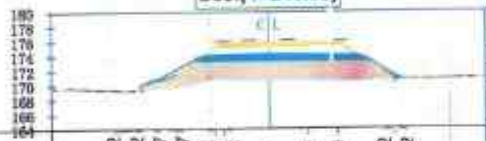
Cross Sections

FROM ST 4+200 TO ST 4+220

Sun Telecom - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
FRAME:	CHECKED BY	APPROVED BY: DR.Ahmed Gabr
DWG SIZE: A3	SHEET NUMBER: 106	

ALMANASHY
Sec.(4+240.00)



OFFSET	-17.82	-17.32	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.22	17.72
SubBallast Level	169.52	169.60	170.54	170.65	175.14	175.63	175.90	175.79	175.71	170.89	170.71
EMBANKMENT	169.[illegible]	169.62	170.[illegible]	170.47	174.96	174.96	175.10	17[illegible].89	175.21	170.71	170.21
NGL	169.54	169.62	169.79	170.09	170.89	170.80	170.74	170.71	170.70	170.71	170.72
Cut / Fill	0.42	0.00	0.60	0.38	4.07	4.12	4.37	4.29	4.51	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23628.71
Level -0.5 to Level -2.00	0.00	146.51	24775.03
Level -2.00 to NGL	40.08	711.21	47699.97
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.55
Natural Ground Preparation (Level -2.00 to NGL)	0.00	356.47	23229.89
Cut – Replacement	0.00	0.00	8897.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	561.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7966.35

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	4874.08
Level -2.00 to NGL	14.82	196.30	196.30

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8915.70
Level -0.5 to Level -2.00	24.28	488.40	4488.11
Level -2.00 to NGL	14.91	313.29	384.07

ALMANASHY
Sec.(4+260.00)

OFFSET	-17.93	-17.43	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.32	17.82
SubBallast Level	169.44	169.52	170.43	170.54	175.03	175.52	175.80	175.69	175.81	170.71	170.53
EMBANKMENT	169.94	169.44	170.28	170.36	174.85	174.87	175.00	174.89	175.11	170.53	170.03
NGL	169.46	169.44	169.42	169.42	169.65	169.78	170.48	170.50	170.55	170.53	170.53
Cut / Fill	0.52	0.00	0.87	0.95	5.19	5.09	4.51	4.38	4.56	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23628.71
Level -0.5 to Level -2.00	0.00	0.00	24775.03
Level -2.00 to NGL	63.03	931.13	49460.30
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.55
Natural Ground Preparation (Level -2.00 to NGL)	1.83	98.88	23394.22
Cut – Replacement	0.00	0.00	8897.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	561.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7966.35

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	4874.08
Level -2.00 to NGL	18.14	370.84	473.86

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8915.70
Level -0.5 to Level -2.00	24.84	483.01	4936.12
Level -2.00 to NGL	8.78	241.82	626.87

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fact Hatch

IN	Ahmed Sabra	APPROVAL	Dr. Mohamed Gharib
REV	DESIGNED BY / DATE	DRAWN BY / DATE	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSULTANT CONSULTANT

CONSTRUCTION CONSULTANT: ESM

SHEET NAME:

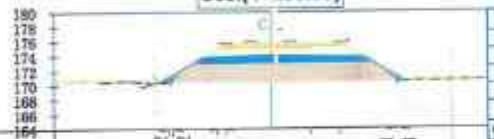
Cross Sections

FROM ST 4+240 TO ST 4+280

East Suhaim - Al Qwaiiee Railway Project

DWG SCALE: 1:500	DESIGNED BY: Dr. Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: Dr. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 107	

Sec.(4+280.00)



OFFSET	-14.12	-13.62	-7.44	-8.21	0.00	5.50	9.50	17.21	17.71
SubBallast Level	170.62	170.80	174.92	175.41	175.69	175.58	175.50	170.68	170.50
EMBANKMENT	[illegible]	170.62	174.74	174.76	174.89	174.78	175.00	170.50	170.50
NGL	170.62	170.62	170.59	170.57	170.48	170.48	170.48	170.50	170.50
Cut / Fill	0.50	0.00	4.14	4.19	4.41	4.30	4.52	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	25839.71
Level -0.5 to Level -2.00	0.00	0.00	64159.03
Level -2.00 to NGL	37.59	985.07	65275.09
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.32
Natural Ground Preparation (Level -2.00 to NGL)	2.68	47.00	10291.22
Cut – Replacement	0.00	0.00	8567.54
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	935.70
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7865.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8574.08
Level -2.00 to NGL	12.19	204.24	793.09

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8918.70
Level -0.5 to Level -2.00	24.11	405.46	8360.67
Level -2.00 to NGL	19.03	308.10	797.07

ALMANASHY
Sec.(4+300.00)

OFFSET	-14.07	-13.57	-7.44	-8.21	0.00	5.50	9.50	17.00	17.50
SubBallast Level	170.55	170.73	174.81	175.31	175.58	175.47	175.39	170.71	170.53
EMBANKMENT	170.05	170.55	174.63	174.66	174.78	174.67	174.89	170.53	170.03
NGL	170.54	170.55	170.54	170.53	170.54	170.53	170.54	170.53	170.53
Cut / Fill	0.50	0.00	4.09	4.12	4.24	4.13	4.35	0.06	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	25839.71
Level -0.5 to Level -2.00	0.00	0.00	64159.03
Level -2.00 to NGL	24.03	717.81	66089.87
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.32
Natural Ground Preparation (Level -2.00 to NGL)	3.82	69.82	10405.15
Cut – Replacement	0.00	0.00	8567.54
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	935.70
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7865.00

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8574.08
Level -2.00 to NGL	15.09	208.31	1076.40

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8918.70
Level -0.5 to Level -2.00	24.41	485.20	9815.78
Level -2.00 to NGL	0.00	397.82	1584.89

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fine Hatch

DR	[illegible]	APPROVAL	DR Mohamed Gharib
REV	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

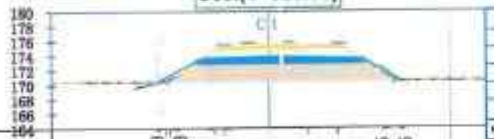
Cross Sections

FROM ST 4+280 TO ST 4+300

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:300	DESIGNED BY: DR Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 108	

ALMANASHY
Sec.(4+320.00)



OFFSET	-14.13	-13.63	-7.44	-6.21	0.00	5.50	9.50	16.95	17.45
SubBallast Level	170.39	170.57	174.70	175.20	175.47	175.36	175.28	170.54	170.45
EMBANKMENT	[illegible]	[illegible]	174.52	174.55	174.87	174.58	174.78	170.45	169.95
NGL	170.40	170.39	170.40	170.40	170.41	170.40	170.41	170.45	170.45
Cut / Fill	0.50	0.00	4.12	4.14	4.26	4.18	4.37	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Ferrous to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	1.37	31.72	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Ferrous to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -2.00	24.42	[illegible]	[illegible]
Level -2.00 to NGL	12.50	[illegible]	[illegible]

ALMANASHY
Sec.(4+340.00)

OFFSET	-14.09	-13.59	-7.44	-6.21	0.00	5.50	9.50	16.99	17.49
SubBallast Level	170.32	170.50	174.60	175.09	175.36	175.25	175.17	170.50	170.32
EMBANKMENT	169.82	170.32	174.41	174.44	174.58	174.45	174.67	170.32	169.82
NGL	170.32	170.32	170.28	170.28	170.30	170.33	170.33	170.32	170.32
Cut / Fill	0.50	0.00	4.14	4.16	4.26	4.13	4.34	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Ferrous to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	0.16	31.27	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Ferrous to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferrous to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	24.12	[illegible]	[illegible]
Level -2.00 to NGL	10.02	[illegible]	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferrous to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

Revised Notes		APPROVAL	DR. Mohamed Gharib
REVISED BY / DATE		DRAWN BY	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

GENERAL SUB CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

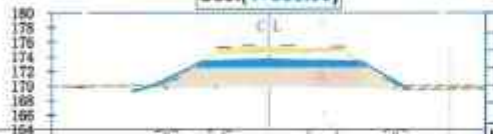
Cross Sections

FROM ST 4+320 TO ST 4+340

Basic Scheme - Al Qantara Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 109	

ALMANASHY
Sec.(4+360.00)



OFFSET	-14.37	-13.87	-7.44	-6.21	0.00	5.50	9.50	17.31	17.81
SubBallast Level	170.02	170.20	174.49	174.98	175.26	175.15	175.07	170.18	170.00
EMBAN MENT	169.52	170.02	174.31	174.33	174.46	174.35	174.57	170.00	169.50
NGL	170.02	170.02	169.95	169.94	169.87	169.89	169.91	170.00	170.00
Cut / Fill	0.51	0.00	4.35	4.39	4.58	4.46	4.66	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	42.82	765.08	[illegible]
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.03
Natural Ground Preparation (Level -2.00 to NGL)	3.13	38.91	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	17.38	236.54	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	24.28	484.51	[illegible]
Level -2.00 to NGL	9.19	203.93	[illegible]

ALMANASHY
Sec.(4+380.00)

OFFSET	-17.33	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.42
SubBallast Level	169.19	169.79	169.90	174.38	174.87	175.15	175.04	174.96	169.98	169.87	169.41
EMBANKMENT	169.69	169.63	169.71	174.20	174.22	174.35	174.24	174.46	169.80	169.72	169.91
NGL	169.20	169.18	169.16	169.11	169.11	169.13	169.19	169.22	169.37	169.41	169.41
Cut / Fill	0.51	0.45	0.56	5.09	5.11	5.21	5.05	5.23	0.43	0.31	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	94.90	1075.22	[illegible]
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.03
Natural Ground Preparation (Level -2.00 to NGL)	12.77	158.03	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	17.32	346.78	2404.13

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	24.23	485.10	[illegible]
Level -2.00 to NGL	9.95	199.82	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

REV	Revised Sections	APPROVAL	DR.Mohamed Khalifa
	CHECKED BY / DATE	CHECKED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT:

SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT:

ESM

SHEET NAME:

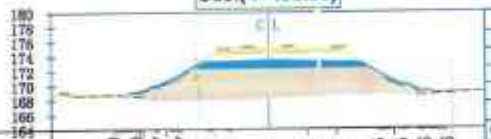
Cross Sections

FROM ST 4+360 TO ST 4+380

Dual Sahara - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Khalifa	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 110	

AL MANASHY
Sec.(4+400.00)



OFFSET	-17.79	-17.29	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.46	20.96
SubBallast Level	168.78	168.96	169.06	169.79	174.27	174.77	175.04	174.93	174.85	169.87	169.76	169.12	168.94
EMBANKMENT	----	168.78	169.53	----	----	----	[illegible]	174.13	174.35	169.69	169.61	[illegible]	[illegible]
NGL	168.78	168.78	168.78	168.77	168.77	168.78	168.80	168.82	168.85	168.92	168.93	168.94	168.94
Cut / Fill	0.50	0.00	0.75	0.83	5.32	5.34	5.44	5.31	5.50	0.77	0.68	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23636.71
Level -0.5 to Level -2.00	0.00	0.00	94159.03
Level -2.00 to NGL	15.08	1766.77	94713.70
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.82
Natural Ground Preparation (Level -2.00 to NGL)	16.44	332.07	23971.13
Cut – Replacement	0.00	0.00	8307.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.70
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7965.32

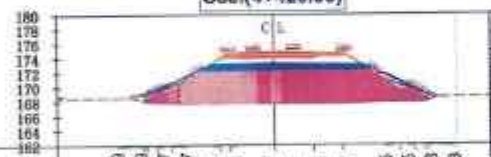
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8874.00
Level -2.00 to NGL	16.18	324.84	8139.09

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8915.70
Level -0.5 to Level -2.00	24.24	488.85	8307.32
Level -2.00 to NGL	10.08	206.61	2124.32

AL MANASHY
Sec.(4+420.00)



OFFSET	-17.99	-17.49	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.83	21.33
SubBallast Level	168.53	168.71	168.57	168.88	174.16	174.86	174.93	174.82	174.74	169.78	169.65	168.76	168.58
EMBANKMENT	168.03	168.53	169.42	169.50	173.95	174.01	174.13	174.02	174.24	169.58	169.50	168.58	168.08
NGL	168.53	168.53	168.53	168.52	168.51	168.51	168.52	168.52	168.53	168.57	168.58	168.58	168.59
Cut / Fill	0.50	0.00	0.89	0.97	5.47	5.50	5.61	5.50	5.71	1.01	0.92	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23636.71
Level -0.5 to Level -2.00	0.00	0.00	94159.03
Level -2.00 to NGL	92.09	1571.68	95285.35
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.82
Natural Ground Preparation (Level -2.00 to NGL)	26.01	444.40	24415.02
Cut – Replacement	0.00	0.00	8307.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.70
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7965.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8874.00
Level -2.00 to NGL	11.07	232.47	8371.56

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8915.70
Level -0.5 to Level -2.00	24.44	490.88	8798.20
Level -2.00 to NGL	5.78	117.36	2241.69

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

[illegible]	[illegible]	APPROVAL	DR. Mohamed Gharib
REV	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El-Gawlia

SHEET NAME:

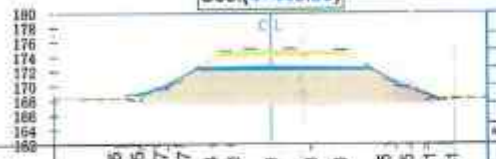
Cross Sections

FROM ST 4+400 TO ST 4+420

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT
DRAWN	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 111	

ALMANASHY
Sec.(4+440.00)



OFFSET	-18.15	-17.65	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.46	21.21	21.71
SubBallast Level	168.32	168.50	169.40	169.57	174.06	174.55	174.82	174.71	174.63	169.65	169.55	169.40	168.22
EMBANKMENT	167.82	168.32	[illegible]	169 [illegible]	[illegible]	[illegible]	174.02	173.91	[illegible]	169.47	169.39	169.22	167.72
NGL	168.32	168.32	168.32	168.31	169.29	168.28	168.27	168.25	168.24	168.23	168.22	168.22	168.22
Cut / Fill	0.50	0.00	0.99	1.06	5.59	5.62	5.75	5.67	5.89	1.25	1.17	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.02
Natural Ground Preparation (Level -2.00 to NGL)	[illegible]	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	391.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

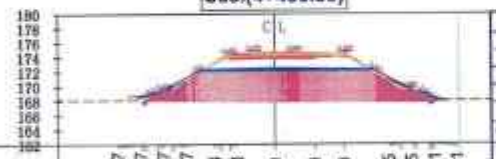
[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	15.87	288.28	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	13.28	278.80	[illegible]
Level -2.00 to NGL	16.19	278.79	[illegible]

ALMANASHY
Sec.(4+460.00)



OFFSET	-18.27	-17.77	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	21.41	21.91
SubBallast Level	168.13	168.32	169.35	169.46	173.95	174.44	174.72	174.61	174.53	169.55	169.44	168.16	167.98
EMBANKMENT	167.03	168.13	169.20	169.28	173.77	173.70	173.92	173.81	174.03	169.37	169.29	167.98	167.48
NGL	168.14	168.13	168.13	168.13	168.09	168.09	168.05	168.02	168.00	167.98	167.98	167.98	167.98
Cut / Fill	0.50	0.00	1.07	1.15	5.67	5.70	5.86	5.78	6.02	1.38	1.31	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	10.25	219.13	[illegible]
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.02
Natural Ground Preparation (Level -2.00 to NGL)	4.33	203.84	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Forms to level -0.5)	0.00	0.00	[illegible]
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	10.25	219.13	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	13.07	264.22	[illegible]
Level -2.00 to NGL	21.39	395.84	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgrodeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Forms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Face Hatch

[illegible]		APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY:		APPROVED BY:
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

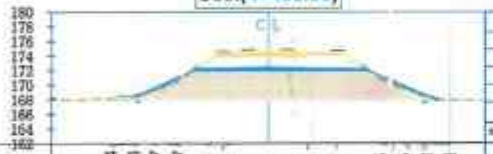
Cross Sections

FROM ST 4+440 TO ST 4+460

Ras Salama - A Double Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 112	

ALMANASHY
Sec.(4+480.00)



OFFSET	-18.24	-17.74	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	21.41	21.91
SubBallast Level	168.04	168.23	169.23	169.56	173.64	174.33	174.51	174.50	174.42	169.44	169.33	168.05	167.87
EMBANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	173.92	169.26	169.18	[illegible]	[illegible]
NGL	168.05	168.04	168.04	168.04	168.03	168.02	168.01	167.97	167.94	167.89	167.88	167.87	167.87
Cut / Fill	[illegible]	[illegible]	1.06	1.14	5.63	5.66	5.80	5.73	5.98	1.37	1.30	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

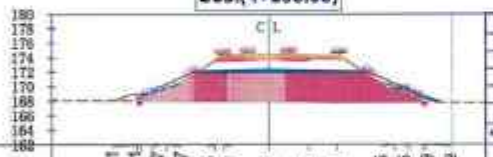
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

ALMANASHY
Sec.(4+500.00)



OFFSET	-18.11	-17.61	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	21.29	21.79
SubBallast Level	168.02	168.20	169.14	169.25	173.73	174.23	174.50	174.39	174.31	169.33	169.22	168.03	167.64
EMBANKMENT	167.52	168.02	168.99	169.07	173.55	173.58	173.70	173.59	173.81	169.15	169.07	167.85	167.34
NGL	168.02	168.02	168.02	168.01	167.98	167.97	167.96	167.93	167.91	167.87	167.85	167.84	167.84
Cut / Fill	0.50	0.00	0.97	1.06	5.57	5.60	5.74	5.66	5.90	1.28	1.22	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill Level -0.5 to -2.00)	0.00	0.00	0.00
Fill – Replacement (Fill Level -2.00 to NGL)	0.00	0.00	7966.32

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment Level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

00	Issued Submit	APPROVAL	DR.Mohamed Ghazi
REV	DRAWN BY / DATE	DESIGNED BY	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

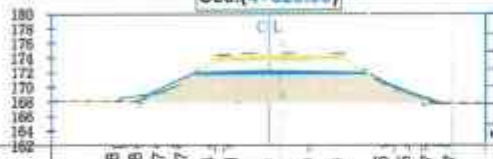
Cross Sections

FROM ST 4+480 TO ST 4+500

Dar Salama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazi	PROJECT
DRAWN	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 113	

ALMANASHY
Sec.(4+520.00)



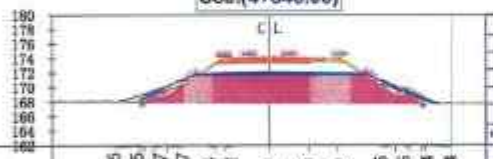
OFFSET	-17.98	-17.48	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	21.27	21.77
SubBallast Level	168.00	168.16	169.03	169.14	173.62	174.12	174.39	174.28	174.20	169.22	169.11	167.93	167.75
EMBANKMENT	[illegible]	[illegible]	168.66	[illegible]	173.44	173.47	173.59	[illegible]	174.70	[illegible]	168.96	167.75	[illegible]
NGL	168.01	168.00	167.99	167.98	167.95	167.95	167.91	167.88	167.85	167.79	167.77	167.75	167.75
Cut / Fill	0.50	0.00	0.88	0.98	5.49	5.52	5.68	5.60	5.85	1.26	1.19	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	0.00
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7665.32

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	8874.08
Fill - Replacement (Level -2.00 to NGL)	15.92	287.84	8440.08

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	8815.70
Fill - Replacement (Level -0.5 to -2.00)	13.70	250.18	10330.88
Fill - Replacement (Level -2.00 to NGL)	13.20	239.14	8919.24

ALMANASHY
Sec.(4+540.00)



OFFSET	-17.75	-17.25	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	21.04	21.54
SubBallast Level	168.05	168.23	168.92	169.03	173.52	174.01	174.28	174.17	174.09	169.11	169.01	167.98	167.80
EMBANKMENT	167.55	168.05	168.77	168.85	173.33	173.35	173.48	173.37	173.59	168.93	168.85	167.80	167.30
NGL	168.05	168.05	168.04	168.03	167.98	167.98	167.95	167.92	167.90	167.84	167.82	167.80	167.79
Cut / Fill	0.50	0.00	0.73	0.82	5.35	5.38	5.53	5.45	5.70	1.10	1.04	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	8874.08
Fill - Replacement (Level -2.00 to NGL)	16.15	298.74	8739.83

Material Name	Area	Volume	Cumulative Volume
Fill - Replacement (Fill to level -0.5)	0.00	0.00	8815.70
Fill - Replacement (Level -0.5 to -2.00)	13.83	255.80	10476.68
Fill - Replacement (Level -2.00 to NGL)	13.03	239.14	9034.38

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

Head Subdiv		APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	CHECKED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 4+520 TO ST 4+540

Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 114	

ALMANAS 1Y
Sec.(4+560.00)

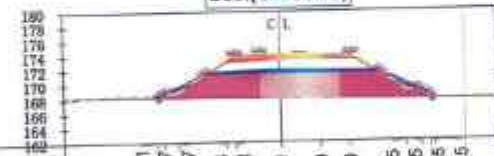
OFFSET	-17.49	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.93	21.43
SubBallast Level	168.11	168.61	168.92	173.41	173.90	174.18	174.07	173.99	169.01	168.90	167.94	167.76
EMBANKMENT			168.74	173.23	173.25	.....	.....	173.49	168.83	168.75	167.76	167.26
NGL	168.11	168.11	168.10	168.01	168.00	167.95	167.91	167.87	167.79	167.77	167.76	167.75
Cut / Fill	0.50	0.55	0.65	5.21	5.25	5.42	5.35	5.61	1.03	0.97	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	75.79	[illegible]	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	1.78	[illegible]	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	13.80	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	12.79	[illegible]	[illegible]
Level -2.00 to NGL	14.81	[illegible]	[illegible]

ALMANAS 1Y
Sec.(4+580.00)



OFFSET	-17.11	-16.17	-14.17	-7.44	-5.21	0.00	5.50	9.50	17.45	19.45	20.75	21.25
SubBallast Level	168.26	168.70	168.81	173.30	173.79	174.07	173.96	173.86	168.90	168.79	167.95	167.78
EMBANKMENT	167.76	168.55	168.63	173.12	173.14	173.27	173.16	173.38	168.72	168.54	167.78	167.28
NGL	168.26	168.26	168.24	168.18	168.16	168.07	167.99	167.94	167.83	167.80	167.78	167.77
Cut / Fill	0.50	0.30	0.39	4.94	4.98	5.19	5.17	5.44	0.89	0.84	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	67.03	14.95.89	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	1.00	29.33	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Fence to level -0.5)	0.00	0.00	[illegible]
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	16.88	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	13.42	[illegible]	[illegible]
Level -2.00 to NGL	15.88	[illegible]	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

No.	Issued Notes	APPROVAL	DR.Mohamed Gharib
NOT	DESIGNED BY / DATE	DRAWN FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUPERVISION CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

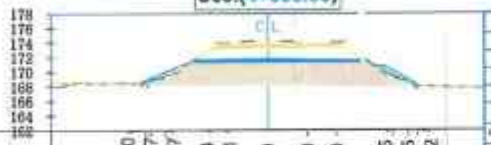
Cross Sections

FROM ST 4+500 TO ST 4+580

Suez Sokhna - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Mohamed Gharib
DWG SIZE: A3	SHEET NUMBER: 115	

ALMANASHY
Sec.(4+600.00)



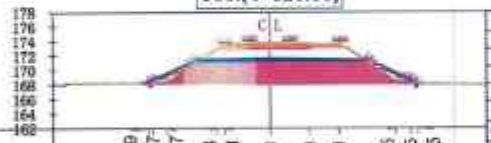
OFFSET	-16.80	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.82
SubBallast Level	168.36	168.60	168.71	173.19	173.69	173.96	173.85	173.77	168.79	168.68	167.95
EBANKMENT							173.05	173.27	168.61		
NGL	168.36	168.36	168.35	168.30	168.30	168.26	168.16	168.10	168.00	167.97	167.94
Cut / Fill	0.50	0.09	0.18	4.71	4.74	4.90	4.68	5.17	0.61	0.58	0.49

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	23609.71
Level -0.5 to Level -2.00	0.00	0.00	64169.03
Level -2.00 to NGL	51.18	1880.91	71110.38
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.83
Natural Ground Preparation (Level -2.00 to NGL)	0.67	17.24	3514.57
Cut - Replacement	0.00	0.00	8587.04
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.75
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7983.32

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8974.04
Level -2.00 to NGL	14.08	331.49	3635.21

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	8916.70
Level -0.5 to Level -2.00	13.36	208.04	11271.81
Level -2.00 to NGL	0.84	208.28	4776.60

ALMANASHY
Sec.(4+620.00)



OFFSET	-16.79	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.55
SubBallast Level	168.26	168.49	168.60	173.08	173.58	173.85	173.74	173.66	168.68	168.57	168.02
EMBANKMENT	167.75	168.34	168.42	172.90	172.93	173.05	172.94	173.16	166.50	168.42	167.52
NGL	168.25	168.26	168.25	168.21	168.21	168.16	168.12	168.11	168.05	168.03	168.02
Cut / Fill	0.50	0.08	0.17	4.69	4.72	4.89	4.82	5.05	0.45	0.39	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	23609.71
Level -0.5 to Level -2.00	0.00	0.00	64169.03
Level -2.00 to NGL	52.22	1885.84	72996.43
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.83
Natural Ground Preparation (Level -2.00 to NGL)	0.67	19.38	3534.[illegible]
Cut - Replacement	0.00	0.00	8587.04
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.75
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7983.32

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8974.04
Level -2.00 to NGL	13.74	317.88	3954.78

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	8915.70
Level -0.5 to Level -2.00	13.49	209.77	11540.08
Level -2.00 to NGL	0.78	197.23	4973.13

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment Level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

No.	Revised Drawing	APPROVAL	DR. Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El Shewik

SHEET NAME:

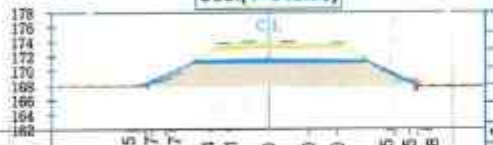
Cross Sections

FROM ST 4+000 TO ST 4+620

Ras Sidaara - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 116	

Sec.(4+640.00)



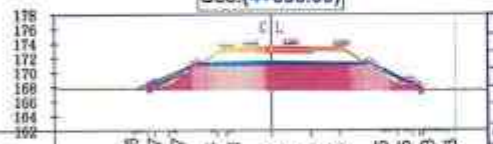
OFFSET	-16.55	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.68
SubBallast Level	168.04	168.38	168.49	172.98	173.47	173.74	173.63	173.55	168.57	168.47	167.83
EMBANKMENT	167.54	168.23	[illegible]			[illegible]	172.83	173.05	168.09	[illegible]	167.33
NGL	168.04	168.04	168.04	168.00	167.99	167.94	167.90	167.87	167.84	167.83	167.83
Cut / Fill	0.50	0.19	0.27	4.90	4.83	5.00	4.93	5.18	0.55	0.48	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	228.35.71
Level -0.5 to Level -2.00	0.00	0.00	84158.53
Level -2.00 to NGL	62.82	1223.08	126.66.61
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1694.53
Natural Ground Preparation (Level -2.00 to NGL)	0.00	16.00	23449.54
Cut – Replacement	0.00	0.00	6057.04
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7995.33

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	6674.08
Level -2.00 to NGL	13.48	202.23	6176.08

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	9916.70
Level -0.5 to Level -2.00	13.08	287.67	11608.33
Level -2.00 to NGL	12.33	333.30	5133.13

Sec.(4+660.00)



OFFSET	-17.06	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.48	20.98
SubBallast Level	167.86	168.27	168.38	172.87	173.38	173.64	173.53	173.45	168.47	168.38	167.70	167.52
EMBANKMENT	167.36	168.12	168.20	172.69	172.71	172.84	172.73	172.65	168.29	168.21	167.52	167.02
NGL	167.86	167.86	167.83	167.73	167.72	167.69	167.63	167.60	167.54	167.53	167.52	167.52
Cut / Fill	0.50	0.26	0.37	4.95	4.98	5.16	5.09	5.34	0.74	0.68	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	29616.71
Level -0.5 to Level -2.00	0.00	0.00	84158.53
Level -2.00 to NGL	69.45	1304.38	74602.89
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1694.53
Natural Ground Preparation (Level -2.00 to NGL)	0.00	13.08	23467.23
Cut – Replacement	0.00	0.00	6057.04
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7995.33

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	6674.08
Level -2.00 to NGL	13.31	257.58	6434.02

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	9916.70
Level -0.5 to Level -2.00	13.78	276.02	11608.80
Level -2.00 to NGL	9.78	276.69	5413.06

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Face Hatch

Ahmed Mahmoud	APPROVAL	DR.Mahmoud Gaafar	
DRAWN BY		APPROVED BY	
DATE	DRAWING NO.	DATE	

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

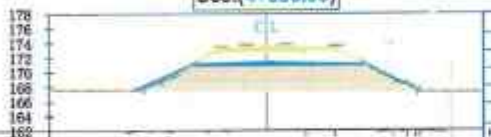
Cross Sections

FROM ST 4+640 TO ST 4+660

Port Sudan - Atbara Railway Project

DWG SCALE 1:500	DESIGNED BY: DR.Mahmoud Gaafar	PROJECT
DRAWN	CHECKED BY	APPROVED BY: DR.Ahmed Gaafar
DWG SIZE A3	SHEET NUMBER 117	

ALMANASHY
Sec.(4+680.00)



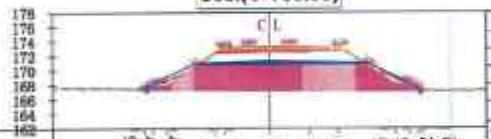
OFFSET	-17.26	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.59	21.09
SubBallast Level	167.62	168.18	168.27	172.78	173.25	173.53	173.42	173.34	168.36	168.25	167.52	167.34
EMBANKMENT	167.12						172.62	172.84	168.10	167.34	167.34	166.84
NGL	167.62	167.61	167.60	167.54	167.53	167.48	167.44	167.41	167.36	167.35	167.34	167.34
Cut / Fill	0.50	0.40	0.50	5.03	5.07	5.25	5.18	5.43	0.81	0.75	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25656.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	70.55	1430.03	75233.04
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.93
Natural Ground Preparation (Level -2.00 to NGL)	1.77	35.30	25465.73
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	595.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7865.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	9674.08
Level -2.00 to NGL	13.48	268.34	6782.87

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9215.72
Level -0.5 to Level -2.00	13.04	273.74	12355.03
Level -2.00 to NGL	9.82	196.03	9606.07

ALMANASHY
Sec.(4+700.00)



OFFSET	-17.25	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.62	21.12
SubBallast Level	167.52	168.06	168.17	172.85	173.14	173.42	173.31	173.23	168.25	168.14	167.39	167.21
EMBANKMENT	167.02	167.91	167.99	172.47	172.40	172.82	172.51	172.73	168.07	167.99	167.21	166.71
NGL	167.52	167.51	167.50	167.45	167.43	167.37	167.32	167.29	167.24	167.22	167.21	167.20
Cut / Fill	0.50	0.39	0.48	5.02	5.08	5.25	5.18	5.44	0.83	0.77	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25656.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	71.71	1442.58	77733.58
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.93
Natural Ground Preparation (Level -2.00 to NGL)	0.14	46.07	[illegible]
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7865.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.30	0.00	9674.08
Level -2.00 to NGL	0.00	134.63	6917.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9215.72
Level -0.5 to Level -2.00	13.53	275.84	12632.88
Level -2.00 to NGL	24.25	246.53	9852.61

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

DR	Ahmed Shaker	APPROVAL	DR.Mohamed Gharib
REV	REVISED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM El Gawda

SHEET NAME:

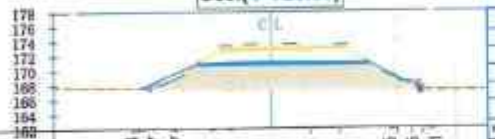
Cross Sections

FROM ST 4+680 TO ST 4+700

Bus Station - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 118	

ALMANASHY
Sec.(4+720.00)



OFFSET	-16.94	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.91
SubBallast Level	167.61	167.96	168.06	172.54	173.04	173.31	173.20	173.12	168.14	168.03	167.25
E AN ENT	[illegible]	167.80	[illegible]	172.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	167.[illegible]	[illegible]	166.75
NGL	167.62	167.61	167.58	167.51	167.50	167.42	167.37	167.34	167.27	167.25	167.24
Cut / Fill	0.51	0.19	0.30	4.65	4.80	5.09	5.03	5.28	0.69	0.63	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	85.27	1360.80	70095.09
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.53
Natural Ground Preparation (Level -2.00 to NGL)	2.48	95.04	25998.24
Cut – Replacement	0.00	0.00	8357.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	2.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7365.32

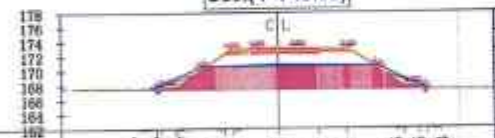
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8674.05
Level -2.00 to NGL	0.00	0.00	8357.03

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	3815.70
Level -0.5 to Level -2.00	14.20	270.00	13995.83
Level -2.00 to NGL	24.47	487.70	8436.88

ALMANASHY
Sec.(4+740.00)



OFFSET	-16.87	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.64
SubBallast Level	167.56	167.84	167.95	172.44	172.93	173.20	173.09	173.01	168.03	167.92	167.32
EMBANKMENT	167.08	167.69	167.77	172.25	172.28	172.40	172.29	172.51	167.85	167.77	166.82
NGL	167.56	167.55	167.53	167.46	167.45	167.44	167.42	167.40	167.34	167.32	167.31
Cut / Fill	0.50	0.14	0.23	4.79	4.83	4.96	4.88	5.12	0.51	0.45	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8674.05
Level -2.00 to NGL	0.00	0.00	8357.03

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	3815.70
Level -0.5 to Level -2.00	1.28	208.80	13195.03
Level -2.00 to NGL	24.47	489.47	8021.40

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Batch (Farms to -0.5)
- Fill Batch (-0.5 to -2.00)
- Fill Batch (-2.00 to NGL)
- Cut Batch
- Prepared Subgrade Batch
- Prepared SubBallast Batch
- Slope Protection Batch
- Foot Batch

NO.	ISSUED BY	APPROVAL	DR.Mohamed Gharib
REV.	DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

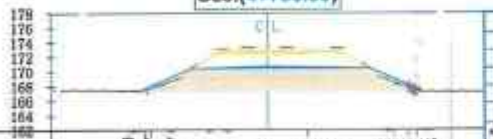
Cross Sections

FROM ST 4+720 TO ST 4+780

Bani Suleim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR.Adel Khalil
DWG SIZE: A3	SHEET NUMBER: 119	

AL MANASHY
Sec.(4+760.00)



OFFSET	-16.89	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.58
SubBallast Level	167.43	167.73	167.84	172.33	172.62	173.10	172.99	172.91	167.93	167.82	167.25
ANKMENT	166.93	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	172.19	172.41	[illegible]	167.67	166.75
NGL	167.44	167.43	167.41	167.36	167.35	167.33	167.32	167.31	167.27	167.25	167.25
Cut / Fill	0.50	0.15	0.25	4.79	4.82	4.97	4.87	5.09	0.48	0.41	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	29436.71
Level -0.5 to Level -2.00	0.00	0.00	84156.03
Level -2.00 to NGL	60.74	1216.36	91372.48
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1034.53
Natural Ground Preparation (Level -2.00 to NGL)	1.20	17.27	20940.02
Cut – Replacement	0.00	0.00	8557.34
Fill – Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	845.75
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7985.32

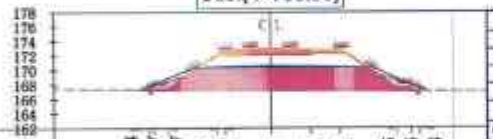
[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	6574.08
Level -2.00 to NGL	0.00	0.00	6537.80

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	9615.75
Level -0.5 to Level -2.00	7.12	142.75	13248.78
Level -2.00 to NGL	24.00	487.88	7410.13

AL MANASHY
Sec.(4+780.00)



OFFSET	-16.84	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.54
SubBallast Level	167.36	167.62	167.73	172.22	172.71	172.99	172.88	172.80	167.82	167.71	167.10
EMBANKMENT	166.86	167.47	167.55	172.04	172.03	172.19	172.08	172.30	167.54	167.56	166.60
NGL	167.37	167.36	167.34	167.28	167.28	167.24	167.20	167.18	167.13	167.11	167.10
Cut / Fill	0.51	0.11	0.22	4.75	4.78	4.94	4.87	5.12	0.51	0.45	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	6574.08
Level -2.00 to NGL	0.00	0.00	6537.80

[illegible]

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	9615.75
Level -0.5 to Level -2.00	7.10	142.21	13390.99
Level -2.00 to NGL	23.00	460.19	7897.30

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferma to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	Issued Notes	APPROVAL	DR.Mohamed Gharib
	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: Al Dawlia

SHEET NAME:

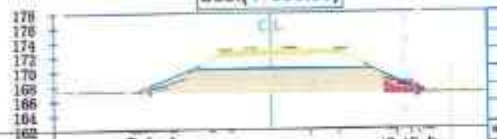
Cross Sections

FROM ST 4+160 TO ST 4+780

Sinai Railway | 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 120	

ALMANASHY
Sec.(4+800.00)



OFFSET	-16.80	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.67
SubBallast Level	167.28	167.52	167.63	172.11	172.80	172.88	172.77	172.69	167.71	167.60	166.97
E[illegible]ENT	166.78	[illegible]	[illegible]	[illegible]	[illegible]		171.97	[illegible]	167.53	167.45	166.47
NGL	167.28	167.28	167.28	167.19	167.17	167.12	167.08	167.05	166.99	166.98	166.97
Cut / Fill	0.51	0.09	0.19	4.74	4.78	4.96	4.89	5.14	0.54	0.47	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	2[illegible]36.71
Level -0.5 to Level -2.00	0.00	0.00	64[illegible].03
Level -2.00 to NGL	61.50	1235.09	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.55
Natural Ground Preparation (Level -2.00 to NGL)	1.20	21.77	[illegible]
Cut – Replacement	0.00	0.00	[illegible].34
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible].72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

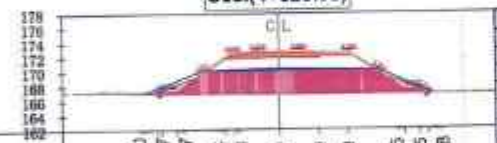
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	7.24	145.41	13224.40
Level -2.00 to NGL	23.63	475.38	[illegible]

ALMANASHY
Sec.(4+820.00)



OFFSET	-16.80	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.68
SubBallast Level	167.17	167.41	167.52	172.00	172.50	172.77	172.66	172.58	167.60	167.49	166.85
EMBANKMENT	166.67	167.26	167.34	171.82	171.85	171.97	171.86	172.09	167.42	167.34	166.35
NGL	167.17	167.17	167.14	167.06	167.05	166.96	166.95	166.93	166.87	166.86	166.85
Cut / Fill	0.51	0.09	0.20	4.76	4.80	4.99	4.91	5.15	0.55	0.48	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	2[illegible]36.71
Level -0.5 to Level -2.00	0.00	0.00	64[illegible].03
Level -2.00 to NGL	65.00	1235.08	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.55
Natural Ground Preparation (Level -2.00 to NGL)	0.91	20.84	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible].72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	7.41	148.48	13[illegible]
Level -2.00 to NGL	23.70	474.08	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

No.	Issued Status	APPROVAL	Dr. Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

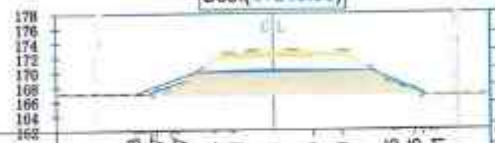
Cross Sections

FROM ST 4+800 TO ST 4+820

Ras Ghareb - 6 October Railway Project

DWG SCALE	DESIGNED BY	PROJECT
1:500	Dr. Mohamed Gharib	
PHASE	CHECKED BY	APPROVED BY: Dr. Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 121	

ALMANASHY
Sec.(4+840.00)



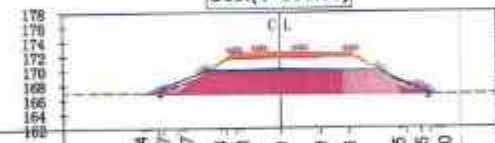
OFFSET		-16.83	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.71
SubBallast Level		167.04	167.30	167.41	171.90	172.39	172.55	172.55	172.47	167.49	167.38	166.73
MENT		166.54	167.15	167.23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NGL	167.04	167.04	167.02	166.95	166.93	166.87	166.82	166.81	166.75	166.74	166.73
Cut / Fill	0.50	0.11	0.21	4.77	4.81	4.99	4.93	5.17	0.56	0.50	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	0.00	0.00	84156.33
Level -2.00 to NGL	62.84	1346.22	86997.77
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	1.08	38.88	25752.41
Cut – Replacement	0.00	0.00	8057.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.55	0.00	591.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7865.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	33074.09
Level -2.00 to NGL	0.00	0.00	86857.88

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9915.70
Level -0.5 to Level -2.00	7.30	147.30	13808.57
Level -2.00 to NGL	23.48	473.87	8319.32

ALMANASHY
Sec.(4+860.00)



OFFSET		-18.84	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.70
SubBallast Level		166.93	167.19	167.30	171.70	172.28	172.55	172.44	172.38	167.39	167.28	166.62
EMBANKMENT		166.43	167.04	167.12	171.61	171.83	171.75	171.64	171.60	167.21	167.13	166.12
NGL	166.93	166.92	166.91	166.86	166.85	166.79	166.72	166.67	166.64	166.53	166.52
Cut / Fill	0.50	0.12	0.21	4.74	4.78	4.96	4.92	5.19	0.57	0.50	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	0.00	0.00	84156.33
Level -2.00 to NGL	81.77	1346.11	87741.88
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	1.83	38.73	25792.13
Cut – Replacement	0.00	0.00	8057.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7865.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	33074.09
Level -2.00 to NGL	0.00	0.00	86857.88

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9915.70
Level -0.5 to Level -2.00	1.04	143.83	13952.37
Level -2.00 to NGL	24.10	476.39	8795.70

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Face Hatch

00	Issued Drawing	APPROVAL	DR Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUPERVISION CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

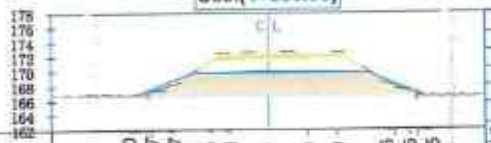
Cross Sections

FROM ST 4+840 TO ST 4+860

Red Valley – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 122	

ALMANASHY
Sec.(4+880.00)



OFFSET	-16.80	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.65
SubBallast Level	166.84	167.08	167.19	171.58	172.17	172.45	172.34	172.28	167.28	167.17	166.56
EMBANKMENT	166.34	166.93	[illegible]	[illegible]	171.52	[illegible]	[illegible]	171.76	167.10	167.02	166.06
NGL	166.85	166.84	166.83	166.79	166.79	166.74	166.67	166.65	166.58	166.56	166.55
Cut / Fill	0.50	0.09	0.19	4.70	4.73	4.91	4.87	5.11	0.51	0.46	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	1217.34	[illegible]
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -2.00 to NGL)	1.83	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

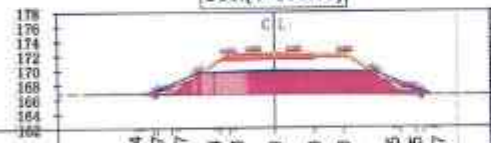
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.09	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.84	126.60	[illegible]
Level -2.00 to NGL	34.00	462.15	[illegible]

ALMANASHY
Sec.(4+900.00)



OFFSET	-16.74	-16.17	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.57
SubBallast Level	166.78	166.98	167.09	171.57	172.06	172.34	172.23	172.15	167.17	167.06	166.50
EMBANKMENT	166.28	166.83	166.91	171.39	171.41	171.54	171.43	171.65	166.99	166.91	166.00
NGL	166.78	166.78	166.76	166.72	166.72	166.70	166.65	166.63	166.52	166.51	166.50
Cut / Fill	0.50	0.05	0.14	4.87	4.70	4.84	4.78	5.02	0.47	0.40	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.09	0.00	[illegible]
Level -0.5 to Level -2.00	6.87	131.08	[illegible]
Level -2.00 to NGL	23.80	476.60	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fine Hatch

	Sheet Name	APPROVAL	DR.Mohamed Gharib
REV	DESIGNED BY / DATE	DRAWN BY	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: [illegible]

SHEET NAME:

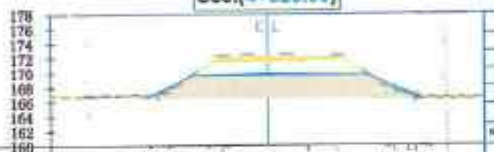
Cross Sections

FROM ST 4+880 TO ST 4+980

Rock Salama – Al Hamdan Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 123	

ALMANASHY
Sec.(4+920.00)



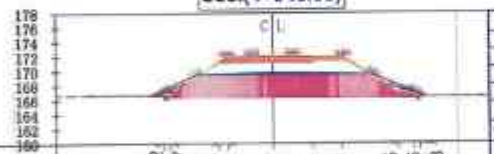
OFFSET	-15.46	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.45
SubBallast Level	166.77	166.98	171.46	171.96	172.23	172.12	172.04	167.06	166.95	166.47
EM AN ENT	[illegible]	166.00	[illegible]	171.31	[illegible]	[illegible]	[illegible]	[illegible]	166.80	165.97
NGL	166.77	166.76	166.58	166.66	166.54	166.62	166.59	166.50	166.47	166.46
Cut / Fill	0.50	0.04	4.60	4.54	4.79	4.70	4.95	0.38	0.33	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	29634.71
Level -0.5 to Level -2.00	0.00	0.00	34139.03
Level -2.00 to NGL	59.19	1131.89	41270.87
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1534.63
Natural Ground Preparation (Level -2.00 to NGL)	3.34	95.21	23868.28
Cut – Replacement	0.00	0.00	8557.04
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	945.78
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7969.55

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8674.09
Level -2.00 to NGL	0.00	0.00	8637.66

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	9815.76
Level -0.5 to Level -2.00	7.30	142.27	14265.39
Level -2.00 to NGL	34.63	470.17	11234.94

ALMANASHY
Sec.(4+940.00)



OFFSET	-15.02	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.38
SubBallast Level	166.68	166.87	171.35	171.85	172.12	172.01	171.93	166.95	166.84	166.41
EMBANKMENT	166.18	166.69	171.17	171.20	171.32	171.21	171.43	166.77	166.69	165.91
NGL	166.68	166.67	166.53	166.53	166.58	166.54	166.50	166.43	166.41	166.41
Cut / Fill	0.50	0.02	4.54	4.57	4.74	4.68	4.93	0.34	0.28	0.50

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	33636.71
Level -0.5 to Level -2.00	0.00	0.00	34759.07
Level -2.00 to NGL	53.73	1089.74	42360.61
Natural Ground Preparation (Farma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	0.07	103.14	24032.52
Cut – Replacement	0.00	0.00	8557.04
Fill – Replacement (Farma to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	987.78
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7969.55

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8674.09
Level -2.00 to NGL	0.00	0.00	8637.66

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.5	0.00	0.00	9815.76
Level -0.5 to Level -2.00	7.03	146.81	14412.17
Level -2.00 to NGL	34.16	481.74	11716.68

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Face Hatch

	Issued Stamp	APPROVAL	DR. Mohamed Gharib
REV.	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT:

SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT

ESM

El dawlia

SHEET NAME:

Cross Sections

FROM ST 4+920 TO ST 4+940

Basic Scheme - A Outdoor Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR. Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 124	

ALMANASHY
Sec.(4+960.00)

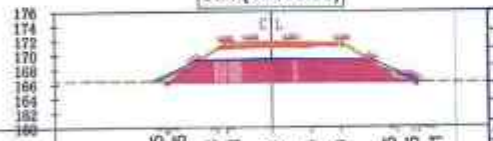
OFFSET	-14.90	-14.17	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.35
SubBallast Level	166.57	166.78	171.25	171.74	172.01	171.90	171.82	166.85	166.74	166.32
ANKMENT	166.07	166.58	171.07	171.09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NGL	166.57	166.57	166.56	166.56	166.53	166.49	166.45	166.35	166.33	166.32
Cut / Fill	0.50	0.01	4.50	4.53	4.68	4.61	4.88	0.31	0.26	0.49

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Cut – Replacement	0.00	0.00	8057.94
Natural Ground Preparation (Level -0.0 to Level -2.00)	0.44	119.17	20148.89
Natural Ground Preparation (Level -2.00 to NGL)	0.00	0.00	1934.22
Natural Ground Preparation (Fill to level -0.5)	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	94159.03
Level -2.00 to NGL	52.00	1947.79	94459.39
Fill – Replacement (Level -0.0 to -2.00)	0.00	0.00	591.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7956.32

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	8074.05
Level -2.00 to NGL	0.00	0.00	8057.94

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	8015.70
Level -2.0 to Level -3.00	7.30	101.71	14601.89
Level -3.00 to NGL	33.00	479.69	15098.02

ALMANASHY
Sec.(4+980.00)



OFFSET	-14.65	-14.15	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.31
SubBallast Level	166.48	166.66	171.14	171.63	171.91	171.80	171.72	166.74	166.63	166.24
EMBANKMENT	165.98	166.48	170.96	170.98	171.11	171.00	171.22	166.59	166.48	165.74
NGL	166.48	166.48	166.47	166.46	166.43	166.39	166.35	166.27	166.24	166.23
Cut / Fill	0.50	0.00	4.49	4.52	4.68	4.61	4.87	0.29	0.24	0.49

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.0 to Level -2.00)	0.00	0.00	1934.22
Natural Ground Preparation (Level -2.00 to NGL)	5.21	166.56	20314.57
Cut – Replacement	0.00	0.00	8057.94
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.0 to -2.00)	0.00	0.00	591.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7956.32

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.0 to Level -2.00	0.00	0.00	8074.05
Level -2.00 to NGL	0.00	0.00	8057.94

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	8015.70
Level -0.0 to Level -2.00	7.45	102.10	14601.80
Level -2.00 to NGL	33.79	475.94	15017.96

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fill to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

REV	DATE	ISSUED BY	ISSUED FOR	APPROVAL	DR.Mohamed Gharib
					APPROVED BY
					DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUBCONTRACTOR CONSULTANT:

SUBCONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 4+960 TO ST 4+980

Main Samples - 6 October Railway Project

DWG SCALE	DESIGNED BY	PROJECT
1:500	DR.Mohamed Gharib	
PHASE	CHECKED BY	APPROVED BY DR.Ahmed Khalil
DWG SIZE A3	SHEET NUMBER 125	

ALMAGASHY
Sec.(5+000.00)

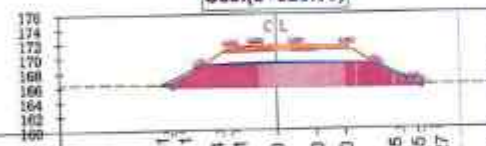
OFFSET	-14.65	-14.15	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.38
SubBallast Level	166.37	166.55	171.03	171.62	171.60	171.69	171.61	166.63	166.52	166.10
AN ME T	165.87	166.37	170.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	166.37	[illegible]
NGL	166.36	166.37	166.34	166.33	166.22	166.17	166.15	166.11	166.10	166.09
Cut / Fill	0.50 0.00	0.00	4.51 4.54		4.77	4.72	4.95	0.34	0.27	0.50

Material Name	Area	Volume	Cumulative Volume
Ferrac to level -0.5	0.00	0.00	19618.71
Level -0.5 to Level -2.00	0.00	0.00	64109.03
Level -2.00 to NGL	24.63	1063.64	69013.01
Natural Ground Preparation (Ferrac to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	8.72	110.48	28305.75
Cut - Replacement	0.00	0.00	6957.04
Fill - Replacement (Ferrac to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7465.32

Material Name	Area	Volume	Cumulative Volume
Ferrac to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8974.00
Level -2.00 to NGL	0.00	0.00	6957.00

Material Name	Area	Volume	Cumulative Volume
Ferrac to level -0.5	0.00	0.00	8913.70
Level -0.5 to Level -2.00	7.21	146.32	14687.02
Level -2.00 to NGL	24.63	478.04	13959.02

ALMAGASHY
Sec.(5+020.00)



OFFSET	-14.61	-14.11	-7.44	-6.21	0.00	5.50	9.50	17.45	19.45	20.27
SubBallast Level	166.29	166.47	170.92	171.42	171.59	171.58	171.50	166.52	166.41	166.05
EMBANKMENT	165.79	165.29	170.74	170.77	170.89	170.78	171.00	166.34	166.26	165.55
NGL	165.29	165.29	166.24	165.23	166.17	166.13	166.11	166.07	166.05	166.05
Cut / Fill	0.50 0.00		4.50 4.54		4.72	4.65	4.89	0.27	0.21	0.50

Material Name	Area	Volume	Cumulative Volume
Ferrac to level -0.5	0.00	0.00	250.35.71
Level -0.5 to Level -2.00	0.00	0.00	64109.03
Level -2.00 to NGL	35.19	1062.77	69006.08
Natural Ground Preparation (Ferrac to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	10.09	158.55	28463.05
Cut - Replacement	0.00	0.00	6957.04
Fill - Replacement (Ferrac to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7465.32

Material Name	Area	Volume	Cumulative Volume
Ferrac to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8974.00
Level -2.00 to NGL	0.00	0.00	6957.00

Material Name	Area	Volume	Cumulative Volume
Ferrac to level -0.5	0.00	0.00	8913.70
Level -0.5 to Level -2.00	7.88	143.03	15130.55
Level -2.00 to NGL	24.34	483.62	13923.64

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Ferrac to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

REV	Issue Status	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

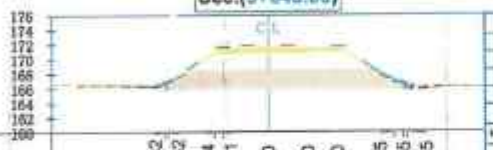
Cross Sections

FROM ST 5+000 TO ST 5+020

Ras Sudar - 6 October Railway Project

DWG SCALE	DESIGNED BY	PROJECT
1:500	DR.Mohamed Gharib	
PHASE	CHECKED BY	APPROVED BY DR.Ahmed Sobhi
DWG SIZE A3	SHEET NUMBER 126	

ALMAKASHFY
Sec.(5+040.00)



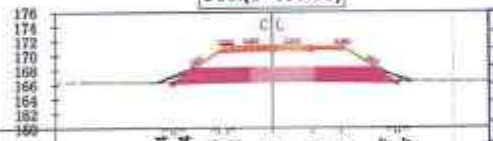
OFFSET	-14.32	-13.82	-7.44	-6.21	0.00	5.50	9.50	17.45	18.65	19.15
SubBallast Level	166.38	166.56	170.81	171.31	171.56	171.47	171.39	166.41	166.34	166.19
EM N E T	165.98	166.38	170.63	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	166.19	[illegible]
NGL	166.38	166.38	166.33	166.33	166.29	166.26	166.23	166.19	166.19	166.18
Cut / Fill	0.51	0.00	4.30	4.33	4.50	4.42	4.69	0.04	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Forms to level -0.5)	0.55	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1524.53
Natural Ground Preparation (Level -2.00 to NGL)	12.31	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	70.03	15231.66
Level -2.00 to NGL	17.77	421.14	14034.78

ALMAKASHFY
Sec.(5+060.00)



OFFSET	-14.04	-13.54	-7.44	-6.21	0.00	5.50	9.50	16.97	17.47
SubBallast Level	166.46	166.64	170.71	171.20	171.47	171.39	171.26	166.63	166.45
EMBANKMENT	165.96	166.46	170.53	170.55	170.67	170.58	170.78	166.45	165.95
NGL	166.45	166.46	166.46	166.47	166.52	166.51	166.51	166.45	166.44
Cut / Fill	0.50	0.00	4.05	4.08	4.16	4.05	4.28	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.53
Natural Ground Preparation (Level -2.00 to NGL)	3.70	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	0.00	0.00	[illegible]
Level -2.00 to NGL	17.30	351.08	14406.37

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Forms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Ahmed Shaker	APPROVAL	DR.Mohamed Ghazli
REV	CHECKED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

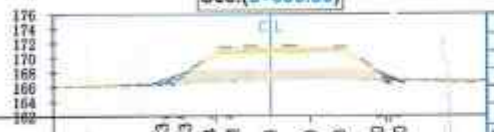
Cross Sections

FROM ST 5+040 TO ST 5+060

Iran Sulaim - Al Qosher Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazli	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Shaker
DWG SIZE: A3	SHEET NUMBER: 127	

ALMANASHY
Sec.(5+080.00)



OFFSET	-13.63	-13.13	-7.44	-6.21	0.00	5.50	9.50	16.10	16.60
SubBallast Level	166.62	166.80	170.60	171.09	171.37	171.26	171.18	167.10	166.92
EMBANKMENT	[illegible]	[illegible]	170.42	170.44	170.57	170.46	[illegible]	166.92	166.42
NGL	166.60	166.62	166.82	166.85	166.98	167.10	167.08	166.92	166.91
Cut / Fill	0.49	0.00	3.60	3.59	3.59	3.36	3.60	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	17.39	811.07	88828.73
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	1.80	55.02	28860.49
Cut – Replacement	0.00	0.00	6027.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	691.75
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7969.32

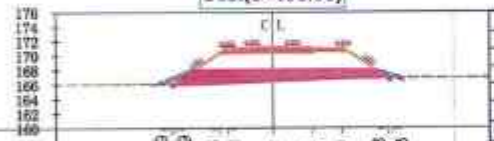
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	6674.08
Level -2.00 to NGL	0.00	0.00	6027.93

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8916.70
Level -0.5 to Level -2.00	0.00	0.00	15331.88
Level -2.00 to NGL	17.00	293.68	14759.44

ALMANASHY
Sec.(5+100.00)



OFFSET	-14.09	-13.59	-7.44	-6.21	0.00	5.50	9.50	15.93	16.43
SubBallast Level	166.21	166.39	170.49	170.98	171.26	171.15	171.07	167.10	166.92
EMBANKMENT	165.71	166.21	170.31	170.33	170.46	170.35	170.57	166.92	166.42
NGL	166.20	166.21	166.34	166.35	166.52	166.71	166.82	166.92	166.92
Cut / Fill	0.49	0.00	3.97	3.98	3.94	3.64	3.75	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	25836.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	24.06	416.21	90254.63
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	3.69	48.50	27314.49
Cut – Replacement	0.00	0.00	6027.04
Fill – Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	691.75
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7969.32

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8.00
Level -0.5 to Level -2.00	0.00	0.00	6674.08
Level -2.00 to NGL	0.00	0.00	6027.93

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	8916.70
Level -0.5 to Level -2.00	0.00	0.00	15331.88
Level -2.00 to NGL	17.00	306.34	15111.88

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Final Hatch

BY	Ahmed Rabeea	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 5+080 TO ST 5+100

Nile Science - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Gharib
DWG SIZE: A3	SHEET NUMBER: 128	

ALMANASHY
Sec.(5+120.00)

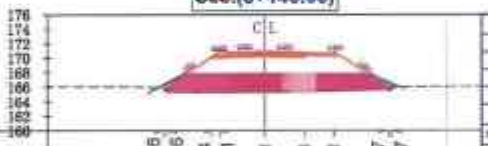
OFFSET	-14.13	-13.63	-7.44	-6.21	0.00	5.50	9.50	16.54	17.04
SubBallast Level	166.07	166.26	170.38	170.88	171.15	171.04	170.95	166.59	166.41
EMBANKMENT			170.20	170.23	170.35			166.41	166.91
NGL	166.07	166.07	166.10	166.10	166.16	166.22	166.29	166.41	166.42
Cut / Fill	0.00	0.00	4.10	4.13	4.19	4.02	4.17	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	52.11	969.69	98921.61
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	19.47	128.14	27143.63
Cut - Replacement	0.00	0.00	8937.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7968.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	9974.08
Level -2.00 to NGL	0.00	0.00	9937.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9915.70
Level -0.5 to Level -2.00	0.00	0.00	15281.88
Level -2.00 to NGL	17.76	356.89	15474.91

ALMANASHY
Sec.(5+140.00)



OFFSET	-14.06	-13.56	-7.44	-6.21	0.00	5.50	9.50	16.97	17.47
SubBallast Level	166.01	166.19	170.27	170.77	171.04	170.93	170.85	166.20	166.02
EMBANKMENT	165.51	166.01	170.09	170.12	170.24	170.13	170.35	165.92	165.52
NGL	166.02	166.01	165.99	165.99	165.98	165.98	166.00	166.02	166.01
Cut / Fill	0.50	0.00	4.10	4.13	4.26	4.15	4.35	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	0.00	0.00	84159.03
Level -2.00 to NGL	55.73	876.43	100000.04
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	17.75	122.34	27143.63
Cut - Replacement	0.00	0.00	8937.00
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7968.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	9974.08
Level -2.00 to NGL	0.00	0.00	9937.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	9915.70
Level -0.5 to Level -2.00	0.00	0.00	15281.88
Level -2.00 to NGL	17.41	351.74	15826.25

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fort Hatch

00	Issued Status	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SPECIALIST CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 5+120 TO ST 5+140

Bani Suleim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR. Ahmed Khairi
DWG SIZE: A3	SHEET NUMBER: 129	

ALMANASHY
Sec.(5+160.00)

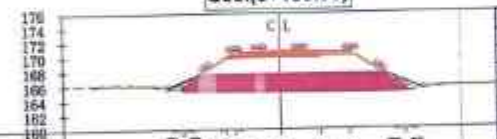
OFFSET	-13.87	-13.37	-7.44	-6.21	0.00	5.50	9.50	17.08	17.58
SubBallast Level	166.03	166.21	170.17	170.68	170.83	170.82	170.74	166.01	165.83
EM NT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	165.83	165.33
NGL	166.03	166.03	165.97	165.97	165.92	165.89	165.87	165.83	165.83
Cut / Fill	0.51	0.00	4.02	4.04	4.21	4.13	4.37	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23628.71
Level -0.5 to Level -2.00	0.00	0.00	84100.03
Level -2.00 to NGL	24.84	708.33	1010870.09
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.53
Natural Ground Preparation (Level -2.00 to NGL)	22.90	465.42	27628.19
Cut - Replacement	0.00	0.00	8927.64
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7955.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8874.00
Level -2.00 to NGL	0.00	0.00	8927.80

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	3915.70
Level -0.5 to Level -2.00	0.00	0.00	19200.88
Level -2.00 to NGL	19.69	345.85	1010.32

ALMANASHY
Sec.(5+180.00)



OFFSET	-13.69	-13.19	-7.44	-6.21	0.00	5.50	9.50	17.01	17.51
SubBallast Level	166.05	166.23	170.06	170.55	170.83	170.72	170.64	165.95	165.77
EMBANKMENT	165.55	166.05	169.98	169.90	170.03	169.92	170.14	165.77	165.27
NGL	166.05	166.05	165.99	165.97	165.91	165.85	165.83	165.77	165.77
Cut / Fill	0.51	0.00	3.89	3.93	4.12	4.06	4.31	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23628.71
Level -0.5 to Level -2.00	0.00	0.00	84100.03
Level -2.00 to NGL	31.83	1065.62	1011870.09
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.53
Natural Ground Preparation (Level -2.00 to NGL)	23.16	465.17	28093.36
Cut - Replacement	0.00	0.00	8927.64
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7955.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8874.00
Level -2.00 to NGL	0.00	0.00	8927.80

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	3915.70
Level -0.5 to Level -2.00	0.00	0.00	19200.88
Level -2.00 to NGL	16.71	324.85	1035.32

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

BY	Ahmed Shaban	APPROVAL	DR.Mohamed Gharib
REV.	REVISED BY / DATE	REVIEWED BY	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

FROM ST 5+160 TO ST 5+180

Red Sea - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY DR.Mohamed Gharib
DWG SIZE A3	SHEET NUMBER 130	

ALMANASHY
Sec.(5+200.00)

OFFSET	-13.30	-12.80	-7.44	-6.21	0.00	5.50	9.50	15.78	17.28
SubBallast Level	166.20	166.38	169.95	170.44	170.72	170.61	170.53	166.00	165.82
EMBANKMENT			169.77	169.79	169.92	169.81	[illegible]	165.82	165.32
NGL	166.20	166.20	166.12	166.10	166.02	165.94	165.89	165.82	165.81
Cut / Fill	0.51	0.00	3.65	3.69	3.90	3.88	4.13	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23436.71
Level -0.5 to Level -2.00	0.00	0.00	84166.03
Level -2.00 to NGL	25.40	517.93	102483.01
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.22
Natural Ground Preparation (Level -2.00 to NGL)	17.16	436.43	22708.37
Sub - Replacement	0.00	0.00	8527.84
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	595.70
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7968.10

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8474.80
Level -2.00 to NGL	0.00	0.00	8527.90

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	4915.70
Level -0.5 to Level -2.00	0.00	0.00	15221.88
Level -2.00 to NGL	17.16	356.37	16996.09

ALMANASHY
Sec.(5+220.00)

OFFSET	-13.07	-12.57	-7.44	-6.21	0.00	5.50	9.50	16.49	15.99
SubBallast Level	166.24	166.42	169.84	170.34	170.61	170.50	170.42	166.08	165.90
EMBANKMENT	165.74	166.24	169.66	169.09	169.81	169.70	169.92	165.90	165.40
NGL	166.24	166.24	166.19	166.18	166.10	166.03	165.99	165.90	165.90
Cut / Fill	0.50	0.00	3.47	3.51	3.72	3.67	3.93	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23436.71
Level -0.5 to Level -2.00	0.00	0.00	84166.03
Level -2.00 to NGL	20.33	461.30	102914.27
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.22
Natural Ground Preparation (Level -2.00 to NGL)	7.88	206.06	22914.43
Sub - Replacement	0.00	0.00	8527.84
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	595.70
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7968.10

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	0.00	8474.80
Level -2.00 to NGL	0.00	0.00	8527.90

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	4915.70
Level -0.5 to Level -2.00	0.00	0.00	15221.88
Level -2.00 to NGL	17.16	343.43	17194.29

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

		APPROVAL	DR.Mohamed Gharib
REV	DESIGNED BY / DATE	DESIGNED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El Dawlia

SHEET NAME:

Cross Sections

FROM ST 5+200 TO ST 5+220

East Salama - 6 October Suburbs Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 131	

ALMANASHY
Sec.(5+240.00)

OFFSET	-13.00	-12.50	-7.44	-6.21	0.00	5.50	9.50	16.44	16.94
SubBallast Level	166.18	166.38	169.73	170.23	170.50	170.39	170.31	166.01	165.83
EMBAN			169.55	169.58	169.70			165.83	165.33
NGL	166.18	166.18	166.13	166.12	166.06	165.99	165.93	165.83	165.82
Cut / Fill	0.00	0.00	3.42	3.45	3.64	3.51	3.38	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.6	0.00	0.00	28436.71
Level -0.6 to Level -2.00	0.00	0.00	84129.03
Level -2.00 to NGL	18.63	280.68	103304.09
Natural Ground Preparation (Farma to level -0.6)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.6 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	0.44	123.31	39138.34
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Farma to level -0.6)	0.00	0.00	0.00
Fill - Replacement (Level -0.6 to -2.00)	0.00	0.00	391.73
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7086.32

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.6	0.00	0.00	0.00
Level -0.6 to Level -2.00	0.00	0.00	58174.68
Level -2.00 to NGL	0.00	0.00	68831.60

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.6	0.00	0.00	8012.70
Level -0.6 to Level -2.00	0.00	0.00	15201.88
Level -2.00 to NGL	16.27	241.31	17525.45

ALMANASHY
Sec.(5+260.00)

OFFSET	-12.35	-11.85	-7.44	-6.21	0.00	5.50	9.50	16.31	16.81
SubBallast Level	166.51	166.69	169.63	170.12	170.39	170.28	170.20	165.99	165.81
EMBANKMENT	166.01	166.51	169.45	169.47	169.59	169.48	169.70	165.81	165.31
NGL	166.52	166.51	166.39	166.35	166.18	166.05	165.96	165.81	165.80
Cut / Fill	0.51	0.00	3.06	3.12	3.41	3.44	3.74	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.6	0.00	0.00	28436.71
Level -0.6 to Level -2.00	0.00	0.00	84129.03
Level -2.00 to NGL	12.88	215.14	103519.19
Natural Ground Preparation (Farma to level -0.6)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.6 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	0.81	122.40	39260.74
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Farma to level -0.6)	0.00	0.00	0.00
Fill - Replacement (Level -0.6 to -2.00)	0.00	0.00	391.73
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7086.32

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.6	0.00	0.00	0.00
Level -0.6 to Level -2.00	0.00	0.00	58174.68
Level -2.00 to NGL	0.00	0.00	68831.60

Material Name	Area	Volume	Cumulative Volume
Farma to level -0.6	0.00	0.00	8012.70
Level -0.6 to Level -2.00	0.00	0.00	15201.88
Level -2.00 to NGL	16.16	235.80	17857.09

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farma to -0.6)
	Fill Hatch (-0.6 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

0	Issued for Review	APPROVAL	DR.Mohamed Ghazlh
REV	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

CONSULTANT:

SHAKER CONSULTANCY GROUP

CONSULTANT:

CONTRACTOR CONSULTANT:

ESM

SHEET NAME:

Cross Sections

FROM ST 5+240 TO ST 5+260

Dara Sulaima - Al Qaydar Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazlh	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Qaddi
DWG SIZE: A3	SHEET NUMBER: 132	

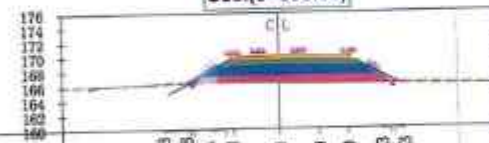
ALMANASHY
Sec.(5+280.00)

OFFSET	-12.10	-11.60	-7.44	-6.21	0.00	5.50	9.50	15.99	16.49
SubBallast Level	166.56	166.74	169.52	170.01	170.29	170.18	170.10	166.09	165.91
EMBANKMENT					169.49		169.00		165.41
NGL	166.57	166.56	166.51	166.50	166.35	166.19	166.08	165.91	165.90
Cut / Fill		0.04	2.82	2.86	3.14	3.18	3.51	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill Hatch (Fill Hatch (-0.5 to -2.00)	0.00	0.00	0.00
Fill Hatch (-2.00 to NGL)	0.00	0.00	0.00
Cut Hatch	0.00	0.00	0.00
Prepared Subgrade Hatch	0.00	0.00	0.00
Prepared Subballast Hatch	0.00	0.00	0.00
Slope Protection Hatch	0.00	0.00	0.00
Fine Hatch	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill Hatch (Fill Hatch (-0.5 to -2.00)	0.00	0.00	0.00
Fill Hatch (-2.00 to NGL)	0.00	0.00	0.00
Cut Hatch	0.00	0.00	0.00
Prepared Subgrade Hatch	0.00	0.00	0.00
Prepared Subballast Hatch	0.00	0.00	0.00
Slope Protection Hatch	0.00	0.00	0.00
Fine Hatch	0.00	0.00	0.00

ALMANASHY
Sec.(5+300.00)



OFFSET	-12.18	-11.68	-7.44	-6.21	0.00	5.50	9.50	15.53	16.03
SubBallast Level	166.40	166.58	169.41	169.90	170.18	170.07	169.99	166.29	166.11
EMBANKMENT	165.90	166.40	169.23	169.25	169.39	169.27	169.49	166.11	165.61
NGL	166.39	166.40	166.47	166.48	166.37	166.26	166.22	166.11	166.10
Cut / Fill	0.49	0.00	2.76	2.77	3.01	3.01	3.27	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill Hatch (Fill Hatch (-0.5 to -2.00)	0.00	0.00	0.00
Fill Hatch (-2.00 to NGL)	0.00	0.00	0.00
Cut Hatch	0.00	0.00	0.00
Prepared Subgrade Hatch	0.00	0.00	0.00
Prepared Subballast Hatch	0.00	0.00	0.00
Slope Protection Hatch	0.00	0.00	0.00
Fine Hatch	0.00	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fill Hatch (Fill Hatch (-0.5 to -2.00)	0.00	0.00	0.00
Fill Hatch (-2.00 to NGL)	0.00	0.00	0.00
Cut Hatch	0.00	0.00	0.00
Prepared Subgrade Hatch	0.00	0.00	0.00
Prepared Subballast Hatch	0.00	0.00	0.00
Slope Protection Hatch	0.00	0.00	0.00
Fine Hatch	0.00	0.00	0.00

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared Subballast Hatch
	Slope Protection Hatch
	Fine Hatch

		APPROVED	DR.Mohamed Gharib
	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

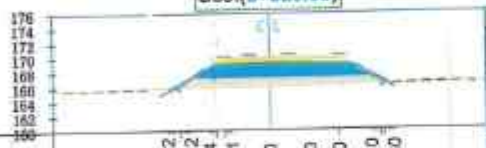
Cross Sections

FROM ST 5+280 TO ST 5+300

Qard Sahara- 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 133	

ALMANAGHY
Sec.(5+320.00)



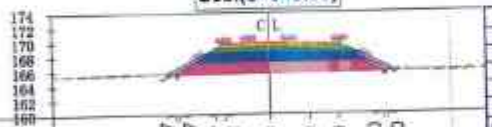
OFFSET	-12.82	-12.32	-7.44	-6.21	0.00	5.50	9.50	15.30	15.80
SubBallast Level	165.87	166.05	168.30	169.60	170.07	169.96	169.68	166.33	166.15
EM I T	165.37	165.37	169.12	[illegible]	- - -	- - -	- - -	[illegible]	166.65
NGL	165.86	165.87	165.94	165.95	166.02	166.10	166.16	166.15	166.15
Cut / Fill	0.49	0.00	3.18	3.19	3.25	3.06	3.22	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23038.71
Level -0.5 to Level -3.00	8.64	170.28	84414.31
Level -3.00 to NGL	31.43	601.33	124945.33
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	5.00	0.00	1834.53
Natural Ground Preparation (Level -3.00 to NGL)	3.13	31.28	23340.43
Cut – Replacement	0.00	0.00	8857.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.59	9.91	881.72
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	7069.33

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	11.87	104.39	8964.09
Level -3.00 to NGL	0.01	0.10	8839.00

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	6.30	186.79	16301.83
Level -0.5 to Level -3.00	9.93	312.24	16728.83
Level -3.00 to NGL	0.00	0.08	16278.84

ALMANAGHY
Sec.(5+340.00)



OFFSET	-12.97	-12.47	-7.44	-6.21	0.00	5.50	9.50	15.70	16.20
SubBallast Level	165.66	165.84	169.19	169.89	169.96	169.85	169.77	165.96	165.78
EMBANKMENT	165.16	165.66	169.01	169.04	169.16	169.05	169.27	165.78	165.28
NGL	165.66	165.66	165.64	165.64	165.69	165.69	165.75	165.78	165.79
Cut / Fill	0.50	0.00	3.37	3.40	3.48	3.36	3.52	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23038.71
Level -0.5 to Level -3.00	8.83	173.84	84607.01
Level -3.00 to NGL	30.27	498.87	125039.24
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	5.00	0.00	1834.53
Natural Ground Preparation (Level -3.00 to NGL)	0.00	31.28	23371.69
Cut – Replacement	0.00	0.00	8857.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	9.91	881.72
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	7069.33

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	11.87	237.39	9041.98
Level -3.00 to NGL	0.08	0.13	8840.93

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.30	186.79	16398.66
Level -0.5 to Level -3.00	9.83	197.24	16595.07
Level -3.00 to NGL	0.00	0.08	16278.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

04	Issued Subject	APPROVAL	Dr. Mohamed Gharib
NO.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

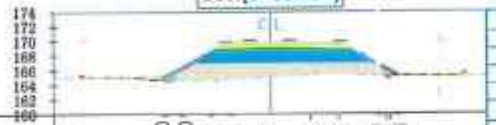
Cross Sections

FROM ST 3+320 TO ST 5+340

East Suburban - 6 October Railway Project

DWG SCALE	DESIGNED BY	PROJECT
1:500	Dr. Mohamed Gharib	
PHASE	CHECKED BY	APPROVED BY: Dr. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 134	

ALMANASHY
Sec.(5+360.00)



OFFSET	-13.60	-13.10	-7.44	-6.21	0.00	5.50	9.50	16.11	16.61
SubBallast Level	165.13	165.31	169.09	169.58	169.85	169.74	169.66	165.58	165.40
EMBANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	165.40	164.90
NGL	165.13	165.13	165.17	165.19	165.30	165.39	165.44	165.40	165.39
Cut / Fill	0.50	0.00	3.74	3.74	3.75	3.56	3.72	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fariss to level -0.5	0.00	0.00	2936.71
Level -0.5 to Level -2.00	8.35	170.68	94757.82
Level -2.00 to NGL	69.23	942.01	105493.53
Natural Ground Preparation (Fariss to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	6.68	93.31	23443.23
Cut – Replacement	0.00	0.00	9537.04
Fill – Replacement (Fariss to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	581.78
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

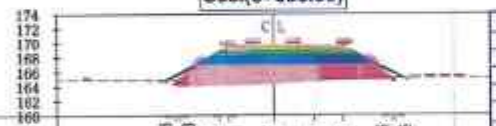
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fariss to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	11.74	236.53	9276.47
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fariss to level -0.5	9.09	187.71	16576.30
Level -0.5 to Level -2.00	10.32	321.47	16027.84
Level -2.00 to NGL	0.00	0.00	16015.84

ALMANASHY
Sec.(5+380.00)



OFFSET	-13.68	-13.18	-7.44	-6.21	0.00	5.50	9.50	16.26	16.76
SubBallast Level	164.97	165.15	168.98	169.47	169.75	169.64	169.56	165.38	165.19
EMBANKMENT	164.47	164.97	168.80	168.82	168.95	168.84	169.06	165.19	164.69
NGL	164.97	164.97	164.95	164.95	164.97	165.01	165.09	165.19	165.19
Cut / Fill	0.50	0.00	3.85	3.88	3.98	3.82	3.97	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fariss to level -0.5	0.00	0.00	2936.71
Level -0.5 to Level -2.00	8.75	171.02	94698.31
Level -2.00 to NGL	73.49	977.28	107463.60
Natural Ground Preparation (Fariss to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	12.46	194.39	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Fariss to level -0.5)	0.00	0.00	[illegible]
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fariss to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	11.24	328.71	15204.18
Level -2.00 to NGL	0.00	0.00	15236.18

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fariss to level -0.5	9.07	186.02	16769.92
Level -0.5 to Level -2.00	10.44	327.35	16224.89
Level -2.00 to NGL	0.00	0.00	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fariss to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

00	Issued Status	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY DATE	PREPARED BY	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUPERVISION CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

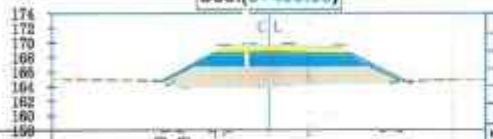
Cross Sections

FROM ST 5+360 TO ST 5+380

Ras Ghara - Al Dabbar Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 135	

ALMANASHY
Sec.(5+400.00)



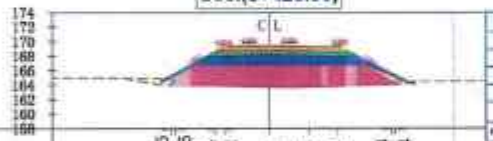
OFFSET	-13.60	-13.10	-7.44	-6.21	0.00	5.50	9.50	16.72	17.22
SubBallast Level	164.92	165.10	168.87	169.36	169.64	169.53	169.45	164.08	164.78
EMBANKMENT					166.84	166.75			
NGL	164.92	164.92	164.87	164.87	164.82	164.79	164.80	164.78	164.78
Cut / Fill	0.51	0.00	3.81	3.85	4.02	3.94	4.14	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	9.09	175.48	95104.76
Level -2.00 to NGL	63.88	5354.48	106616.63
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1934.23
Natural Ground Preparation (Level -2.00 to NGL)	23.83	335.91	29999.03
Cut - Replacement	0.00	0.00	8667.34
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	391.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7985.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	11.55	225.67	7733.66
Level -2.00 to NGL	0.00	0.00	6636.10

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.27	185.44	10804.26
Level -0.5 to Level -2.00	10.18	203.63	10340.82
Level -2.00 to NGL	0.00	0.00	16279.84

ALMANASHY
Sec.(5+420.00)



OFFSET	-13.55	-13.05	-7.44	-6.21	0.00	5.50	9.50	16.94	17.44
SubBallast Level	164.84	165.02	168.76	169.26	169.53	169.42	169.34	164.70	164.52
EMBANKMENT	164.34	164.84	168.58	168.81	168.73	168.62	168.54	164.52	164.02
NGL	164.85	164.84	164.76	164.74	164.67	164.62	164.57	164.52	164.52
Cut / Fill	0.51	0.00	3.82	3.86	4.06	4.00	4.27	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	8.55	175.10	95279.86
Level -2.00 to NGL	58.79	5347.08	106913.18
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1934.23
Natural Ground Preparation (Level -2.00 to NGL)	24.78	403.80	30402.83
Cut - Replacement	0.00	0.00	[illegible]
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	391.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7985.32

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	10.08	335.30	7969.17
Level -2.00 to NGL	0.00	0.00	6636.10

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.90	198.74	11143.70
Level -0.5 to Level -2.00	9.99	191.06	16738.48
Level -2.00 to NGL	0.00	0.00	16279.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Farms to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

01	Initial Submit	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

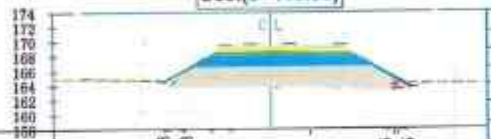
Cross Sections

FROM ST 5+400 TO ST 5+420

Riyadh Salama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 136	

ALMANASHY
Sec.(5+440.00)



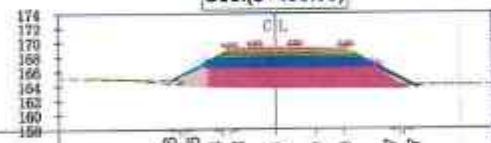
OFFSET	-13.53	-13.03	-7.44	-6.21	0.00	5.50	9.50	17.15	17.65
SubBallast Level	164.75	164.93	166.55	169.15	169.42	169.31	169.23	164.46	164.28
EMBANKMENT				[illegible]	168.62	168.51	168.73	[illegible]	[illegible]
NGL	164.76	164.75	164.64	164.62	164.51	164.43	164.38	164.28	164.27
Cut / Fill	[illegible]	0.00	3.83	3.87	4.11	4.08	4.35	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.93	0.00	25436.71
Level -0.5 to Level -2.00	8.16	177.86	25401.89
Level -2.00 to NGL	67.44	1138.78	110745.87
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	24.03	440.00	30910.38
Cut - Replacement	0.00	0.00	8057.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7985.70

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	15.42	206.16	6935.23
Level -2.00 to NGL	0.00	0.00	6936.16

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	190.93	11231.03
Level -0.5 to Level -2.00	9.91	193.00	19432.43
Level -2.00 to NGL	0.00	0.00	19473.94

ALMANASHY
Sec.(5+460.00)



OFFSET	-13.36	-12.86	-7.44	-6.21	0.00	5.50	9.50	17.17	17.67
SubBallast Level	164.75	164.93	166.55	169.04	169.31	169.20	169.12	164.33	164.15
EMBANKMENT	164.25	164.75	168.37	168.39	168.51	168.40	168.62	164.15	163.65
NGL	164.76	164.75	164.64	164.61	164.48	164.37	164.30	164.15	164.14
Cut / Fill	0.51	0.00	3.73	3.78	4.04	4.04	4.32	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	23235.79
Level -0.5 to Level -2.00	8.08	181.67	23416.49
Level -2.00 to NGL	55.72	1132.00	111919.02
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	18.85	433.89	31346.10
Cut - Replacement	0.00	0.00	8057.04
Fill - Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	11.60	200.10	6425.44
Level -2.00 to NGL	0.00	0.00	6936.10

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	186.80	11017.80
Level -0.5 to Level -2.00	8.60	166.33	17109.77
Level -2.00 to NGL	0.00	0.00	19473.94

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Fact Hatch

		APPROVAL	DR.Mohamed Gharib
			APPROVED BY
	DESIGED BY DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

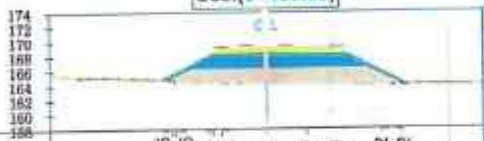
CONTRACTOR CONSULTANT: ESM

CONTRACTOR CONSULTANT: El Sawda

SHEET NAME:
Cross Sections
FROM ST 5+440 TO ST 5+460
East Suez - 4 Corridor Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 137	

ALMANASHY
Sec.(5+480.00)



OFFSET	-13.05	-12.55	-7.44	-6.21	0.00	5.50	9.50	17.02	17.52
SubBallast Level	164.85	165.03	166.44	166.53	169.21	169.10	169.02	164.33	164.15
EMBANKME	[illegible]	164.85	166.26	166.45	168.41	168.30	168.22		
NGL	164.87	164.85	164.70	164.67	164.53	164.41	164.32	164.15	164.14
Cut / Fill	0.52	0.00	3.56	3.81	3.87	3.88	4.19	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill Material Quantity Table			
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Material Name	Area	Volume	Cumulative Volume
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Material Name	Area	Volume	Cumulative Volume
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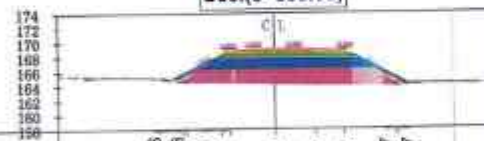
ALMANASHY
Sec.(5+500.00)



OFFSET	-12.53	-12.13	-7.44	-6.21	0.00	5.50	9.50	16.57	17.07
SubBallast Level	165.02	165.20	166.33	166.82	169.10	168.99	168.91	164.52	164.34
EMBANKMENT	164.52	165.02	166.15	166.17	168.30	168.19	168.41	164.34	163.84
NGL	165.03	165.02	164.89	164.85	164.70	164.58	164.50	164.34	164.33
Cut / Fill	0.52	0.00	3.26	3.32	3.60	3.50	3.91	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill Material Quantity Table			
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Material Name	Area	Volume	Cumulative Volume
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Material Name	Area	Volume	Cumulative Volume
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Fill Material Quantity Table			

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Free Hatch

Ground Station		APPROVAL	DR.Mohamed Gharib
00			
00/00/00 BY		APPROVED BY	
DATE		ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

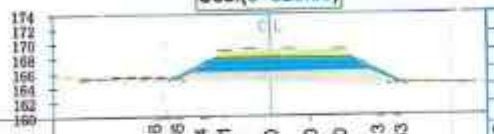
Cross Sections

FROM ST 5+480 TO ST 5+500

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE:	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 138	

ALMANASHY
Sec.(5+520.00)



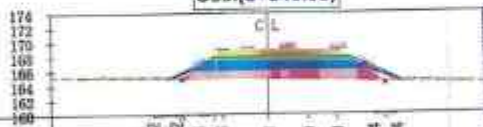
OFFSET	-12.15	-11.66	-7.44	-6.21	0.00	5.50	9.50	15.13	16.63
SubBallast Level	165.23	165.41	168.22	168.72	168.99	168.88	168.80	164.71	164.52
EMBANKMENT	164.73	[illegible]			[illegible]				
NGL	165.24	165.23	165.11	165.00	164.95	164.84	164.74	164.52	164.51
Cut / Fill	0.51	0.00	2.93	2.69	3.24	3.24	3.56	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	8.07	170.91	[illegible]
Level -2.00 to NGL	23.05	393.09	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	7.13	183.99	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	11.89	234.02	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.84	160.93	[illegible]
Level -0.5 to Level -2.00	0.84	165.08	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

ALMANASHY
Sec.(5+540.00)



OFFSET	-12.12	-11.62	-7.44	-6.21	0.00	5.50	9.50	15.94	16.44
SubBallast Level	165.15	165.33	168.11	168.61	168.88	168.77	168.69	164.72	164.54
EMBANKMENT	164.65	165.15	167.93	167.96	168.08	167.97	168.19	164.54	164.04
NGL	165.15	165.15	165.09	165.07	164.95	164.85	164.75	164.54	164.53
Cut / Fill	0.51	0.00	2.85	2.69	3.13	3.13	3.44	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	226.36.71
Level -0.5 to Level -2.00	8.16	162.34	[illegible]
Level -2.00 to NGL	20.42	636.71	[illegible]
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	0.00	81.03	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	11.90	232.86	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	161.84	[illegible]
Level -0.5 to Level -2.00	0.00	159.88	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Face Hatch

		APPROVAL	DR.Mohamed Ghazlh
	CHECKED BY	ISSUED FOR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONTRACTOR CONSULTANT:

CONTRACTOR CONSULTANT: ESM, El-dawlia

SHEET NAME:

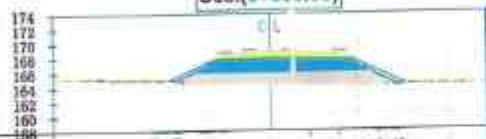
Cross Sections

FROM ST 5+520 TO ST 5+540

Red Sea – 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazlh	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 139	

ALMANASHY
Sec.(5+560.00)

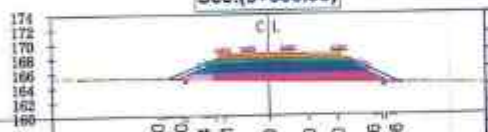


OFFSET	-12.29	-11.79	-7.44	-6.21	0.00	5.50	9.50	15.94	16.44
SubBallast Level	164.92	165.11	168.01	168.50	168.77	168.56	168.58	164.61	164.43
EMBANKMENT	[illegible]	[illegible]	[illegible]	[illegible]	167.97	167.86	168.08	[illegible]	[illegible]
NGL	164.93	164.92	164.88	164.84	164.73	164.53	164.56	164.43	164.43
Cut / Fill	0.51	0.00	2.97	3.01	3.24	3.23	3.52	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to Level -2.00)	11.23	226.45	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.09	0.04	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to Level -2.00)	10.34	201.80	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

ALMANASHY
Sec.(5+580.00)



OFFSET	-11.80	-11.30	-7.44	-6.21	0.00	5.50	9.50	15.66	16.16
SubBallast Level	165.14	165.32	167.90	168.39	168.67	168.56	168.48	164.69	164.51
EMBANKMENT	164.94	165.14	167.72	167.74	167.67	167.76	167.98	164.51	164.01
NGL	165.15	165.14	165.06	165.04	164.90	164.76	164.86	164.51	164.50
Cut / Fill	0.51	0.00	2.85	2.70	2.96	2.99	3.31	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to Level -2.00)	8.64	173.28	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.34	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	8.18	196.81	[illegible]
Fill – Replacement (Level -0.5 to Level -2.00)	11.23	225.83	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.09	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- FIll Hatch (Fill to -0.5)
- FIll Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

#	Ahmed Hakim	APPROVAL	DR.Mohamed Ghazli
REV	DRAWN BY	PROJECT DIR	APPROVED BY
	DATE		DATE

OWNER:

MAIN CONTRACTOR:

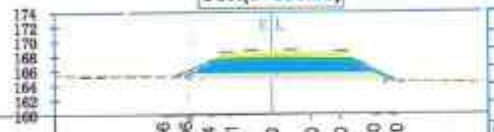
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 5+560 TO ST 5+780
Basrah Salamah - Al Zubair Railway Project

DWG SCALE 1:500	DESIGNED BY: DR.Mohamed Ghazli	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 140	

Sec.(5+600.00)



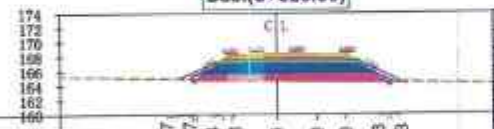
OFFSET	-11.56	-11.06	-7.44	-6.21	0.00	5.50	9.50	15.40	15.90
SubBallast Level	165.20	165.38	167.79	168.28	168.56	168.45	168.37	164.78	164.57
EMBANKMENT	164.70	[illegible]	167.61	[illegible]	[illegible]	[illegible]	167.87		
NGL	165.21	165.20	165.13	165.11	164.96	164.84	164.74	164.57	164.56
Cut / Fill	0.51	0.00	2.48	2.53	2.80	2.80	3.12	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23436.71
Level -0.5 to Level -2.00	14.94	288.74	97682.58
Level -2.00 to NGL	23.19	410.08	119476.80
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	2.63	57.88	32301.08
Cut - Replacement	0.00	0.00	8867.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7969.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.84	117.60	8979.23
Level -2.00 to NGL	2.00	0.00	8434.18

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.58	187.07	12849.70
Level -0.5 to Level -2.00	8.83	201.74	18026.71
Level -2.00 to NGL	0.00	0.00	19275.84

Sec.(5+620.00)



OFFSET	-11.67	-11.17	-7.44	-6.21	0.00	5.50	9.50	15.33	15.83
SubBallast Level	165.01	165.19	167.58	168.18	168.45	168.34	168.26	164.70	164.52
EMBANKMENT	164.51	165.01	167.50	167.53	167.55	167.54	167.76	164.52	164.02
NGL	165.02	165.01	164.93	164.90	164.79	164.67	164.61	164.52	164.51
Cut / Fill	0.51	0.00	2.57	2.62	2.86	2.87	3.15	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	23436.71
Level -0.5 to Level -2.00	14.06	284.87	97967.55
Level -2.00 to NGL	22.69	417.60	119414.70
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	3.49	70.04	32430.92
Cut - Replacement	0.00	0.00	8867.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7969.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.88	116.30	8993.66
Level -2.00 to NGL	0.00	0.00	8434.18

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.83	194.28	13043.70
Level -0.5 to Level -2.00	8.87	198.00	18717.72
Level -2.00 to NGL	0.00	0.00	19275.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fence Hatch

NO	Issued Purpose	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

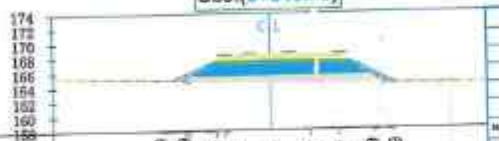
Cross Sections

FROM ST 5+600 TO ST 5+620

Basic Scheme - 5 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 141	

ALMANASHY
Sec.(5+640.110)



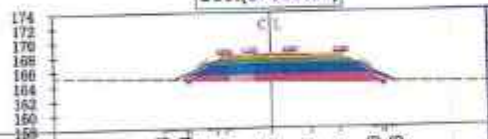
OFFSET		-11.59	-11.09	-7.44	-5.21	0.00	5.50	9.50	15.39	15.89
SubBallast Level		164.99	165.14	167.57	168.07	168.34	168.23	168.15	164.55	164.37
EMBANKMENT		164.48					167.43	167.50	164.31	163.87
NGL		164.97	164.96	164.88	164.85	164.71	164.50	164.50	164.37	164.36
Cut / Fill		0.51	0.00	2.51	2.67	2.83	2.84	3.15	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	28639.71
Level -0.5 to Level -2.00	16.99	297.84	57933.43
Level -2.00 to NGL	21.69	445.00	117809.77
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	4.67	95.88	32514.07
Cut – Replacement	0.00	0.00	4937.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7969.30

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.00	102.24	16105.79
Level -2.00 to NGL	0.00	0.00	18809.18

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.04	184.67	13215.49
Level -0.5 to Level -2.00	9.00	197.80	15913.53
Level -2.00 to NGL	0.00	0.00	16275.04

ALMANASHY
Sec.(5+660.00)



OFFSET		-11.54	-11.04	-7.44	-6.21	0.00	5.50	9.50	15.36	15.86
SubBallast Level		164.88	165.06	167.47	167.96	168.23	168.12	168.04	164.45	164.26
EMBANKMENT		164.38	164.88	167.28	167.31	167.43	167.32	167.54	164.28	163.78
NGL		164.89	164.88	164.80	164.77	164.63	164.49	164.40	164.28	164.27
Cut / Fill		0.51	0.00	2.49	2.54	2.81	2.83	3.14	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	28639.71
Level -0.5 to Level -2.00	14.34	256.88	57894.39
Level -2.00 to NGL	21.44	423.61	118242.13
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1634.53
Natural Ground Preparation (Level -2.00 to NGL)	2.93	75.65	32590.22
Cut – Replacement	0.00	0.00	4937.04
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7969.30

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	8.24	107.94	16213.73
Level -2.00 to NGL	0.00	0.00	18809.18

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	13424.29
Level -0.5 to Level -2.00	15.23	201.29	16115.77
Level -2.00 to NGL	0.00	0.00	16275.04

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

		APPROVAL	DR.Mohamed Gharib
REV	CHECKED BY DATE	ISSUED FOR	APPROVED BY DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

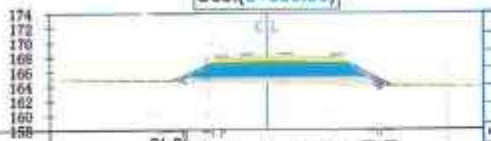
Cross Sections

FROM ST 5+640 TO ST 5+660

Bani Suhaila - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
FRAME	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 142	

ALMANASHY
Sec.(5+680.00)



OFFSET	-11.02	-11.12	-7.44	-6.21	0.00	5.50	9.50	15.41	15.91
SubBallast Level	164.72	164.90	167.38	167.85	168.13	168.02	167.94	164.32	164.14
BAN : T	164.22	164.72	167.18	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
NGL	164.73	164.72	164.64	164.61	164.48	164.35	164.27	164.14	164.13
Cut / Fill	0.51	0.00	2.54	2.59	2.85	2.86	3.17	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	14.81	[illegible]	[illegible]
Level -2.00 to NGL	22.47	439.13	115732.25
Natural Ground Preparation (Farms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.03
Natural Ground Preparation (Level -2.00 to NGL)	2.46	63.01	33643.83
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Farms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

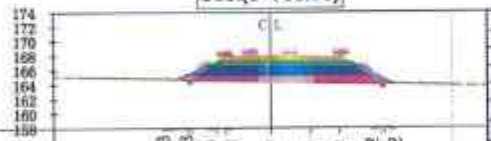
[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.24	104.88	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.53	187.77	[illegible]
Level -0.5 to Level -2.00	15.98	305.67	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

ALMANASHY
Sec.(5+700.00)



OFFSET	-11.43	-10.93	-7.44	-6.21	0.00	5.50	9.50	15.32	15.82
SubBallast Level	164.74	164.92	167.25	167.74	168.02	167.91	167.83	164.27	164.09
EMBANKMENT	164.24	164.74	167.07	167.09	167.22	167.11	167.33	164.09	163.58
NGL	164.75	164.74	164.64	164.61	164.44	164.30	164.21	164.09	164.08
Cut / Fill	0.51	0.00	2.43	2.49	2.77	2.81	3.11	0.00	0.49

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -2.00	5.36	105.05	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

[illegible]

Material Name	Area	Volume	Cumulative Volume
Farms to level -0.5	9.95	195.14	[illegible]
Level -0.5 to Level -2.00	15.61	304.89	[illegible]
Level -2.00 to NGL	0.00	0.00	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Farms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared Subballast Hatch
- Slope Protection Hatch
- Foot Hatch

BY	Hazem Sabaha	APPROVAL	DR.Mohamed Gheith
REV	CHECKED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

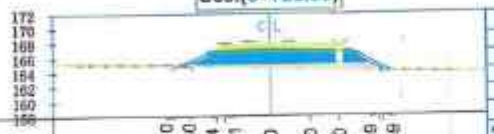
Cross Sections

FBCM ST 5+680 TO ST 5+700

Hani Sahara - 4 Golden Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gheith	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 143	

ALMANASHY
Sec.(5+720.00)



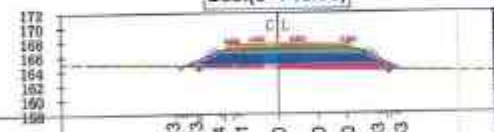
OFFSET	-11.10	-10.80	-7.44	-6.21	0.00	5.50	9.50	15.09	15.59
SubBallast Level	164.85	165.04	167.14	167.64	167.91	167.80	167.72	164.31	164.13
EMBANKMENT						167.00	167.22	164.13	163.63
NGL	164.87	164.85	164.76	164.72	164.56	164.37	164.27	164.13	164.12
Cut / Fill		0.00	2.20	2.26	2.55	2.63	2.95	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.01	0.00	33639.71
Level -0.5 to Level -2.00	14.29	357.80	99513.24
Level -2.00 to NGL	15.37	396.30	119909.95
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	3.37	46.14	32736.93
Cut - Replacement	0.00	0.00	8951.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.35

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.71	110.73	12835.49
Level -2.00 to NGL	0.00	0.00	9928.19

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.39	191.95	12904.80
Level -0.5 to Level -2.00	10.48	208.84	16740.00
Level -2.00 to NGL	0.00	0.00	19275.99

ALMANASHY
Sec.(5+740.00)



OFFSET	-11.23	-10.73	-7.44	-6.21	0.00	5.50	9.50	15.03	15.53
SubBallast Level	164.66	164.84	167.03	167.53	167.80	167.69	167.61	164.25	164.07
EMBANKMENT	164.18	164.66	166.85	166.88	167.00	166.89	167.11	164.07	163.57
NGL	164.67	164.65	164.56	164.53	164.41	164.29	164.20	164.07	164.06
Cut / Fill	0.51	0.00	2.29	2.34	2.50	2.60	2.91	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	33639.71
Level -0.5 to Level -2.00	13.62	378.60	99513.24
Level -2.00 to NGL	15.80	391.69	119909.95
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	3.07	44.44	32736.93
Cut - Replacement	0.00	0.00	8951.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.35

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.31	116.23	12951.41
Level -2.00 to NGL	0.00	0.00	9928.19

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	9.84	193.19	14937.93
Level -0.5 to Level -2.00	10.87	214.51	18654.80
Level -2.00 to NGL	0.00	0.00	19275.99

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Hamed Shehata	APPROVAL	DR.Mohamed Gharib
	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUPERVISION CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

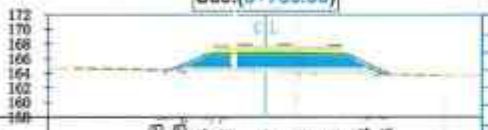
Cross Sections

FROM ST 5+720 TO ST 5+740

East Sohag - 6 October Railway Project

DWG.SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT:
PHASE:	CHECKED BY:	APPROVED BY: DR. Hamed Khalil
DWG.SIZE: A3	SHEET NUMBER: 144	

Sec.(5+760.00)



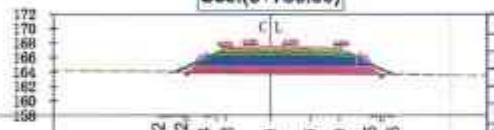
OFFSET	-11.48	-10.98	-7.44	-6.21	0.00	5.50	9.50	15.04	15.54
SubBallast Level	164.39	164.57	166.93	167.42	167.69	167.58	167.50	164.13	163.95
EMBANKMENT	[illegible]	164.39	166.74	166.77	[illegible]	165.78	[illegible]	163.55	163.45
NGL	164.39	164.39	164.33	164.29	164.25	164.15	164.07	163.95	163.94
Cut / Fill	0.51	0.00	2.42	2.48	2.64	2.63	2.93	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	13.02	275.43	26267.47
Level -2.00 to NGL	17.45	332.48	120164.01
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.02
Natural Ground Preparation (Level -2.00 to NGL)	0.55	48.77	32927.54
Cut - Replacement	0.00	0.00	6927.04
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7969.33

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.22	125.11	16779.72
Level -2.00 to NGL	0.00	0.00	19550.18

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.31	191.44	14378.67
Level -0.5 to Level -2.00	10.18	207.64	23198.00
Level -2.00 to NGL	0.00	0.00	18275.84

ALMANASHY
Sec.(5+780.00)



OFFSET	-11.82	-11.32	-7.44	-6.21	0.00	5.50	9.50	15.15	15.65
SubBallast Level	164.05	164.23	166.82	167.31	167.59	167.48	167.40	163.95	163.77
EMBANKMENT	163.56	164.05	166.64	166.66	166.79	166.68	166.90	163.77	163.27
NGL	164.06	164.05	163.96	163.96	163.93	163.91	163.85	163.77	163.77
Cut / Fill	0.51	0.00	2.64	2.68	2.86	2.77	3.04	0.00	0.49

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	14.40	282.78	26871.25
Level -2.00 to NGL	21.84	366.93	120556.95
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1624.02
Natural Ground Preparation (Level -2.00 to NGL)	0.55	50.61	32976.94
Cut - Replacement	0.00	0.00	6927.04
Fill - Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7969.33

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.93	122.30	16901.78
Level -2.00 to NGL	0.00	0.00	19550.18

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.67	191.78	14570.35
Level -0.5 to Level -2.00	10.04	202.23	23398.23
Level -2.00 to NGL	0.00	0.00	18275.84

Notes:

SubBallast Depth = 30 cm

PreporedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

00	Issued Status	APPROVAL	DR.Mohamed Ghazlh
REV	ISSUED BY	DESIGNED	APPROVED BY
	DATE	DATE	DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONSULTANT:

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

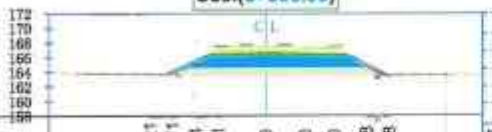
Cross Sections

FROM ST 5+760 TO ST 5+780

Hurghada - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Ghazlh	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 145	

ALMANASHY
Sec.(5+800.00)



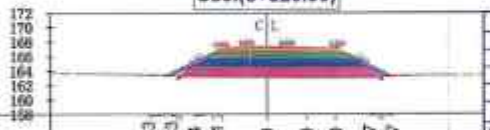
OFFSET	-12.21	-11.71	-7.44	-6.21	0.00	5.50	9.50	15.28	15.78
SubBallast Level	163.68	163.68	166.71	167.20	167.48	167.37	167.29	163.75	163.57
[illegible]	163.10	[illegible]	166.53	166.55	[illegible]	[illegible]	166.79	163.57	163.07
NGL	163.69	163.68	163.65	163.64	163.58	163.55	163.53	163.57	163.57
Cut / Fill	0.50	0.00	2.88	2.92	3.09	3.02	3.26	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	14.00	554.55	69855.57
Level -2.00 to NGL	27.76	496.21	121052.84
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	3.98	99.27	25651.71
Cut - Replacement	0.00	0.00	8687.84
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.33

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.08	116.82	11091.81
Level -2.00 to NGL	0.00	0.00	8686.34

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	8.84	158.47	14752.75
Level -0.5 to Level -2.00	15.32	303.68	22064.41
Level -2.00 to NGL	0.00	0.00	18375.84

ALMANASHY
Sec.(5+820.00)



OFFSET	-12.43	-11.93	-7.44	-6.21	0.00	5.50	9.50	15.57	16.07
SubBallast Level	163.43	163.61	166.50	167.09	167.37	167.26	167.18	163.46	163.27
EMBANKMENT	162.93	163.43	166.42	166.44	166.57	166.46	166.68	163.28	162.77
NGL	163.43	163.43	163.36	163.34	163.28	163.24	163.21	163.27	163.28
Cut / Fill	0.51	0.00	3.07	3.10	3.29	3.22	3.47	0.00	0.51

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.00	0.00	25636.71
Level -0.5 to Level -2.00	13.63	576.30	70431.15
Level -2.00 to NGL	23.09	685.56	121052.31
Natural Ground Preparation (Ferma to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	2.63	58.80	25651.09
Cut - Replacement	0.00	0.00	8687.84
Fill - Replacement (Ferma to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	591.72
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	7965.33

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	0.30	3.02	5.23
Level -0.5 to Level -2.00	6.30	134.27	11149.89
Level -2.00 to NGL	0.00	0.00	8686.34

Material Name	Area	Volume	Cumulative Volume
Ferma to level -0.5	9.61	191.85	14944.58
Level -0.5 to Level -2.00	16.52	336.49	22772.89
Level -2.00 to NGL	0.00	0.00	18375.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Ferma to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

	Revised Notes	APPROVAL	DR.Mohamed Gharib
	ISSUED BY		APPROVED BY
	DATE	DRAWING	DATE

OWNER:

MAIN CONTRACTOR

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM El dawlia

SHEET NAME:

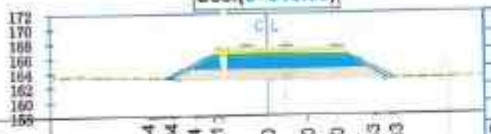
Cross Sections

FROM ST 5+800 TO ST 5+820

Bus Salama - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 146	

ALMANASHY
Sec.(5+840.00)



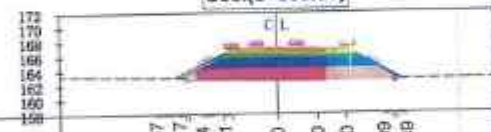
OFFSET	-12.54	-12.04	-7.44	-6.21	0.00	5.50	9.50	15.83	16.33
SubBallast Level	163.25	163.43	166.49	166.99	167.26	167.15	167.07	163.18	162.99
EM N IT			166.31		166.46				
NGL	163.25	163.25	163.18	163.17	163.09	163.03	163.01	162.99	162.99
Cut / Fill	0.51	0.00	3.13	3.17	3.37	3.32	3.56	0.00	0.00

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	20638.71
Level -0.5 to Level -3.00	13.75	273.85	103604.80
Level -3.00 to NGL	35.50	666.53	122348.04
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1824.03
Natural Ground Preparation (Level -3.00 to NGL)	5.69	94.85	33102.45
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.0 to -3.00)	0.00	0.00	391.77
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	7985.20

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.84	121.88	11227.78
Level -3.00 to NGL	0.00	0.00	8839.18

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.40	102.41	15445.49
Level -0.5 to Level -3.00	13.81	213.20	23988.69
Level -3.00 to NGL	0.00	0.00	18273.84

ALMANASHY
Sec.(5+860.00)



OFFSET	-12.67	-12.17	-7.44	-6.21	0.00	5.50	9.50	15.99	16.49
SubBallast Level	163.05	163.23	166.39	166.88	167.15	167.04	166.96	162.96	162.76
EMBANKMENT	162.55	163.05	166.20	166.23	166.35	166.24	166.46	162.78	162.28
NGL	163.06	163.05	163.00	162.98	162.81	162.85	162.81	162.78	162.78
Cut / Fill	0.51	0.00	3.21	3.25	3.44	3.39	3.65	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	20638.71
Level -0.5 to Level -3.00	12.64	273.67	103777.97
Level -3.00 to NGL	32.90	734.49	123083.69
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	1824.03
Natural Ground Preparation (Level -3.00 to NGL)	6.40	102.77	33205.17
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.0)	0.00	0.00	0.00
Fill - Replacement (Level -0.0 to -3.00)	0.00	0.00	391.77
Fill - Replacement (Level -3.00 to NGL)	0.00	0.00	7985.20

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.0	0.00	0.00	0.00
Level -0.0 to Level -3.00	0.88	127.27	11355.07
Level -3.00 to NGL	0.00	0.00	8839.18

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.00	100.91	15545.60
Level -0.5 to Level -3.00	13.88	216.88	21205.57
Level -3.00 to NGL	0.00	0.00	18273.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment level
	Fill Hatch (Fence to -0.5)
	Fill Hatch (-0.5 to -3.00)
	Fill Hatch (-3.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Fen Hatch

REV.	Issued Date / CHECKED BY DATE	APPROVAL / ISSUED FOR	Dr. Mohamed Elsaidi / APPROVED BY DATE

OWNER:

MAIN CONTRACTOR: GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: CONTRACTOR CONSULTANT: ESM

SHEET NAME:

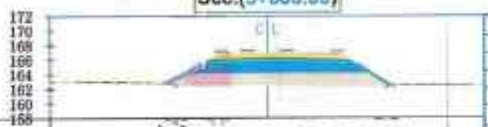
Cross Sections

FROM ST 5+840 TO ST 5+860

Dual Subway - 6 October Railway Project

DWG SCALE	DESIGNED BY	PROJECT
1:200	Dr.Mohamed Elsaidi	
DRAWN	CHECKED BY	APPROVED BY: Dr. Ahmed Elsaidi
DWG SIZE A3	SHEET NUMBER 147	

ALMANASHY
Sec.(5+880.00)



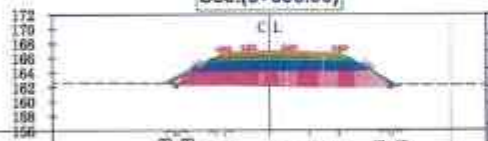
OFFSET	-12.67	-12.37	-7.44	-6.21	0.00	5.50	9.50	18.19	16.69
SubBallast Level	162.81	162.99	166.28	166.77	167.05	166.94	166.86	162.72	162.54
E I AENT	162.31	162.81	166.10	166.12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
NGL	162.81	162.81	162.75	162.74	162.69	162.64	162.60	162.54	162.54
Cut / Fill	0.51	0.00	3.35	3.38	3.56	3.50	3.76	[illegible]	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	28606.71
Level -0.5 to Level -2.00	13.96	275.69	191203.24
Level -2.00 to NGL	41.33	782.33	123874.68
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	6.11	105.64	33350.31
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	845.79
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	1985.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.38	121.65	11555.08
Level -2.00 to NGL	0.00	0.00	6028.16

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.44	164.03	15527.93
Level -0.5 to Level -2.00	15.28	231.26	21414.47
Level -2.00 to NGL	0.00	0.00	19275.84

ALMANASHY
Sec.(5+900.00)



OFFSET	-13.18	-12.68	-7.44	-6.21	0.00	5.50	9.50	18.43	16.93
SubBallast Level	162.49	162.67	166.17	166.65	166.94	166.83	166.75	162.45	162.27
EMBANKMENT	161.99	162.49	165.99	166.01	166.14	166.03	165.25	162.27	161.77
NGL	162.50	162.49	162.45	162.44	162.40	162.39	162.34	162.27	162.27
Cut / Fill	0.51	0.00	3.54	3.57	3.74	3.64	3.91	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	28636.71
Level -0.5 to Level -2.00	14.30	276.81	191337.85
Level -2.00 to NGL	46.32	875.03	124750.01
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1824.53
Natural Ground Preparation (Level -2.00 to NGL)	6.73	105.34	33476.32
Cut - Replacement	0.00	0.00	8557.04
Fill - Replacement (Fence to level -0.5)	0.00	0.00	0.00
Fill - Replacement (Level -0.5 to -2.00)	0.00	0.00	845.79
Fill - Replacement (Level -2.00 to NGL)	0.00	0.00	1985.32

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	6.02	132.08	11688.66
Level -2.00 to NGL	0.00	0.00	6028.16

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	6.46	165.22	15770.15
Level -0.5 to Level -2.00	10.30	236.46	21650.93
Level -2.00 to NGL	0.00	0.00	19275.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

		APPROVAL	DR.Mohamed Obeid
REV.	ISSUED BY		APPROVED BY
	DATE	ISSUED FOR	DATE

OWNER:

MAIN CONTRACTOR:

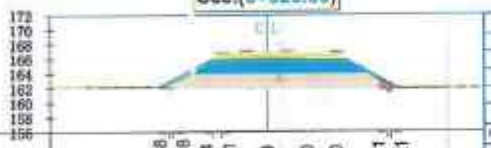
GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:
Cross Sections
FROM ST 5+880 TO ST 5+900
Red Sea - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Obeid	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Obeid
DWG SIZE: A3	SHEET NUMBER: 14B	

ALMANASHY
Sec.(5+920.00)



OFFSET	-13.48	-12.98	-7.44	-6.21	0.00	5.50	9.50	16.71	17.21
SubBallast Level	162.19	162.37	166.06	166.55	166.83	166.72	166.54	162.16	161.98
EMBAN[illegible]	161.09	162.19	165.88	165.90	165.03	[illegible]	[illegible]	161.96	161.48
NGL	162.19	162.19	162.16	162.15	162.09	162.05	162.03	161.98	161.97
Cut / Fill	0.50	0.00	3.72	3.76	3.94	3.87	4.11	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill – Replacement (Fill to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -2.00)	0.00	0.00	591.73
Fill – Replacement (Level -2.00 to NGL)	0.00	0.00	7965.33

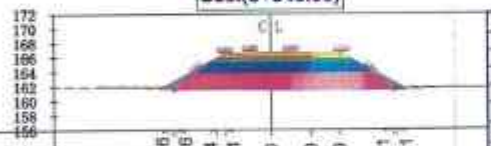
[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.28	122.97	11722.04
Level -2.00 to NGL	0.00	0.33	9038.63

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	10.11	220.03	21629.94
Level -2.00 to NGL	0.00	0.00	18375.84

ALMANASHY
Sec.(5+940.00)



OFFSET	-13.66	-13.16	-7.44	-6.21	0.00	5.50	9.50	16.61	17.31
SubBallast Level	161.96	162.14	165.95	166.45	166.72	166.61	166.53	161.98	161.80
EMBANKMENT	161.46	161.96	165.77	165.80	165.92	165.81	166.03	161.80	161.30
NGL	161.96	161.96	161.95	161.95	161.90	161.85	161.84	161.80	161.80
Cut / Fill	0.50	0.00	3.83	3.85	4.02	3.96	4.19	0.00	0.50

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	0.23	125.32	11677.84
Level -2.00 to NGL	0.00	0.00	8838.53

[illegible]

Material Name	Area	Volume	Cumulative Volume
Fill to level -0.5	0.42	199.19	19969.13
Level -0.5 to Level -2.00	10.47	302.81	22231.75
Level -2.00 to NGL	0.00	0.00	18375.84

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

	Natural Ground Level
	SubBallast Level
	Embankment Level
	Fill Hatch (Ferm to -0.5)
	Fill Hatch (-0.5 to -2.00)
	Fill Hatch (-2.00 to NGL)
	Cut Hatch
	Prepared Subgrade Hatch
	Prepared SubBallast Hatch
	Slope Protection Hatch
	Foot Hatch

[illegible]	[illegible]	APPROVAL	DR.Mohamed Gharib
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

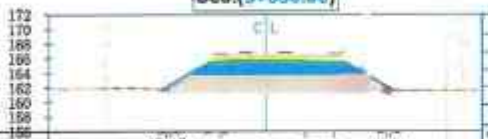
Cross Sections

FROM ST 5+920 TO ST 5+940

East Suhaim - 6 October Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR. Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 149	

ALMANASHY
Sec.(5+960.00)



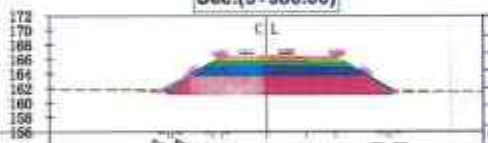
OFFSET			-13.65	-13.15	-7.44	-6.21	0.00	5.50	9.50	16.83	17.33
SubBallast Level			161.86	162.04	165.85	166.34	166.61	166.50	166.42	161.86	161.68
IKMENT					165			165.70	165.92	161.68	161.18
NGL	161.86	161.86	161.84	161.84		161.81	161.76	161.73	161.68	161.68
Cut / Fill	0.50	0.00	3.83	3.85	4.00	3.94	4.19	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -3.00	[illegible]	[illegible]	[illegible]
Level -3.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -3.00 to NGL)	11.67	212.00	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -3.00	4.13	[illegible]	[illegible]
Level -3.00 to NGL	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	9.47	[illegible]	[illegible]
Level -0.5 to Level -3.00	14.30	347.70	[illegible]
Level -3.00 to NGL	2.86	39.94	[illegible]

ALMANASHY
Sec.(5+980.00)



OFFSET			-13.57	-13.07	-7.44	-6.21	0.00	5.50	9.50	16.71	17.21
SubBallast Level			161.80	161.98	165.74	166.23	166.50	166.39	166.31	161.83	161.65
EMBANKMENT			161.30	161.80	165.59	165.58	165.70	165.59	165.81	161.65	161.15
NGL	161.81	161.80	161.77	161.77		161.74	161.71	161.69	161.65	161.65
Cut / Fill	0.50	0.00	3.76	3.81	3.98	3.89	4.12	0.00	0.50

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -3.00	[illegible]	[illegible]	[illegible]
Level -3.00 to NGL	[illegible]	[illegible]	[illegible]
Natural Ground Preparation (Forms to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -3.00)	0.00	0.00	[illegible]
Natural Ground Preparation (Level -3.00 to NGL)	15.96	[illegible]	[illegible]
Cut – Replacement	0.00	0.00	[illegible]
Fill – Replacement (Forms to level -0.5)	0.00	0.00	0.00
Fill – Replacement (Level -0.5 to -3.00)	0.00	0.00	[illegible]
Fill – Replacement (Level -3.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	0.00	0.00	[illegible]
Level -0.5 to Level -3.00	[illegible]	[illegible]	[illegible]
Level -3.00 to NGL	[illegible]	[illegible]	[illegible]

Material Name	Area	Volume	Cumulative Volume
Forms to level -0.5	[illegible]	[illegible]	[illegible]
Level -0.5 to Level -3.00	[illegible]	[illegible]	[illegible]
Level -3.00 to NGL	[illegible]	[illegible]	[illegible]

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment level
- Fill Hatch (Forms to -0.5)
- Fill Hatch (-0.5 to -3.00)
- Fill Hatch (-3.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

	APPROVAL	DR.Mohamed Gharib	
REV.	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

SUB CONSULTANT:

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

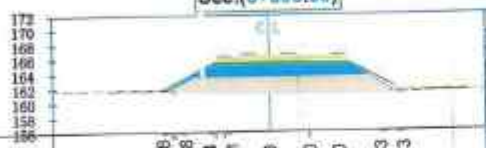
Cross Sections

FROM ST 5+960 TO ST 5+980

Red Sea – Aqaba Railway Project

DWG SCALE: 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY	APPROVED BY: DR.Ahmed Khalil
DWG SIZE: A3	SHEET NUMBER: 150	

Sec.(6+000.00)



OFFSET	-13.48	-12.98	-7.44	-6.21	0.00	5.50	9.50	16.03	17.13
SubBallast Level	161.75	161.93	160.83	160.12	160.40	160.29	160.21	161.77	161.59
MENT	161.25	161.75	165.45	165.47	165.60	[illegible]	[illegible]	[illegible]	[illegible]
NGL	161.76	161.75	161.72	161.71	161.68	161.65	161.64	161.59	161.59
Cut / Fill	0.50	0.00	3.73	3.76	3.92	3.83	4.06	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	28696.71
Level -0.5 to Level -2.00	13.35	277.00	15373.67
Level -2.00 to NGL	51.34	1042.73	13011.50
Natural Ground Preparation (Fence to level -0.5)	0.00	0.00	0.00
Natural Ground Preparation (Level -0.5 to Level -2.00)	0.00	0.00	1834.53
Natural Ground Preparation (Level -2.00 to NGL)	11.79	276.52	34388.17
Cut - Replacement	0.00	0.00	6537.04
FB - Replacement (Fence to level -0.5)	0.00	0.00	0.00
FB - Replacement (Level -0.5 to -2.00)	0.00	0.00	941.73
FB - Replacement (Level -2.00 to NGL)	0.00	0.00	[illegible]

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	0.00	0.00	0.00
Level -0.5 to Level -2.00	5.01	115.78	12023.71
Level -2.00 to NGL	0.00	0.00	8696.73

Material Name	Area	Volume	Cumulative Volume
Fence to level -0.5	8.85	183.88	16974.40
Level -0.5 to Level -2.00	10.63	212.11	22726.40
Level -2.00 to NGL	0.00	0.00	18335.81

Notes:

SubBallast Depth = 30 cm

PreparedSubgradeDepth=50cm

Legend:

- Natural Ground Level
- SubBallast Level
- Embankment Level
- Fill Hatch (Fence to -0.5)
- Fill Hatch (-0.5 to -2.00)
- Fill Hatch (-2.00 to NGL)
- Cut Hatch
- Prepared Subgrade Hatch
- Prepared SubBallast Hatch
- Slope Protection Hatch
- Foot Hatch

DR	Ahmed Sultan	APPROVAL	DR.Mohamed Gharib
REV	ISSUED BY / DATE	ISSUED FOR	APPROVED BY / DATE

OWNER:

MAIN CONTRACTOR:

GENERAL CONSULTANT: SHAKER CONSULTANCY GROUP

CONTRACTOR CONSULTANT

CONTRACTOR CONSULTANT: ESM

SHEET NAME:

Cross Sections

ST 6+000

New Salama - 6 October Railway Project

DWG SCALE 1:500	DESIGNED BY: DR.Mohamed Gharib	PROJECT
PHASE	CHECKED BY:	APPROVED BY: DR.Ahmed Khalil
DWG SIZE A3	SHEET NUMBER 151	