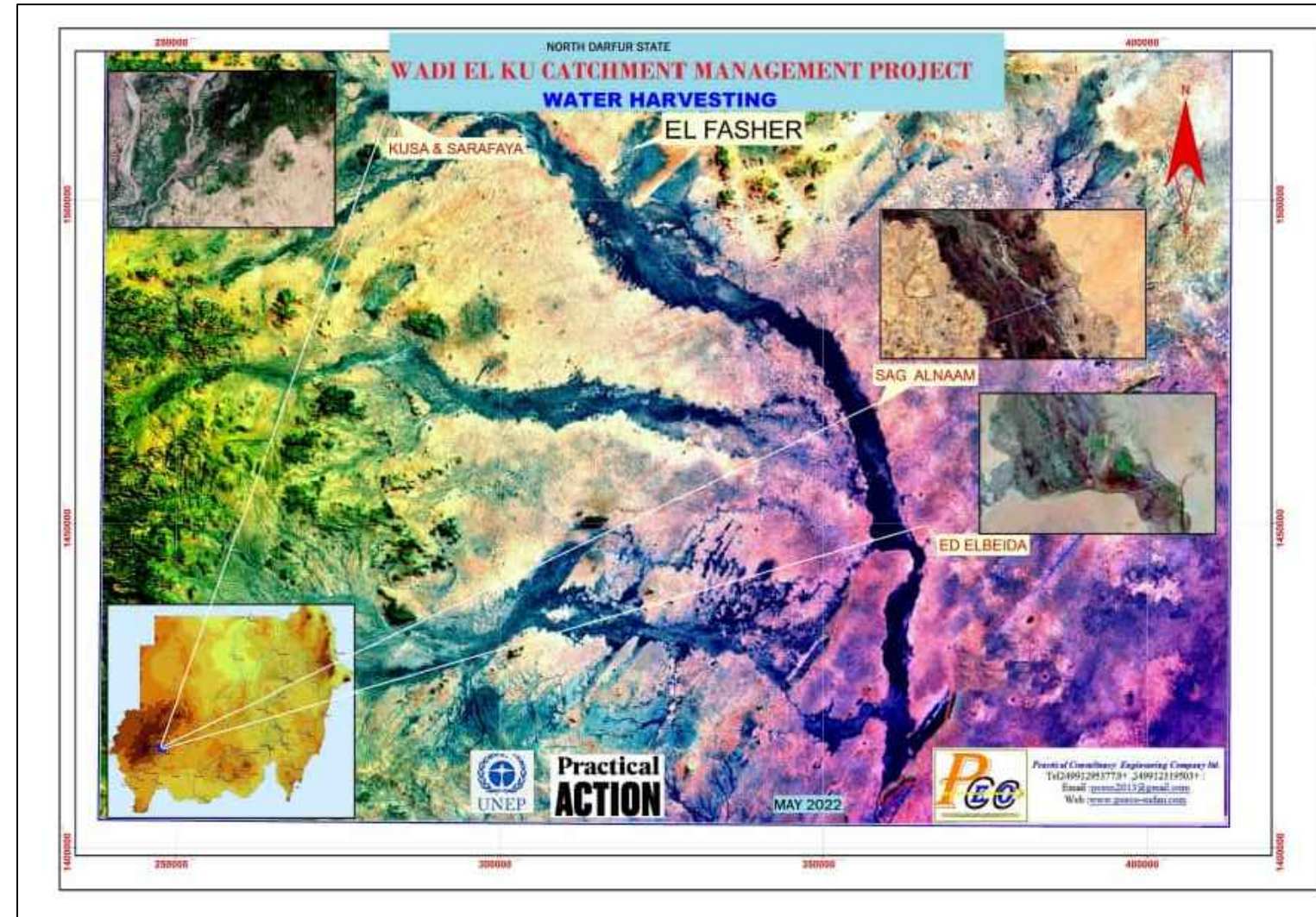




REPUBLIC OF SUDAN

Practical  
**ACTION**

Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida  
Sag Elnaam ,and Kussa & Sarafya) Villages in North Darfur State



DRAWINGS

KUSSA WADI DIVERSION WATER SPREADING WEIR

CONSULTANT :-



PRACTICAL

By

**PRACTICAL  
CONSULTANCY ENGINEERING CO. LTD**

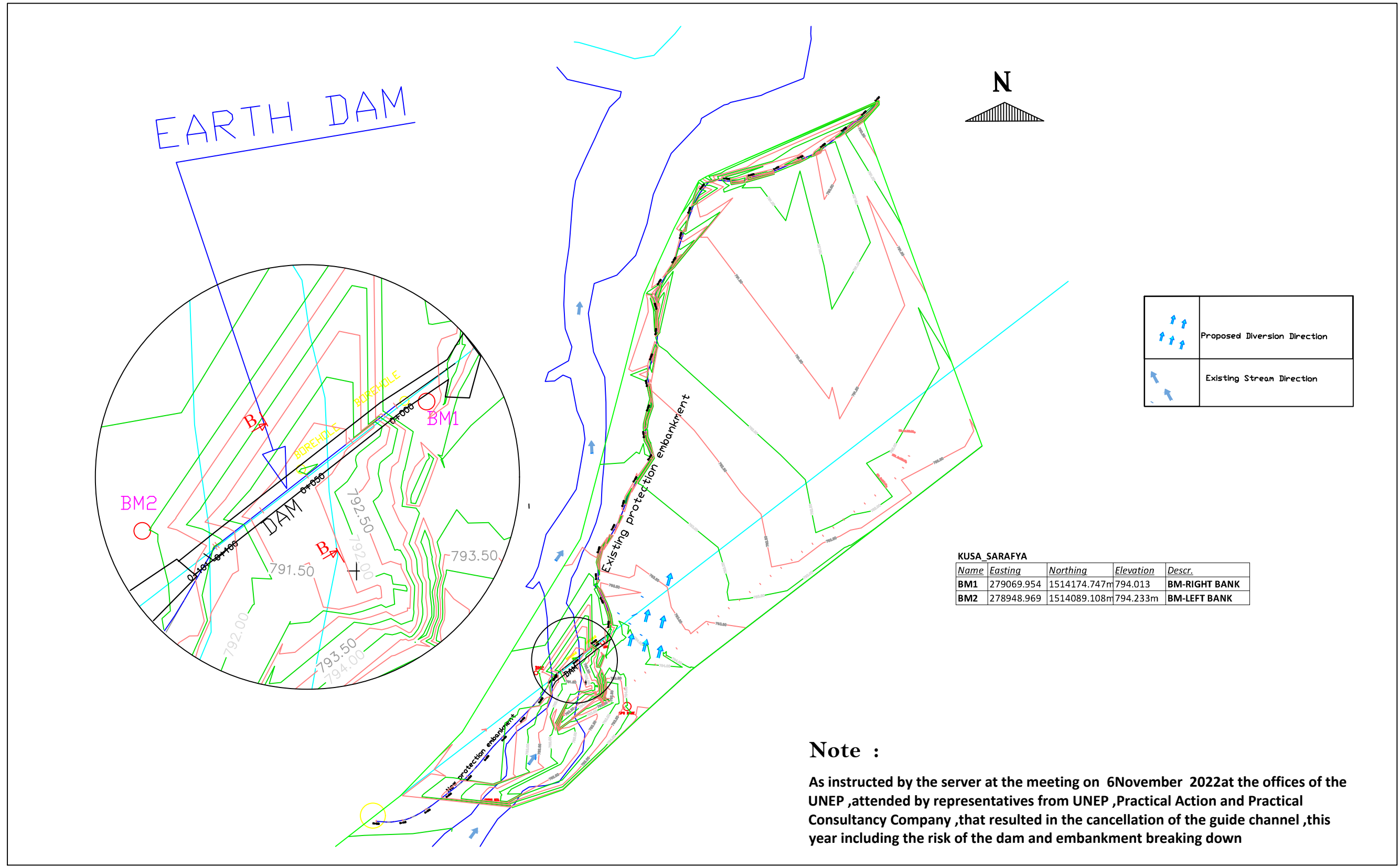
Mobiles :- 00249912319503,00249912953773

Email : pceco2013@gmail.com , Web : www.pceco-sudan.com

NOVEMBER 2022

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
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**KUSA\_SARAFYA**

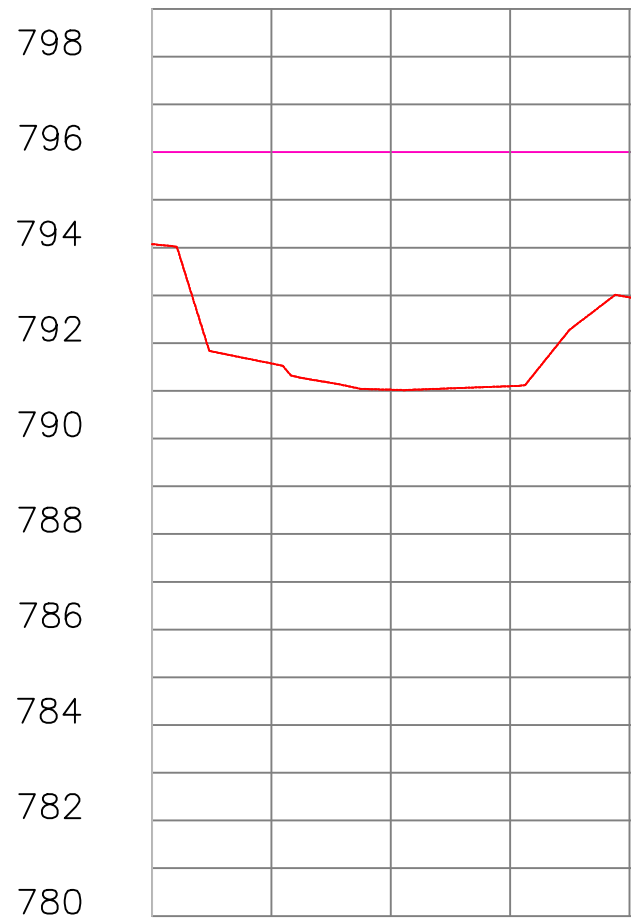
Name	Easting	Northing	Elevation	Descr.
BM1	279069.954	1514174.747m	794.013	BM-RIGHT BANK
BM2	278948.969	1514089.108m	794.233m	BM-LEFT BANK

**Note :**  
 As instructed by the server at the meeting on 6 November 2022 at the offices of the UNEP, attended by representatives from UNEP, Practical Action and Practical Consultancy Company, that resulted in the cancellation of the guide channel, this year including the risk of the dam and embankment breaking down

 <b>CLIENT</b> <b>Practical ACTION</b>	<b>PROJECT</b> Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State  By <b>PRACTICAL CONSULTANCY ENGINEERING CO. LTD</b> <small>Moobies - 00249912319503, 0024991295373          Email: pccco3013@gmail.com, Web: www.pccco-sudan.com</small>	<b>REV.</b>	<b>DESCRIPTION</b>	<b>DATE</b>	<b>SIGN.</b>	<b>DRAWING NAME:</b> DAM, NEW GUIDE CANAL CONTOUR MAP, Existing			
		Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022		<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>KUSSA Wier</b>	
				<b>CHECKED:</b> Prof. Eng. Bashar Kamal	<b>SURVEYED:</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DATE:</b> November 2022	<b>DRAWING NO:</b>	

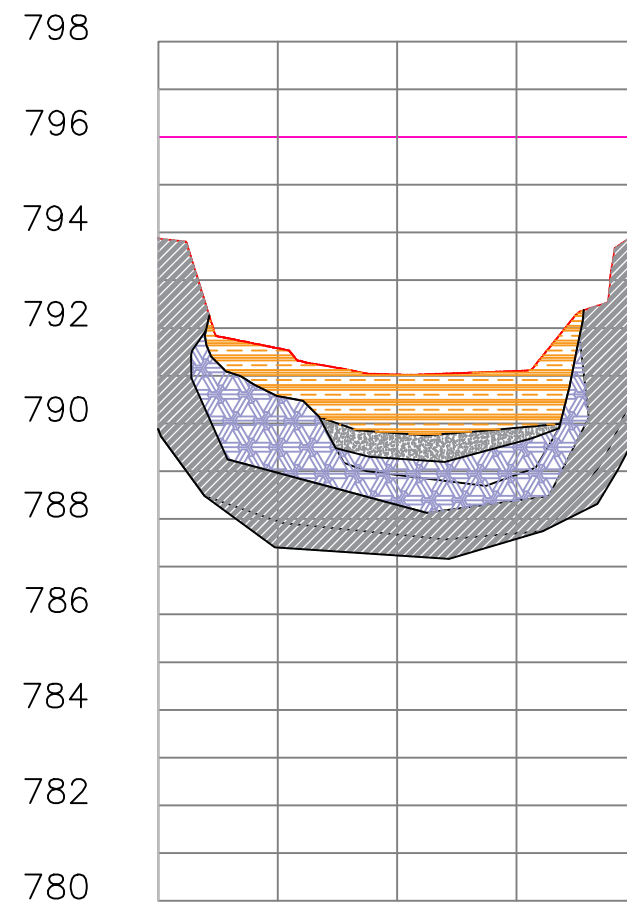


# DAM AXIS PROFILE







FINISH DESIGN LEVEL (M)	794.074	791.574	791.024	791.098	792.959
EXISTING GROUND LEVEL (M)	794.074	791.574	791.024	791.098	792.959
STATION (M)	0+000	0+025	0+050	0+075	0+1000

# DAM GEOLOGICAL PROFILE



FINISH DESIGN LEVEL (M)	794.074	791.574	791.024	791.098	792.959
EXISTING GROUND LEVEL (M)	794.074	791.574	791.024	791.098	792.959
STATION (M)	0+000	0+025	0+050	0+075	0+1000

## LEGEND

-  Superficial Deposit
-  Clay
-  Sand Gravel ,Boulders Cobbles
-  Sandy Clay Gravel Formation


CLIENT



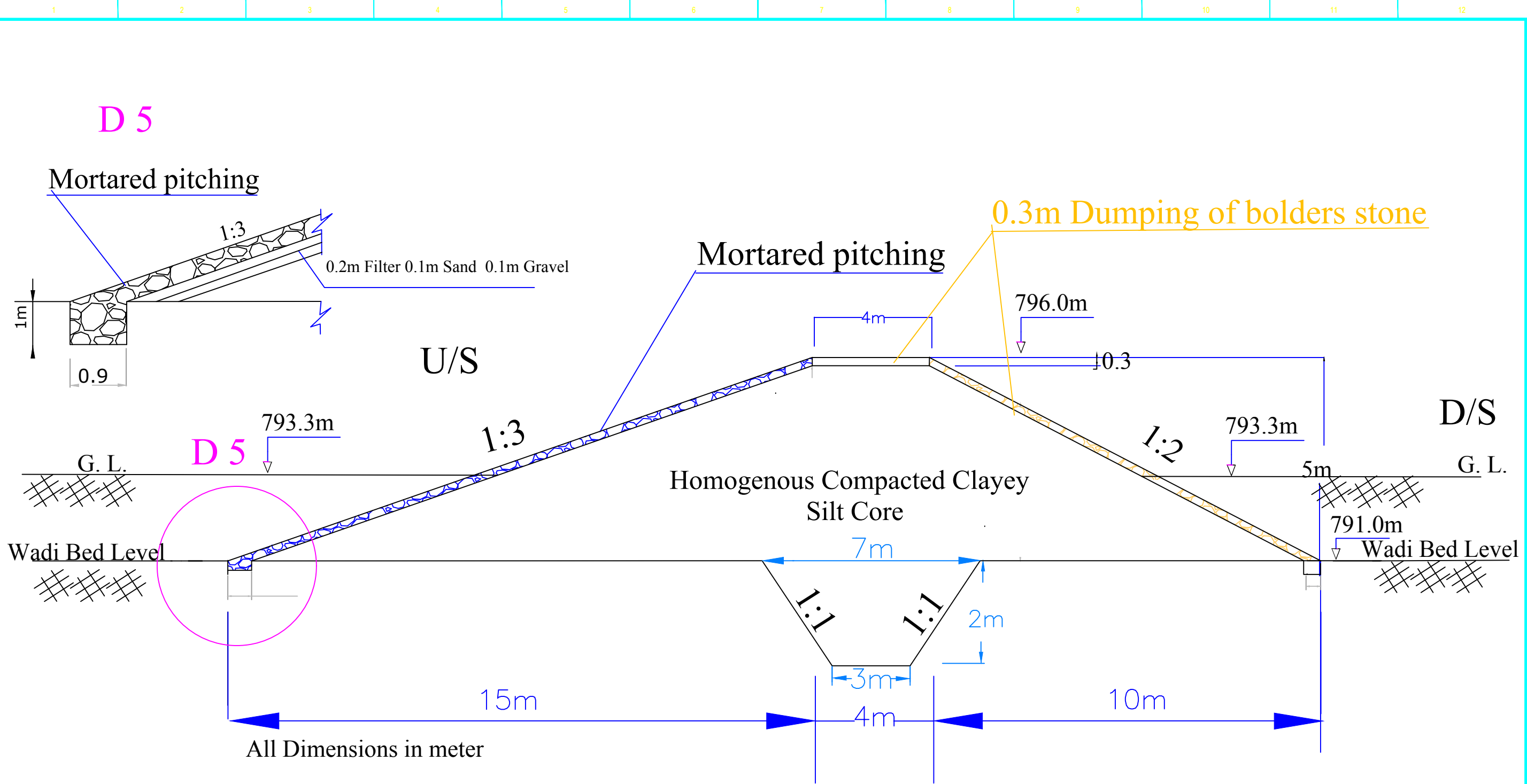
**Practical ACTION**

**PROJECT**  
 Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State

By  
**PRACTICAL CONSULTANCY ENGINEERING CO. LTD**  
 Mobbles - 00249912319503, 00249912953773  
 Email: pceco2013@gmail.com, Web: www.pceco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	

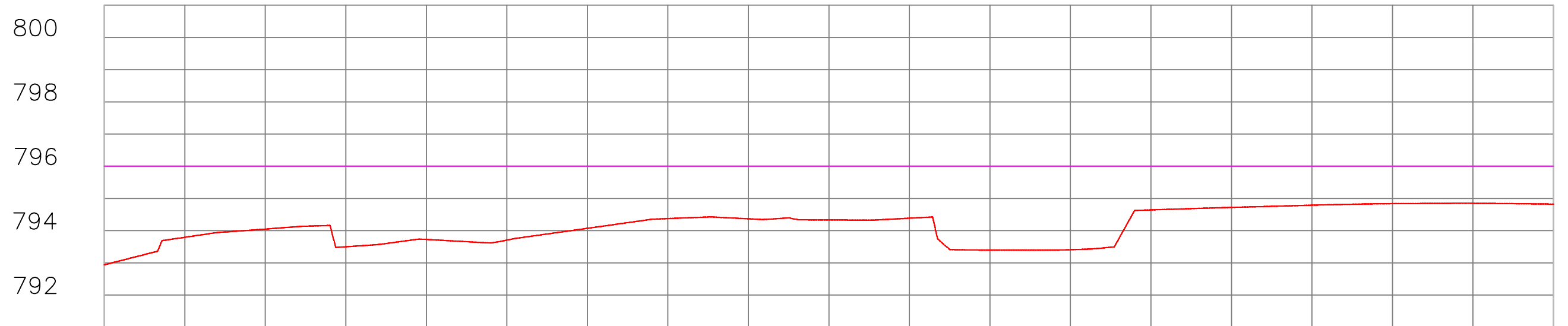
DRAWING NAME: <b>NEW GUIDE CANAL _ PLAN &amp; PROFILE</b>			
DESIGNED: Dr.Eng. HASHIM M. HAMID	DRAWN: Eng. Ahmed M. Dayer	<b>KUSSA Wier</b>	SCALE:
CHECKED: Prof.Eng. ,Bashar Kamal	SURVEYED Eng. Ishag Abdalla Bakhit	CONTRACT No	DRAWING NO: <b>02</b>
		DATE: November 2022	



# Cross Section B-B

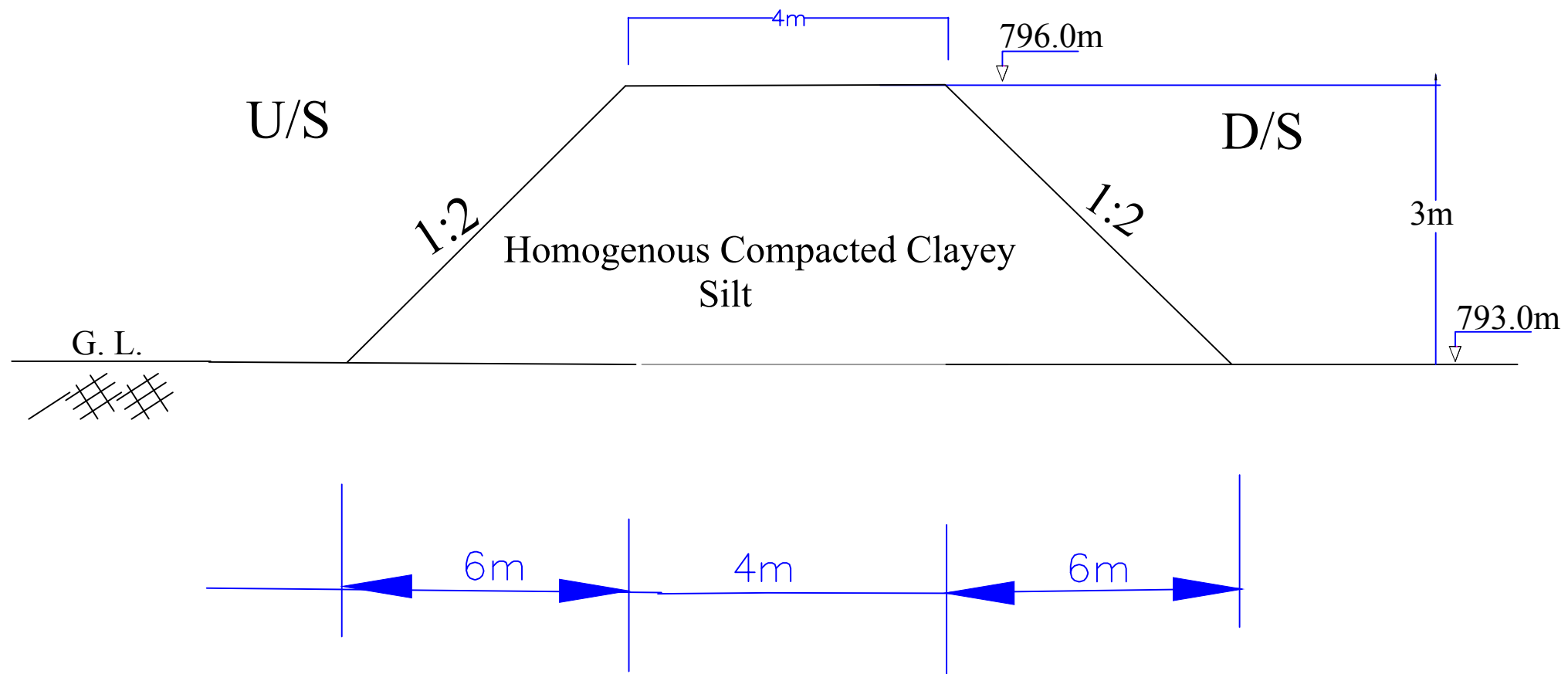
<b>CLIENT</b> 	<b>PROJECT</b> Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State 	<b>REV.</b> Third REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT Nov.2022	<b>DESCRIPTION</b> 	<b>DATE</b> 	<b>SIGN.</b> 	<b>DRAWING NAME:</b> Dam Cross Section B-B			
		<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID		<b>DRAWN:</b> Eng. Ahmed M. Dayer		<b>SCALE:</b> 		<b>KUSSA Wier</b>	
<b>CHECKED:</b> Prof.Eng. Bashar Kamal		<b>SURVEYED:</b> Eng. Ishag Abdalla Bakhit		<b>CONTRACT No</b> 		<b>DATE:</b> November 2022		<b>DRAWING NO:</b>	

# New protection embankment



FINISH DESIGN LEVEL (M)	792.939	793.793	794.048	793.499	793.726	793.704	794.072	794.374	794.367	794.332	794.387	793.394	793.408	794.643	794.722	794.791	794.837	794.849	794.823
EXISTING G.L.(M)	792.939	793.793	794.048	793.499	793.726	793.704	794.072	794.374	794.367	794.332	794.387	793.394	793.408	794.643	794.722	794.791	794.837	794.849	794.823
STATION (M)	0+000	0+025	0+050	0+075	0+100	0+125	0+150	0+175	0+200	0+225	0+250	0+275	0+300	0+325	0+350	0+375	0+400	0+425	0+450

		<b>PROJECT</b> Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State 	<b>REV.</b> Third REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT Nov. 2022	<b>DESCRIPTION</b> REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT Nov. 2022	<b>DATE SIGN</b> Nov. 2022	<b>DRAWING NAME:</b> NEW Protection Embankment				
			<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID		<b>DRAWN:</b> Eng. Ahmed M. Dayer		<b>KUSSA Wier</b>		<b>SCALE:</b> 04	
			<b>CHECKED:</b> Prof.Eng. Bashar Kamal		<b>SURVEYED</b> Eng. Ishag Abdalla Bakhit		<b>CONTRACT No</b> November 2022		<b>DRAWING NO:</b> 04	



CLIENT



**Practical ACTION**

PROJECT  
 Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State



By  
**PRACTICAL CONSULTANCY ENGINEERING CO. LTD**  
 Mobbles - 00249912319503, 00249912953773  
 Email: pccco3013@gmail.com, Web: www.pccco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	<i>[Signature]</i>

DRAWING NAME: Typical Cross Section of New Protection Embankment

DESIGNED:  
 Dr.Eng. HASHIM M. HAMID

DRAWN:  
 Eng. Ahmed M. Dayer

**KUSSA Wier**

SCALE:

CHECKED:  
 Prof.Eng. Bashar Kamal

SURVEYED  
 Eng. Ishag Abdalla Bakhit

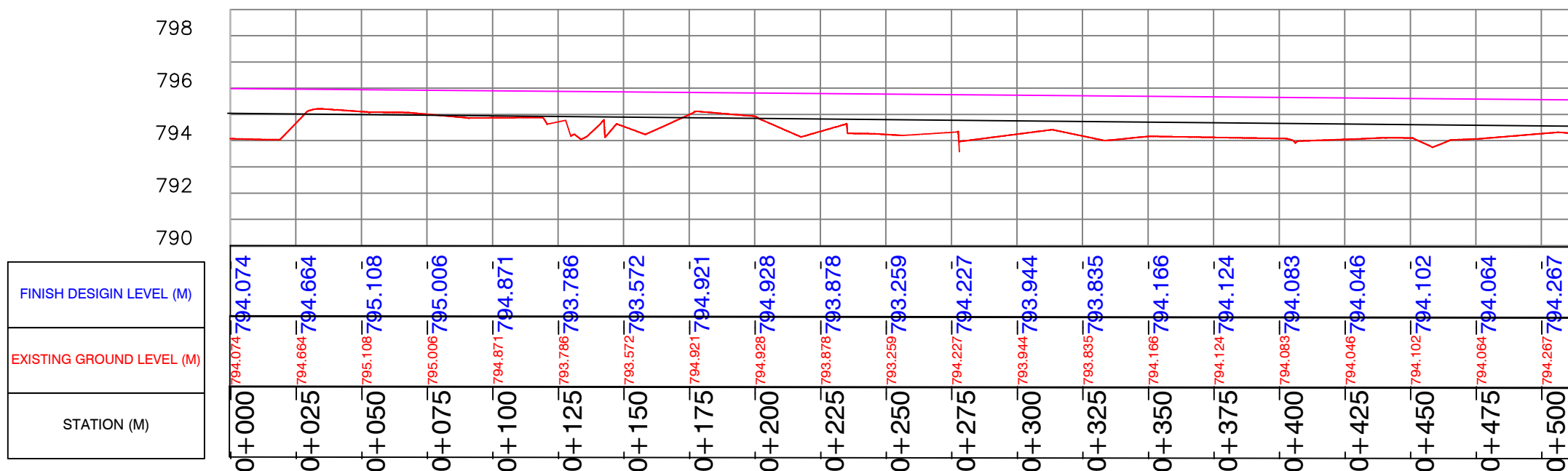
CONTRACT No

DATE:  
 November 2022

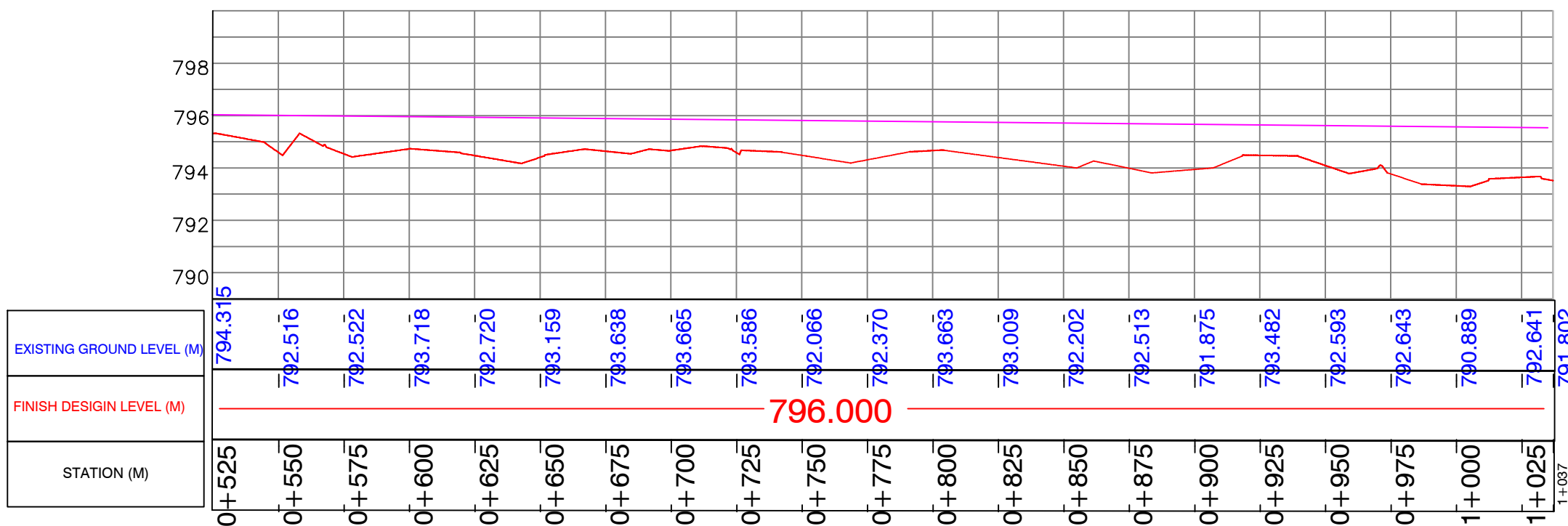
DRAWING NO:

**05**

## EXISTING PROTECTION EMBANKMENT 0+000 - 0+500



## EXISTING PROTECTION EMBANKMENT 0+500 - 1+025



**Practical ACTION**

**PROJECT**  
 Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State

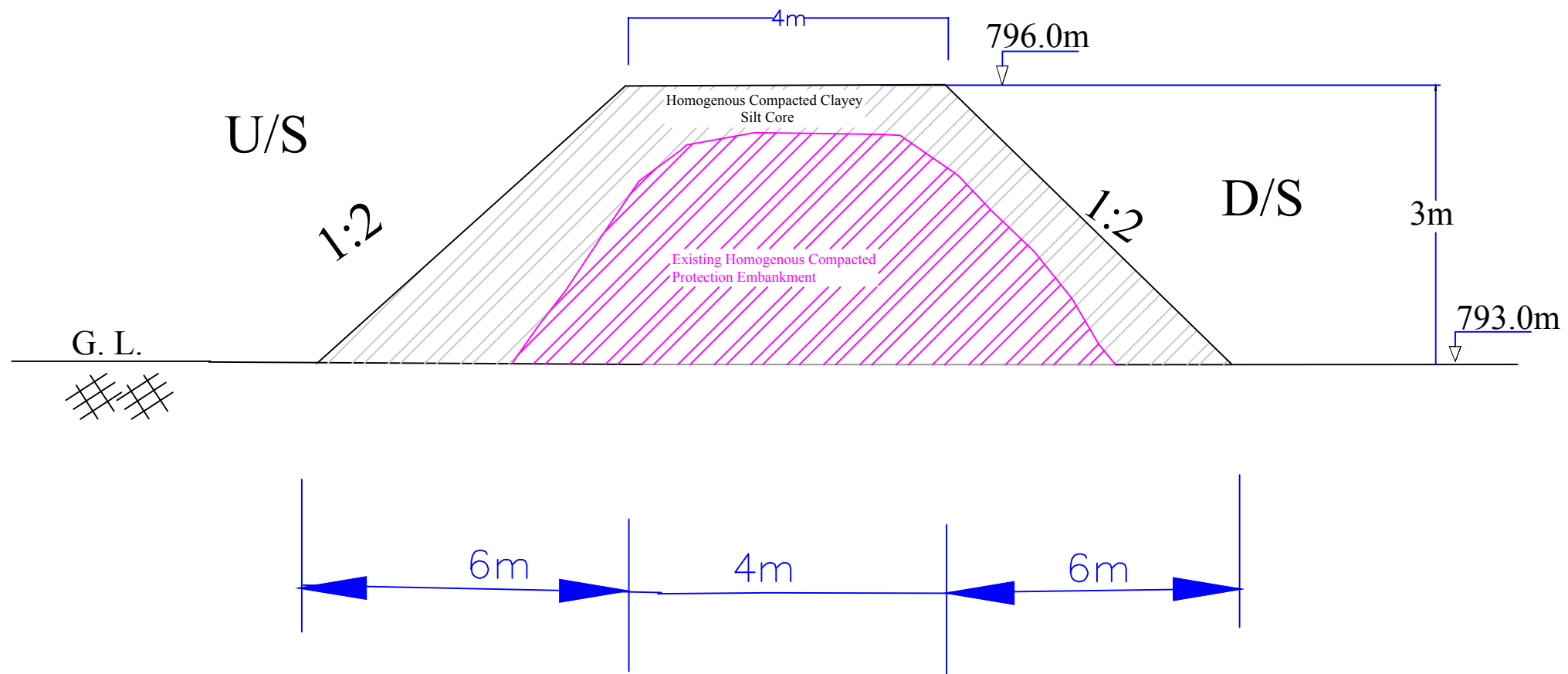
By  
**PRACTICAL CONSULTANCY ENGINEERING CO. LTD**  
 Moinies - 00249912319303,0024991293173  
 Email: pceco3113@gmail.com, Web: www.pceco-sudan.com

REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	[Signature]

<b>DRAWING NAME:</b> EXISTING PROTECTION EMBANKMENT PROFILE			
<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>KUSSA Wier</b>	
<b>CHECKED:</b> Prof.Eng. Bashar Kamal	<b>SURVEYED:</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DATE:</b> November 2022
<b>SCALE:</b>			<b>DRAWING NO:</b>

06





**Practical ACTION**

**PROJECT**  
 Consultancy Studies and Designs for Water Spreading weirs (Eid elbeida Sag Elnaam and Kussa & Sarafya) Villages in North Darfur State

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REV.	DESCRIPTION	DATE	SIGN.
Third	REDESIGNED AS DIRECTED AND APPROVED BY THE CLIENT	Nov. 2022	[Signature]

<b>DRAWING NAME:</b> Typical Cross Section of Existing Protection Embankment			
<b>DESIGNED:</b> Dr.Eng. HASHIM M. HAMID	<b>DRAWN:</b> Eng. Ahmed M. Dayer	<b>KUSSA Wier</b>	<b>SCALE:</b>
<b>CHECKED:</b> Prof.Eng. Bashar Kamal	<b>SURVEYED:</b> Eng. Ishag Abdalla Bakhit	<b>CONTRACT No</b>	<b>DATE:</b> November 2022
			<b>DRAWING NO:</b> <b>07</b>