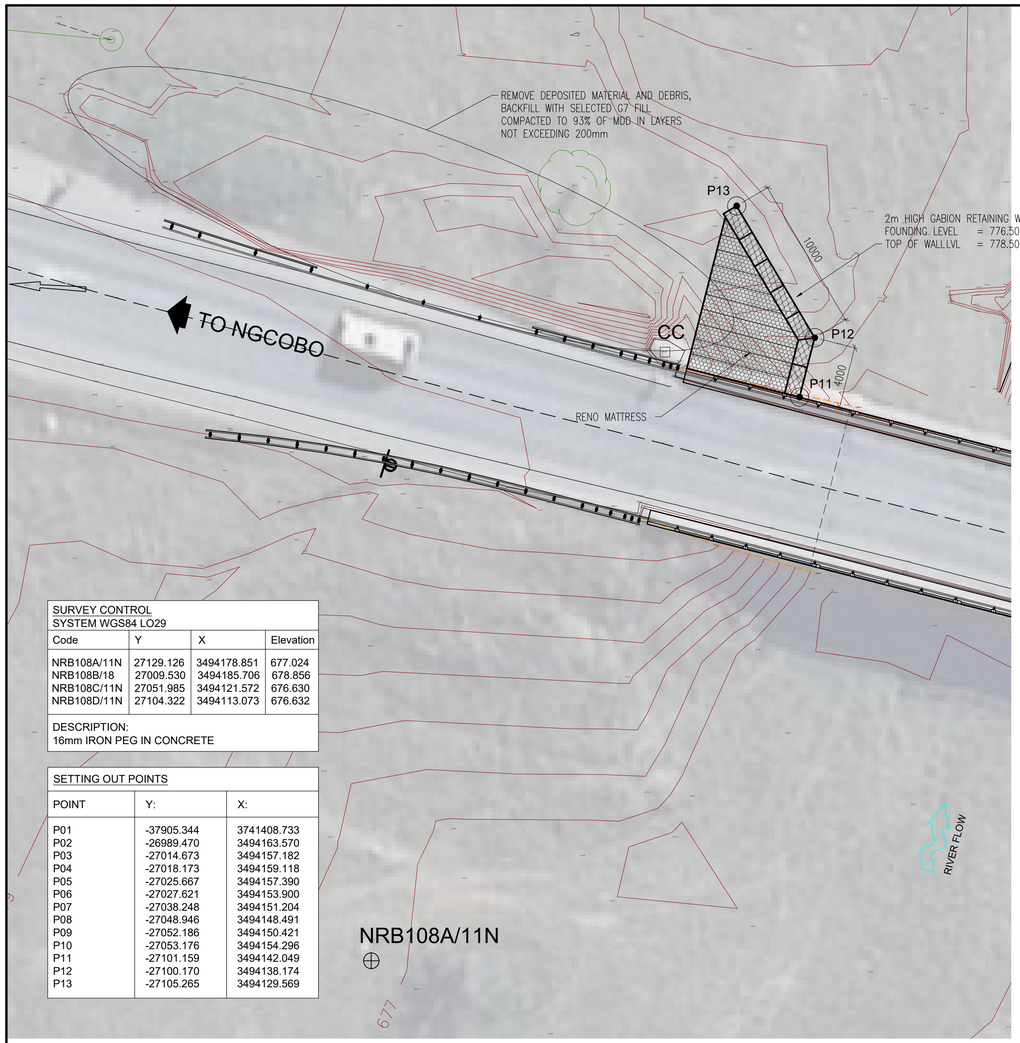
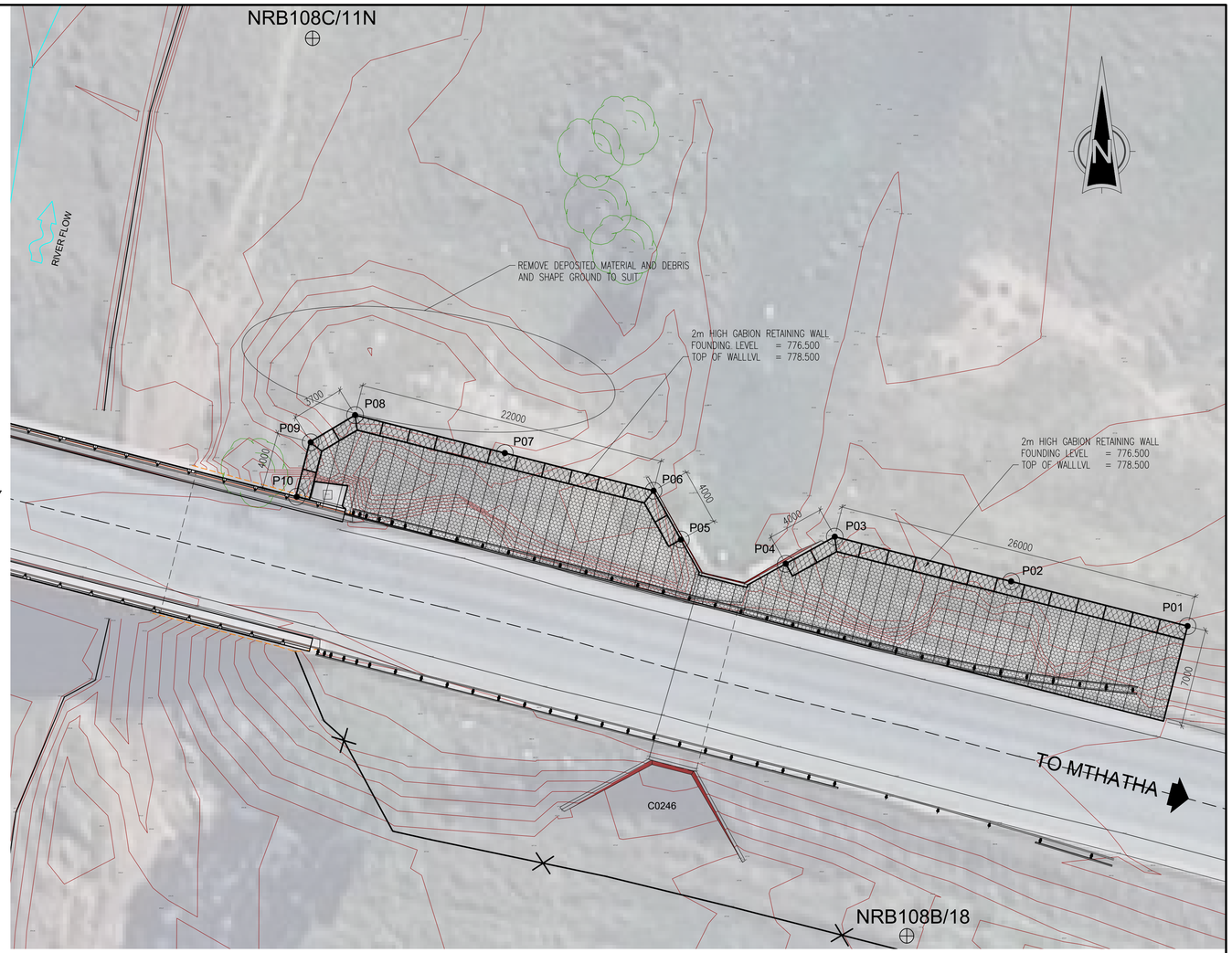
FOR TENDER ONLY



SURVEY CONTROL SYSTEM WGS84 LO29			
Code	Y	X	Elevation
NRB108A/11N	27129.126	3494178.851	677.024
NRB108B/18	27009.530	3494185.706	678.856
NRB108C/11N	27051.985	3494121.572	676.630
NRB108D/11N	27104.322	3494113.073	676.632
DESCRIPTION: 16mm IRON PEG IN CONCRETE			

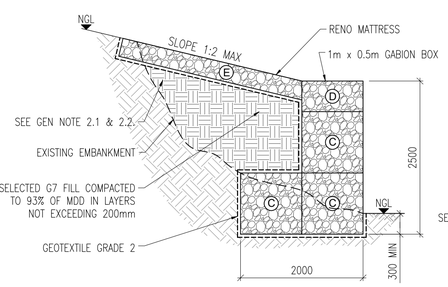
SETTING OUT POINTS		
POINT	Y:	X:
P01	-37905.344	3741408.733
P02	-26989.470	3494163.570
P03	-27014.673	3494157.182
P04	-27018.173	3494159.118
P05	-27025.667	3494157.390
P06	-27027.621	3494153.900
P07	-27038.248	3494151.204
P08	-27048.946	3494148.491
P09	-27052.186	3494150.421
P10	-27053.176	3494154.296
P11	-27101.159	3494142.049
P12	-27100.170	3494138.174
P13	-27105.265	3494129.569



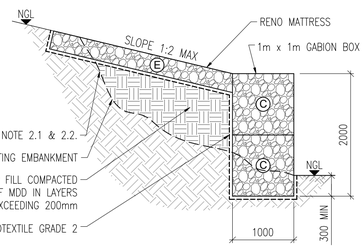
PLAN ON BRIDGE B4117 & CULVERT C0246 - (R61/8 @ km 43.65)

1:200

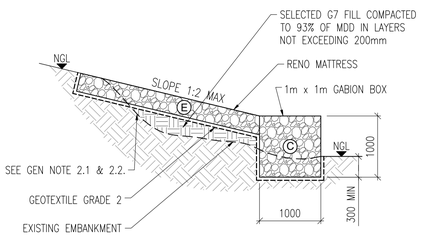
NOTE ON GABION FOUNDING MATERIAL:
IN-SITU MATERIAL TO HAVE A MINIMUM BEARING PRESSURE OF 100kPa, ANY UNSUITABLE MATERIAL
TO BE REMOVED AND REPLACED BY 500mm LAYER OF ROCKFILL AS DIRECTED ON SITE BY THE ENGINEER



2.5m HIGH GABION WALL SECTION
NTS



2m HIGH GABION WALL SECTION
NTS



1m HIGH GABION WALL SECTION
NTS

TYPICAL GABION WALL SECTIONS (1m TO 2.5m HEIGHT)

1. GENERAL
1.1. THE COTO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR SOUTH AFRICAN ROAD AUTHORITIES TOGETHER WITH THE PROJECT SPECIFICATIONS SHALL APPLY.
1.2. THE CONTRACTOR SHALL VERIFY ALL CO-ORDINATES, LEVELS AND DIMENSIONS ON SITE BEFORE CONSTRUCTION COMMENCES. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER AS SOON AS POSSIBLE.

2. BACKFILL
2.1. EXISTING FILL EMBANKMENTS SHALL BE BENCHED TO AVOID WEDGE-SHAPED G7 FILL LAYERS.
2.2. PROVIDE COMPOSITE REINFORCING GEOTEXTILE (ROCKGRID PC OR SIMILAR) BETWEEN THE EXISTING FILL EMBANKMENT AND THE IMPORTED G7 FILL (AS DIRECTED ON SITE BY THE ENGINEER)
2.3. WHERE PROPER COMPACTION OF THE FILL IS NOT POSSIBLE, THE CONTRACTOR MAY SUBSTITUTE WITH SOILCRETE, CONSISTING OF G7 MATERIAL WITH 5% CEMENT AND SUFFICIENT WATER FOR CONSISTENCY TO ALLOW VIBRATION COMPACTION.

3. GABION NOTES
3.1. GABION AND RENO MATTRESS COVERS/LIDS TO BE HAND-CAPPED WITH A 50mm THICK ARTIFICIAL LAYER OF 15MPa CONCRETE TO PREVENT THEFT OF EXPOSED WIRE MESH (AS DIRECTED ON SITE BY THE ENGINEER)
3.2. GABION STRENGTH REQUIREMENTS :
TYPE 80 MESH, 2.mm DIAMETER
MESH TENSILE STRENGTH = 50.11kN/m

4. GABION PRODUCTS/MATERIALS
4.1. GEOTEXTILE GRADE 2
NONWOVEN NEEDLEPUNCHED AND THERMOCALENDERED POLYPROPYLENE GEOTEXTILE WITH A CBR OF 2.6 kN (SANS 12236), PUNCTURE RESISTANCE OF 18 mm (SANS 13433). PERMEABILITY OF 3OX10-3 m/s (SANS 11058) AND APPARENT OPENING SIZE OF 75 µm (SANS 12956). THICKNESS AT 2 kPa OF 0.9mm (SANS 9863).

4.2. GABIONS
GABIONS ARE BASKETS MADE OF HEXAGONAL WOVEN WIRE MESH TYPE 80, COMMONLY REFERRED TO AS DOUBLE TWIST WIRE MESH AS PER SANS 1580. THE 2.7mm STEEL WIRE USED IN THE MANUFACTURE OF GABIONS IS HEAVILY GALVANISED TO CLASS A WITH ZINC OR ZINC ALLOY (GALFAN ZN 95AL5) COATED WIRE ACCORDING TO SANS 1580 AND SANS 10244-2 AND HAS A TENSILE STRENGTH BETWEEN 350-575N/mm². IF REQUIRED, A POLYMER COATING IS EXTRUDED OVER THE GALVANISED WIRE TO PROVIDE ADDED PROTECTION FOR USE IN AGGRESSIVE ENVIRONMENTS WHERE CORROSION IS PRESENT. THE TWO TYPES OF POLYMER COATINGS AVAILABLE ARE, PVC COATING TO SANS 1580 WHICH IS AVAILABLE IN GREY OR TAN AND HAS A NOMINAL THICKNESS OF 0,5mm AND PA6 NYLON COATING EN 10245-5 WHICH COMES IN BLACK AND HAS A NOMINAL THICKNESS OF 0,4mm.

4.3. RENO AND CASTORO MATTRESS
RENO AND CASTORO MATTRESSES ARE MANUFACTURED TO SANS 1580 FROM HEXAGONAL WOVEN STEEL WIRE MESH TYPE 60, COMMONLY REFERRED TO AS DOUBLE TWIST WIRE MESH. THE STEEL WIRE USED DURING THE MANUFACTURE OF THE MATTRESS IS 2.2mm DIAMETER TO SANS 675 AND IS HEAVILY ZINC OR ZINC ALLOY (GALFAN ZN 95AL5) COATED, CLASS A AS PER SANS 1580 AND HAS A TENSILE STRENGTH BETWEEN 350-575N/mm². IF REQUIRED, A POLYMER COATING IS EXTRUDED OVER THE GALVANISED WIRE TO PROVIDE ADDED PROTECTION FOR USE IN AGGRESSIVE ENVIRONMENTS WHERE CORROSION IS PRESENT. THE TWO TYPES OF POLYMER COATINGS AVAILABLE ARE, PVC COATING TO SANS 1580 WHICH IS AVAILABLE IN GREY OR TAN AND HAS A NOMINAL THICKNESS OF 0,5mm AND PA6 NYLON COATING TO EN 10245-5 WHICH COMES IN BLACK AND HAS A NOMINAL THICKNESS OF 0,4mm.

4.4. GABION ROCK
GABION ROCK FOR THE FRONT FACE SHALL BE NON WEATHERABLE, NON-FRIABLE, WELL GRADED BETWEEN 150mm AND 250mm DIAMETER WITH A MINIMUM SPECIFIC GRAVITY OF 2,6.

4.5. RENO ROCK
ROCKS SHALL RANGE BETWEEN 75mm AND 150mm. THE RANGE IN SIZES MAY ALLOW FOR A VARIATION OF 5% OVERSIZE AND/OR 5% UNDERSIZE ROCK, PROVIDED IT IS NOT PLACED ON THE EXPOSED SURFACE.

LEGEND:

(C)	=	2 x 1 x 1	GABION UNIT
(D)	=	2 x 1 x 0.5	GABION UNIT
(E)	=	3 x 1 x 0.3	RENO MATTRESS

VA			
No.	DATE	REVISION	CONSULT. ENG.
		FOR TENDER	

CONSTRUCTION RECORD
WORKS CONTRACT ENGINEER
Name :
Prof. Reg. No. :
Date :
SANRAL PROJECT MANAGER
Name :
Prof. Reg. No. :
Date :

FOR TENDER ONLY

DESIGNED BY
NAME
Prof. Reg. No.
CHECKED BY
NAME
Prof. Reg. No.
DRAWN BY
NAME

CONSULTANT APPROVAL
Name :
Prof. Reg. No. :
Date :

HEAD OFFICE
48 Tambotie Avenue
Val de Grace
Pretoria
0184
PO Box 415
Pretoria 0001
South Africa
Tel: (012) 844 8000

SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
Reg.No. 1998/009354/30
BUILDING SOUTH AFRICA THROUGH BETTER ROADS

SOUTHERN REGION
20 Shoreward Drive
Baywest
Port Elizabeth
6025
P.O. Box 27230
Greenacres
6057
Tel: (041) 398 3200
Fax: (041) 398 3222

ACCEPTANCE
THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING
for CEO: SA NATIONAL ROADS AGENCY LTD.
Date:

PROJECT DESCRIPTION
AD-HOC STRUCTURAL AND DRAINAGE SERVICES IN THE SOUTHERN REGION – EMERGENCY BRIDGE REPAIR WORKS

DRAWING TITLE
R61 SECTION 7 km 43.65
BRIDGE REPAIRS - GABION LAYOUT AND DETAILS

SCALE : AS SHOWN
SHEET 1 OF 1

PROJECT NUMBER	X.003-080-2024/1-C	
DRAWING LOCATION DATA	START	END
ROUTE	R61	R61
SECTION	07	07
DRAWING km DISTANCE	KM 43.65	KM 43.65
DRAWING TYPE	STRUCTURES - BRIDGES	
BRIDGE/STRUCTURE No.	B4117 & C0246	
CONSULTANT DRAWING No.	201931-R61-07-44-102	VER
SANRAL DOCUMENT #	##########	VA