

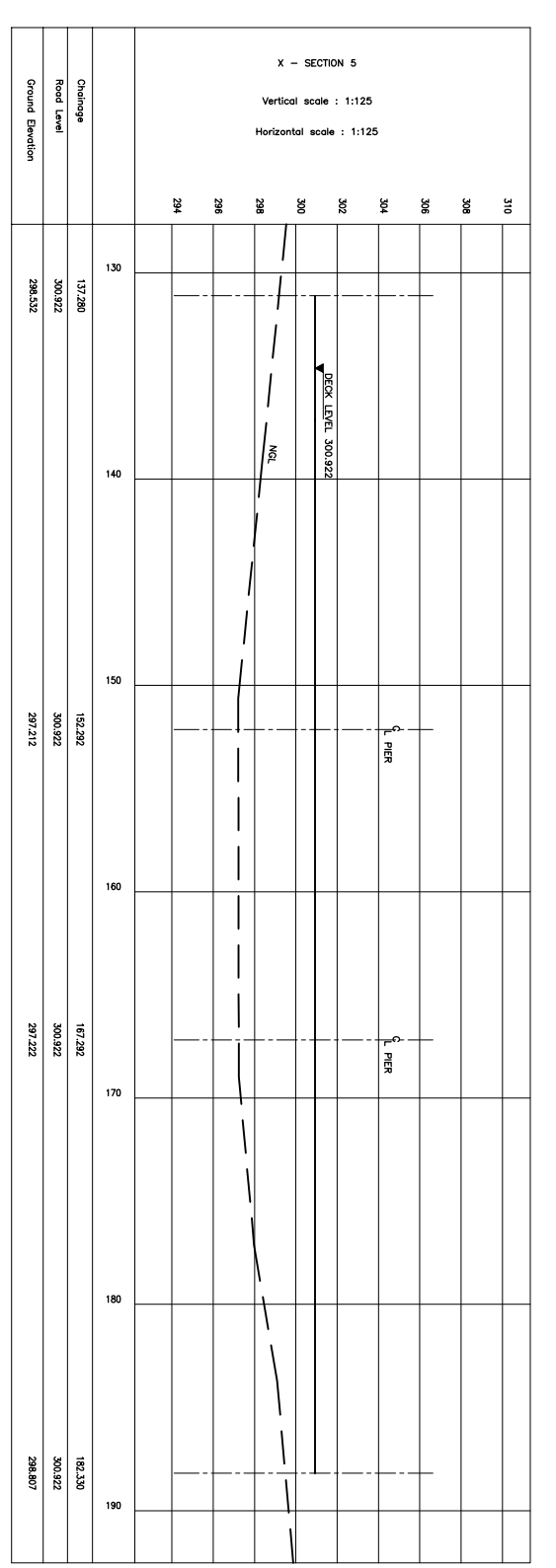
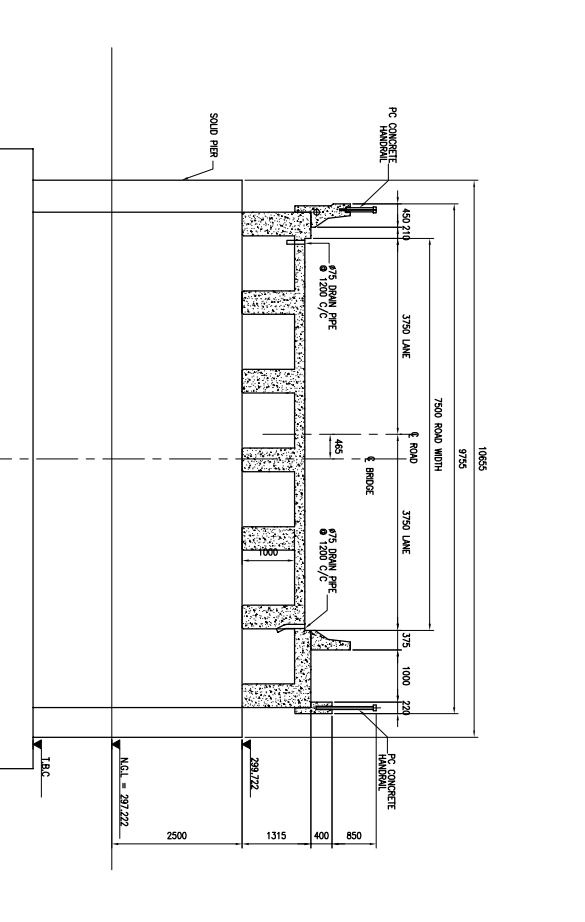
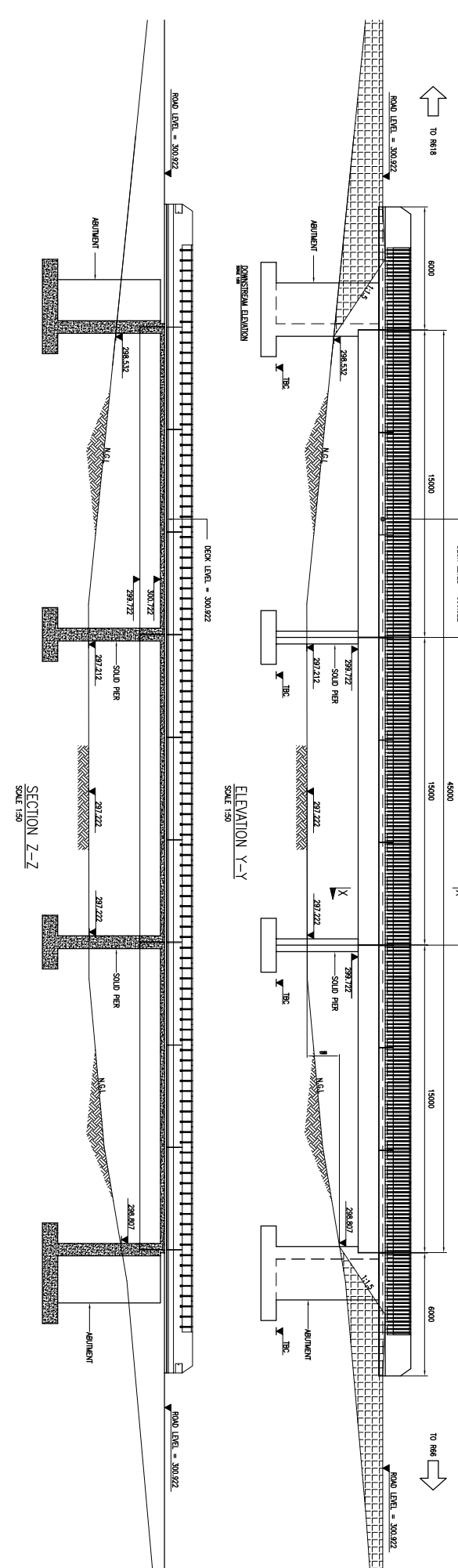
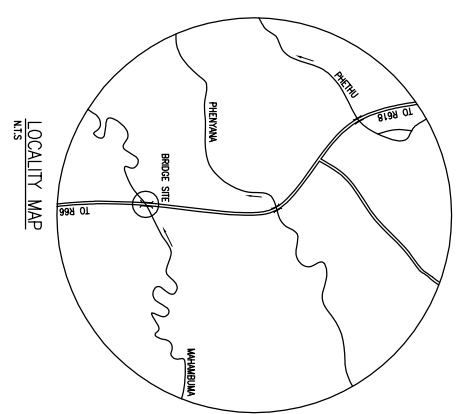
HYDRAULIC INFORMATION

CATCHMENT SLOPE : 3.00 %
M.A.P. = 798 mm
LENGTH : 4.23 km

CATCHMENT AREA : 5.52 km²
DESIGN FLOOD RETURN PERIOD = 1:100 yrs

T	Q	X	HW	FLOWLINE ELEVATION (m)	MAX. NATURAL VELOCITY (m/s)	EXT. COMMENTS
20	76.41	0.12	0.85	298.16	2.81	
50	111.89	0.175	1.2	298.41	2.33	
100	141.71	0.221	1.55	298.58	2.82	CONCRETE SAND CHANNEL

FORMULA: $Q = C A \sqrt{H}$ where $C = 60.4 \text{ m}^{3/2}$ and $K = 5.6$



DESIGN LOADINGS

ALL LOADS IN ACCORDANCE WITH NON PRINCIPAL STRUCTURES DESIGN MANUAL AND THE WHERE APPLICABLE ROUTE CLASSIFICATION : MAIN SECONDARY MAIN ROAD

TRAFFIC LOADING : IM LOADING, IM LOADING, IM LOADING

WINDERS DESIGNED IN ACCORDANCE WITH STANDARD DETAIL DSR, NO. S33 6.10 : PARAPET AND HANDRAIL DESIGN PROVISIONS

ZOOM DRAWING TO ALL EXPOSED SHARP CORNERS

FOUNDATION BEARING CAPACITY TO BE CONFIRMED ON GEOTECH.

CONCRETE CLASS AND COVER

ELEMENT	CLASS/STONE SIZE	COVER TO REINFORCEMENT
FOUNDATIONS	40/75	75
ABUTMENTS	40/75	50
PIERS	40/75	50
PARAPETS	30/75	50
WIND PROTECTORS	30/75	50
WIND SURFACES	15/75	50

WINDERS : F2 (S20M)
WINDERS : F3
WINDERS : F4
WINDERS : F5

HYDROLOGY AND HYDRAULICS

SEE DATA BLOCK & GRAPH

BOREHOLE DATA

TO BE CONFIRMED ON GEOTECHNICAL INVESTIGATION

Issued for Information	MM	MM	PRELIMINARY	APRIL 2013	Designed by - M. MHETHWA	PROVINCE OF KWAZULU - NATAL		Bridge Engineer Head : Transport	Staked km distance Sheet :- 1 OF 1
Supervising Engineer				APRIL 2013	Checked by - M. MTONGA	DEPARTMENT OF TRANSPORT			
Supervising Authority				APRIL 2013	Drawn by - W. SBIYA				
Survey/Plan No.:-				APRIL 2013	Checked by - M. MHETHWA				
File reference:-									
Symbol	Date	Description	Checked	Signed					
AMENDMENTS									

ROAD P736 NONGOMA-OSUTHU
BRIDGE COORDS : 2775940.367S & 31730738.322E

MAHAMBUMA RIVER BRIDGE
GENERAL ARRANGEMENT

Scale AS SHOWN

Plan No.:- 0001/01