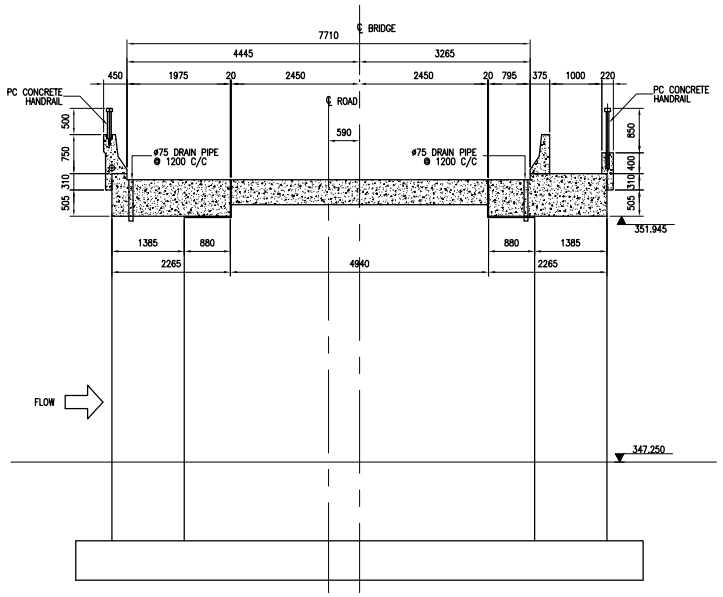
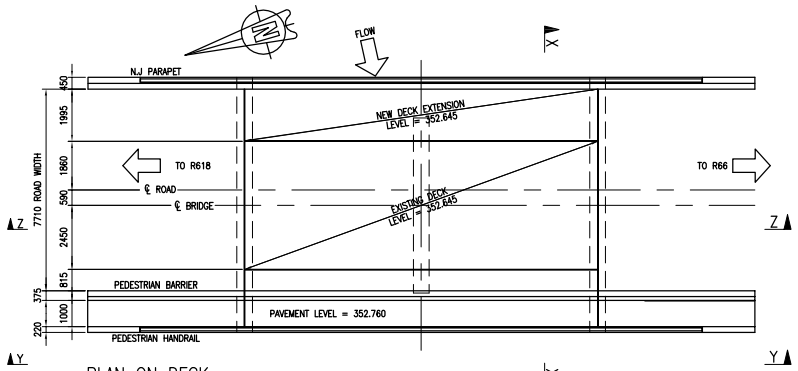
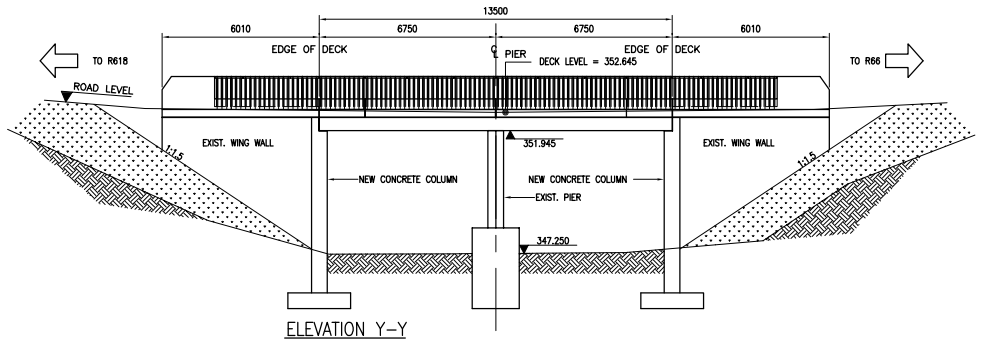


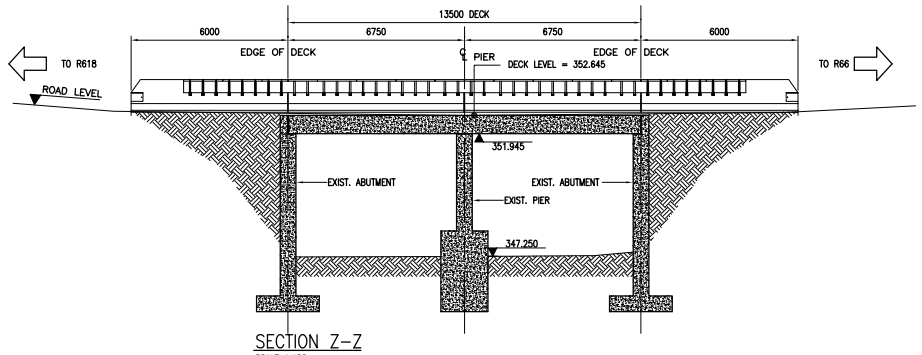
SECTION X–X
SCALE 1:50



PLAN ON DECK
SCALE 1:100

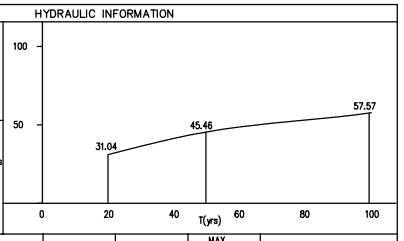


ELEVATION Y–Y
SCALE 1:100

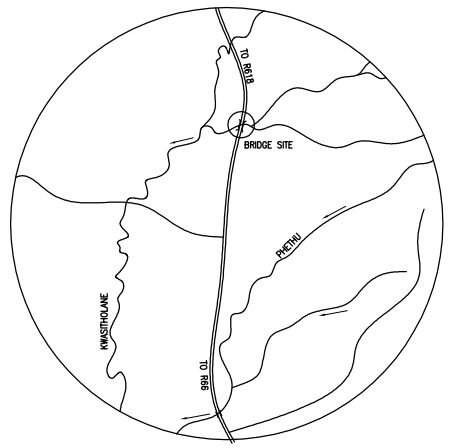


SECTION Z–Z
SCALE 1:100

HYDRAULIC INFORMATION	
CATCHMENT SLOPE : 1.38 %	
M.A.P. = 740 mm	
LENGTH : 7.248 Km	
CATCHMENT AREA : 14.938 Km²	
DESIGN FLOOD RETURN PEROD = 100 yrs	



T (yrs)	Q (m³/s)	% R.M.F.	HW (m)	FLOODLINE ELEVATION (m)	MAX. NATURAL STREAM VEL. (m/s)	EXIT CONDITIONS
20	141.41	0.143	1.8	301.89	2.619	COARSE SAND ERODIBLE
50	207.08	0.209	2.25	302.34	3.068	
100	262.25	0.264	2.6	302.69	3.36	
KZN –	R.M.F. = 10^{4} (A/10^{2})$^{1-0.1\,x}$ = 310 m /s²					K = 5,6



LOCALITY MAP
N.T.S

DESIGN LOADINGS

ALL LOADS IN ACCORDANCE WITH KZN PROVINCIAL STRUCTURES DESIGN MANUAL AND TH7 WHERE APPLICABLE

ROUTE CLASSIFICATION : MINOR SECONDARY MAIN ROAD

TRAFFIC LOADING : NA LOADING; NB LOADING; MA LOADING

PARAPETS DESIGNED IN ACCORDANCE WITH STYANDARD DETAIL DRG. No SSD 6.10 : PARAPET AND HANDRAIL LOADING APPLICATION.

25mm CHAMFERING 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	40/26	75
ABUTMENTS	40/26	50
PIERS	40/26	50
DECK	40/19	50
PARAPETS	30/19	50
MASS CONCRETE	15/19	

CONCRETE FINISHES

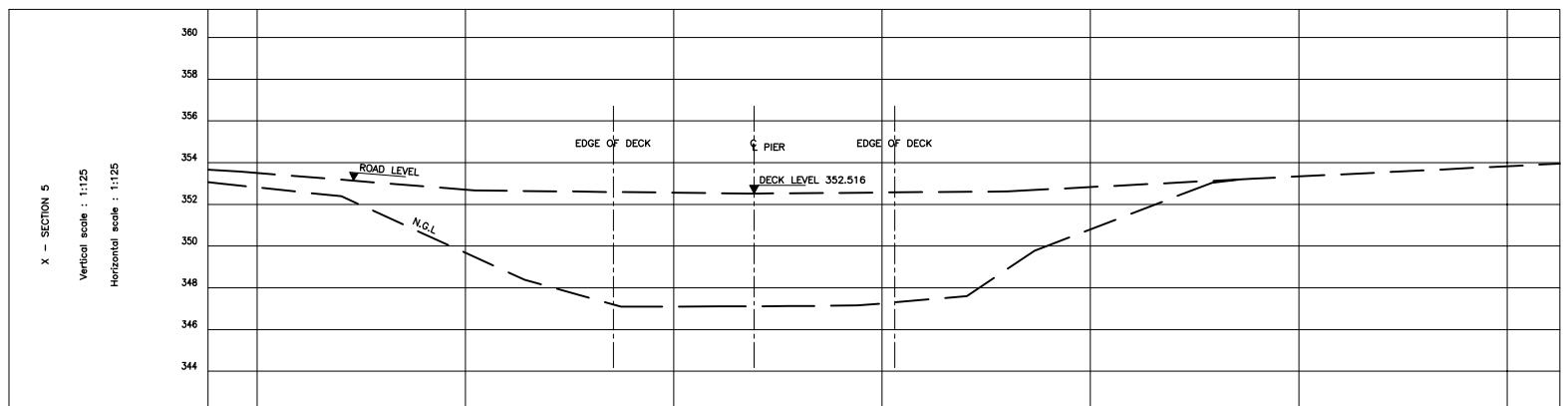
VISIBLE SURFACES : F2 (SMOOTH)
PARAPETS : F3
ELSEWHERE : F1

HYDOLOGY AND HYDRAULICS

SEE DATA BLOCK & GRAPH

BOREHOLE DATA

TO BE CONFIRMED ON GEOTECHNICAL INVESTIGATION.



Chainage	130.00	140.00	146.991	153.856	162.800
Road Level	353.505	352.703	352.594	352.516	352.593
Ground Elevation	352.811	349.679	349.195	349.115	349.305

BRIDGE LONG SECTION
N.T.S

Symbol	Date	Description	Checked	Signed
A	04/12	Issued for information	MM	MM

AMENDMENTS

PRELIMINARY

Supervising Engineer — Date

Supervising Authority

APRIL 2013	Designed by:– M. MTHETHWA
APRIL 2013	Checked by:– M. MTONGA
APRIL 2013	Drawn by:– W. SIBIYA
APRIL 2013	Checked by:– M. MTHETHWA
Survey Plan No:–	File reference:–

PROVINCE OF KWAZULU – NATAL

DEPARTMENT OF TRANSPORT

INGEROP
Block A – Essex Park, 46 Essex Terrace, Westville 3630
P.O. Box 748, Westville 3630
Tel: (031) 266 6363 Fax: (031) 266 8367
e–mail : dbn@ingerop.co.za

Bridge Engineer

Head : Transport

ROAD P736 NONGOMA–OSUTHU
BRIDGE COORDS : 27°58'14.87"S & 31°30'20.85"E

KWASITHOLANE RIVER BRIDGE
GENERAL ARRANGEMENT

Staked km distance

Scale: AS SHOWN

Sheet :– 1 OF 1 of :–

Plan No.:– 0001/01