

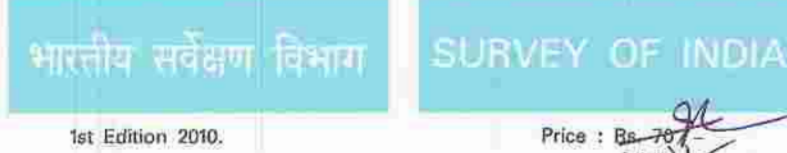
BHAM MEDIUM IRRIGATION PROJECT

Justification note for locating the project in forest land of Bham Medium Irrigation Tank

Bham Medium Irrigation Tank envisages construction of earthen bund on Bham river near village Rajgarh of Pandhara block, which has a catchment area 193.459 sq.km. The project is proposed to serve the irrigation need in of 8100 Ha. A detailed survey has been carried out to achieve optimum project cost with minimum submergence area. For this purpose a study is done for the alternative dam site with different height and finally F.T.L. is decided at R.L. 321.75 m; with 29.70 MCM live storage to irrigate 6100 Ha.

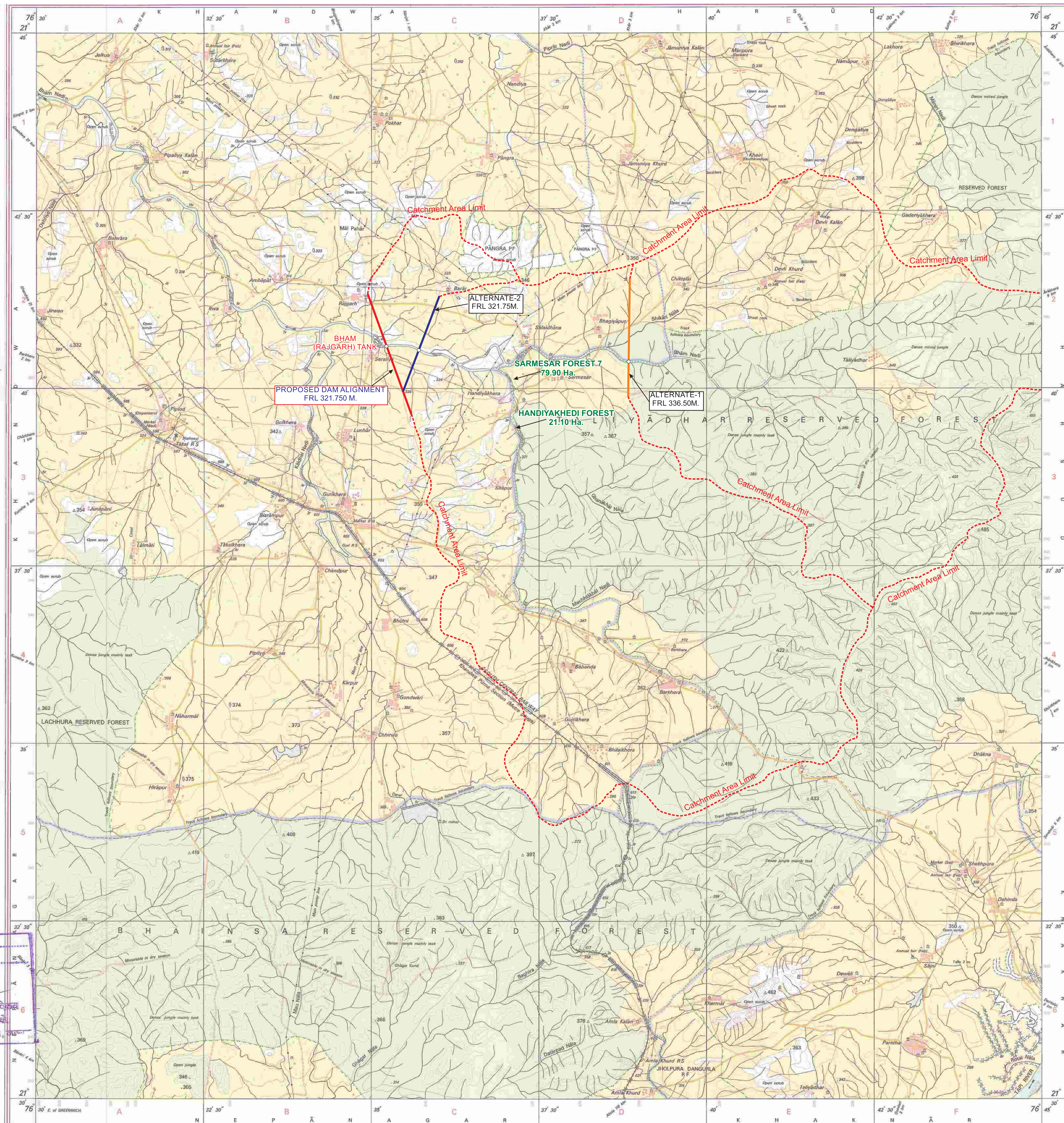
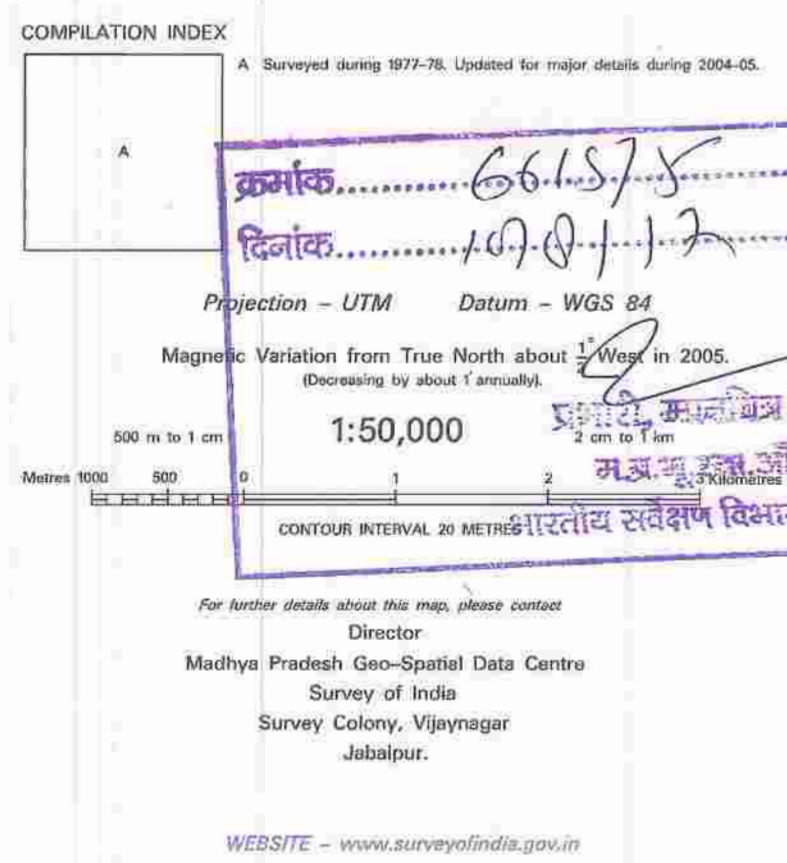
It is again stated that the proposed alignment and F.T.L. covers minimum forest area under submergence.

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NOTES :-

Heights are in metres and above Indian mean sea level.
Contours are approximate.
A relative height, Δ , represents the approximate height, in metres, between the top and bottom of a steep slope.



Salient Features of Alternate Dam Sites of Bham Medium Project					
S. No.	Particulars	Alternate - 1	Alternate - 2	Alternate - 3	
I	General				
	Name of Project	Bham (Rajgarh)	Bham (Rajgarh)	Bham (Rajgarh)	
	Type of the Project	Irrigation	Irrigation	Irrigation	
	Location	Near Bhagyapur Village	Near Semiya Village	Near Rajgarh Village	
	Latitude	21° 40' 26.3" N	21° 40' 32" N	21° 40' 36.4" N	
	Longitude	76° 38' 49.7" E	76° 35' 41" E	76° 35' 13.2" N	
	River Basin	Narmada	Narmada	Narmada	
	Located on River	Bham	Bham	Bham	
	Sub basin	Chhota Tawa	Chhota Tawa	Chhota Tawa	
	Tehsil	Khandwa	Khandwa	Khandwa	
	District	Khandwa	Khandwa	Khandwa	
	State	Madhya Pradesh	Madhya Pradesh	Madhya Pradesh	
	Hydrology				
	Catchment Area	79.680 sqkm.	185.853 sqkm.	193.459 sqkm.	
	Intercepted Catchment Area	7.345 sqkm.	56.387 sqkm.	56.387 sqkm.	
II	Net Catchment Area	72.335 sqkm.	129.466 sqkm.	137.072 sqkm.	
	Rain Gauge Station	Khandwa	Khandwa	Khandwa	
	Period of Data Availability	1982-83 to 2011-12	1982-83 to 2011-12	1982-83 to 2011-12	
	Available Annual Yield at Dam Site 75% Dependable	12.830 Mcum.	29.916 Mcum.	31.140 Mcum.	
	No. of Proposed U/S Project	1 Minor Project	3 Minor Project	3 Minor Project	
	Planned Utilization by the U/S Projects	1.115 Mcum.	8.773 Mcum.	8.773 Mcum.	
	Hydrometeorological Station	Khandwa	Khandwa	Khandwa	
	Design Flood				
	Estimated SPF	1109.55 cumecs	2588.02 cumecs	2893.93 cumecs	
	Flood Lift	1.20 m.	Nil	Nil	
	Sediment Estimation				
	Sediment Rate	476 cum/sqkm/year	476 cum/sqkm/year	476 cum/sqkm/year	
	Principal Levels				
	Lowest Sill Level	330.15 m.	317.35 m.	315.20 m.	
	III	Full Reservoir Level	336.50 m.	321.75 m.	321.75 m.
Maximum Water Level		337.70 m.	321.75 m.	321.75 m.	
Top Bund Level		339.70 m.	327.00 m.	325.50 m.	
Capacity at L.S.L.		1.721 Mcum.	3.077 Mcum.	2.639 Mcum.	
Capacity at F.R.L.		20.239 Mcum.	16.470 Mcum.	32.339 Mcum.	
Submergence at F.R.L.		503.00 Ha.	491.87 Ha.	825.49 Ha.	
Irrigation					
Net Culturable Command Area		2050.00 Ha.	2575.00 Ha.	6100.00 Ha.	
Annual Irrigation Proposed		2368.00 Ha.	2975.00 Ha.	6100.00 Ha.	
Domestic Water Supply					
Quantum of water made available		0.361 Mcum.	0.361 Mcum.	0.361 Mcum.	
Utilization in 30 years (working table)					
Period of Study		1982-83 to 2011-12	1982-83 to 2011-12	1982-83 to 2011-12	
Average annual water utilized for irrigation		10.925 Mcum.	13.631 Mcum.	22.136 Mcum.	
IV		Average annual reservoir evaporation	3.178 Mcum.	3.008 Mcum.	4.625 Mcum.
	Domestic water supply	0.361 Mcum.	0.361 Mcum.	0.361 Mcum.	
	Average annual utilization	14.464 Mcum.	17.000 Mcum.	25.097 Mcum.	
	Net CCA	2050.00 Ha.	2575.00 Ha.	6100.00 Ha.	
	Intensity of Irrigation	115.51%	115.51%	100.00%	
	Average delta of 30 years for proposed cropping	463.50 mm.	463.50 mm.	463.50 mm.	
	Dam Data				
	Type of Dam	Earthen dam Zonal Section	Earthen dam Zonal Section	Earthen dam Zonal Section	
	Total Length of Earth Dam including Spillway	2825.00 m.	3181.00 m.	3108.00 m.	
	Maximum Height of Dam	15.00 m.	18.30 m.	16.50 m.	
	Surplusage arrangement				
	Type of Weir	Un Gated Spillway	Gated Spillway	Gated Spillway	
	Length of Weir	115.00 m.	142.50 m.	148.00 m.	
	V	Submergence Details			
		Total Submergence area	503.00 Ha.	491.87 Ha.	825.49 Ha.
Private Land					
(i) Irrigated		133.47 Ha.	335.39 Ha.	357.80 Ha.	
(ii) Un Irrigated		12.51 Ha.	31.43 Ha.	278.76 Ha.	
Govt. Land		34.02 Ha.	24.45 Ha.	87.93 Ha.	
Forest area		323.00 Ha.	101.00 Ha.	101.00 Ha.	
Forest Classification		F3	F3	F3	
Village submergence		50% of Chiktalai village comes under submergence	Nil	Nil	
Submergence Ratio		5.60%	11.27%	13.53%	
Techno Economic feasibility		Not feasible	Not feasible	Feasible	

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