

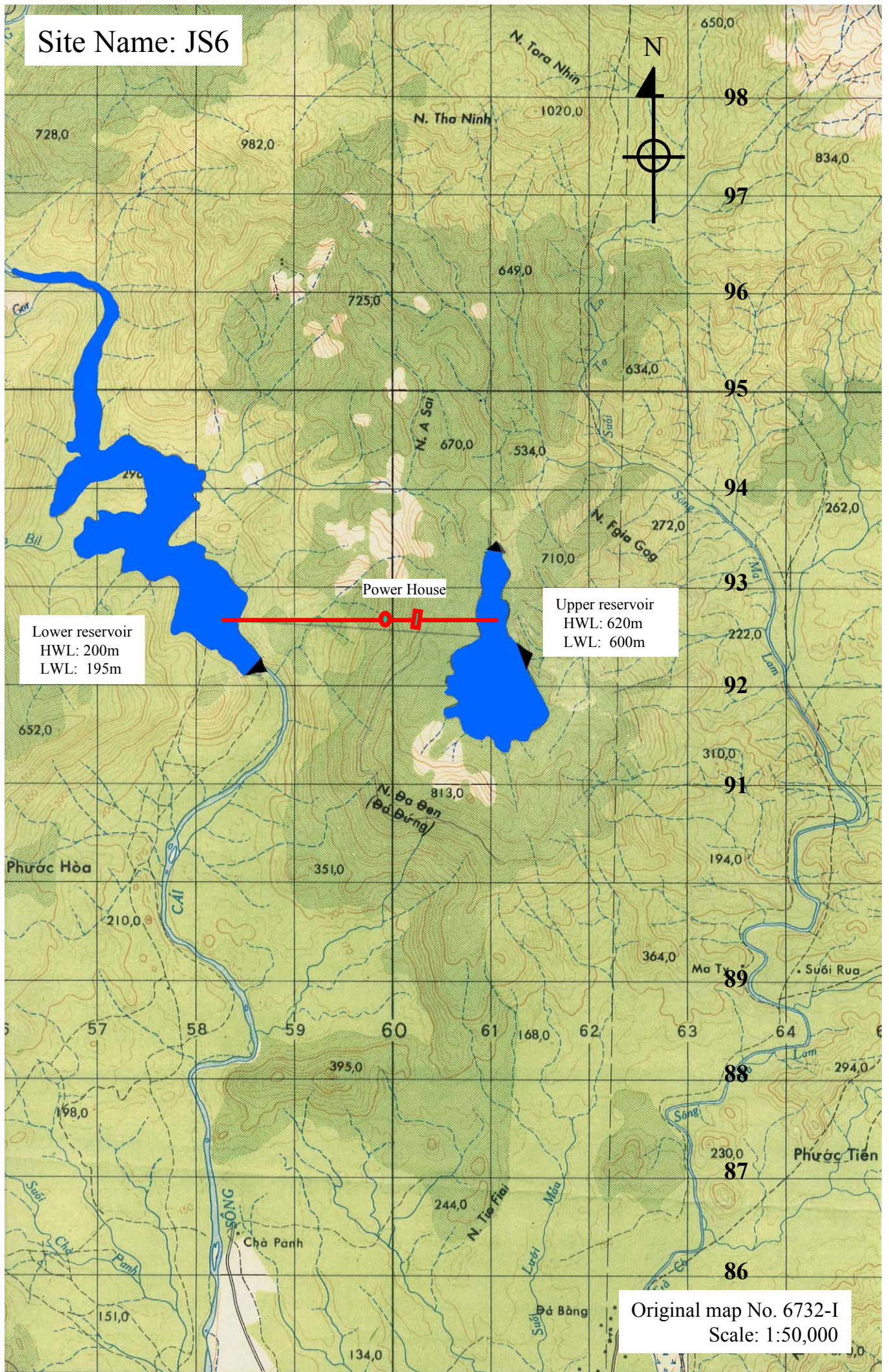
## The features of promising potential sites for PSPP

Site Name		JS 6
Location (Name of River)		Upper dam/reservoir : Ninh Thuan Province / Phuoc Dai District / Phuoc Hoa Commune (None) Lower dam/reservoir : Ninh Thuan Province / Phuoc Dai District / Phuoc Hoa Commune (Song Cai River)
Project Parameter	Installed Capacity P(MW) Design Discharge Qd(m <sup>3</sup> /s) Effective Head He(m) Peak Duration Time T(hrs)	1,000 320 400 7
Topography and Geology	(Overall geological condition)	Jurassic sedimentary rock (sandstone, siltstone, shale; J2ln) and medium grained granodiorite ( $\gamma \xi$ Kdc2) is distributed in this area as a basement, and later volcanics (K2dd) and intrusive rocks ( $\gamma$ K2cn1~2) intruded these basement. NE-SW system and NW-SE system of structural lines are reported in this area. Mainly massive granite was found in the surveyed area. This granite was slightly weathered as a thickness of 2~5m. Generally, the slopes of hills are gently.
	(Upper dam/reservoir)	<ul style="list-style-type: none"> <li>- Mainly Jurassic granite (<math>\gamma \xi</math> Kdc2) occurs around the upper dam site area.</li> <li>- The center of the planned lower dam site can be accessed by a vehicle through an un-paved approach road about 16 km long and two traffic lane from Ninh Son, but it is necessary to construct a new approach road about 5 km long from there to the site. And a new bridge about 150 m is required for crossing the river.</li> <li>- There are a lot of granite rock on the surface around the upper reservoir, the thickness of weathering is relatively thin as 2~5m. Alary gullies exist on the top of mountain, and the upper reservoir can be made by constructing a dam at the confluence of the gullies. As many high trees which is a diameter of about 50 cm and natural were seen, the permeability of the upper dam site is presumed to be low. Therefore a dam type can be adopted.</li> <li>- Since the effective head of about 420 m is comparatively small, the upper reservoir area will be required about 1.0 km<sup>2</sup> and H.W.L. will be about be about EL. 620 m. In this case, it is necessary to build a bank of about 500 m long on the ridge of right-bank which is lower than H.W.L. (E.L. 600 m – 620 m).</li> </ul>
	(Waterway • Power Station)	<ul style="list-style-type: none"> <li>- Mainly Jurassic granite (<math>\gamma \xi</math> Kdc2) is described around the upper dam site area.</li> <li>- The access tunnel to the underground power station and the tailrace can be approached from a planned lower dam site, and these lengths are short about 1.5 km.</li> <li>- Since the horizontal distance of all waterways is about 2.5 km long, this layout has a high economical efficiency.</li> <li>- Vertical shaft type of the penstock is more economical than inclined shaft type.</li> </ul>

	(Lower dam/reservoir)	<ul style="list-style-type: none"> <li>- Mainly Jurassic granite ( <math>\gamma</math> <math>\xi</math> Kdc2) occurs around the upper dam site area.</li> <li>- One of structural lines along the Son Cai river pass the lower reservoir from upstream to downstream.</li> <li>- The lower dam site can be accessed by a vehicle through an un-paved approach road about 16 km long and two traffic lane from Ninh Son. (The foundation of the un-paved road is sound.)</li> <li>- Since both ridges of the lower dam site have enough thickness and streambed is wide, fill type dam is suitable for the lower dam.</li> <li>- Water flow of the river which width was 20 – 30 meters is about 3.0 m<sup>3</sup>/s. Therefore mixed pumped storage type including conventional hydropower may be adopted.</li> <li>- There is a planned irrigation dam (H.W.L.175.44m, L.W.L.161m ) in the down stream of our plan. Since the L.W.L. is as elevation as the riverbed level of our planned lower dam, it is difficult to utilize the irrigation dam as the lower dam.</li> </ul>
Natural and Social Environment	Natural Park / Protected Area	The project site and its surrounding areas are not in any existing or proposed protected area.
	Prosperous fauna / flora	Type of forest is dry Type of forest is dry deciduous and most species of it from family Dipterocarpaceae. Large mammals such as muntjacks and birds such as pheasants still exist in the area.
	Minority	Reg Lai ethnic group live in the area. It is expected that they will receive negative impacts by the project.
	Resettlement / Compensatory assets	About 10 households need to be resettled from the lower dam site. Compensation for agricultural land, forest gardens and houses will occur.
	Historical / Cultural Heritage	There is no historical / cultural site in and around the project site.
	Road / Traffic condition	There is a good road to the lower dam site. It is necessary to construct a new one to the upper dam site.
Others' Special Note		The site is situated about 90 km to Di Linh sub-station (500kV).
Estimated Economic Value		730 mln US\$ (B/C=1.13)



Site Name: JS6



Lower reservoir  
HWL: 200m  
LWL: 195m

Upper reservoir  
HWL: 620m  
LWL: 600m

Power House

Original map No. 6732-I  
Scale: 1:50,000





Photo 1

The center of the planned lower dam site can be accessed by a vehicle through an un-paved approach road about 16 km long from Ninh Son, but it is necessary to construct a new approach road about 5 km long to the site.  
(View from the center of the lower reservoir)



Photo 2

Alary gullies exist on the top of mountain.  
(View from the confluence of valleys)



Photo 3

Many high trees which is a diameter of about 50 cm and natural were seen.



Photo 4

The ridges of the right-bank of the lower dam site have enough thickness.  
(View from the reservoir)



Photo 5

The ridges of the left-bank of the lower dam site have enough thickness.  
(View from the reservoir)



Photo 6

Water flow of the river which width was 20 – 30 meters is about 3.0 m<sup>3</sup>/s.