

**No. 45 Cau Gay Bridge – Component B -**

**(Ninh Thuan Province)**

**Site Information**

- 1) It connects farming communities with the district center of Ninh Son through NR27. There is transportation demand to carry agricultural production such as tobacco, sugarcane. Since the load of vehicle is limited to only 1 ton, heavy vehicles detours to access NR27 through NR27A.
- 2) The existing bridge is composed of RC slab at the center span and H beam type at the both side spans. The RC slab was built before 1975 and the 15m I-beams were added to both sides of the RC slab in 1989 after flood sweeping away the backside of abutments. Scouring around piers and incline of piers are observed. The slab on the I-beams was replaced to a steel-meshed slab from wooden type.
- 3) HWL is assumed to be the surface of the bridge in 2000 according to the interview result. The ordinal river flow is rather strong. The bedrocks are observed in the vicinity of the bridge.
- 4) Access roads with the earth surface and 4-5m in width have fair condition. Those roads are planed to upgrade to paved surface by local fund by 2002.
- 5) The centerline of the new bridge will be appropriate to set at around 15m upstream of the existing one in consideration with the access road alignment. The bridge length will be 63m with 3 spans. 1 m of freeboard is required.
- 6) No resettlement is required.
- 7) A vacant field 100 m away from the bridge at the right bank can be utilized as construction yard.

The site rough sketch

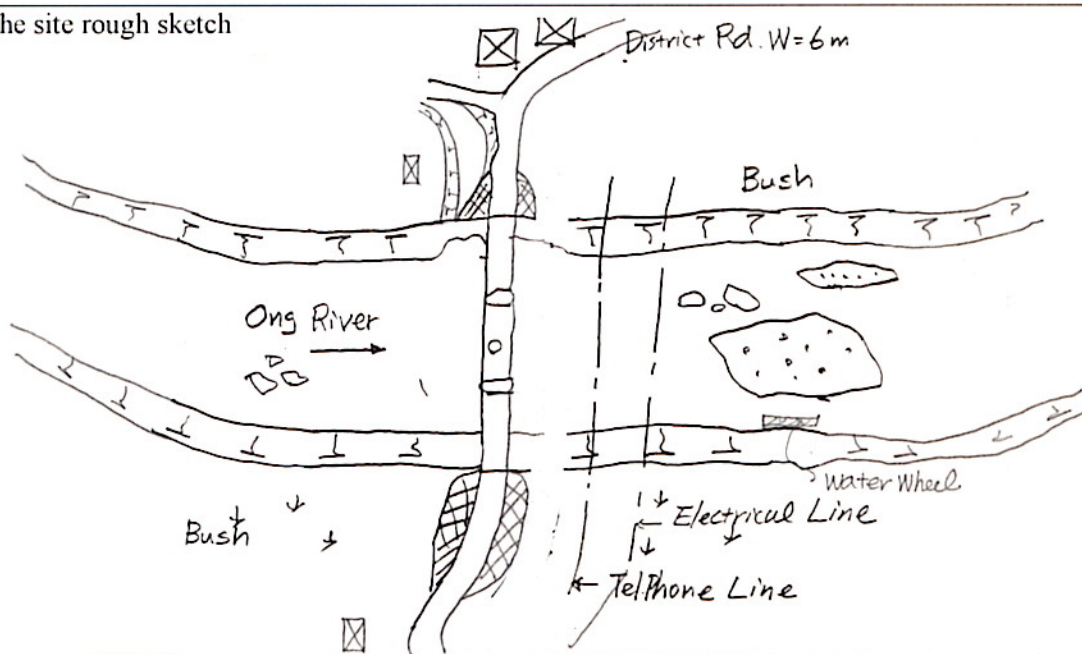


Photo 1: Existing Bridge



Photo 2: Existing Bridge

No. 47 Loc Ngai Bridge - Component B -

(Lam Dong Province)

Site Information

- 1) This bridge is located on a road connecting DR Bao Loc – Bao Lam with NR20. It ensures an access to the district center of Loc Thang from communities in the mountain area. There is little traffic on the road due to bad surface condition but many students use the bridge to access school. Transportation demand will increase because of coffee and tea farming being developing in the vicinity area.
- 2) The existing bridge is a suspension type for pedestrian and bikes constructed by Danish fund in 1997. The slab and major structures are observed to be sound.
- 3) The existing bridge never suffers damages from flooding and HWL is assumed to be the same level of the bridge surface according to the interview result.
- 4) The upgrading work of the access roads is undergoing by WB fund and will complete by 2002. It will be no problem to carry heavy equipments and materials for construction.
- 5) Immigrants of soldiers and ethnic minorities such as K'Ho and Churu inhabit in four communes in the vicinity area.
- 6) The location of the new bridge will be set at around 15m downstream from the existing one. The bridge length will be the same length, 42m with 2 spans. 1m of freeboard is required. A pier is appropriate to set at the place close to the left bank. No resettlement is required.
- 7) A construction yard is available at the downstream side on the right bank.

The site rough sketch

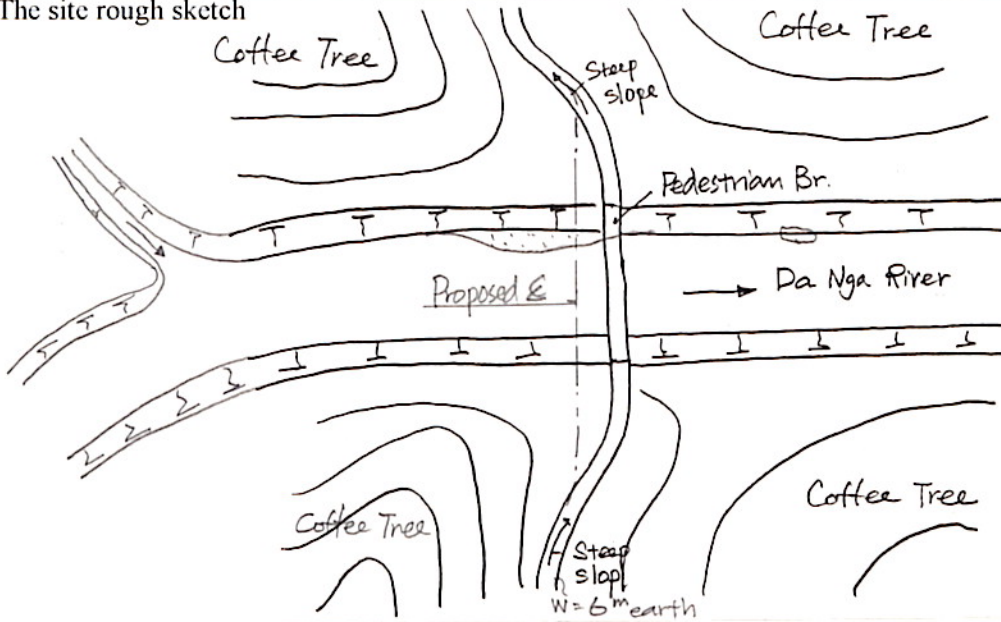


Photo 1: Existing Bridge



Photo 2: Existing Bridge

Site Information
1) This bridge is located on the DR 413, which runs through a fertile field from NR27 and back to NR27. It also accesses the district center of Than My. There is transportation demand to carry agricultural production such as coffee, vegetables, bean and sweet potato
2) The existing bridge is composed of H-beams and bailey type. The minor corrosion on H-beams and no significant damage on the bailey bridge are observed.
3) Discharge of a dam at the upstream side has affected HWL of the river. The maximum discharge was recorded 1,600 m <sup>3</sup> /s and HWL is assumed to be the same level of the bridge surface in 1993 according the interview result. There is little damage on the bridge by flood.
4) Access roads have a plan to be upgraded with 5.5m in carriageway by 2003.
5) Immigrants of soldiers and ethnic minorities inhabit in four communes in the affected area.
6) The location of the new bridge will be set at around 15m upstream from the existing one. The bridge length will be appropriate to set around 75m with 3 spans. The center span should be longer in consideration with ordinal river width. 1m of freeboard is required.
7) A few houses at the left bank will be affected by the new approach road construction. The electrical and telephone lines should be relocated before commencement of construction.
8) A vacant field at the upstream side of the right bank is available as construction yard.

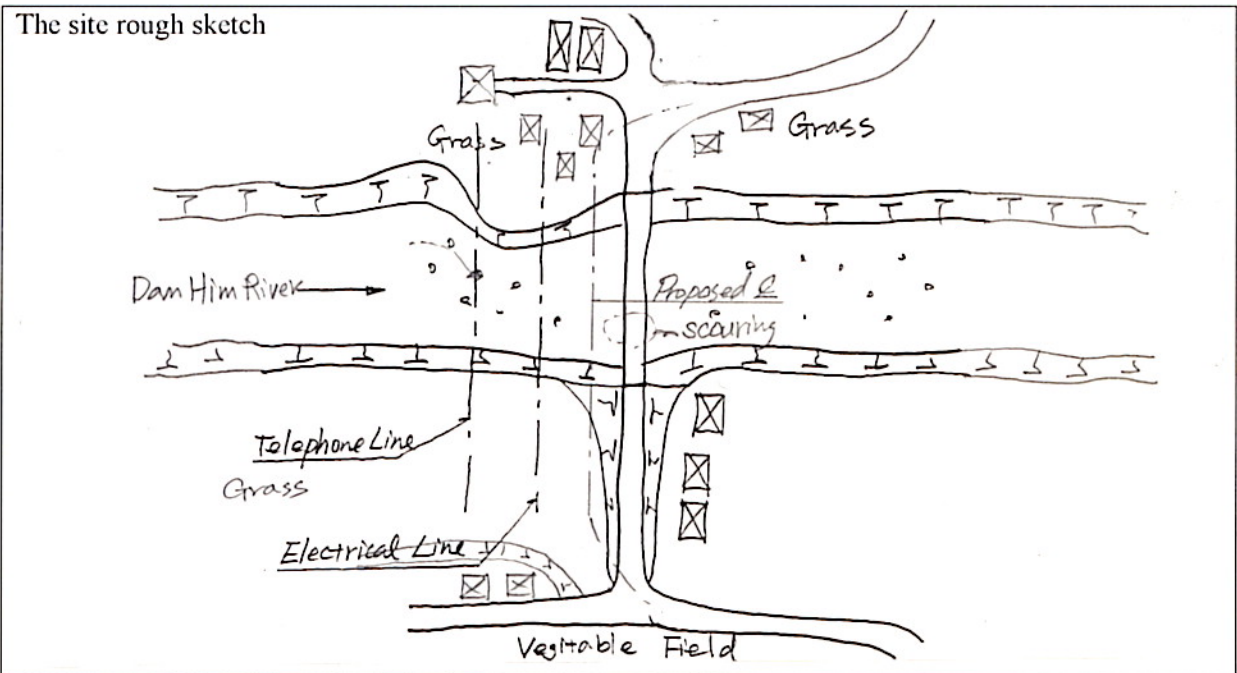


Photo 1: Existing Bridge



Photo 2: Existing Bridge