

MINISTRY OF TRANSPORT
PROJECT MANAGEMENT UNIT THANG LONG

Tel: 04-3.6430197 – 3.643 0209 Fax: 04-3.6430212
Address: Group 23, Linh Nam Ward, Hoang Mai District, Hanoi, Vietnam

Date: November 03, 2015
Ref.: 3.268./PMUTL-DA1

Chief Representative,
JICA Vietnam Office,
11th Floor, CornerStone Building,
16th Phan Chu Trinh Street, Hoan Kiem District,
Hanoi, Vietnam

Dear Mr. Mori Mutsuya,

Subject: Hanoi City Ring Road No.3 Construction Project, Mai Dich - South Thang Long
Proposal for Study and Construction of On-off Ramps in Interchanges of Hoang Quoc Viet and South Thang Long

Reference: Loan Agreement No.VN13-P2 dated December, 24 2013, for Hanoi City Ring Road No.3 Construction Project (Mai Dich - South Thang Long Section)

Firstly, we would like to express our sincere thanks to you for the projects implementation during the last time.

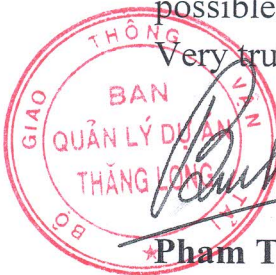
We are currently conducting the detailed design (DD) for the Hanoi City Ring Road No. 3 Construction Project (Mai Dich – South Thang Long Section). By reviewing the basic design and the project's scope funded by JICA, we consider the necessity to have additional study and construction of the on-off ramps in interchanges (IC) of Hoang Quoc Viet (HQV) and South Thang Long (STL).

We would hereby like to propose the additional scope of work as follows:

- To conduct the design in the DD stage additional ramps between the ICs of HQV and STL;
- To construct 01 ramp in HQV IC and the widening bridge to make connection for stage 2 on the available plan.

We are waiting for attaining your consensus for the captioned proposal soonest possible.

Very truly yours, *adv*



***Pham Thanh Binh**
Deputy General Director

- Encl. 1. Contents of the Additional Proposal, 03 pages;
2. Preliminary Design of Two Interchanges, 01 book.

CONTENS OF THE ADDITIONAL PROPOSAL

1. Scope of work has been financed by JICA:

- Scope: Construction of high speed viaduct from Mai Dich to South Thang Long along the median divided strip of Pham Van Dong Road (centerline of future widening road). Total length of the viaduct is 4.803Km, breadth of viaduct $B=24m$ following expressway standard with 4 carriageway lanes having designed speed of 100Km/h following TCVN 5729-2012;

- Limits of the project: Constructing the viaduct, but not completely construct interchanges following Master Plan, due to limit of land acquisition. The design for construction of interchanges in the section from Mai Dich to South Thang Long shall be considered when developing the widening project of Pham Van Dong Road as per the Master Plan.

2. Contents proposed for additional studies on construction of on and off ramps during the Detail Design Stage:

a) *Causes*: During the review of basic design, based on report of DD Consultant, PMUTL found the necessity to consider additional detail design for on and off ramps in Hoang Quoc Viet – West Thang Long Interchange because of the followings:

- In order to construct and to reduce construction cost for widening main bridge and synchro connection with on and off ramps of the 2 interchanges in Phase 2, it is required to study right from DD Stage of the project, such as a clear planning of Plan, Location and Limits of the interchange, as well as the ready design for widening of deck of the viaduct for Phase 2 and especially the solution for arrangement of bridge pier connecting main bridge and approach bridges of on and off ramps of the interchange.

- Constructing on and off ramps of Hoang Quoc Viet Interchange within the available land right in Phase 1 in order to release traffic volume for urban roads in direction from Thang Long Bridge to Hoang Quoc Viet Road and to National Highway No.32, and also release traffic volume at Mai Dich Interchange (limited in length for the on and off traffic flows toward North Linh Dam).

b) *Studied area*:

- Starting point: At Km1+250, North of Hoang Quoc Viet Interchange

- Ending point: At Km2+650, South of West Thang Long Interchange

- Total length of the studied area is about 1.4Km including tapering section, approach road by retaining wall, approach bridge in both side and long widened bridge.

- Estimated quantity: ramp bridge 4.480 m² (includes 4 ramps, each ramp has length $L=160m$, breadth $B=7,0m$); the widened bridge connecting main bridge 3.030 m²; U-shaped reinforced concrete retaining wall about 2.800 m² (each ramp has length about 100m and breadth $B=7,0m$); Approach road having L-shaped retaining wall and the tapering section is about 800m (each ramp has about 200 m).

3. Contents proposed for considering the area for additional construction right in Phase 1 (01 off-ramp of Hoang Quoc Viet Interchange and the widened part of the viaduct ready for connecting to Phase 2).

a) Construction of off-ramp (exit ramp) at Hoang Quoc Viet Interchange.

According to Plan of the Interchange, the actual existing plan of this location is in traffic safety corridor (public area used for planting trees) in front of Ministry of Public Security, hence the area is sufficient for construction of this ramp bridge. Structural detail of this ramp bridge is as below:

- Total length of the ramp is about 350m including tapering section to Pham Van Dong Road (under the bridge) having length about 100m, approach road by retaining wall is about 60m and approach bridge is about 159.1m.

- Cross section of approach road and approach bridge is 7m includes:

+ Parapet:	2 x 0,5m =	1,0m
+ Safety strip:		0,5m
+ Carriageway:		3,5m
+ Emergency stop lane:		2,0m
Total:		7,0m

- Approach bridge: off-ramp bridge connecting to main bridge having structure independently from the main bridge (parapet of ramp bridge is 5cm away from parapet of main bridge. The bridge is scheduled having span arrangement of 39.1m+3@40m using Super-T Girder, 01 reinforced concrete abutment and 03 piers placed on piling foundation of 4 bored piles having diameter D1.2m.

- Approach road placed on U-shaped Reinforced Concrete Retaining Wall constructed over natural ground or driven pile foundation depending on geological condition. Pavement structure of approach road and tapering road is reconstructed.

b) Construction of widening part of main bridge ready for connection in Phase 2:

- Widening area of main bridge (bridge part tapering from on and off ramps to main bridge having same elevation of main bridge) from Km 1+690 to Km 2+170, about 480m (from Pier P32 to Pier P44) having breadth varying from 38.1m at connecting point with off-ramp bridge and on-ramp bridge and gradually narrowing to 27m (each side widened 1.5m) at weaving section between 2 on and off ramps.

- Structure of widened span: using Super-T Girders arranged in fan-type structure for matching with varying width of the bridge; pier structure in section having breadth >28m: shall use reinforced concrete 3-body frame pier and pier of section having breadth 27m shall use 1-body pier similar to typical section having breadth of 24m, but the prestressing reinforced concrete pier head is designed with sufficient length for supporting 1 additional girder each side.

- This widen bridge area is basically within the safety corridor and within the limit of sidewalks of existing Pham Van Dong Road, therefore the construction land has been available. Thus, it is proposed to construct the widening bridge part right in Phase 1 in order to construct the extension of pier head, 3-body frame piers reasonably, as well as to arrange Super-T girders and connecting deck slab properly for reducing quantity and construction cost (only 1 span of the widening part in

right side of Pier P44 requires relocation of houses, which will be left for construction in Phase 2).

- Besides, the on-ramp in right side of Hoang Quoc Viet Interchange could be considered for construction right in Phase 1. However, in order to construct this ramp, it is required to construct frontage road for existing feeder roads, residential areas, therefore it will require land acquisition. In the next Phase, PMUTL will work with Hanoi People's Committee and related agencies on land acquisition, in order to confirm whether the on-ramp is constructed in this Phase or not.

4. Rewriting cost estimate and total investment cost:

- With such adjustment of design and reviewing the quantity in basic design stage, quantity of some items is reduced and quantity of some items is increased, but basically the quantity is reduced. Total amount estimated to be reduced is about 160.1 billion and the amount is enough for construction of additional off-ramp of Hoang Quoc Viet Interchange and the widened part of the viaduct in Phase 1 for ready for connecting to remaining ramps in Phase 2.

- However, comparing the exchange rate of JPY, there is a difference between the time signing the Loan Agreement, December 2013 (exchange rate: 1 JPY=219 VND) and the present time (exchange rate 1: JPY=186.42VND), reduced about 15.14%. This is only a draft estimation at the present time, after having calculation of the detail cost estimate, PMUTL will report to MOT for considering adjustment of the borrowed fund by JPY for suitability.

5. Proposals:

As discussed above, taking into account the matter carefully and seriously, PMUTL officially proposes and requests for JICA consideration of the followings:

- Supplement the studied limit in DD Stage the on and off ramps in section between Hoang Quoc Viet Interchange and West Thang Long Interchange;

- Supplement the construction of 01 off-ramp bridge to Hoang Quoc Viet Interchange and construction of widen part of main viaduct ready for connecting to Phase 2 within the available land.

We much appreciate if JICA can notice to us your approval for our proposal at the earliest convenience.

(For details, please see preliminary design of the interchange attached)