

*Contract No. HY/2003/19*

*Improvement to Tung Chung Road Between Lung Tseng Tau and Cheung Sha*

Zone 1 & 6  
Temporary Haul Road Proposal  
(Feb 2005)

## **Introduction**

CCECC and CRJV Joint Venture have been awarded the Highways Department Contract No. HY/2003/19 for the Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha on Lantau Island.

Pursuant to both the Condition 2.6 (on haul road) and Condition 3.9 (for temporary works at streams) of EP-170/2003, this report describes the details and construction consequences for the formation of the haul road and the works to be carried out at the existing streams in South section. Under these two conditions, it is necessary to deposit with the Director the haul road proposals and reports showing the detailed designs of the temporary structure across the existing streams no later than one month before the commencement of the construction works.

The details of the permanent structures used to cross the streams will be subsequently provided as a supplementary document.

## **Zoning for the contract**

The whole Tung Chung Road was divided into two main sections: Northern and Southern sections. South section starts from Chainage 4690 and ends at Chainage 7250 (approx.). There are total of six zones along this part of the road: zone 1 to zone 6. The details of the division of these zones are shown in the following table and the attached drawing TCR/TW/SF/001(A). The temporary drainage at the South section will be done in conjunction with the construction of haul road which was divided into six zones as shown in the attached drawing TCR/SF/001 (A). The haul road construction would be divided into 3 stages as follows:

Stage 1: Construction of site access and Zone 1 works would be commenced from existing South Lantau Road towards the uphill direction. At the same time, site access and construction works for Zone 6 would be started from the existing Tung Chung Road near Pak Kung Au towards the downhill direction.

Stage 2: After commencement of works for Zone 1 and Zone 6, works would be carried out in Zone 3 near the WSD catchwater area, proceeding towards both the downhill and uphill directions. Before the commencement of works in Zone 3, we will get the approval from WSD for the use of existing slip road for construction. No additional haul roads will constructed outside the site limits.

Stage 3: Works would then be carried out in Zone 2, Zone 4 and Zone 5 through the access from both the southern and northern directions. The whole alignment of haul road would be completed when different working zones completed and matched together.

### **Time Frame**

<b>Location</b>	<b>Commence Date of Works (Tentative)</b>
Southern Section Stage 1	Mid-November 2004
Southern Section Stage 2	Early-March 2005
Southern Section Stage 3	Early-April 2005

### **South Section - Procedures for Construction of Haul Road and Temporary Drainage**

1. Set out the alignment for the haul road and the toe channels.
2. Set up the discharging point with oil interceptor and filter tank.
3. Formation of earth bund / sand bags at down slope side of the haul road to avoid spillage of run-off. Earth bund would also direct the run-off to the discharging point. The earth bund / sand bags will be paved within three days after the completion of the individual section to prevent erosion of the exposed soil surface
4. Construction for the toe channels.
5. Minor excavations for the proposed haul road and temporary drainage:
  - Remove topsoil material.
  - Soil materials to be trimmed down and compacted using suitable roller.
  - Temporary drainage ditch would be made along the toe of slope being excavated. It would enable the collection of drains and direct the drains towards the discharging point after treated.
  - Minor crossfall towards the ditch would be maintained across the haul road to enable the collection of drains.
  - Minor excavation to be carried out layer by layer until the designed formation level of haul road is reached.
6. Surface of haul road and associated slope should be paved within 3 days to reduce run-off and toe channels would be constructed before large-scale excavation works commenced.

### **Protection of the existing streams**

If Stream without box culvert usually running underneath a bridge structure. In order not to contaminate the streams, steel decking will be constructed to span across it. The general arrangement of the steel deck bridging across the stream and the schematic sketch is shown on TCR/TW/SF/SK003. This steel deck serves two purposes: it does not only stop site run-off from both sides flowing into the streams; it also allows an access for the mobilization of the machinery for the site. The site runoff will be collected into the filter tanks for removal of contaminants before connected to the temporary pipelines or drainage channels. Sheetpiles will be used as U-channel to collect surface runoff from the temporary steel deck; runoff collected from this U-channel will flow into a catchpit and discharge to the nearby temporary drainage as shown on the same sketch.

### **Procedures for Construction of Temporary Bridge**

The sequence of the construction of a temporary bridge is as follows:

- (i) Construct haul road up to a point before the stream course or location at which bridging is required.
- (ii) Construct suitable level conditions to support the bridge at each embankment making sure habitat along the stream is not damaged.
- (iii) Crane equipment across stream course.
- (iv) Construct or launch bridge over stream course depending on which method is suitable for location.
- (v) Move on to next crossing.

### **Minimizing the Water Quality Impact**

In accordance to Clause 14.3.5 in the EIA Report (Register No. AEIAR-061/2002), it is the contractor's responsibility to minimize the water quality impact during the formation of haul road. The issues as addressed in this clause and the corresponding actions to be taken by the contractor are summarized in the following sections.

The design of the drainage system capacity will be designed for a 1:10 year storm event. The temporary and permanent drainage systems will be constructed in sections or catchment areas. They will be completed in conjunction with the main road works to discharge the construction site runoff properly but not into the streams. A separate temporary drainage system will be provided for the control of the construction site runoff in the southern area and shall be in place prior to the main road works. The southern alignment will be divided into small catchments for the provision of the

temporary drainage system in order to enhance the control of runoff. The wheels of all vehicles leaving and entering the construction site will be washed to minimize the carry over of mud onto public roads and into the water gathering grounds. Wheel wash water will be recycled and only discharged after removal of silt by sand/silt removal traps. All plants and equipments will be in proper working order and have no leakage of fuel or oil. Any waster oils will be collected in designated tanks prior to disposal off site. Temporary bridge will also be constructed at stream course to minimize the impact on the water.

### **Ecological Impact and Preventive Action**

In accordance to Clause 14.3.5 in the EIA Report (Register No. AEIAR-061/2002), it is the contractor's responsibility to minimize the ecological impact during the formation of haul road. The issues as addressed in this clause and the corresponding actions to be taken by the contractor are summarized in the following sections.

Temporary drainage systems together with filter tanks, oil interceptors, sedimentation tanks and discharge points will be located to collect all the site run-off and they will be diverted to Pui O Wan outfall and other existing streams for the southern section after treatment. These measures can prevent construction works damaging the ecology of water courses, no site run-off will flow into the Tung Chung Stream and the Cheung Sha Stream.

In order to mitigate the vegetation loss, tree felling plan has been submitted and trees have been put into 'fell', 'retained' and 'transplanted' categories. Trees should not be trimmed or removed without the prior consent by the Engineer to minimize the vegetation loss caused by the construction works.

Reinstatement of land temporarily required during construction will be carried out within 3 weeks of the areas being completed. This work to be supervised by the RSS.